



# OPERATOR'S MANUAL

## Actros/Arocs

Mercedes-Benz  
Trucks you can trust



|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name:</b>                | OPERATOR'S MANUAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Product:</b>             | 963                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Language:</b>            | ENG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Internet</b>             | <p>Further information about Mercedes-Benz vehicles and Daimler Truck AG is available online at:<br/> <a href="https://www.mercedes-benz-trucks.com">https://www.mercedes-benz-trucks.com</a></p> <p>Operating instructions and supplements for your vehicle as well as Custom Tailored Trucks special conversions (CTT) are available online at:<br/> <a href="https://manuals.daimlertruck.com/truckownermanuals/home">https://manuals.daimlertruck.com/truckownermanuals/home</a></p> |
| <b>Editors</b>              | <p>You are welcome to forward any queries or suggestions you may have regarding these operating instructions to the Documentation team at the following address:<br/> <a href="mailto:feedback_owner_manual@daimlertruck.com">feedback_owner_manual@daimlertruck.com</a></p> <p>© Daimler Truck AG: Do not reprint, translate, or duplicate, in full or in part, without the written permission of Daimler Truck AG.</p> <p>Editorial status: 10/11/2025</p>                             |
| <b>Vehicle manufacturer</b> | <p><b>Daimler Truck AG</b><br/> Fasanenweg 10<br/> 70771 Leinfelden-Echterdingen<br/> <b>Germany</b></p>                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Item number:</b>         | A9615840167                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Preface

Welcome to the world of Mercedes-Benz Trucks

Before you drive off for the first time, read these operating instructions carefully and familiarise yourself with your vehicle. Please adhere to the information and warning notes in these operating instructions for your own safety, and to ensure a longer operating life for your vehicle. Disregarding them may lead to vehicle damage or personal injury.

The standard equipment and product description of your vehicle may vary, and depends on the following factors:

- Model
- Order
- Country-specific version
- Availability

The illustrations in these operating instructions show a left-hand drive vehicle. The locations of vehicle parts and controls

for right-hand drive vehicles differ accordingly.

Daimler Truck AG is continuously improving its vehicles.

Daimler Truck AG therefore reserves the right to introduce changes in the following areas:

- Design
- Equipment
- Technical features

Therefore the descriptions and illustrations provided may occasionally differ from your own vehicle.

The following documents are integral parts of the vehicle:

- Operator's Manual
- Maintenance booklet (vehicles without digital maintenance documentation)

- Equipment-dependent supplementary instructions

For reasons of clarity, merely the masculine form is frequently used. All gender identities are, of course, always implied.

Always keep these documents in the vehicle. If you sell the vehicle, always pass on all documents to the new owner.

Vehicles with digital maintenance documentation: For verification pages relating to vehicle data and bodybuilders, see the section entitled "Confirmations".

Vehicles without digital maintenance documentation: See maintenance booklet for verification pages.

Daimler Truck AG





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### Use and meaning of symbols

Safety instructions and other important information are specially marked with symbols.

In addition to the notes listed in the content, the safety and accident prevention regulations of the professional associations must also be observed.

Generally, even when complying with instructions, it is assumed that the user information is intended only for individuals who, due to their education, experience, and training, are qualified to perform the required tasks.

At the same time, these persons must be able to identify and avoid hazards that may occur during the performance of their activities.

### Useful information

Additional information is identified as follows:

|                                                                                     |      |
|-------------------------------------------------------------------------------------|------|
|  | Note |
|-------------------------------------------------------------------------------------|------|

### Factual and environmental information

Identification of damage, possible consequences and instructions for avoidance.

|                                                                                   |                      |
|-----------------------------------------------------------------------------------|----------------------|
|  | Material damage      |
|  | Environmental damage |

### Warning notices

Identification of hazards, possible consequences, and instructions for avoidance.

|                                                                                   |                                                                                            |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
|  | DANGER. Warns of danger to persons with potential consequences of serious injury or death. |
|  | WARNING. Warns of danger to persons with potential consequences of injury.                 |

### Symbols and structuring tools

Text identifiers

|                                                                                             |                                                                |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------|
|          | Instructions                                                   |
| Display  | Messages on the display of the instrument cluster              |
|          | Expected system response after an action                       |
|          | Unexpected system response after an action                     |
|          | List in any order                                              |
|          | Further information on a topic                                 |
|          | Highest menu level to be selected in the multimedia system     |
|          | Corresponding submenus to be selected in the multimedia system |

## General notes

### Environmental protection

#### Environmental protection



#### Note

#### Environmental damage due to operating conditions and personal driving style

The pollutant emission of the vehicle is directly related to the way you operate the vehicle.

- ▶ Operate your vehicle in an environmentally responsible manner to help protect the environment.
- ▶ Please observe the following recommendations on operating conditions and personal driving style.

#### Recommendations regarding operating conditions

- ▶ Avoid driving short distances.
- ▶ Make sure that the tyre pressure is correct.
- ▶ Do not carry any unnecessary weight.
- ▶ Adhere to the service intervals.



#### Note

A regularly serviced vehicle will contribute to environmental protection.

- ▶ Always have maintenance work carried out at a qualified specialist workshop.

#### Driving recommendations

- ▶ Do not depress the accelerator pedal when starting the engine.
- ▶ Do not warm up the vehicle while stationary.
- ▶ Drive carefully and maintain a suitable distance from the vehicle in front.
- ▶ Avoid frequent, sudden acceleration and braking.
- ▶ Change gear in good time and use each gear only up to  $\frac{2}{3}$  of its maximum engine speed.
- ▶ Switch the vehicle off during periods spent in traffic-related delays.
- ▶ Drive in a fuel-efficient manner. For a fuel-efficient driving style, drive in the green rpm range.

#### Information on device batteries

Information on device batteries is available at the following URL:

<https://manuals.daimlertruck.com/truckownermanuals/conformity>

#### Mercedes-Benz Genuine Parts



#### Note

#### Environmental damage caused by not using recycled, reconditioned components

Daimler Truck°AG offers recycled and reconditioned components and parts having the same quality as new parts. The same entitlement from the implied warranty is valid as for new parts.

- ▶ Use recycled reconditioned components and parts from Daimler Truck°AG.



## Information about attachments, add-on equipment, installations, and conversions

**Danger****Risk of accident if unapproved parts are used**

If you use parts, tyres, wheels, or safety-critical accessories that have not been approved by Daimler Truck AG, the operating safety of the vehicle may be jeopardised. Safety-relevant systems, e.g. the brake system, may malfunction.

- ▶ Only use Mercedes-Benz Genuine Parts or equivalent quality.
- ▶ Only use tyres, wheels and accessories that are approved for your vehicle model.

Daimler Truck AG tests Genuine Parts and conversion parts and accessories that have been specifically approved for your vehicle model for their reliability, safety, and suitability. Despite ongoing market research, Daimler Truck AG is unable to assess other parts. Daimler Truck AG therefore accepts no responsibility for the use of such parts in Mercedes-Benz trucks, even if they have been independ-

ently or officially approved by a technical testing centre.

Certain parts are only officially approved for installation or modification if they comply with legal requirements. All Mercedes-Benz Genuine Parts meet the approval requirements. The use of non-approved parts may invalidate the vehicle's general operating permit.

This is the case in the following situations:

- The vehicle model is different from that for which the vehicle's general operating permit was granted.
- Other road users may be endangered.
- The exhaust gas or noise levels are adversely affected.
- ▶ Always specify the Vehicle Identification Number (VIN) when ordering Mercedes-Benz Genuine Parts (→ Page 502).

**Information about attachments, add-on equipment, installations, and conversions****Information on body/equipment mounting directives**

For safety reasons, have bodies produced and fitted in accordance with applicable Mercedes-Benz Trucks body/equipment mounting directives.

These body/equipment mounting directives ensure that the chassis and add-on equipment form one unit and that the greatest possible level of operational and driving safety is achieved.

For safety reasons, Daimler Truck AG recommends the following:

- ▶ Do not make any other modifications to the vehicle.
- ▶ Obtain approval from Daimler Truck AG in the event of deviations from the approved body/equipment mounting directives.

Acceptance tests performed by public test bodies or official approvals do not rule out safety risks.

## General notes

### Information about attachments, add-on equipment, installations, and conversions

Observe the notes on genuine Mercedes-Benz parts (→ Page 2).

You can find the Mercedes-Benz Trucks body/equipment mounting directives online:

<https://bb-portal.mercedes-benz-trucks.com/de/GLOBAL>

You can also find information on PIN assignment and changing fuses there.

#### Note

Further information can be obtained at a qualified specialist workshop.

#### Danger

#### **Risk of accident and injury due to improper vehicle conversions of modifications**

Conversions or modifications to the vehicle may cause systems or components to no longer function as intended and/or jeopardise the operating safety of the vehicle.

- ▶ Always have conversions or modifications to the vehicle carried out at a qualified specialist workshop.

#### Information on Custom Tailored Trucks (CTT)

Mercedes-Benz CTT (Custom Tailored Trucks) offers tailor-made solutions that are customised to meet your individual requirements as well as the high quality standards of Mercedes-Benz Trucks.

If you own a vehicle with a CTT equipment code, you can find detailed user information for your CTT conversions using the following link.

Mercedes-Benz Truck Guides:  
<https://manuals.daimlertruck.com/truckownermanuals>



#### Notes on cameras and sensors

If cameras, sensors and their detection ranges are covered or their covers are

damaged, sensors, cameras or driving and safety systems may malfunction or fail.

Observe the following notes on cameras and sensors, especially distance sensors and radar sensors:

- ▶ Do not install implements or accessories in front of the camera or the sensor, e.g. bullbars or advertising.
- ▶ Cameras and sensors must not be painted or covered, e.g. by decals or foils.
- ▶ The load or the load safety equipment must not protrude into the detection range of the cameras and sensors.
- ▶ Have damage to the sensor cover or in the area of the camera repaired immediately at a qualified specialist workshop.

#### Information about the radiator

Even seemingly minor changes to the vehicle such as attaching a radiator grille in winter operation are not permitted.

The engine radiator must not be covered. Thermo mats, insect screens or similar

should also not be used. Otherwise, the values produced by the diagnostic system will be distorted.

Depending on country-specific laws and requirements, the recording of engine diagnostics data may be legally mandated. These data must be reproducible and correct at all times.

### Operator's Manual

These operating instructions describe all possible models as well as the standard and special equipment of your vehicle. Note that your vehicle may not be fitted with all features described. This is also the case for safety-relevant systems and functions. Therefore, the equipment on your vehicle may differ from that in some descriptions and illustrations.

The original purchase agreement for your vehicle contains a list of all of the systems in your vehicle.

Contact an authorised Mercedes-Benz Trucks Service Centre if you have any questions about equipment or operation.

The operating instructions and service booklet are important documents and should be kept in the vehicle.

### Operating safety



**Danger**

#### **Risk of accident due to malfunctions or system failure**

If you do not have the prescribed service/maintenance work or any required repairs carried out, this may result in malfunctions or system failures.

- ▶ Always have the prescribed service and maintenance work, as well any required repairs, carried out at a qualified specialist workshop.



**Danger**

#### **Risk of accident or injury due to incorrect modifications to electronic component parts**

Carrying out modifications to electronic components, their software, or wiring, may impair their function and/or the

function of other interconnected components or safety-relevant systems.

This may jeopardise the operating safety of the vehicle.

- ▶ Do not tamper with the wiring and electronic component parts or their software.
- ▶ Always have work on electrical and electronic devices carried out at a qualified specialist workshop.



**Note**

#### **System malfunctions due to tampering with or improperly retrofitted radio equipment**

Electromagnetic radiation from two-way radios can interfere with the onboard electronics if the two-way radios are manipulated or retrofitted incorrectly.

This may jeopardise the operating safety of the vehicle.

- ▶ Always have work on electrical and electronic devices carried out at a qualified specialist workshop.

## General notes

### Declarations of Conformity and National Notes

If you make any changes to the onboard electronics, the general operating permit is rendered invalid.



#### **Danger**

#### **Risk of fire due to flammable material coming into contact with hot parts of the exhaust system**

Flammable material such as leaves, grass or twigs may ignite if they come into contact with hot parts of the exhaust system.

- ▶ When driving off-road or on unpaved surfaces, check the underside of the vehicle at regular intervals.
- ▶ In particular, remove any trapped parts of plants or other flammable material.
- ▶ If damage should occur, immediately inform a qualified workshop.



#### **Note**

#### **Damage to the vehicle as a result of driving too fast and following impacts to the vehicle underbody or suspension components**

In the following situations, in particular, there is a risk of damage to the vehicle:

- The vehicle bottoms out, e.g. on a high kerb or unpaved surfaces.
- The vehicle is driven too fast over an obstacle, e.g. a kerb, speed bumps or a pothole.
- A heavy object strikes the underbody or suspension components.

In situations such as these, damage to the body, underbody, suspension components, wheels or tyres may not be visible. Components damaged in this way can unexpectedly fail or, in the case of an accident, may not absorb the resulting force as intended.

If the underbody panelling is damaged, flammable materials, such as leaves, grass or twigs could collect between the underbody and underbody panelling.

These materials could ignite if they come into contact with hot components of the exhaust system.

- ▶ If driving safety is impaired while continuing your journey, pull over and stop the vehicle as soon as possible, while paying attention to road and traffic conditions, and contact a qualified specialist workshop.
- ▶ Have the vehicle checked and repaired as soon as possible at a qualified specialist workshop.

### Declarations of Conformity and National Notes

#### **Electromagnetic compatibility**

The electromagnetic compatibility of the vehicle components has been checked and certified according to the currently valid version of Directive UN-R°10.

## Declarations of Conformity and National Notes

### Jack

#### EU and EFTA countries only:

Copy and translation of the original declaration of conformity:

EC Declaration of Conformity  
2006/42/EG

We, WEBER-HYDRAULIK GMBH, Heilbronner Str. 30, 74363 Göglingen, declare that the product "Weber Hydraulic Jack"

types

- A 5-212
- AD 5-217
- AD 10-220
- AD 12-270
- ADX 10-370
- AH 25-240
- ATN 10-175
- ATPX 12-190
- ATPX 12-230
- ATPX 16-240
- ATQ 12-230

Capacity: 2,000 to 100,000 kg

Serial no.: as of year of manufacture  
01/2010

complies with the relevant essential health and safety requirements of the EC Machinery Directive.

This EC declaration of conformity becomes invalid:

- In the event of modifications or repairs performed by an unqualified person,
- if the products are not used in accordance with the application specified in the operating instructions.
- if the required regular checks are not performed.

Relevant EC directives: EC Machinery Directive 2006/42/EG

Applied standards: ISO 11530:1993

EN ISO 12100:2010

Quality assurance: DIN EN ISO 9001:2000

Göglingen, 15 December 2021

Signed by the Managing Director (CEO),  
WEBER-HYDRAULIK GmbH

Executive officer for technical documentation WEBER-HYDRAULIK GMBH

Heilbronner Straße 30, 74363 Göglingen

#### For the United Kingdom only:

Copy and translation of the original declaration of conformity:

UKCA declaration of conformity

We, WEBER-HYDRAULIK GMBH, Heilbronner Str. 30, 74363 Göglingen, declare that the product "Weber Hydraulic Jack"

types

- A
- AD
- ADX
- AH
- AHX
- AL
- AT
- ATD
- ATDX
- ATG
- ATN
- ATGX

## General notes

### Diagnostics connection

- ATPX
- ATQ
- AX

Capacity: 2,000 to 100,000 kg

Serial no.: From year of manufacture  
01/2022

complies with the relevant essential health and safety requirements of the Supply of Machinery (Safety) Regulation 2008.

This UKCA declaration of conformity becomes invalid:

- In the event of modifications or repairs performed by an unqualified person,
- if the products are not used according to the operating instructions,
- if the required regular checks are not performed.

Relevant UK guidelines:

Supply of Machinery /Regulations 2008

Applied standards: ISO 11530:1993

BS EN ISO 12100:2010-12-31

Safety of Machinery

General principles for design

Risk assessment and risk reduction

Güglingen, 01/02/2022

Signed by the Managing Director (CEO),  
WEBER-HYDRAULIK GmbH

Executive officer for technical documentation  
WEBER-HYDRAULIK GMBH

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### Diagnostics connection

The diagnostics connection is a technical interface in the vehicle. It is used, for example, in the context of repair and maintenance work or for reading out vehicle data by a specialist workshop. Diagnostic devices should therefore only be connected at a qualified specialist workshop.



### Danger

#### Risk of accident due to connecting devices to the diagnostics connection

If you connect devices to the vehicle's diagnostics connection, the operation of vehicle systems and operating safety may be impaired.

- For safety reasons, we recommend that you only use and connect products approved by an authorised Mercedes-Benz Trucks Service Centre.



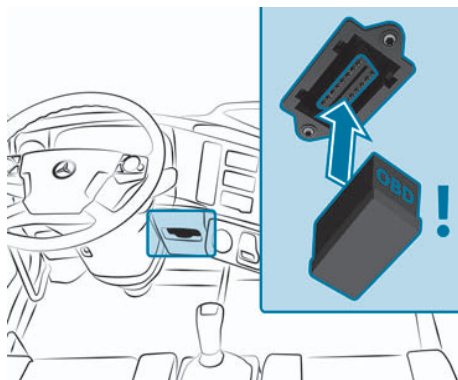
### Note

#### Battery discharging from using devices connected to the diagnostics connection

Using devices at the diagnostics connection drains the battery.

- Check the state of charge of the battery.
- Charge the battery if the state of charge is low.

## Notes on changes to the engine output



The connection to and use of another device at the diagnostics connection can have the following consequences:

- Malfunctions in the vehicle systems
- Permanent damage to the vehicle components

In addition, connecting equipment to the diagnostics connection can lead to emissions monitoring information being reset, for example. This may lead to the vehicle failing to meet the requirements of the next emissions inspection during the main inspection.

## Notes on changes to the engine output

Output increases can have the following effects:

- Change in emission values
- Malfunctions
- Consequential damage

The operating safety of the vehicle is not guaranteed in all situations.

The following must be observed after an output increase:

- ▶ Tyres, suspension, brake system and engine cooling system must be adapted to the increased engine power.
- ▶ Have the vehicle recertified.
- ▶ Report the change in output to the insurer.

This will otherwise lead to the invalidation of the vehicle's general operating permit and its insurance coverage.

If the vehicle is sold, the buyer must be informed of the changed engine power of the vehicle. If you fail to inform the buyer,

this may constitute a punishable offence under national law.

## Qualified specialist workshop



## Note

**Damage to the engine electronics due to improper intervention**

Intervening in the engine electronics may damage vehicle parts and the vehicle's general operating permit may be invalidated.

- ▶ Only have the engine electronics and the affected parts serviced at a qualified specialist workshop.

A qualified specialist workshop has the necessary special skills, tools, and qualifications to carry out the necessary work on the vehicle professionally. This particularly applies to work relating to safety.

Always have the following work on the vehicle carried out at a qualified specialist workshop:

- Work related to safety
- Service and maintenance work

## General notes

### Vehicle registration

- Repair work
- Modifications, installations and conversions
- Work on electronic components

Daimler Truck AG recommends that you use an authorised Mercedes-Benz Trucks Service Centre for this purpose.

### Vehicle registration

Daimler Truck®AG may ask its authorised service centres to carry out technical inspections on certain vehicles. Inspections improve the quality or safety of the vehicles.

Daimler Truck®AG can only inform you about vehicle checks if it has your registration data.

In the following cases your vehicle may not be registered to you yet:

- if your vehicle was not purchased at an authorised specialist dealer.
- if your vehicle has not yet been examined at an authorised Mercedes-Benz Trucks Service Centre.

- ▶ We recommend you register your vehicle with an authorised Mercedes-Benz Trucks Service Centre.
- ▶ Inform Daimler Truck®AG as soon as possible about any change in address or vehicle ownership. You can do this, for example, at a Mercedes-Benz Trucks Service Centre.

### Correct use of the vehicle

If you remove any warning stickers, you or others could fail to recognise certain dangers.

- ▶ Leave warning labels in place.

The following information in particular must be taken into account when using the vehicle:

- The safety notes in this manual
- Technical data of the vehicle
- Traffic rules and regulations
- Laws and safety standards pertaining to motor vehicles

### Information on the REACH regulation

#### EU and EFTA countries only:

The REACH regulation (Regulation (EC) no. 1907/2006, Article 33) includes the obligation to provide information regarding Substances of Very High Concern (SVHC).

Daimler Truck®AG acts in all conscience to avoid the use and application of these SVHCs and to enable the customer to handle these substances safely. According to supplier information and Daimler Truck®AG's internal product information, there are SVHCs with more than 0.1 percent by weight found in some elements of this vehicle.

More detailed information can be found at the following websites:

<https://reach.daimlertruck.com/de>

<https://reach.daimlertruck.com/en>



## Notes for persons with electronic medical aids

## Notes for persons with electronic medical aids

In addition, there are components installed in the vehicle that, regardless of the operating status of the vehicle, can generate magnetic fields on a par with permanent magnets. These fields can be found, for example, in the area around the multimedia or sound system or also in the area of the seats, depending on the vehicle equipment.

For this reason, the following can occur in isolated cases, depending on the aids used:

- Medical aids malfunctioning
- Adverse health effects

Only have repairs and maintenance work in the area of the following components carried out by a qualified specialist workshop:

- Vehicle components carrying live voltage
- Transmission aerals
- Multimedia system and sound system

- ▶ Contact a qualified specialist workshop if you have any questions.

## Liability for material defects

## Warranty claims for material defects for new vehicles

Warranty claims on new vehicles, the scope of which is based on the purchase agreement and the applicable general terms and conditions, can be filed with any authorised Mercedes-Benz service partner.



## Note

## Damage to the vehicle arising from violation of these operating instructions

Damage to the vehicle can arise from violation of these operating instructions. Such damage is not covered by the material defect liability warranty.

- ▶ Follow the instructions in these operating instructions on proper

operation of your vehicle as well as on possible vehicle damage.

## Information on the material defects warranty

In accordance with the purchase agreement, the engine assemblies, transmission, propeller shaft(s) and drive axle(s) installed in a lorry at the factory are subject to extended limitation periods within the distance covered limits specified therein.

This includes the following assembly component parts installed in the vehicle:

- **Engine:** engine block, drivetrain, control, diesel injection system, exhaust gas turbocharger, compressor, intake/exhaust manifold, engine brake, coolant pump, fan, alternator, starter
- **Transmission:** transmission housing, shafts, wheels, bearing, power take-off, splitter box, range group
- **Shaft train:** propeller shaft, propeller shaft intermediate bearing
- **Drive axles:** axle housing, drive shaft, drive, compensation, differential lock,

## General notes

### Data storage

planetary hub reduction drive, axle through drive

- **Retarder:** electrical and hydraulic retarder

Please observe the instructions in this maintenance booklet, even if you allow a third party to use and maintain the vehicle. This is the only way to ensure that you retain your warranty rights.

Have the prescribed service work and maintenance work for your vehicle, in particular during the implied warranty period, carried out as follows:

- regularly
  - in good time
  - at a qualified specialist workshop that has the necessary special skills and tools to carry out the work required
- Information on qualified specialist workshop (→ Page 9).

If the prescribed service and maintenance work is not carried out, the decision as to whether a warranty claim can be accepted or not can be made only after the manufacturer has submitted a report on the

damaged part. If emission control systems are required by law, the engine must be serviced according to particular specifications using appropriate measuring equipment. Modifications to or tampering with exhaust system components is prohibited.

Information on digital maintenance documentation (→ Page 411).

Vehicles without digital maintenance documentation: The maintenance booklet confirms that all service and maintenance work has been carried out at a qualified specialist workshop.

Maintenance jobs do not include repair work. A separate order must be placed for such work.

### Data storage

### Data processing in the vehicle

### Electronic control units

Electronic control units are fitted in your vehicle. Control units process data that they receive from vehicle sensors, for example, generate themselves or exchange

with each other. Some control units are required for the safe operation of your vehicle, some assist you when driving (such as driver assistance systems), while others enable convenience or infotainment functions.

The following provides you with general information regarding data processing in the vehicle. Additional information regarding exactly which data in your vehicle is collected, saved, and transmitted to third parties, and for what purpose, can be found in the information directly related to the functional characteristics in question in their respective operating instructions. This information is also available online and, depending on the vehicle equipment, digitally.

You can find data protection information regarding how Daimler Truck AG collects and uses personal data from the vehicle under the "Data protection information" heading (→ Page 16) in these operating instructions.

**Personal data**

Every vehicle is identified by a unique vehicle identification number. Depending on the country, this vehicle identification number can be used by, for example, governmental authorities to determine the identity of the owner. There are other possibilities for using data collected from the vehicle to identify the owner or driver, such as the licence plate number.

Therefore, data generated or processed by control units may be attributable to a person or, under certain conditions, become attributable to a person. Depending on which vehicle data is available, it may be possible to make inferences about, for example, your driving behaviour, your location, your route or your use patterns.

**Legal requirements regarding the disclosure of data**

If legally required to do so, manufacturers are, in individual cases, legally obliged to provide governmental entities, upon request and to the extent required, data stored by the manufacturer. For example,

this may be the case during the investigation of a criminal offence.

Governmental entities are themselves, in individual cases and within the applicable legal framework, authorised to read out data from the vehicle. In the case of an accident, information that could help with an investigation can, therefore, be read out from the airbag control unit, for example.

**Operational data in the vehicle**

This is data regarding the operation of the vehicle, which has been processed by control units.

This includes the following data, for example:

- vehicle status information such as the speed, longitudinal acceleration, lateral acceleration, number of wheel revolutions, or the fastened seat belts display
- ambient conditions, such as temperature, or data from the rain sensor or distance sensor

Generally, the use of these data is temporary; it will not be stored beyond the period of operation and will only be processed within the vehicle itself. Control units, such as vehicle keys, often contain data memories. Their use permits the temporary or permanent documentation of technical information about the vehicle's operating state, component loads, maintenance requirements, and technical events or faults.

Depending on the technical equipment, the following data is stored:

- operating status of system components, such as fill levels, tyre pressures, or battery statuses
- malfunctions or faults in important system components, such as lights or brakes
- system reactions in special driving situations, such as airbag deployment or the intervention of stability control systems
- Information on events leading to vehicle damage

## General notes

### Data storage

- State of charge of the high-voltage battery, estimated range

In certain cases, it may be required to store data that would have otherwise been used only temporarily. This may be the case if the vehicle has detected a malfunction, for example.

If you use services, such as repair services and maintenance work, stored operational data as well as the vehicle identification number can be read out and used, if necessary. They can be read out by service network employees, such as workshops and manufacturers, or third parties, such as breakdown services. The same is true in the case of warranty claims and quality assurance measures.

In general, the read-out is performed via the legally prescribed port for the diagnostics connection in the vehicle. The operational data that is read out documents the technical states of the vehicle or individual components, and assist in the diagnosis of malfunctions as well as compliance with warranty obligations and quality improvement. To that end,

this data, in particular information about component loads, technical events, malfunctions, and other faults, may be transmitted along with the vehicle identification number to the manufacturer. Furthermore, the manufacturer is subject to product liability. For this reason, the manufacturer also uses operational data from the vehicle, such as for recalls. This data can also be used to examine the customer's warranty claims.

Fault memories in the vehicle can be reset by a service outlet or, at your request, as part of repair or maintenance work.

### Convenience and infotainment functions

You can store convenience settings and individual settings in the vehicle and change or reset them at any time.

Depending on the vehicle equipment, this includes the following settings, for example:

- Seat and steering wheel positions
- Suspension and climate control settings

- individual settings, such as interior lighting

Depending on the selected equipment, you can import data into vehicle infotainment functions yourself.

Depending on the vehicle equipment, this includes the following data, for example:

- Multimedia data, such as music, films or photos for playback in an integrated multimedia system
- Address book data for use in an integrated hands-free system or an integrated navigation system
- Entered navigation destinations
- Data on the use of Internet services

This data for convenience and infotainment functions may be saved locally in the vehicle or they may be located on a device that you have connected to the vehicle, such as a smartphone, USB flash drive or an MP3 player. If you have entered this data yourself, you can delete it at any time.

This data is transmitted from the vehicle to third parties only at your request. This

applies, in particular, when you use online services in accordance with the settings that you have selected.

### Smartphone integration (e.g. Android Auto™ or Apple CarPlay®)

If your vehicle is accordingly equipped, you can connect your smartphone or another mobile end device to the vehicle. You can then control them by means of the controls integrated in the vehicle. Images and audio from the smartphone can be output via the multimedia system. Certain information is simultaneously transferred to your smartphone. Depending on the type of integration, this includes position data, day/night mode, and other general vehicle statuses. For more information, please consult the vehicle/infotainment system operating instructions.

This integration allows the use of selected smartphone apps, such as navigation or music player apps. There is no further interaction between the smartphone and the vehicle; in particular, vehicle data is not directly accessible.

The type of additional data processing is determined by the provider of the app being used. Which settings you can make, if any, depend on the specific app and the operating system of your smartphone.

### Information on service providers

#### Wireless network connection

If your vehicle has a wireless network connection, it enables data to be exchanged between your vehicle and additional systems. The wireless network connection is made possible by the vehicle's own transceiver or by a mobile end device that you have brought into the vehicle, for example, a smartphone. Online functions can be used via the wireless network connection. This includes online services and applications/apps provided to you by the manufacturer or by other providers.

### Manufacturer's services

Regarding the manufacturer's online services, the individual functions are described by the manufacturer in a suitable place, for example, in the operating instructions or on the manufacturer's website.

You can have services and functions, some of which are subject to a fee, activated or deactivated. This excludes legally prescribed functions and services, such as an emergency call system.

At a workshop, for example, with the support of a specialist and possibly for a fee, you can have data read out which is only stored locally in the vehicle.

### Third party services

If you use online services from other providers (third parties), these services are the responsibility of the provider in question and subject to that provider's data protection conditions and terms of use. As a general rule, the manufacturer has no influence on the content exchanged.

## General notes

### Copyright

You can obtain information about the type, scope, and purpose of the collection, as well as the use of personal data as part of third-party services from the respective service provider.

Truck°AG collects and uses personal data for the aforementioned purposes can be found online at:

<https://www.mercedes-benz-trucks.com/gdpr-vehicle-user>

### Data protection information

Daimler Truck°AG offers various digital services for its vehicles and works relentlessly to further develop its products, services, and processes, improving their quality and adapting them to customers' needs.

Daimler Truck°AG processes vehicle data for these purposes. While vehicle data constitutes technical information, it can to a certain extent be traced back to the keeper or driver of a vehicle. For this reason, it falls under the scope of data protection legislation. However, it can sometimes identify the owner or driver of a vehicle and is therefore subject to data protection legislation.

Further information in accordance with Art. 13 & 14 of the EU General Data Protection Regulation on how Daimler

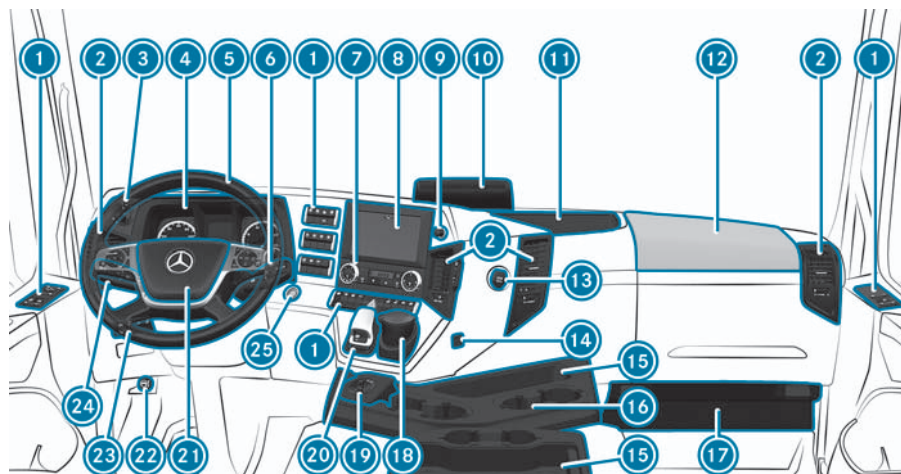


### Copyright

Information on licences for free and open-source software used in your vehicle, along with updates, is available online at:

<https://manuals.daimlertruck.com/truckownermanuals/conformity>

## Cockpit



Overview (example using a left-hand drive vehicle)

| Item | Description                              | Page |
|------|------------------------------------------|------|
| ①    | Switch panel                             |      |
| ②    | Air vent                                 | 145  |
| ③    | Light switch                             | 95   |
| ④    | Instrument cluster                       | 147  |
| ⑤    | Multifunction steering wheel             |      |
| ⑥    | Multifunction lever                      |      |
| ⑦    | Climate control operating unit           | 138  |
| ⑧    | Radio with USB port                      | 179  |
|      | Multimedia radio Touch                   | 193  |
| ⑨    | Cigarette lighter                        | 128  |
|      | Power socket (example)                   | 123  |
| ⑩    | Sensors/camera driver assistance systems | 406  |
| ⑪    | Stowage space                            | 129  |
| ⑫    | Folding table                            | 133  |
| ⑬    | Power socket (example) 24 V              | 123  |
| ⑭    | USB port                                 |      |
| ⑮    | Stowage spaces/climbing aid              | 72   |
| ⑯    | Cup holder                               | 134  |
| ⑰    | Main fuse carrier cover                  | 465  |

## At a glance

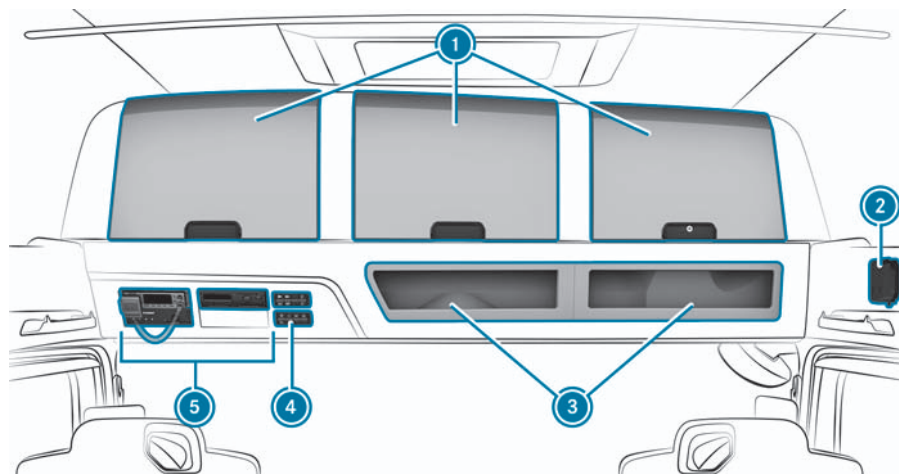
### Cockpit

| Item | Description                                   | Page |
|------|-----------------------------------------------|------|
| 18   | Ashtray                                       |      |
| 19   | Differential locks<br>Control knob            | 259  |
| 20   | Electronic parking brake                      | 227  |
|      | Trailer Stability Assist (TSA)                | 314  |
|      | Electric independent trailer<br>brake         |      |
| 21   | Horn (compressed-air/<br>signal horn)         |      |
| 22   | Adjusting the multifunction<br>steering wheel | 82   |
| 23   | Switch panel                                  |      |
| 24   | Combination switch                            | 101  |
| 25   | Ignition lock/start/stop<br>button            | 213  |



## Overhead control panel

### Overhead control panel



Overview (example using a left-hand drive vehicle)

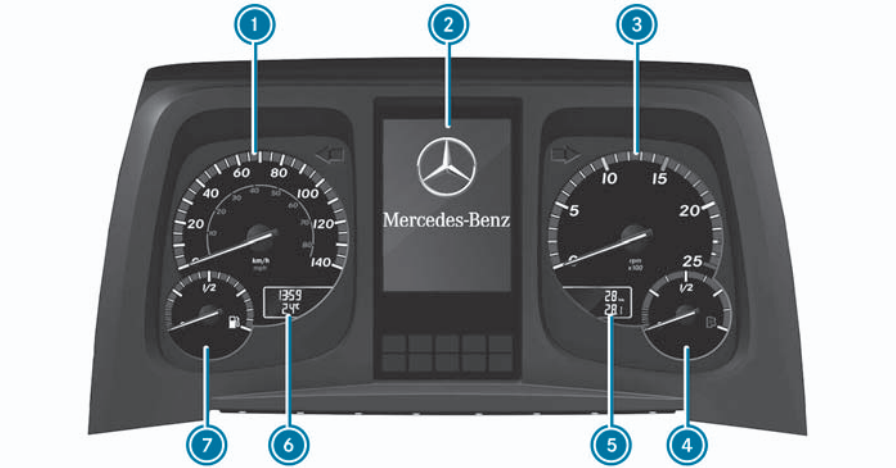
| Item | Description                                                                                                                                       | Page |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------|------|
| ①    | Stowage compartments                                                                                                                              | 129  |
| ②    | Smoke detector                                                                                                                                    | 128  |
| ③    | Stowage spaces                                                                                                                                    | 129  |
| ④    | Switch panel                                                                                                                                      |      |
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|      | Roller sunblind<br>Extend                                                                                                                         | 65   |
|      | Illuminated Mercedes star                                                                                                                         | 102  |
|      | Driver's reading lamp                                                                                                                             | 104  |
|      | Night lighting                                                                                                                                    | 104  |
|      | Interior lamps                                                                                                                                    | 104  |
|      | Automatic interior lighting<br>control                                                                                                            | 104  |
|      | Sliding sunroof/pop-up roof<br>Open                                                                                                               | 59   |
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| ⑤    | DIN slots for:<br><br>Two-way radio (see separate<br>operating instructions)<br><br>Digital tachograph (see sep-<br>arate operating instructions) |      |

At a glance

Instrument cluster

Instrument cluster

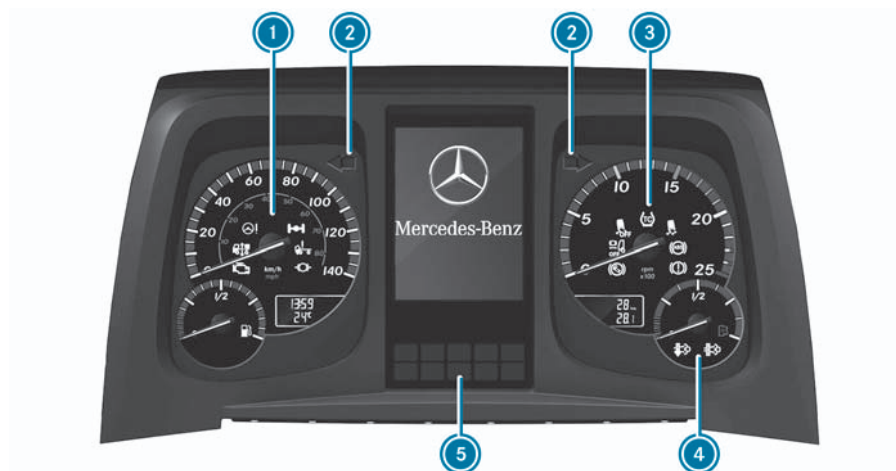
Classic cockpit displays



Instrument cluster (example)

| Item | Description                                                                                                                                                                  | Page |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 1    | Speedometer                                                                                                                                                                  |      |
| 2    | On-board computer                                                                                                                                                            | 156  |
| 3    | Rev counter                                                                                                                                                                  | 147  |
| 4    | AdBlue® level<br>(Vehicles with BlueTEC®<br>exhaust gas aftertreatment)<br>Supply pressure of brake<br>circuits (vehicles without<br>BlueTec® exhaust gas<br>aftertreatment) | 148  |
| 5    | Total distance and trip<br>distance                                                                                                                                          | 150  |
| 6    | Clock and outside temper-<br>ature display                                                                                                                                   | 149  |
| 7    | Fuel level                                                                                                                                                                   | 149  |

### Classic Cockpit warning/indicator lamps



Instrument cluster (example)

| Item | Description                                                 | Page |
|------|-------------------------------------------------------------|------|
| ①    | <b>Warning/indicator lamps on the speedometer</b>           |      |
|      | Engine diagnostics                                          | 151  |
|      | Cab tilt lock                                               | 439  |
|      | Level control system outside driving level                  | 315  |
|      | Electric power steering/steerable additional axle           | 549  |
|      | Differential locks                                          | 259  |
|      | Instruction to brake at high engine speeds                  | 147  |
| ②    | Turn signal indicators                                      | 102  |
| ③    | <b>Warning/indicator lamps on the rev counter</b>           |      |
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|      | Active Brake Assist switched off                            | 289  |
|      | Stability Control Assist Control intervention               | 257  |
|      | ASR (acceleration skid control system) Control intervention | 256  |
|      | Stability Control Assist switched off                       | 257  |

## At a glance

### Instrument cluster

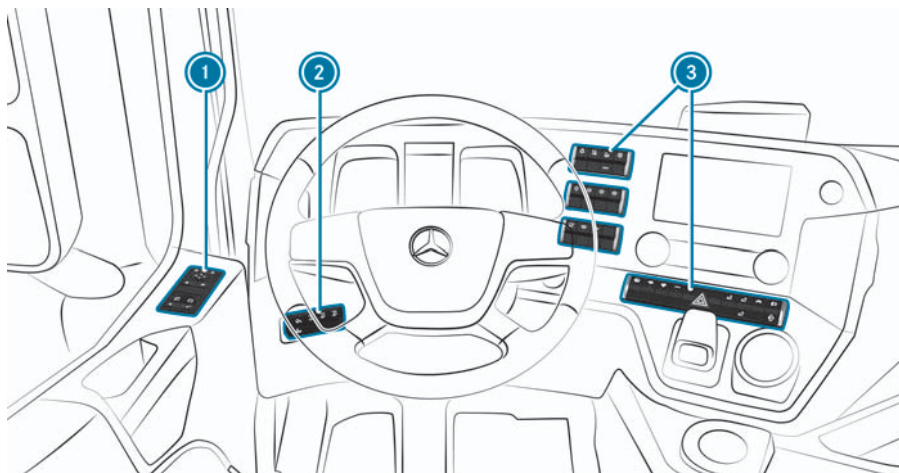
| Item                                                                                | Description                                                | Page |
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|    | ASR (acceleration skid control system)                     | 256  |
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|    | <b>Warning/indicator lamps on the AdBlue® display</b>      |      |
|    | Diesel particulate filter Automatic regeneration           | 339  |
|    | Diesel particulate filter Malfunction                      | 339  |
|    | <b>Warning/indicator lamps below the on-board computer</b> |      |
|    | Parking lights                                             | 94   |
|    | Main beam                                                  | 101  |
|    | Continuous brake                                           | 236  |
|    | Turbo retarder clutch                                      | 253  |
|  | Parking brake                                              |      |
|  | Leading axle/trailing axle                                 | 325  |

| Item | Description                                                                                                                                                 | Page |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|      | <b>An overview of the warning/indicator lamps in the status area of the on-board computer is available under "Instrument cluster and on-board computer"</b> | 175  |

### Switch panels

### Switch panels in the cockpit

### Driver cockpit



Switch panels in the driver cockpit (example)

| Item | Description                                                          | Page |
|------|----------------------------------------------------------------------|------|
| ①    | <b>Driver's door switch panel</b>                                    |      |
| ②    | <b>Switch panel</b>                                                  |      |
|      | Cargo liftgate (see separate operating instructions)                 |      |
|      | Floodlights (switched off automatically when the vehicle pulls away) |      |
|      | Chassis raising                                                      | 317  |
|      | Chassis lowering                                                     | 317  |
|      | Additional headlamps                                                 | 103  |
|      | 12 V voltage converter                                               | 125  |
| ③    | <b>Switch panel</b>                                                  |      |
|      | FleetBoard with driver card Service Call                             | 207  |
|      | Level control system Driving level                                   | 320  |
|      | Level control system raised driving level                            | 323  |
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|      | Level control/manoeuvring level                                      | 323  |
|      | Road paver mode                                                      | 322  |

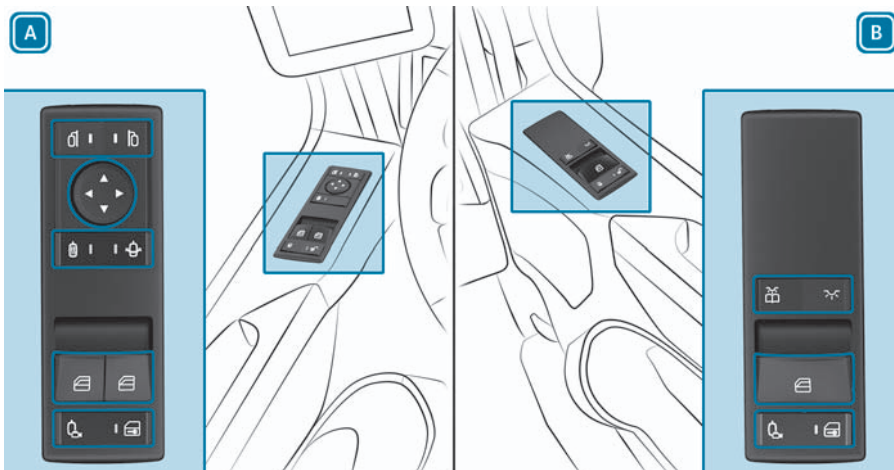
## At a glance

### Switch panels

| Item                                                                                | Description                                                    | Page |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------|------|
|    | Constant-rpm control                                           | 390  |
|    | Power take-off                                                 | 387  |
|    | 12 V voltage converter                                         | 125  |
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|    | ATA (anti-theft alarm system)                                  | 51   |
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|    | Battery disconnect switch                                      | 122  |
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|    | Holding brake on the front axle                                | 231  |
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|  | Manoeuvring mode                                               | 255  |

| Item                                                                              | Description                            | Page |
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|  | ASR (acceleration skid control system) | 256  |
|  | Stability Control Assist               | 258  |
|  | Hazard warning light system            |      |
|  | Differential locks                     | 259  |
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|  | Rotating beacon                        | 103  |
|  | Position marker lamp<br>Roof           | 103  |
|  | Hydraulic auxiliary drive              | 264  |
|  | Windscreen heater                      | 120  |

## Door control units



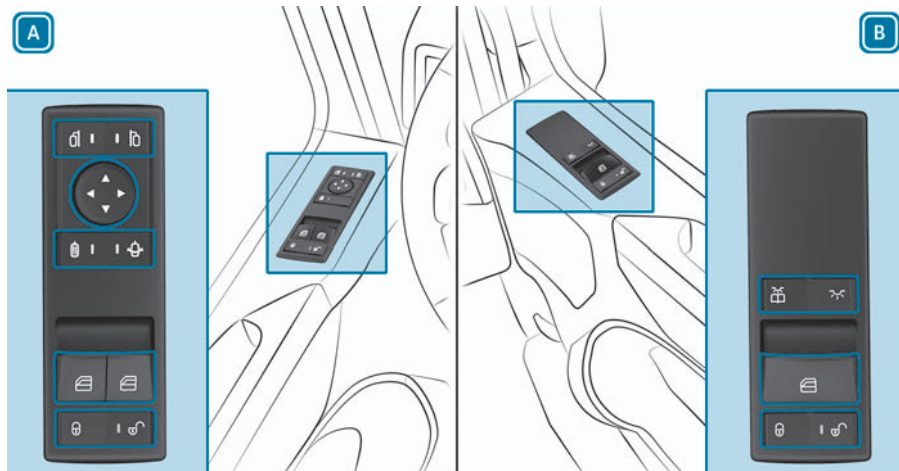
Vehicles with MirrorCam (example)

| Item     | Description                                                             | Page |
|----------|-------------------------------------------------------------------------|------|
| <b>A</b> | <b>Door control unit for driver's door</b>                              |      |
|          | Selects display, left                                                   | 85   |
|          | Selects display, right                                                  | 85   |
|          | Sets field of view                                                      | 85   |
|          | Activate/deactivate camera heating                                      | 85   |
|          | Activate/deactivate automatic field of view adjustment/manoeuvring view | 85   |
|          | Opens/closes the side windows                                           | 57   |
|          | Activates MirrorCam system                                              | 85   |
|          | Unlock/lock doors                                                       | 47   |
| <b>B</b> | <b>Door control unit for co-driver's door</b>                           |      |
|          | Co-driver's reading lamp                                                | 104  |
|          | Interior lamps                                                          | 104  |
|          | Opens/closes the side windows                                           | 57   |
|          | Unlock/lock doors                                                       | 47   |
|          | Activates MirrorCam system                                              | 85   |

## At a glance

### Switch panels

#### Door control units



Vehicles with outside mirrors (example)

| Item     | Description                                             | Page |
|----------|---------------------------------------------------------|------|
| <b>A</b> | <b>Door control unit for driver's door</b>              |      |
|          | Outside mirror, left                                    | 83   |
|          | Outside mirror, right                                   | 83   |
|          | Adjusting the outside mirrors                           | 83   |
|          | Mirror heater                                           | 85   |
|          | Manoeuvring function for the co-driver's outside mirror | 83   |
|          | Opens/closes the side windows                           | 57   |
|          | Locks the doors                                         | 47   |
|          | Unlocks the doors                                       | 47   |
| <b>B</b> | <b>Door control unit for co-driver's door</b>           |      |
|          | Co-driver's reading lamp                                | 104  |
|          | Interior lamps                                          | 104  |
|          | Opens/closes the side windows                           | 57   |
|          | Locks the doors                                         | 47   |
|          | Unlocks the doors                                       | 47   |



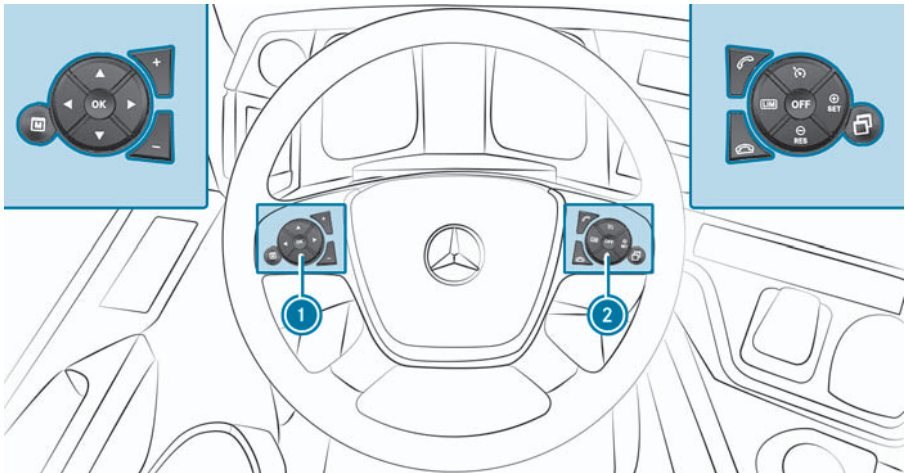
### Bunk switch panel



| Item | Description                                | Page |
|------|--------------------------------------------|------|
| ①    | <b>Bed/bunk switch panel</b>               |      |
|      | Auxiliary heating                          | 143  |
|      | Audio equipment                            | 135  |
|      | Audio equipment                            | 135  |
|      | Sliding sunroof/pop-up roof<br>Open        | 59   |
|      | Sliding sunroof/pop-up roof<br>Closing     | 59   |
|      | Interior lighting                          | 104  |
| ②    | <b>Bed/bunk switch panel</b>               |      |
|      | Activates MirrorCam system                 | 85   |
|      | Activating/deactivating the<br>panic alarm | 53   |
|      | Opens/closes the side<br>windows           | 57   |
|      | Central locking system<br>lock             | 47   |
|      | Central locking system<br>unlock           | 47   |

Multifunction steering wheel

Multifunction steering wheel



Example: buttons on the multifunction steering wheel

| Item | Description                                                                                      | Page |
|------|--------------------------------------------------------------------------------------------------|------|
| ①    | <b>Left group of buttons on the multifunction steering wheel</b>                                 |      |
|      | On-board computer                                                                                | 156  |
|      | Operation:                                                                                       |      |
| ▶    | Selecting the next main menu/selecting next entry in input window, increasing or resetting value |      |
| ◀    | Selecting the previous main menu/selecting previous entry in input window or reducing the value  |      |
| ▼    | Next menu window/one menu bar down in input window                                               |      |
| ▲    | Previous menu window/one menu bar up in input window                                             |      |
| OK   | Opening and closing input window/acknowledging display messages                                  |      |
| MEM  | Saving/displaying favourite menu window                                                          |      |
| +    | Louder                                                                                           |      |
| -    | Quieter                                                                                          |      |

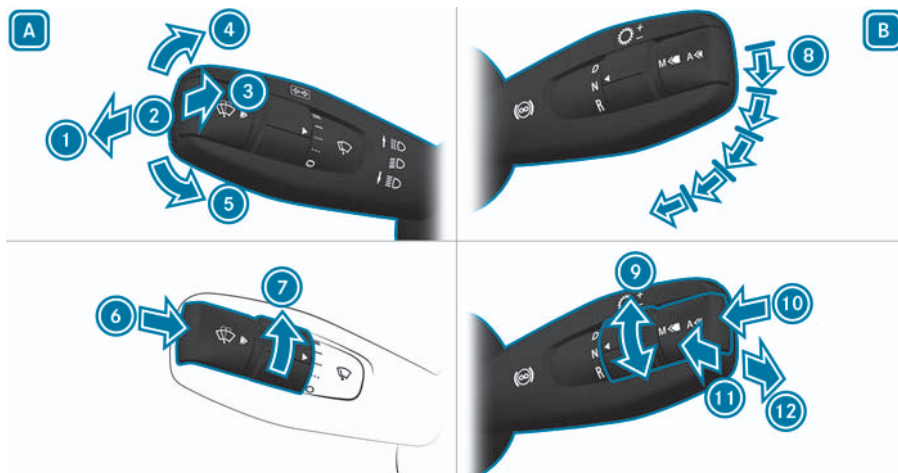
| Item                                                                              | Description                                                                               | Page |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------|
|  | <b>Right-hand button group on the multifunction steering wheel</b>                        |      |
|                                                                                   | Operating the driving systems:                                                            |      |
|  | Selecting cruise control                                                                  | 269  |
|                                                                                   | Selecting Proximity Control Assist                                                        | 272  |
|  | Switching on and setting the current speed/speed limit, adjust set speed/speed limit      |      |
|  | Switching on and calling the stored speed/speed limit, reducing the set speed/speed limit |      |
|  | Selecting limiter                                                                         | 268  |
|  | Switch off Limiter/Cruise control/Proximity Control Assist                                |      |
|  | Driving systems menu window                                                               |      |
|                                                                                   | Setting the speed tolerance (cruise control/Proximity Control Assist)                     |      |
|                                                                                   | Setting the specified distance (Proximity Control Assist)                                 |      |

| Item                                                                              | Description                                                                | Page |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------|------|
|                                                                                   | Setting the idle/working speed                                             | 390  |
|  | Telephone                                                                  | 163  |
|                                                                                   | Making, accepting calls/ displaying telephone <b>Telephone</b> menu window |      |
|  | Telephone                                                                  | 163  |
|                                                                                   | Ends/rejects a call                                                        |      |

## At a glance

### Combination switch and multifunction lever

#### Combination switch and multifunction lever



| Item                         | Description                                                                         | Page |
|------------------------------|-------------------------------------------------------------------------------------|------|
| <b>A Combination switch</b>  |                                                                                     |      |
| ①                            | High beam on (when dipped beam is switched on)                                      | 101  |
|                              | High beam is automatically controlled (when Adaptive Main Beam Assist is activated) | 99   |
| ②                            | High beam off (when dipped beam is switched on)                                     | 101  |
| ③                            | Headlamp flashing                                                                   | 101  |
| ④                            | Turn signal indicator, right                                                        | 101  |
| ⑤                            | Turn signal indicator, left                                                         | 101  |
| ⑥                            | Wiping with washer fluid/ single wipe                                               | 119  |
| ⑦                            | Windscreen wipers                                                                   | 119  |
| <b>B Multifunction lever</b> |                                                                                     |      |
| ⑧                            | Continuous brake                                                                    | 236  |
| ⑨                            | Driving in the automatic drive program                                              | 249  |
|                              | Driving direction selection                                                         |      |
|                              | <b>D</b> Drive/driving forwards                                                     |      |
|                              | <b>N</b> Neutral                                                                    |      |
|                              | <b>R</b> Reverse                                                                    |      |

| Item | Description                                                                                 | Page |
|------|---------------------------------------------------------------------------------------------|------|
| 10   | Drive program selection<br>[A/M] automatic drive<br>program A or manual drive<br>program M  | 240  |
| 11   | Driving in the automatic<br>drive program<br>Manual upshift, automatic<br>drive program     | 249  |
| 12   | Driving in the automatic<br>drive program<br>Manual downshift, automat-<br>ic drive program | 249  |

## Occupant safety

### Restraint system

#### Restraint system

#### Protection provided by the restraint system

The restraint system comprises the following components:

- Seat belt system
- Driver's airbag

In the event of an accident, the restraint system can reduce the forces to which the vehicle occupants are subjected.

In addition, the driver's airbag and the seat belt tensioner of the driver's seat help prevent the driver from coming into contact with parts of the vehicle interior in the event of an accident.

A seat belt can only provide the best level of protection if it is worn correctly.

Vehicles with driver's airbag Depending on the detected accident situation, the seat belt tensioner for the seat belt of the driver's seat and the driver's airbag supplement the protection offered by a correctly worn seat belt. Seat belt tensioners

and driver's airbags are not deployed in every accident.

The seat belt system does not include a seat belt tensioner if the vehicle does not have a driver's airbag.

For the restraint system to provide its full protection, each occupant must observe the following:

- ▶ Fasten seat belts correctly.
- ▶ Be in an almost upright position with their back against the seat backrest.
- ▶ Sit with feet resting on the floor whenever possible.
- ▶ Always secure persons under 1.50 m in height in an additional restraint system suitable for Mercedes-Benz Trucks.
- ▶ Always observe the notes on adjusting the seats ( → Page 66) and adjusting the steering wheel ( → Page 82).

No system available today can completely eliminate injuries and fatalities in every accident situation. In particular, the seat belt and airbag generally do not protect

against objects penetrating the vehicle from the outside. The risk of an injury resulting from airbag deployment also cannot be ruled out entirely.

#### Limitations of the protection provided by the restraint system



#### **Danger**

#### **Risk of injury or death due to modifications to the restraint system**

Vehicle occupants may no longer be protected as intended if alterations are made to the restraint system.

- ▶ Never alter the parts of the restraint system.
- ▶ Never tamper with the wiring or any electronic component parts or their software.
- ▶ If it is necessary to adjust the vehicle to accommodate a person with disabilities, contact a qualified specialist workshop.

Daimler Truck AG recommends contacting an authorised Mercedes-Benz Trucks Service Centre.

### Operational readiness of the restraint system

The functions of the restraint system are checked during the self-test when the vehicle is switched on. If the  restraint system warning lamp does not light up in the instrument cluster, the components of the restraint system are operational.

Overview of warning/indicator lamps  
(→ Page 175).

### Restraint system malfunction

If the restraint system warning lamp  lights up in the instrument cluster, this means a malfunction has occurred in the restraint system.



**Danger**

### Risk of injury due to malfunctions in the restraint system

Components in the restraint system may be activated unintentionally or not deploy as intended in an accident.

- Have the restraint system checked and repaired as soon as possible at a qualified specialist workshop.

### Function of the restraint system in the event of an accident

How the restraint system works depends on the severity of the impact detected and the frontal impact anticipated.

The activation threshold for the components of the restraint system is determined by evaluating the cab deceleration. This evaluation is pre-emptive in nature. The triggering/deployment process for the seat belt tensioner and driver's airbag must take place in good time at the start of the collision.

Factors which can only be seen and measured after a collision has occurred do not play a decisive role in the deployment of an airbag, nor do they provide an indication of airbag deployment.

The vehicle may be deformed significantly without any deployment of the airbag. This is the case if only parts which are relatively easily deformed are affected and the rate of cab deceleration is not high. Conversely, the airbag may be deployed even though the vehicle suffers only minor deformation. If very rigid vehicle parts such as longitudinal members are hit, for example, the cab deceleration may be high enough for this to happen.

When a deployment situation is detected, the seat belt tensioner for the driver's seat belt and the driver's airbag are deployed together.

## Occupant safety

### Seat belts



#### **Danger**

#### **Risk of burns from hot airbag components**

The airbag parts are hot after an airbag has been deployed.

- ▶ Do not touch the airbag parts.
- ▶ Have a deployed airbag replaced at a qualified specialist workshop as soon as possible.

Daimler Truck AG recommends that you have the vehicle towed to a qualified specialist workshop after an accident. Take this into account particularly if a seat belt tensioner or airbag was deployed.

If the seat belt tensioners or the driver's airbag are deployed, you will hear a bang, and a small amount of powder may be released:

- The bang will not usually affect your hearing.
- In general, the powder released is not hazardous to health but may cause short-term breathing difficulties to

persons suffering from asthma or other pulmonary conditions. Provided it is safe to do so, leave the vehicle promptly, or open the window in order to prevent any breathing difficulties from arising.

### Seat belts

#### **Protection provided by the seat belt**

- ▶ Always fasten your seat belt correctly before starting a journey.

A seat belt can only provide the best level of protection if it is worn correctly.



#### **Danger**

#### **Risk of injury or death due to incorrectly fastened seat belt**

If the seat belt is not worn correctly, it cannot perform its intended protective function.

In addition, an incorrectly fastened seat belt can also cause injuries, for example, in the event of an accident, or when braking or changing direction suddenly.

- ▶ Always ensure that all vehicle occupants have their seat belts fastened correctly and are sitting properly.
- ▶ Always observe the notes on adjusting the seats (→ Page 66) and adjusting the steering wheel (→ Page 82).

In order for the correctly worn seat belt to provide the intended level of protection, each vehicle occupant must observe the following information:

- The seat belt must not be twisted and must fit tightly and snugly across the body.
- The seat belt must be routed across the centre of the shoulder and as low down across the hips as possible.
- The shoulder section of the seat belt should not touch your neck nor be routed under your arm or behind your back.
- Avoid wearing bulky clothing, e.g. a winter coat.
- Press the lap belt as low as possible into the hip crease and tighten the



shoulder belt portion. Do not wear the lap belt across your abdomen.

During pregnancy in particular, the following instructions must be strictly observed due to the change in physique and to protect unborn life (→ Page 36).

- Do not wear the seat belt across sharp, pointed, abrasive or fragile objects.
- Only one person may use each seat belt at any given time.
- Never secure objects with a seat belt if the seat belt is being used by one of the vehicle's occupants. It must be ensured that no objects, such as pillows, are placed between a person and the seat.
- Your feet should always be placed on the ground. You should not, for example, put your feet on the dashboard. Otherwise, when braking or in the event of an accident, you may slide underneath the seat belt.
- ▶ When transporting a child in the vehicle, always observe the

instructions and safety notes on “Children in the vehicle” (→ Page 40).

- ▶ To secure objects, luggage, or payload, always observe the instructions on stowage spaces and stowage compartments (→ Page 129).

### Limitations of the protection provided by the seat belt



**Danger**

#### **Risk of injury or death due to incorrect seat position**

The seat belt does not offer the intended level of protection if you have not moved the seat backrest to an almost vertical position.

In particular, you might slide underneath the seat belt and injure yourself.

- ▶ Adjust the seat properly before commencing your journey.
- ▶ Always ensure that the seat backrest is in an almost vertical position,

and that the shoulder belt is routed across the centre of your shoulder.



**Danger**

#### **Risk of injury or death when additional restraint systems are not used for persons with a smaller build**

Persons under 1.50 m in height may not be able to fasten their seat belt correctly without a suitable additional restraint system.

- ▶ Always secure persons under 1.50 m in height in a suitable additional restraint system.



**Danger**

#### **Risk of injury or death due to damaged or modified seat belts**

Seat belts cannot provide protection in the following situations:

- The seat belt is damaged, has been modified, is extremely dirty, bleached, or dyed.
- The seat belt buckle is damaged or extremely dirty.

## Occupant safety

### Seat belts

- Modifications have been made to the seat belt tensioner, seat belt anchorage, or seat belt retractor.

Seat belts may sustain non-visible damage in an accident, e.g. due to glass splinters.

Modified or damaged seat belts could tear or fail in the event of an accident, for example.

Modified belt tensioners may be deployed unintentionally or not function as intended.

- ▶ Never modify the seat belt system, for example the seat belt, seat belt buckle, seat belt tensioner, seat belt anchorage, or the seat belt retractor.
- ▶ Make sure that the seat belts are not damaged, are not worn, and are clean.
- ▶ Always have the seat belts checked at a qualified specialist workshop as soon as possible after an accident.

Daimler Truck AG recommends that you use seat belts that have been specifically

approved for the relevant type of vehicle by Daimler Truck AG. Otherwise, your vehicle's general operating permit could be invalidated.



**Danger**

#### **Risk of injury or death from deployed pyrotechnic seat belt tensioners**

Pyrotechnic seat belt tensioners that have been deployed are no longer operational and are unable to perform their intended protective function.

- ▶ Therefore, have deployed pyrotechnic seat belt tensioners as soon as possible replaced at a qualified specialist workshop.

Daimler Truck AG recommends that you have the vehicle towed to a qualified specialist workshop after an accident.



#### **Note**

#### **Damage caused by trapping the seat belt**

If an unused seat belt is not fully retracted, it may become trapped in the door or in the seat mechanism.

- ▶ Always ensure that an unused seat belt is fully retracted.

### **Wearing a seatbelt during pregnancy**

#### **Be diligent**

During pregnancy in particular, the following instructions must be strictly observed due to the change in stature and unborn life:

- Correct seating position and posture
- Wearing the seat belt correctly

The correct seating position with an almost upright seating position and correctly fastened seat belt reduce the risks for the mother and unborn child in the event of an accident.

Especially during pregnancy, keep as much distance as possible between your pregnancy abdomen and the steering wheel due to the change in stature and unborn life.

If you cannot ensure sufficient distance from the steering wheel to operate the vehicle safely, another person should drive the vehicle.

### **i** Note

Daimler Truck AG recommends that you get professional advice, e.g. from a doctor, regarding the possible risks of driving during pregnancy.

### **Wearing a seat belt**



During pregnancy, pay particular attention to the following instructions:

- Press the lap belt as deeply as possible into the bend of your hips and pull it tight with the shoulder strap. Do not wear the lap belt across your pregnancy abdomen.
- The shoulder strap should run along the side of the pregnancy abdomen.
- Never use objects, e.g., even small cushions, between the person and the seat belt.

### **Fastening and adjusting the seat belts**

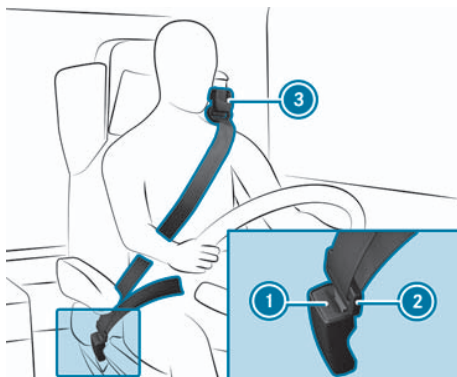
If the seat belt is pulled out quickly or sharply, the seat belt retractor locks. The belt strap cannot be pulled out any further.

### **i** Note

A seat belt can only provide the best level of protection if it is worn correctly. Observe the notes on fastening the seat belt (→ Page 34).

## Occupant safety

### Airbag



- ▶ Always engage the seat belt tongue ② of the seat belt into the seat belt buckle ① of the corresponding seat.

#### Adjusting the seat belt height

- ▶ With the release knob depressed, adjust the belt sash guide ③ to the position appropriate to your body size.

#### Engage the belt sash guide

- ▶ Let go of release knob and make sure that seat belt sash guide ③ has

engaged. Information on operating the seat (→ Page 68).

#### Releasing the seat belt

- ▶ Press the release button in the seat belt buckle and guide the seat belt back with the seat belt tongue.

#### Function of the seat belt warning for the driver and co-driver

The  seat belt warning lamp in the instrument cluster is a reminder that all vehicle occupants must wear their seat belts correctly.

A warning tone may also sound.

Depending on the vehicle equipment, the seat belt warning lamp  extinguishes and the warning tone is switched off:

- The driver's seat belt is fastened.
- The driver and co-driver have fastened their seat belts.

Overview of warning/indicator lamps (→ Page 175).

### Airbag

#### Airbag installation location

The installation location of the driver's airbag is identified by the AIRBAG label on the steering wheel.

When deployed, the driver's airbag can increase protection of the driver's head and thorax.

#### Protection provided by the airbag

Depending on the accident situation, an airbag can supplement a seat belt which is worn correctly, thereby increasing protection.



**Danger**

#### Risk of injury or death due to incorrect seat position

If you deviate from the correct seat position, the airbag cannot perform its intended protective function.

Every vehicle occupant must ensure the following points:

- Fasten seat belts correctly. Pregnant women must take particular care to ensure that the lap belt never lies across the abdomen.
- Observe the following notes.
  - ▶ Always ensure that there are no objects located between the airbag and the vehicle occupant.

Every vehicle occupant must observe the following notes to prevent risks due to the airbag deploying:

- ▶ Adjust the seats properly before beginning your journey. Move the driver's seat as far back as possible. Always observe the notes on adjusting the seats (→ Page 68) and adjusting the steering wheel (→ Page 82).
  - ▶ Hold the steering wheel by the rim only. This allows the airbag to deploy fully. During pregnancy in particular, the greatest possible distance to the steering wheel must be maintained due to the change in physique and to protect unborn life.
  - ▶ Always lean against the seat backrest while driving and do not lean forwards. You may otherwise be in the deployment area of the airbag.
  - ▶ Always place your feet on the floor. Do not, for example, place your feet on the dashboard.
  - ▶ If children are being transported in the vehicle, please observe the additional notes/instructions (→ Page 40).
  - ▶ Always stow objects correctly and securely.
- Objects in the vehicle interior could jeopardise the correct functioning of an airbag. Every vehicle occupant must always ensure the following points:
- ▶ Make sure there are no people, animals, or objects between the driver and the driver's airbag.
  - ▶ There are no hard objects, e.g. coat hangers, hanging on the grab handles or coat hooks.
  - ▶ Do not attach accessories such as mobile navigation devices, mobile phones, or cup holders in the airbag's

deployment area, e.g. on the steering wheel or on the door. Always observe the accessory manufacturer's installation instructions, in particular the notes on a suitable place to fit accessories.

- ▶ There are no heavy, sharp-edged or fragile objects in the pockets of your clothing. Stow such objects in a suitable place.

#### Limitations of the protection provided by the airbag



#### **Danger**

#### **Risk of injury due to modifications to the cover of an airbag**

If you modify the cover of an airbag or affix objects such as stickers to it, the airbag can no longer function as intended.

- ▶ Never modify the cover of an airbag.
- ▶ Do not attach any objects to the cover.

## Occupant safety

### Travelling safely with children in the vehicle

The installation location of an airbag is identified by the AIRBAG label (→ Page 38).



**Danger**

#### **Risk of injury due to deployed airbag**

A deployed airbag no longer offers any protection.

- ▶ Have the vehicle towed to a qualified specialist workshop in order to have the deployed airbag replaced.
- ▶ Have deployed airbags replaced as soon as possible.

### Travelling safely with children in the vehicle

#### Always observe when children are travelling in the vehicle



**Note**

Be sure to observe the safety instructions relevant to the situation. You will be able to identify possible risks and avoid dangers when children are travelling in the vehicle (→ Page 41).

#### Be diligent

Bear in mind that failing to take due care when securing a child in the child restraint system may have serious consequences. You should always be consistent and carefully secure a child before every journey.

- ▶ Infants and children must never travel sitting on the lap of a vehicle occupant.

In order to better protect children of under 12 years of age or under 1.50 m in height, Daimler Truck AG strongly recommends observing the following:

- Always secure the child in a child restraint system suitable for your Mercedes-Benz truck.
- The child restraint system must be appropriate to the age, weight, and size of the child.
- The vehicle seat must be suitable for the child restraint system to be fitted.

#### The generic term child restraint system

The generic term child restraint system is used in these operating instructions.

A child restraint system is, for example:

- A baby car seat
- A rearward-facing child seat
- A forward-facing child seat
- A child booster seat with a backrest and seat belt guides

The child restraint system must be appropriate to the age, weight, and size of the child.

### Observe laws and regulations

- ▶ Always observe the legal requirements when using a child restraint system in the vehicle.
- ▶ Ensure that the child restraint system is approved in accordance with the valid test specifications and guidelines.

Further information can be obtained at a qualified specialist workshop. Daimler Truck AG recommends that you use an authorised Mercedes-Benz Trucks Service Centre for this purpose.

### Detecting risks, avoiding dangers

#### Securing systems for child restraint systems in the vehicle

Only use the following fastening system for child restraint systems:

- the vehicle's seat belt system

#### Advantages of a rearward-facing child restraint system

Babies or infants should preferably travel in a suitable rearward-facing child restraint system. In this case, the child is seated in the opposite direction to the direction of travel and is facing backwards.

Babies and infants have comparatively poorly developed neck muscles in relation to the size and weight of their head. A rearward-facing child restraint system can reduce the risk of injury to the cervical spine in an accident.

#### Always secure child restraint systems correctly



#### Warning

#### Risk of injury or death due to an incorrectly installed child restraint system

The child cannot then be protected or restrained as intended.

- ▶ Always comply with the manufacturer's installation instructions for

the child restraint system and its correct use.

- ▶ Make sure that the entire base of the child restraint system always rests on the seat cushion of seat.
- ▶ Never place objects under or behind the child restraint system, e.g. cushions.
- ▶ Only use child restraint systems with its intended genuine cover.
- ▶ Always replace damaged covers with genuine covers.
- ▶ It is recommended to use child restraint systems recommended for Mercedes-Benz Trucks whenever possible.



#### Danger

#### Risk of injury or death due to unsecured child restraint systems in the vehicle

If the child restraint system is incorrectly fitted or not secured, it can become detached.

## Occupant safety

### Travelling safely with children in the vehicle

The child restraint system may be thrown around and hit vehicle occupants.

- ▶ In addition, always be sure to correctly install any unused child restraint systems.
- ▶ Always comply with the manufacturer's installation instructions for the child restraint system.
- ▶ Be sure to observe the installation and operating instructions provided by the manufacturer of the child restraint system being used as well as the vehicle-specific notes at all times: Securing the child restraint system with the seat belt on the front passenger's seat (→ Page 43).
- ▶ Observe the warning labels in the vehicle interior and on the child restraint system.

#### Do not make modifications to child restraint systems



**Danger**

##### **Risk of injury from modifications to the child restraint system**

The child restraint system can no longer function as intended. There will be an increased risk of injury!

- ▶ Never alter a child restraint system.
- ▶ Only install accessories that the manufacturer of the child restraint system has specifically approved for that child restraint system.

Daimler Truck AG recommends Daimler Truck AG care products for cleaning child restraint systems recommended for Mercedes-Benz trucks.

#### Only use child restraint systems which are not damaged



**Danger**

##### **Risk of injury or death due to the use of damaged child restraint systems**

Damaged child restraint systems, those subjected to stress during an accident or their securing systems may no longer provide protection as intended.

It may not be possible to restrain the child.

- ▶ Replace damaged child restraint systems or those subjected to stress during an accident as soon as possible.
- ▶ Have the securing systems of child restraint systems checked at a qualified specialist workshop as soon as possible before a child restraint system is installed again.



### Avoid direct sunlight



**Danger**

#### **Risk of burns when the child seat is exposed to direct sunlight**

If the child restraint system is exposed to direct sunlight, its parts may heat up considerably.

Children could suffer burns from these parts, particularly from the metal parts of the child restraint system.

- ▶ Always ensure that the child restraint system is not exposed to direct sunlight.
- ▶ Protect the child restraint system, e.g. with a blanket.
- ▶ If the child restraint system was exposed to direct sunlight, let it cool down before securing the child in it.
- ▶ Never leave children unattended in the vehicle.

### Observe the following when stopping or parking



**Danger**

#### **Risk of accident and injury due to children left unattended in the vehicle**

If you leave children unattended in the vehicle, some of the things that might happen include:

- They may open doors, thereby endangering other persons or road users.
- They may get out and be struck by oncoming traffic.
- They may operate vehicle equipment and become trapped.

In addition, children could also set the vehicle in motion, for example, by

- Releasing the parking brake.
  - Changing the transmission position.
  - Starting the vehicle.
- ▶ Do not leave children unattended in the vehicle.

- ▶ When leaving the vehicle, always take the key with you and lock the vehicle.
- ▶ Keep the key out of the reach of children.



**Danger**

#### **Danger to life due to exposure to extreme heat or cold in the vehicle**

If persons - particularly children - are subjected to prolonged exposure to intense heat or cold, there is a risk of severe injury or even death!

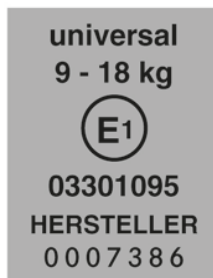
- ▶ Never leave persons, and particularly children, unattended in the vehicle.

### **Securing the child restraint system with the seat belt on the co-driver's seat**

Child restraint systems in the "Universal" category are marked with an orange approval label.

## Occupant safety

### Travelling safely with children in the vehicle



Example of an approval label

**When fitting a belt-secured child restraint system on the co-driver's seat, always observe the following:**

|                                     |                                                                                                                                           |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | When using a child restraint system in the "Universal" category, ensure that it is approved for the vehicle seat.                         |
| <input checked="" type="checkbox"/> | Observe the manufacturer's installation and operating instructions for the child restraint system used.                                   |
| <input checked="" type="checkbox"/> | The backrest of a forward-facing child restraint system must, as far as possible, rest flat against the backrest of the co-driver's seat. |
| <input checked="" type="checkbox"/> | The child restraint system must not be put under strain between the roof and the                                                          |

|                                     |                                                                                                                           |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
|                                     | seat cushion and/or be fitted facing the wrong direction. Adjust the seat backrest angle as appropriate.                  |
| <input checked="" type="checkbox"/> | The child restraint system must not be put under strain by the head restraint. Adjust the head restraints as appropriate. |
| <input checked="" type="checkbox"/> | Never place objects under or behind the child restraint system, e.g. cushions.                                            |

- ▶ Move the co-driver's seat as far back as possible.
- ▶ Fully retract the seat cushion length adjustment.
- ▶ Adjust the seat cushion angle in such a way that the front of the seat cushion is in the topmost position and the rear of the seat cushion in the lowest position.
- ▶ Adjust the seat backrest to an almost vertical position.
- ▶ Fit the child restraint system.

#### **i** Note

The entire base of the child restraint system must always rest on the seat cushion of the co-driver's seat.

- ▶ Always make sure that the shoulder belt strap is correctly routed from the seat belt outlet of the vehicle to the shoulder belt guide on the child restraint system.

#### **i** Note

The shoulder belt strap must be routed forwards and downwards from the seat belt outlet.

- ▶ If necessary, adjust the seat belt outlet and the co-driver's seat as appropriate.

#### Notes on pets in the vehicle



#### **Risk of accident and injury due to animals left unsecured or unattended in the vehicle**

If you leave animals unattended or unsecured in the vehicle, they could press buttons or switches, for example.

This can lead to animals, for example, activating vehicle equipment and getting trapped, or turning systems on or off and thereby endangering other road users.

Unsecured animals may also be thrown about the vehicle in the event of an accident or sudden steering and braking manoeuvres and injure vehicle occupants in the process.

- ▶ Never leave animals in the vehicle unattended.
- ▶ Always correctly secure animals while driving, e.g. using a suitable animal carrier.

## Opening and closing

### Electronic key

#### Electronic key

#### Overview of electronic keys

You require a key coded for the vehicle to use the following functions:

- Switching on the vehicle
- Starting the vehicle
- Shifting gears

#### **i** Note

If a vehicle key is lost, obtaining a replacement is a time-consuming process.

This can only be done through an authorised Mercedes-Benz Trucks Service Centre.

Daimler Truck AG therefore recommends that you always keep an easily accessible replacement key with you for emergencies.

If you lose a key, have it disabled at an authorised Mercedes-Benz Trucks Service Centre.



Key with remote control



Key with remote control and lamp check

Your vehicle is equipped with one of two keys.

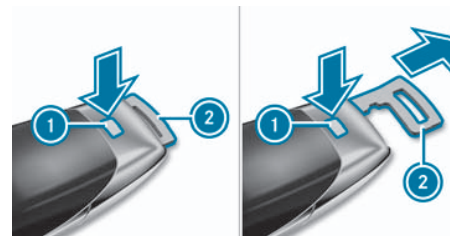
If the vehicle is equipped with lockable fuel tanks, you will receive additional keys for the lockable fuel tank caps.

If the key's battery is low or almost discharged, the instrument cluster will show you a corresponding display message.

Change the battery of the key  
(→ Page 54).

#### Using the emergency key element

#### Removing



- ▶ Press release knob ①.
  - ◁ Emergency key ② is pushed out slightly.
- ▶ Pull out emergency key ② until it engages in the intermediate position.

#### **i** Note

You can use the intermediate position of emergency key ② to attach the key to a key ring.

- ▶ Press release button ① again and fully remove emergency key ②.

#### Inserting

- ▶ Press release knob ①.
- ▶ Insert emergency key ② to the intermediate position or fully until it engages.

#### Deactivating the function of the key

##### Vehicles with keyless start

If you deactivate the function of the relevant key, it is no longer possible to authorise driving with a keyless start. Activate the function of the relevant key so that the function is available again as usual.

You can also deactivate the function of the key to reduce the energy consumption of the key if you do not use the vehicle or a key for an extended period of time.

- ▶ **To deactivate:** Press and hold the  button of the key.
- ▶ With  button pressed, press the  button of the key twice in rapid succession as soon as possible.

◁ The indicator lamp of the key lights up once briefly and once long.

- ▶ **To activate:** Press any button on the key.

or

- ▶ Hold the key against the contact point for emergency operation (→ Page 216).

#### Carry out lamp check with the key

The lamp check assists you in making your departure checks and helps you identify defective bulbs/LEDs.

- ▶ Apply the parking brake.
- ▶ Press the  button on the key.
  - ◁ Low beam headlights, marker lights, tail lights, and licence plate lighting light up continuously. The turn signal, main-beam, brake light, daytime running lights, reversing light, fog light, and the work lamp are switched on

one after the other. This cycle is repeated three times.

If you want to cancel the lamp check, press the button  again or release the parking brake.

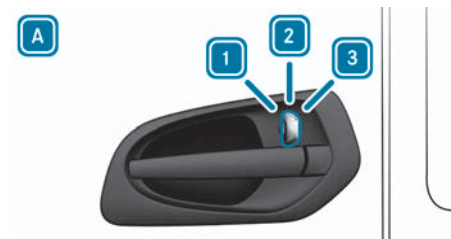
#### Central locking system

##### Unlocking and locking the central locking system

##### Unlock/lock the outer door lock using the key

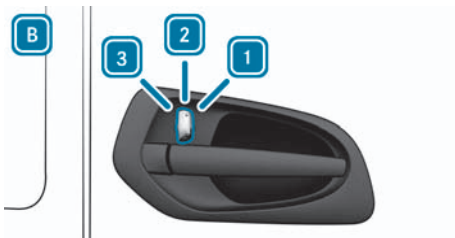
#### Note

If you use the emergency key element to unlock the door and ATA is primed (→ Page 52), the alarm is triggered.



## Opening and closing

### Central locking system



- ▶ Insert the key into the driver's door lock (Code F9Y only) **A** front-passenger door lock **B** into position **2**.
- ▶ **To unlock:** Turn the key to the **1** position.
  - ◁ The door is unlocked.
- ▶ **To lock:** Turn the key to the **3** position.
  - ◁ Both doors are locked.

#### Unlocking/locking using the remote control

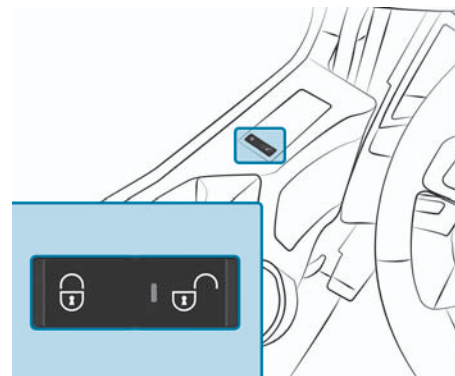
- ▶ To unlock: Press the  button on the key.
  - ◁ The driver's door or both doors are unlocked.

#### Note

You can change the unlocking function of the remote control so that either both front doors or just the driver's door is unlocked when you press the  button. To switch between the two unlocking functions, press and hold both remote control buttons simultaneously for approximately six seconds. The LED in the key flashes twice as confirmation. If you have selected the function that only unlocks the driver's door, you can unlock the front-passenger door by pressing the  button again.

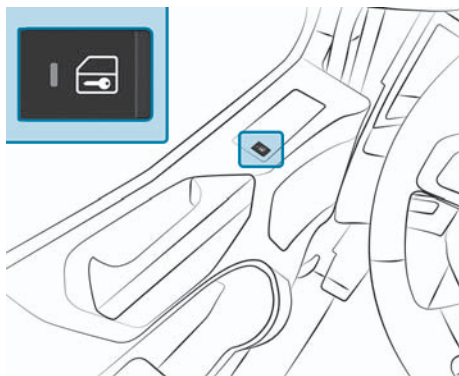
- ▶ **To lock:** Press the  button on the key.
  - ◁ Both doors are locked.

#### Central locking and unlocking with the button (vehicles without MirrorCam system)



- ▶ Close both doors.
- ▶ **Central locking:** Press the  button.
- ▶ **Central unlocking:** Press the button .
  - ◁ The indicator lamp in the  button flashes briefly.

#### Locking/unlocking centrally using the button (vehicles with MirrorCam system)



- ▶ Close both doors.
- ▶ **Central locking:** Press the  button.
- ▶ **Central unlocking:** Press the button .
  - ◁ The indicator lamp in the  button flashes briefly.

#### Note

Depending on the equipment, vehicles can be locked automatically at speeds above 20 km/h. This function is not adjustable.

There is a risk of being locked out in the following situations:

- When tow-starting the vehicle
- When the vehicle is on the roller dynamometer

#### Operating the extended central locking system

#### Danger

#### Risk of becoming trapped due to lack of attention during convenience closing

When the convenience closing feature is operating, parts of the body could become trapped in the closing area of the side window and the sliding sunroof.

- ▶ During convenience closing, monitor the entire closing process, and

make sure that no body parts are in the closing area.

#### Warning

#### Risk of becoming trapped when opening and closing the sliding sunroof/pop-up roof

Body parts may become trapped in the opening/closing area.

- ▶ When opening and closing, make sure that no one's limbs are in the opening/closing area of the sliding sunroof/pop-up roof.
- ▶ If someone is trapped, release the button immediately or press the top of the button in order to stop the closing process.

#### Danger

#### Risk of becoming trapped when closing the side window

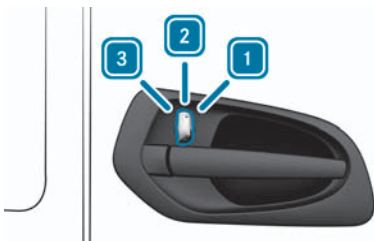
Body parts may become trapped in the closing area when closing a side window.

## Opening and closing

### Central locking system

- ▶ During the closing process, make sure that no body parts are in the closing area.
- ▶ If someone is trapped, release the button as soon as possible, or press the button in order to reopen the side window.

#### Convenience closing



- ▶ Insert the emergency key into the co-driver's door lock in position **2**, then turn it to position **3** and hold it there.

or

- ▶ **Vehicles without ATA:** Press the key  button for about two seconds.

or

- ▶ **Vehicles with ATA:** Press the  button on the key.
  - ◁ All turn signal lamps flash three times. The doors are locked. The side windows and the sliding sunroof/pop-up roof close.

#### Note

The roof hatch is not closed.

#### If there is a risk of becoming trapped:

- ▶ Turn the emergency key to position **1** immediately and hold it there until the side windows and the sliding sunroof/pop-up roof open again.

or

- ▶ Press and hold the  button on the key until the side windows and the sliding sunroof/pop-up roof open again.
  - ◁ The driver's door is unlocked.

#### Convenience opening

- ▶ Insert the emergency key in position **2** in the door lock, then turn it to position **1** and hold it there.

or

- ▶ Press and hold the  button on the key until the side windows and the sliding sunroof/pop-up roof have reached the desired position.
  - ◁ All turn signal lamps flash once. The driver's door is unlocked. The side windows and the sliding sunroof/pop-up roof open.

#### Note

The roof hatch is not closed.



#### Cab lock anti-intrusion protection

##### **i** Note

The cab lock anti-intrusion protection can only be locked/unlocked from the inside and is not part of the central locking system.

Do not use the cab lock anti-intrusion protection while the vehicle is in motion. Otherwise, in an emergency situation, it could impede the efforts of emergency responders attempting to rescue persons from the cab.

The cab lock anti-intrusion protection is used to prevent unauthorised entry into the cab, e.g. during rest times.

#### Locking and unlocking the cab lock anti-intrusion protection



Cab lock (example of locked driver's door)

- ▶ Close the doors.
- ▶ **To lock:** Press the securing knob ② of the cab lock anti-intrusion protection ① and pull the additional door lock downwards.
  - ◁ The cab lock anti-intrusion protection encloses the grab handle ③.
- ▶ **To unlock:** Press the cab lock anti-intrusion protection's securing knob ② ①.
  - ◁ The additional door lock is unlocked.

#### ATA (Anti-Theft Alarm system)

##### Notes on ATA

ATA monitors the following systems:

- on the towing vehicle:
  - the doors
  - the outside flaps
  - the power supply
  - the cab tilt lock
  - the vehicle interior (can be deactivated)
  - the maintenance flap
  - the fuel tank
- the box bodies (optional)

##### **Vehicles with battery disconnect**

**switch:** If ATA is activated and the power supply is interrupted using the battery disconnect switch (→ Page 122), ATA triggers an alarm.

Observe the following:

- If ATA is activated, it confirms the locking procedure by flashing all turn signal lamps three times. If the turn signal lamps do not flash three times, one or more components are not in

## Opening and closing

### ATA (Anti-Theft Alarm system)

the rest position. ATA cannot monitor these components, e.g. outside flaps that are open.

- Components that are moved to the rest position within approximately 30 seconds of ATA being reset will be monitored.
- If you subsequently close the outside flaps and want to include them in the monitoring, activate ATA again.

#### ATA alarm

If ATA triggers an alarm, the following warnings are given:

- all turn signal lamps flash for approximately five minutes.
- the alarm siren sounds for approximately 30 seconds.

#### Switching ATA on/off

##### Requirements

- The vehicle is switched off or the power supply is switched on.

- The windows, the roof hatch, the sliding roof and the pop-up roof are closed.
- The curtains are retracted.
- The exterior flaps are closed.
- There are no loose objects in the cab, e.g. mascots or coat hangers.

#### Switching on ATA with interior motion sensor



**Danger**

#### Risk of becoming trapped when closing the side window

Body parts may become trapped in the closing area when closing a side window.

- ▶ During the closing process, make sure that no body parts are in the closing area.
- ▶ If someone is trapped, release the button as soon as possible, or press the button in order to reopen the side window.

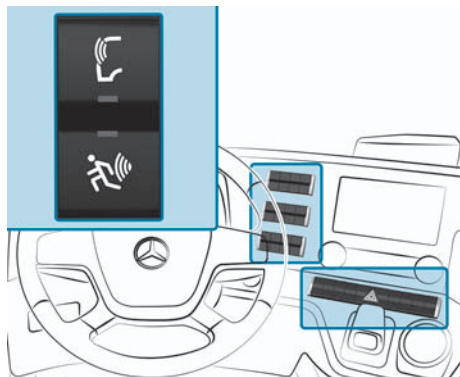


**Warning**

#### Risk of becoming trapped when opening and closing the sliding sunroof/pop-up roof

Body parts may become trapped in the opening/closing area.

- ▶ When opening and closing, make sure that no one's limbs are in the opening/closing area of the sliding sunroof/pop-up roof.
- ▶ If someone is trapped, release the button immediately or press the top of the button in order to stop the closing process.



- ▶ Hold the emergency key in the driver's door lock in the lock position for approximately two seconds.
- ▶ Then turn the emergency key back to the basic position and remove it.

or

- ▶ Press the  button on the key.
  - ◁ All turn signal lamps flash three times and the indicator lamp in the button  flashes. The vehicle has been locked. Vehicles with extended central locking system: The window and the sliding/pop-up roof close.

#### Switching on ATA without interior motion sensor

If there will be persons or animals remaining in the vehicle, activate ATA without interior motion sensor.

- ▶ Briefly press the upper section of the button .
  - ◁ The indicator lamp on the button will light up. The interior protection remains deactivated for the next locking procedure.
- ▶ Lock the vehicle with the emergency key or the remote control.

or

- ▶ Press  the top of the button for more than two seconds (not applicable for the Netherlands).
  - ◁ The vehicle locks and all turn signal lamps flash three times.
  - ◁ ATA is switched on.

When you switch on the vehicle, the ATA is deactivated automatically.

#### Switching off ATA and cancelling the alarm

- ▶ Press the  button on the key.
- or
- ▶ If the ATA was  activated with the button, press the top of the button again for longer than two seconds  (not applicable for the Netherlands).
    - ◁ All turn signal lamps flash once.

When you switch on the vehicle, the ATA is deactivated automatically.

#### Activating/deactivating the panic alarm

You can use the  button to trigger the vehicle's alarm system, e.g. in the event of danger.

## Opening and closing

### Replacing the key battery

#### Note

The function may also be available in vehicles without anti-theft alarm system.

- ▶ **Switching on:** Press the lower section of the button .
  - ◁ The alarm is triggered and the vehicle is locked.  
Vehicles with convenience central locking system: The windows and the sliding and pop-up roof close.

#### Note

The roof hatch is not closed.

- ▶ **Deactivation:** Press the lower section of the button .
  - ◁ The alarm switches off.
- ▶ In vehicles without anti-theft alarm system, you must press and hold the  button for two seconds.
  - ◁ The alarm switches off.

### Replacing the key battery

#### **Danger**

#### **Risk of fatal injuries due to swallowing batteries**

Batteries contain toxic and corrosive substances. Swallowing batteries may cause severe internal burns and/or chemical burns to occur within two hours.

There is a risk of fatal injury!

- ▶ Keep batteries out of the reach of children.
- ▶ If the cover and/or battery compartment does not close securely, do not use the key any longer, and keep it out of the reach of children.
- ▶ If batteries are swallowed, seek medical attention as soon as possible.

#### Note

#### **Environmental damage due to improper disposal of batteries**



Batteries contain pollutants. It is illegal to dispose of them with the household rubbish.

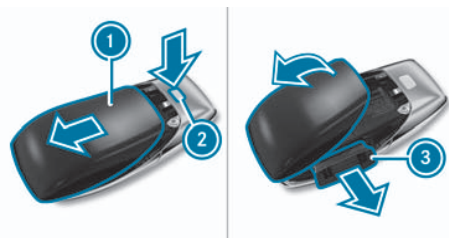
- ▶  Dispose of batteries in an environmentally responsible manner. Take discharged batteries to a qualified specialist workshop or to a collection point for used batteries.

#### **Requirements**

- You will need a CR°2032-type 3 V button cell.

Daimler Truck°AG recommends that you have the battery replaced at a qualified specialist workshop.

- ▶ Remove the emergency key.



- ▶ Press release button ② down fully and slide cover ① in the direction of the arrow.
- ▶ Fold out cover ① in the direction of the arrow and remove.
- ▶ Slide off battery compartment ③ and take out the discharged battery.
- ▶ Insert the new battery into the battery compartment ③. Observe the positive pole marking in the battery compartment and on the battery when doing this.
- ▶ Slide in battery compartment ③.
- ▶ Re-attach cover ① and push it until it engages.

#### Problems with the locking system

**When ATA is primed, there is no response from the turn signal lamps.**

One of the monitored component parts has not been locked correctly.

- ▶ Deactivate ATA (→ Page 52).
- ▶ Check that the monitored component parts are locked, e.g.
  - Doors
  - Windows
  - Cab tilt lock
  - Outside flaps on driver's and front passenger's side
  - Maintenance flap
- ▶ Activate ATA (→ Page 52).
- ▶ If there is no visual acknowledgment, have ATA checked at a qualified specialist workshop.

#### Getting in and out



**Danger**

**Risk of accident and injury due to children left unattended in the vehicle**

If you leave children unattended in the vehicle, some of the things that might happen include:

- They may open doors, thereby endangering other persons or road users.
- They may get out and be struck by oncoming traffic.
- They may operate vehicle equipment and become trapped.

In addition, children could also set the vehicle in motion, for example, by

- Releasing the parking brake.
  - Changing the transmission position.
  - Starting the vehicle.
- ▶ Do not leave children unattended in the vehicle.

## Opening and closing

### Getting in and out

- ▶ When leaving the vehicle, always take the key with you and lock the vehicle.
- ▶ Keep the key out of the reach of children.



#### **Danger**

#### **Risk of injury due to excessive load on the grab handles**

If you apply your full body weight to the grab handle or pull it abruptly, the grab handle may be damaged or become loose from its anchorage.

- ▶ Use the grab handles only to stabilise the seating position or to assist in getting in and out of the seat.

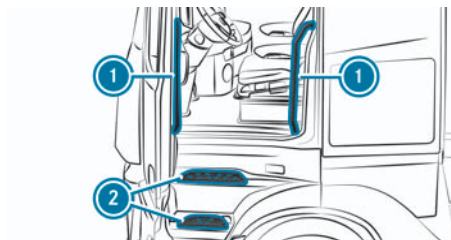


#### **Note**

When travelling with children in the vehicle, observe the supplemental notes (→ Page 40).

To get in and out safely, you should always use the steps and grab handles. They are the only elements designed to bear such a load.

- ▶ Do not jump out of the cab.
- ▶ Keep the steps, entrances, grab handles, and your footwear free of dirt and debris.
  - ◁ This will improve the safety of your footing.



Example: L cab



ProCabin cab

- ▶ Use the easy entry and exit feature on the suspension seat (→ Page 68).
- ▶ Use grab handles ① and steps ② when getting in and out.



ProCabin cab

- ▶ To avoid damaging the cab, do not lean on or step on the highlighted surfaces when getting in and out.

#### Side windows

##### Opening and closing the side windows



**Danger**

##### **Risk of becoming trapped when opening a side window**

When opening a side window, parts of the body could be drawn in or become trapped between the side window and window frame.

- ▶ When opening the side window, make sure that nobody is touching the window.
- ▶ If someone becomes trapped, release the button as soon as possible, or pull it in order to close the side window again.



**Danger**

##### **Risk of becoming trapped when closing the side window**

Body parts may become trapped in the closing area when closing a side window.

- ▶ During the closing process, make sure that no body parts are in the closing area.
- ▶ If someone is trapped, release the button as soon as possible, or press the button in order to reopen the side window.



**Danger**

##### **Risk of becoming trapped or fatally injured if reversing protection is not activated**

If a side window is closed again as soon as possible after it is locked, the side window will close with increased or maximum force. The reversing function will not be active and parts of the body could become trapped.

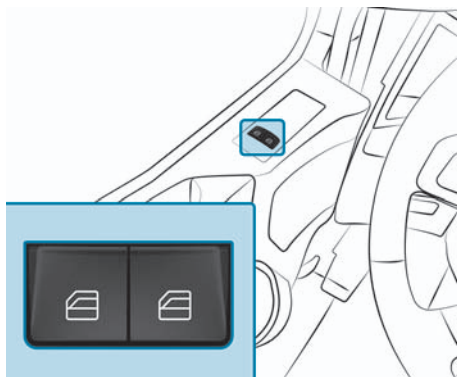
- ▶ Make sure that no parts of the body are in the closing area.
- ▶ To stop the closing procedure, release the button, or press the button again in order to open the side window again.

##### **Requirements**

- The ignition lock is in the radio position or the vehicle is switched on.

## Opening and closing

### Side windows



#### **i** Note

After a malfunction or voltage drop, reset the side windows (→ Page 58).

#### **i** Note

You can use the key to open the side windows and, for vehicles with the convenience central locking system, to close them as well (→ Page 49).

- ▶ **To use convenience opening:** Briefly push the left- or right-hand button  past the point of resistance.
    - ◁ The corresponding side window will open fully.
  - ▶ **To use convenience closing (vehicles with convenience central locking system):** Briefly push the left- or right-hand button  past the point of resistance.
    - ◁ The corresponding side window will close fully. If the side window is obstructed during closing, the automatic reversing function will halt its movement. If the side window is obstructed and you pull and hold the corresponding  button, the window will close without the automatic reversing function.
  - ▶ **To interrupt convenience operation:** Press or pull the corresponding button  again.
- ▶ **To open and close:** Push or pull the left- or right-hand button  until the corresponding side window has reached the desired position.

### Resetting the side windows

Re-adjust the side window after a voltage supply interruption or if a side window does not close or open completely.

- ▶ The ignition lock is in the radio position or the vehicle is switched on.
- ▶ Press the relevant  button until the corresponding side window is open.
- ▶ Press the relevant  button for another second.
- ▶ Pull the relevant  button until the corresponding side window is closed.
- ▶ Pull the relevant  button for another second.



### Roof

#### Operating the sliding sunroof and the pop-up roof



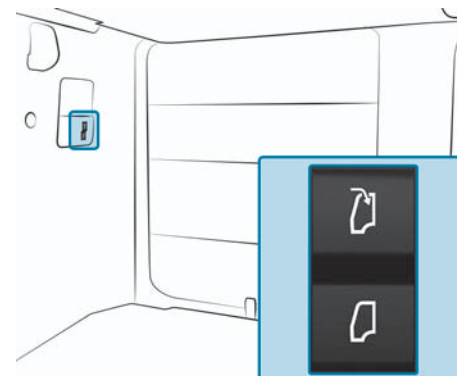
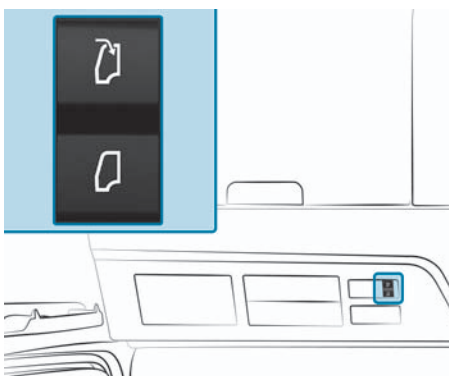
#### Warning

#### Risk of becoming trapped when opening and closing the sliding sunroof/pop-up roof

Body parts may become trapped in the opening/closing area.

- ▶ When opening and closing, make sure that no one's limbs are in the opening/closing area of the sliding sunroof/pop-up roof.
- ▶ If someone is trapped, release the button immediately or press the top of the button in order to stop the closing process.

#### Opening the sliding sunroof and pop-up roof



- ▶ Briefly press the upper section of the  button.
  - ◁ The sliding sunroof opens. The pop-up roof will open completely.
- ▶ To stop the movement, press the  or  button again.
- ▶ With a sliding sunroof, press the top of the  button again and hold it until the sliding sunroof has reached the desired position.

## Opening and closing

### Roof

#### Closing the sliding sunroof and pop-up roof

- ▶ With a sliding sunroof, press and hold the  button until the sliding sunroof has reached the desired position.

or

- ▶ Briefly press the lower section of the  button.
  - ◁ The sliding sunroof or pop-up roof will close completely.
- ▶ To stop the movement, press the  or  button.

In the event of a malfunction or when the battery has been disconnected, you can also close the sliding sunroof or pop-up roof manually.

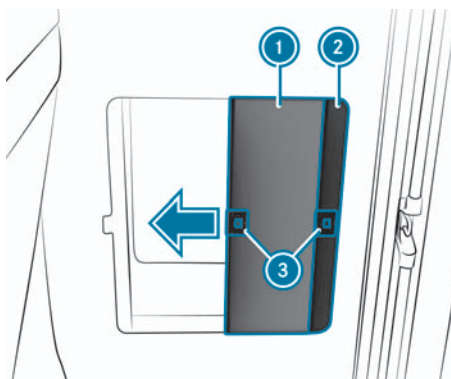
Reset the sliding sunroof after a malfunction or voltage supply interruption.

#### Resetting the sliding sunroof

The sliding sunroof must be adjusted after a power cut or jerky opening.

- ▶ Press and hold the  button until the sliding sunroof has been completely closed for three seconds.

#### Opening the blackout screen and insect roller screen



The pop-up roof is fitted with a cover frame and integrated insect screen. The cover frame can be removed for cleaning purposes.

The sliding sunroof is fitted with an insect roller screen  and a blackout screen . With a sliding sunroof, you can only ever close one screen.

- ▶ Press the handle  on the screen as far as it will go in the closing direction.
- ▶ Press the handle  upwards and unhook the screen.
- ▶ Guide the screen back to the opposite end of the roof frame and release the handle .

#### Closing the blackout screen and insect roller screen

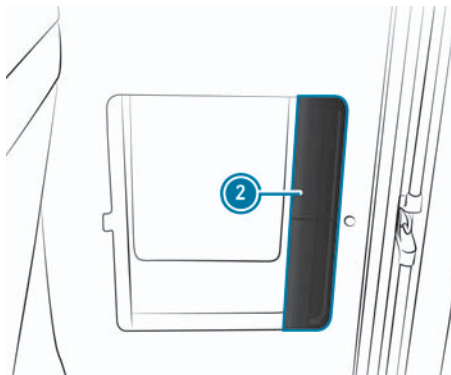
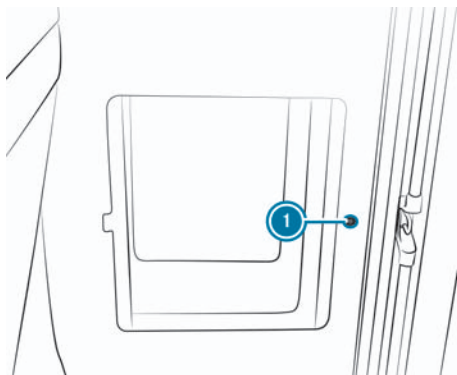
- ▶ Pull the handle  on the screen up to the opposite end of the roof frame.
- ▶ Push the handle  down slightly at the stop and release it.
  - ◁ The screen is hooked in.

#### Closing the sliding sunroof manually

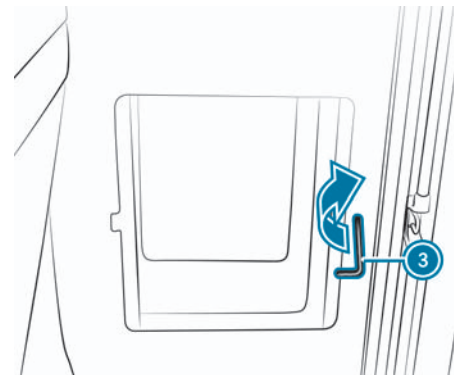
#### Note

The hexagon socket wrench for opening the sliding sunroof is in the vehicle document wallet.

### Vehicles with a ClassicSpace or CompactSpace cab



- ▶ Vehicles with ClassicSpace cabs:  
Remove the cover cap ①.
- ▶ Vehicles with CompactSpace cabs:  
Remove the cover ②.

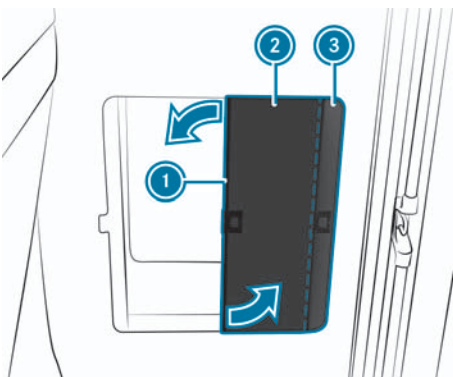


- ▶ Attach a hexagon socket wrench ③ to the actuator motor through the opening provided and turn it to the right until the sliding sunroof is completely closed.
- ▶ Vehicles with ClassicSpace cabs:  
Replace the cover cap ①.
- ▶ Vehicles with CompactSpace cabs: Fit the cover ②.

## Opening and closing

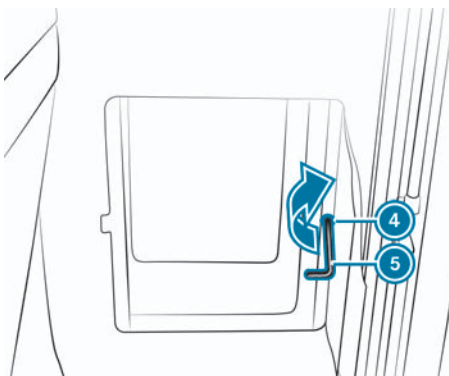
### Roof

Vehicles with Big, Stream or GigaSpace and ProCabin Big, ProCabin Stream or ProCabin Giga cab



- ▶ Pull out the blackout screen (2) to the centre of the roof frame using the handle.
- ▶ Turn guide bar (1) for the screen and remove it from the screen guides on both sides of the roof frame.
- ▶ Carefully guide blackout screen (2) back until the screen stops and let it hang in the cab.

- ▶ Remove insect roller screen (3) from the screen guide in the roof frame, as previously described for blackout screen (2), and let it to hang in the cab.



- ▶ Where necessary, press the screens against the roof frame and insert the hexagon socket wrench (5) into the actuator motor through opening (4).
- ▶ Turn the hexagon socket wrench (5) to the right until the sliding sunroof is completely closed.
- ▶ Insert the guide bar (1) for the insect roller screen (3) into the screen

guides in the roof frame, turn it so that it is parallel to the end position and guide the screen back into the end position.

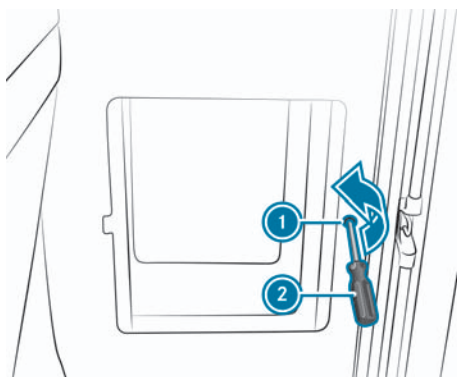
- ▶ Insert the guide bar for blackout screen (2) into the screen guides in the roof frame, turn it so that it is parallel to the end position and guide blackout screen (2) back into the end position.

### Closing the pop-up roof mechanically

#### **i** Note

The flat-blade screwdriver (4 mm blade width) is in the vehicle tool kit.

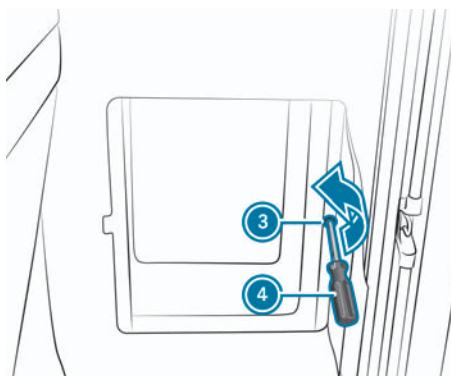
### Vehicles with a ClassicSpace cab



- ▶ Remove the cover cap from the opening ①.
- ▶ Insert the flat-blade screwdriver ② into the actuator motor through the opening ① and turn it to the left until the sliding sunroof is completely closed.
- ▶ Insert the cover cap into opening ①.

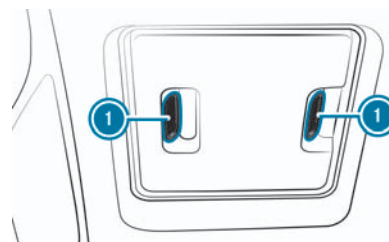
### Vehicles with Big, Stream or GigaSpace and ProCabin Big, ProCabin Stream or ProCabin Giga cab

- ▶ Remove the cover from the roof lining.



- ▶ Insert the flat-blade screwdriver ④ into the actuator motor through the opening ③ and turn it to the left until the sliding sunroof is completely closed.

### Opening and closing the roof hatch



You can open the roof hatch at one end (front or back) or at both ends (front and back).

- ▶ Push the roof hatch upwards at the handles ① or pull it down.

### Opening and closing the circular roof hatch



#### Warning

#### Risk of injury due to unsecured roof hatch

The open roof hatch can close automatically in the event of an accident, braking or a sudden change of direction. Body

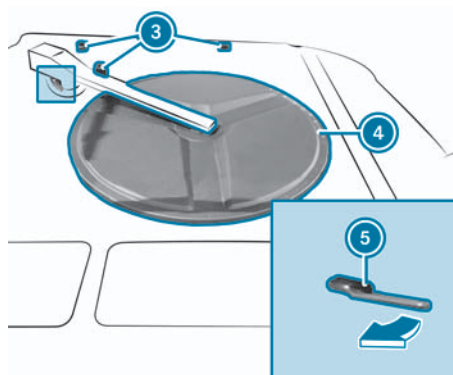
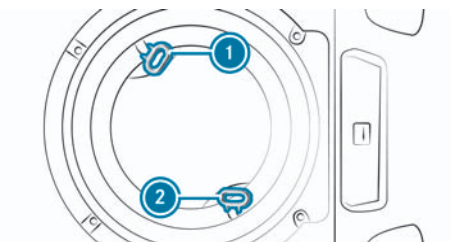
## Opening and closing

### Roof

parts may become trapped in the opening/closing area.

- ▶ Always secure the open roof hatch.

### Unlocking and opening



- ▶ Pull the two handles ① and ② downwards.
- ▶ Turn ① handle to the left and ② handle to the right.
  - ◁ The roof hatch ④ will lift up.
- ▶ Push the roof hatch ④ to the left over the support buffers ③ as far as it will go.
- ▶ Swivel the lever ⑤ in the direction of the arrow as far as it will go. Hold the roof hatch with one hand so that it does not swing back.

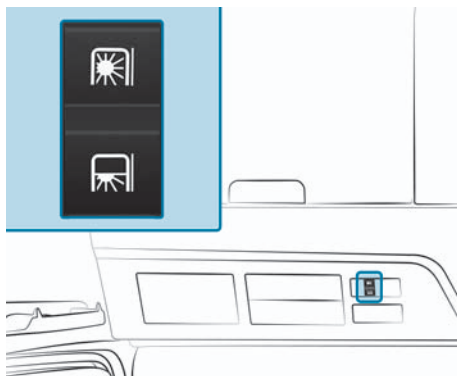
- ◁ The roof hatch ④ will be pressed onto and secured on the support buffers ③ on the roof.

### Closing and locking

- ▶ Swing the lever ⑤ towards the roof hatch ④ as far as it will go.
  - ◁ The roof hatch ④ is unlocked and lifts upwards.
- ▶ Move the roof hatch ④ to the right over the roof opening as far as it will go.
- ▶ Pull the roof hatch ④ downwards using both handles ① and ②.
- ▶ Turn handle ① to the right and handle ② to the left.

### Retracting/extending the roller sunblind

#### Extending the roller sunblind



In the following situations, the roller sun blind will perform a referencing and be completely retracted:

- If the power supply is interrupted, e.g. after a malfunction or a battery change.
- If the vehicle is exposed to an excessive load, e.g. due to a pothole.
- ▶ Tap the  button briefly.

- ◁ The roller sun blind will extend as far as the end position.

or

- ▶ Press and hold the  button until the roller sun blind has reached the desired position.

#### Retracting the roller sun blind

- ▶ Tap the  button briefly.
  - ◁ The roller sun blind will retract as far as the end position.

or

- ▶ Press and hold the  button until the roller sun blind has reached the desired position.

#### Note

If an error has occurred and you press a button, the roller sun blind will carry out a referencing. The roller sun blind will be retracted into the upper end position at a slower speed than normal. The roller sun blind will now be ready for normal operation.

- ▶ **If a referencing was interrupted:**  
Press the  button and then press the  button as soon as possible afterwards.
  - ◁ The roller sun blind will be retracted into the upper end position.

## Driver cockpit

### Notes on the seats

#### Notes on the seats



**Danger**

#### **Risk of accident when making significant adjustments while driving**

You may lose control of the vehicle, in particular in the following situations:

- If you adjust the driver's seat, the head restraints, the steering wheel, or the mirror while the vehicle is in motion.
- If you fasten your seat belt while the vehicle is in motion.

- ▶ Before starting the vehicle: Adjust the driver's seat, head restraints, steering wheel, and mirror in particular, and fasten your seat belt.



**Danger**

#### **Risk of becoming trapped when adjusting a seat**

When you are adjusting a seat, you or a vehicle occupant may become trapped on the seat's guide rail, for example.

- ▶ Make sure that no parts of the body are in the seat's movement area when adjusting the seat.



**Danger**

#### **Risk of injury or death due to incorrect seat position**

The seat belt does not offer the intended level of protection if you have not moved the seat backrest to an almost vertical position.

In particular, you might slide underneath the seat belt and injure yourself.

- ▶ Adjust the seat properly before commencing your journey.
- ▶ Always ensure that the seat backrest is in an almost vertical position, and that the shoulder belt is routed across the centre of your shoulder.



**Danger**

#### **Risk of accident due to the driver's seat not being engaged**

The driver's seat may move unexpectedly while the vehicle is in motion.

This could cause you to lose control of the vehicle.

- ▶ Always ensure that the driver's seat is engaged before starting the vehicle.



**Danger**

#### **Risk of becoming trapped due to insufficient space for the suspension seat**

If there is insufficient space available, the suspension seat may trap parts of the body between the steering wheel and the suspension seat.

- ▶ Make sure that there is sufficient space for the suspension seat to move in.
- ▶ Fully lower the suspension seat before getting out of the seat.



**Danger****Risk of becoming trapped when pressing the bellows inwards**

If you press the bellows of the suspension seat inwards, your hand could become trapped.

- ▶ Do not press the bellows inwards.

**Note****Damage to the seats and the seat heating due to fluids, pointed objects, or insulating materials**

To prevent damage to the seats and the seat heating, observe the following instructions:

- ▶ Do not spill any fluids onto the seats. If something does get spilt onto the seats, dry the seats as quickly as possible.
- ▶ Do not switch on the seat heating if the seat covers are wet or damp. Do not use the seat heating to dry the seats.
- ▶ Clean the seats as recommended; see the "Cleaning and care" section.

- ▶ Do not transport heavy loads on the seats. Do not place any sharp objects, such as knives, nails, or tools, on the seats. Only use seats for people if possible.
- ▶ When using the seat heating, do not cover the seats with insulating materials, such as blankets, coats, bags, protective covers, child seats, or booster seats.

**Note****Damage to the seats from objects in the cab**

Make sure that no objects block the seats in the cab. Otherwise, the seats may be damaged.

- ▶ Keep the area for adjusting the seats clear.

Your seat must be adjusted such that you can fasten your seat belt correctly. When doing so, observe the following:

- ▶ Move the seat backrest to an almost vertical position and sit almost up-

right. Do not drive with the seat backrest tilted backwards.

- ▶ Ensure that your arms are slightly bent while gripping the steering wheel.
- ▶ Avoid seating positions that impede the proper alignment of the seat-belt. The shoulder section of the belt must run across the centre of your shoulder and fit snugly across your chest. The lap belt must always fit snugly and as low as possible on your pelvis, i.e. over the hip joints.
- ▶ Maintain a distance to the pedals that allows you to press them effectively.
- ▶ Make sure that you have the best possible view of the vehicle's immediate surroundings through the windscreen and the side windows, as well as the mirrors or the MirrorCam displays. Adjust the seat height if necessary.
- ▶ Also read the safety instructions on protection provided by the airbag (→ Page 38) and on children in the vehicle (→ Page 40).

## Driver cockpit

### Operating the seat

- ▶ If your vehicle is equipped with a suspended seat, always use the entry and exit aid when getting out.

To enable use of a suspension seat, your vehicle's compressed-air system must have a reserve pressure of at least 700 kPa (7 bar, 100 psi).

- ▶ Do not use the seat as a climbing aid, e.g. to help you get to the top bunk.

A seat with an integrated seat belt is a safety-critical component part and restraint system.

- ▶ Be sure to also read the safety instructions on "Occupant safety" (→ Page 32).

You can find information on cleaning seats under "Cleaning and care" (→ Page 397).

- ▶ Always have any work on seats carried out at a qualified specialist workshop.

### Operating the seat



**Danger**

#### **Risk of accident when making significant adjustments while driving**

You may lose control of the vehicle, in particular in the following situations:

- If you adjust the driver's seat, the head restraints, the steering wheel, or the mirror while the vehicle is in motion.
  - If you fasten your seat belt while the vehicle is in motion.
- ▶ Before starting the vehicle: Adjust the driver's seat, head restraints, steering wheel, and mirror in particular, and fasten your seat belt.



**Note**

#### **Overheating of the seat heating**

The seat heating/ventilation does not automatically switch off in the event of overheating. Observe the following, otherwise the seat heating/ventilation may be damaged:

- ▶ Do not place objects on the seat.

- ▶ Do not cover the seat, e.g. with a towel or seat cushion.
- ▶ If the co-driver's seat is not occupied, switch off the seat heating and ventilation for the co-driver's seat.



**Note**

#### **Damage to the headrest and the lower bunk**

When adjusting the seat fore-and-aft position, the headrest may hit the seat and damage both components.

- ▶ When adjusting the longitudinal direction of the seat, make sure that the headrest of the lower bunk is fully lowered.



**Note**

#### **Damage to the suspension seat**

To prevent damage:

- ▶ Ensure that the suspension seat can vibrate freely. In particular, ensure that the locking mechanism for the bed does not rub against the back of the seat.

- Stow the locking mechanism for the bed in such a way, e.g. under the mattress, that it does not rub against the back of the suspension seat.

### Standard/comfort/climatised static, centre, and suspension seats



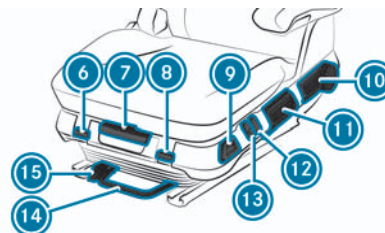
- Observe the notes on "Seats" (→ Page 66).
- When adjusting the seats, make sure that there is sufficient clearance behind the seat in particular.

### To adjust the top part of the seat backrest:

- Pull lever ① on the rear of the seat backrest up and hold it in place.
- Tilt the top part of the seat backrest into the desired position.

### To fold the seat backrest:

- Pull lever ② up and fold the seat backrest forwards or back.



### To adjust the neck cushion:

- Press and hold the buttons on the rubber straps.
- Adjust neck cushion ③ to the position appropriate for your height.

### To adjust the seat belt height:

- Press and hold the button on belt sash guide ④.
- Adjust belt sash guide ④ to the position appropriate for your height.

### To adjust the armrests:

- Fold up seat armrests ⑤.
- Use the handwheel on the underside to adjust the angle of seat armrests ⑤.

### To adjust the vibration damper:

- Use lever ⑥ to adjust the vibration damper in increments such that the seat does not bottom out.

### To adjust the seat cushion length:

- Pull lever ⑦ up and hold it in place.

## Driver cockpit

### Operating the seat

- ▶ Push the seat cushion back/forwards until it is in the desired position.

#### Engage seat suspension lock:

- ▶ Pull lever  up.
  - ◁ The seat suspension engages and will be locked.

#### To release the seat suspension lock:

- ▶ Lower lever .
  - ◁ The seat will be able to vibrate.

#### To use the easy entry and exit feature:

- ▶ Press the button .
  - ◁ The seat will be lowered fully.
- ▶ Press the button .
  - ◁ The seat will return to the last height set.

#### To adjust the seat cushion angle:

- ▶ Push lever  down and hold it in place.
- ▶ Move the seat cushion or backrest into the desired position by applying

pressure to or taking your weight off it.

#### To adjust the seat backrest:

- ▶ Lift your weight off the seat backrest.
- ▶ Pull lever  up and hold it in place.
- ▶ Move the seat backrest into the desired position by applying pressure to or taking your weight off it.

#### To adjust the seat height:

- ▶ Pull lever  up or push it down by one increment.
  - ◁ The seat will be raised or lowered by one increment.

#### To switch seat heating on:

- ▶ Press the button  at the top (first heating level) or bottom (second heating level).

#### To switch seat heating off:

- ▶ Push switch  into the centre position.

#### To switch seat ventilation on:

- ▶ Turn blower regulator   downwards from the  position.
  - ◁ You can increase the airflow in three increments.

#### To switch seat ventilation off:

- ▶ Turn blower regulator   all the way to the top.

#### To adjust the seat fore-and-aft position:

- ▶ Pull lever  up and hold it in place.
- ▶ Push the seat back/forwards until it is in the desired position.
- ▶ Release lever .
- ▶ Push the seat back or forwards until it engages audibly.

#### To set to the rest position:

- ▶ Pull lever  up and hold it in place.
- ▶ Push the seat back as far as it will go.
- ▶ Lift lever  as well and push the seat beyond the notch back into the rest position.

- ▶ Release levers ⑭ and ⑮.
  - ◁ By adjusting the seat fore-and-aft position, you can slide the seat forwards into the drive position again and lock it in place there.



### To activate/deactivate the massage function:

#### **i** Note

You can prevent muscle tension using the massage function.

- ▶ Press the button ⑯.
  - ◁ When the massage function is switched on, you will feel alternating upwards and downwards waves in the lumbar area of the seat backrest. The separate air

cushions in the seat backrest will inflate and deflate in succession for roughly ten minutes.

#### **i** Note

You can adjust the contour of the backrest (lumbar support) and the side contours to provide support for your spine.

### To adjust the seat backrest contour:

- ▶ Press the top or bottom section of button ⑳.
  - ◁ This will make the upper seat backrest contour firmer or softer.
- ▶ Press the top or bottom section of button ⑱.
  - ◁ This will make the lower seat backrest contour firmer or softer.
- ▶ Press the button ⑰.
  - ◁ This will make the side contours firmer.
- ▶ Press the button ⑲.
  - ◁ This will make the side contours softer.

### Function seat



- ▶ Observe the notes on "Seats" (→ Page 66).

### To adjust the armrests:

- ▶ Fold up armrests ①.
- ▶ Use the handwheel on the underside to adjust the angle of armrests ①.

### To adjust the seat backrest:

- ▶ Lift your weight off the seat backrest.
- ▶ Pull lever ③ up and hold it in place.

## Driver cockpit

### Bunks and daybeds in the L-cab

- ▶ Move the seat backrest into the desired position by applying pressure to or taking your weight off it.

#### To fold up the seat cushions:

- ▶ Fold up seat cushions ② until they engage.

#### To fold down the seat cushion:

- ▶ Push seat cushions ② against the seat backrest and release.
- ▶ Fold down seat cushions ②.

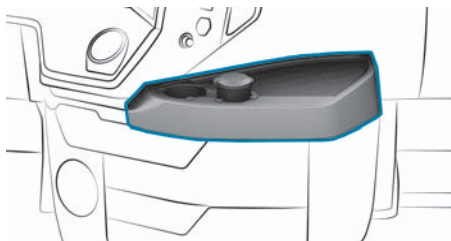
### Bunks and daybeds in the L-cab

#### Overview of bunks and daybeds

The following bunks/daybeds can be installed in the L cab:

- Wide/narrow top bunk (→ Page 72)
- Top bunk (car transporter with two bunks) (→ Page 72)
- Top bunk, folding (→ Page 72)
- Bottom bunk (→ Page 74)
- Seat/daybed combination (→ Page 76)
- SoloStar Concept (→ Page 78)

#### Information on the climbing aid



The area on the centre console is to be used as a climbing aid for the upper bunk.

#### Folding the top bunk up/down



**Danger**

#### Risk of injury and death if the bunk is used while the vehicle is in motion

If the vehicle occupant is on a bunk while the vehicle is in motion, it will not be possible to restrain them.

- ▶ Only use the bunk while the vehicle is switched off.



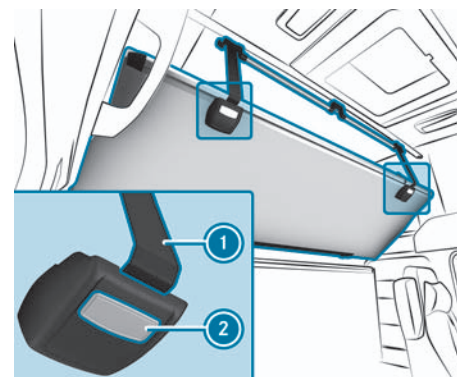
#### Note

#### Damage to the bed and seats

When folding up and down, the bed can hit the seats and both components can be damaged.

- ▶ Fold the backrests of the driver's and co-driver's seats forwards or move the seats further forwards.

#### Top bunk

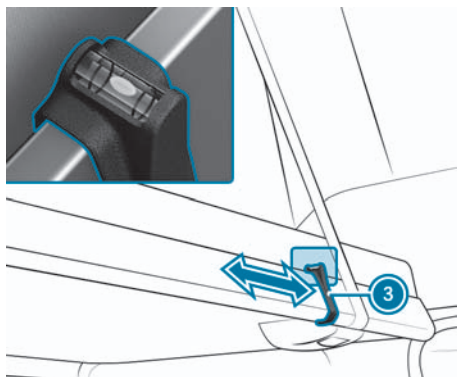


If the vehicle is standing on an uphill or downhill slope, you can bring the upper wide bunk into a horizontal position.

- ▶ Move or fold the backrests of the driver's and co-driver's seats forwards.
- ▶ If necessary, slide the driver's and co-driver's seats an adequate distance forwards.

#### To fold down and adjust the inclination:

- ▶ Press and hold release buttons ②.
- ▶ Swing the bunk downward.



- ▶ Use the level indicator in the holder to level the ③ bed and adjust the inclination. To fully align the bunk,

slide the holder ③ along the frame of the bunk.

#### **i** Note

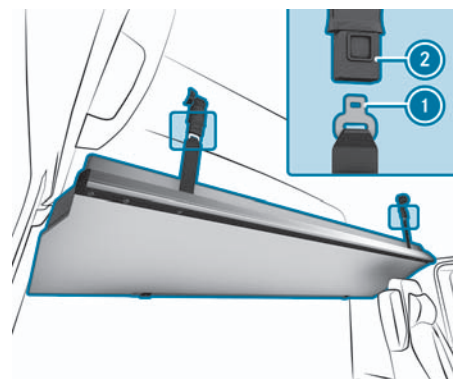
It is also possible to unclip the holder ③ at the bottom and clip it back in at the other end of the bunk.

- ▶ Release the release buttons ②.
  - ◁ The retaining straps ① will automatically engage and the bunk will be held at this angle.

#### To fold up:

- ▶ Swing the bunk upwards as far as it goes.

#### Folding the top bunk down (car transporter)



- ▶ Move or fold the backrests of the driver's and co-driver's seats forwards.
- ▶ If necessary, slide the driver's and co-driver's seats an adequate distance forwards.
- ▶ Raise the bunk slightly, hold it firmly, and press the release buttons on both seat belt buckles ②.
- ▶ Pull seat belt tongues ① ② out of both seat belt buckles.
- ▶ Swing the bunk downward.

## Driver cockpit

### Bunks and daybeds in the L-cab

#### To fold up top bunk (car transporter)

- ▶ Swing bunk upwards and secure in place.
- ▶ Press seat belt tongues ① of retaining straps into seat belt buckles ② until they engage audibly.

#### Folding the bottom bunk up/down



##### Note

#### Damage to the bed and seats

When folding up and down, the bed can hit the seats and both components can be damaged.

- ▶ Fold the backrests of the driver's and co-driver's seats forwards or move the seats further forwards.



##### Note

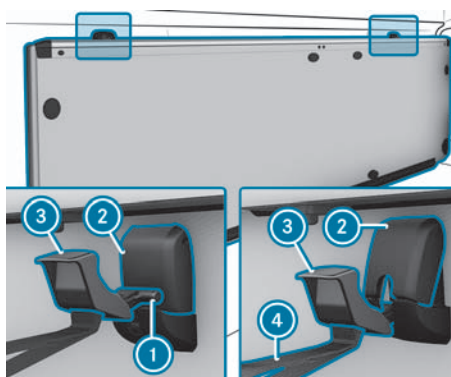
#### Damage to bunk or other components

If the bunk is not folded down during an accident, the rubber retainers may come loose from the wall brackets. The

bunk folds down and can be damaged or damage other components.

- ▶ Fold down the bunk before commencing a journey.

#### Folding up



- ▶ Move or fold the backrests of the driver's and co-driver's seats forwards.
- ▶ If necessary, slide the driver's and co-driver's seats an adequate distance forwards.
- ▶ Fully lower the bunk's adjustable backrest.

- ▶ Fold up bunk and push it against the rear panel and hold.
- ▶ On both wall brackets, press the rubber retainers onto ① ② the cover one ① after the other until the rubber retainer engages.

#### Adjusting inclination of the bunk

- ▶ Pull on the loop ④ to raise the bunk to a vertical position.
- ▶ To change the angle, press the buckle ③ upwards and move the daybed to the desired position.

#### Folding down

- ▶ Push the bunk against the rear panel and hold.
- ▶ Push cover ② back.
- ▶ Unhook both rubber retainers ① from the wall brackets.
- ▶ Swing the bunk downward.



### Setting up the safety net

#### **Danger**

#### **Risk of injury and death if the bunk is used while the vehicle is in motion**

If the vehicle occupant is on a bunk while the vehicle is in motion, it will not be possible to restrain them.

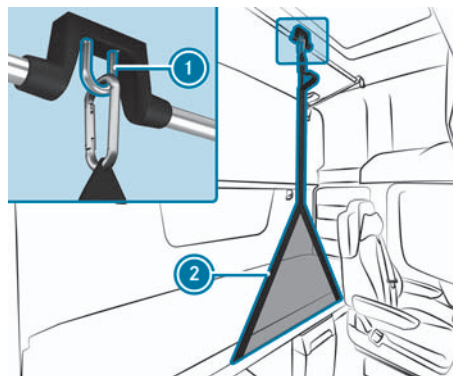
- ▶ Only use the bunk while the vehicle is switched off.

#### **Danger**

#### **Risk of injury when resting on the bunk**

A vehicle occupant may fall off the bunk and injure themselves.

- ▶ Always use the safety net when resting on the bunk.
- ▶ Only use bottom bunk with safety net during the journey.
- ▶ Take note of the legal requirements for the country you are currently in before using the bunk.



- ▶ Before starting your journey, clip safety net ② into rail ① on the cab roof.

#### **Note**

When there is no one occupying the bottom bunk, stow the safety net under the bunk. Hook the snap-hook into the loop provided on the left-hand edge of the safety net.

### Adjusting the backrest adjuster

Vehicles with lower bunk (lowered) do not have an adjustable backrest.



#### **Note**

#### **Damage to the adjustable backrest and seats**

If the adjustable backrest is folded up and you put the seat back, both components may be damaged.

- ▶ When resetting the seat, make sure that the adjustable backrest is lowered.
- ▶ Before folding up the adjustable backrest, move the seat forwards or fold the seat backrest forwards.



#### **Note**

#### **Damage to the bunk or adjustable backrest**

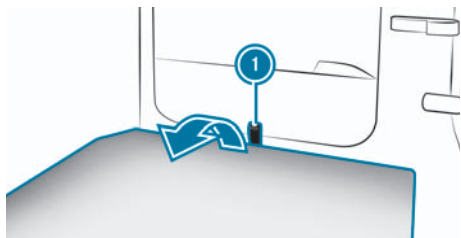
If the adjustable backrest is folded up and you place objects underneath it, components may be damaged when you fold the adjustable backrest down.

- ▶ Do not place any objects underneath the folded-up backrest.

The backrest raiser may be loaded with a maximum of 50 kg.

## Driver cockpit

### Bunks and daybeds in the L-cab



- ▶ Pull back height adjuster up by loop ① and engage.
- ▶ **To lower to horizontal position:** Lift the adjustable backrest by the loop ① beyond the uppermost position and lower it completely.

#### Notes on seat/daybed combinations

##### **Danger**

##### **Risk of injury and death if the bunk is used while the vehicle is in motion**

If the vehicle occupant is on a bunk while the vehicle is in motion, it will not be possible to restrain them.

- ▶ Only use the bunk while the vehicle is switched off.

##### **Danger**

##### **Risk of injury when resting on the bunk**

A vehicle occupant may fall off the bunk and injure themselves.

- ▶ Always use the safety net when resting on the bunk.

##### **Danger**

##### **Risk of injury or death due to seat not being locked in place**

The seating surface may move.

The seat belt cannot perform its intended protective function.

- ▶ Before a trip, always ensure that the seating surface has been locked in the seat position.

##### **Danger**

##### **Risk of becoming trapped when folding the seat backrest up and down**

When folding the seat backrest up or down, you or other vehicle occupants may become trapped.

- ▶ Ensure that the swivelling area of the seat backrest is clear and that nobody is trapped.

##### **Danger**

##### **Risk of becoming trapped when folding the seat backrest up and down due to slamming down**

If you do not hold the seat backrest firmly when folding it up and down, it will slam down.

It may hit a vehicle occupant and trap body parts.

- ▶ Always hold the seat backrest firmly when folding it up and down.

##### **Danger**

##### **Risk of becoming trapped when pulling out the seat cushion**

When you pull out the seat cushion, you or other vehicle occupants may become trapped between the seat frame and the seat cushion.

### Bunks and daybeds in the L-cab

- Make sure that no body parts are in the seat cushion's movement area when you pull out the seat cushion.

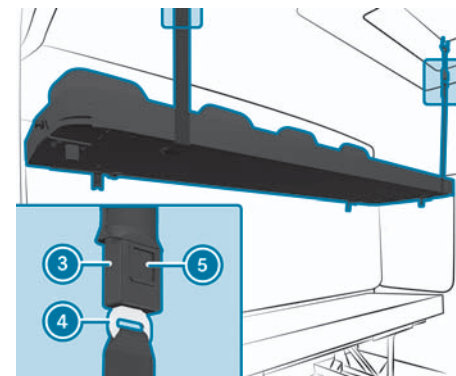
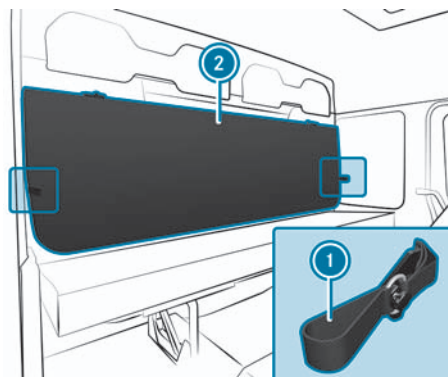
The safety net on the top bunk is not a restraint system to enable the bunk to be used while the vehicle is in motion.

The seat/bunk combination is not suitable for child restraint systems.

- Only install the child restraint system on the front passenger seat.
- Observe the safety notes in the section entitled "Children in the vehicle" (→ Page 40).

#### Folding the top bunk up/down

#### Folding the seat backrest up to the reclined position



- Unhook the retaining straps (1) on the right and left of the seat backrest (2).
- Swivel the seat backrest (2) upwards.
- Swivel the seat backrest (2) into the horizontal position and hold it there.
- Engage seat belt tongue (4) into belt buckles (3) on the right and left.

#### Folding the seat backrest down to the seat position

- Slightly (2) raise the seat backrest, hold it in place and press the release

## Driver cockpit

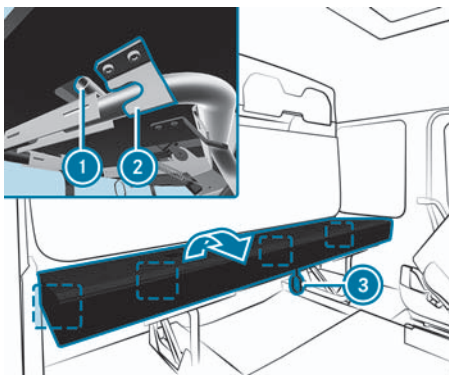
### SoloStar Concept

buttons ⑤ of the belt buckles ③ on the right and left.

- ▶ Swivel the seat backrest ② slightly upwards.
- ▶ Swivel the daybed down to the rear wall.
- ▶ Hook the retaining straps ① on the right and left of the seat backrest ②.

#### To pull out or push in bottom bunk

##### Pull seat cushion out into the re-clined position:



- ▶ Pull seat cushion forward using the loop ③.
- ▶ Hook brackets ② into the catches ①.

##### To slide seat cushion into the seat position:

- ▶ Lift seat cushion by the loop ③ and slide it backwards.

### SoloStar Concept

#### Using the front passenger's seat and folding table



##### Risk of injury from the open folding table

Vehicle occupants could bump into the folding table and injure themselves.

- ▶ Close the folding table before each journey.



##### Risk of injury from unsecured items in the vehicle

If objects, luggage, or loads are not secured or not secured sufficiently, they could slip, tip over, or be thrown around and thereby hit vehicle occupants.

There is a risk of injury, particularly in the event of braking manoeuvres or abrupt changes in direction!

- ▶ Always stow objects in such a way that they cannot be thrown around.

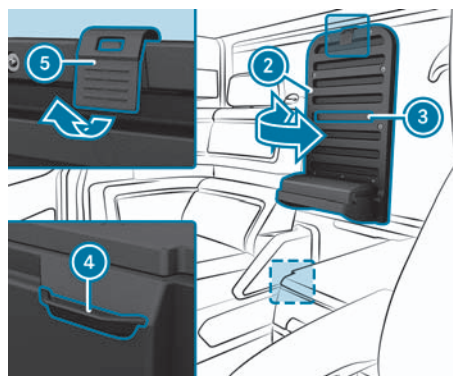
- ▶ Before the journey, secure objects, luggage, or loads against slipping or tipping over.
- ▶ Keep loose objects stored in the stowage spaces and stowage compartments while the vehicle is in motion (→ Page 129).



**Front passenger's seat and folding table**

- ① Corner seat
- ② Folding table

### Folding the folding table down



- ▶ Fold out support ③ on folding table ② until it engages.
- ▶ Unclip rubber mount ⑤ from folding table ②.
- ▶ Fold down folding table ②.
- ▶ Place support ③ into recess ④ in the side trim of the drawer container.

### Folding the folding table up

- ▶ Fold folding table ② up and hook rubber mount ⑤ onto folding table ②.
- ▶ Fold in support ③.

### Folding the bunk down/up



#### **Danger**

**Risk of injury and death if the bunk is used while the vehicle is in motion**

If the vehicle occupant is on a bunk while the vehicle is in motion, it will not be possible to restrain them.

- ▶ Only use the bunk while the vehicle is switched off.



#### **Note**

#### **Damage to the bed and seats**

When folding up and down, the bed can hit the seats and both components can be damaged.

- ▶ Fold the backrests of the driver's and co-driver's seats forwards or move the seats further forwards.

## Driver cockpit

### SoloStar Concept



#### Note

#### Damage to the adjustable backrest and seats

If the adjustable backrest is folded up and you put the seat back, both components may be damaged.

- ▶ When resetting the seat, make sure that the adjustable backrest is lowered.
- ▶ Before folding up the adjustable backrest, move the seat forwards or fold the seat backrest forwards.

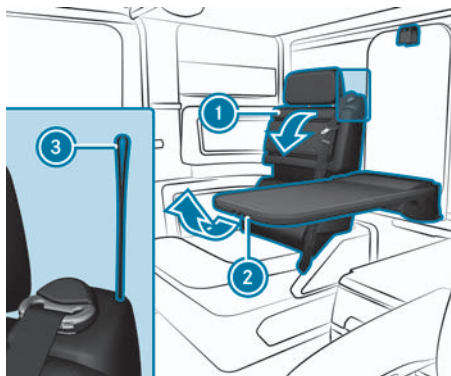


#### Note

#### Damage to the bunk or adjustable backrest

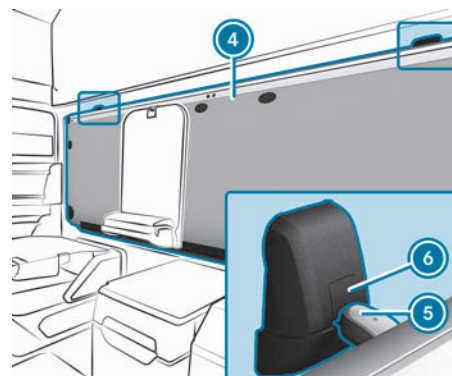
If the adjustable backrest is folded up and you place objects underneath it, components may be damaged when you fold the adjustable backrest down.

- ▶ Do not place any objects underneath the folded-up backrest.



- ▶ Fold up folding table ②, clip the rubber mount to folding table ② and fold in the support.
- ▶ Pull loop ③ on front passenger's seat ①. The backrest on the front passenger's seat will now be unlocked.
- ▶ Fold down the seat backrest.

### Folding the bunk down



- ▶ Take note of the legal requirements for the country you are currently in before using the bunk during the journey.
- ▶ If the bunk is used during the journey: Setting up the safety net.



#### Note

You can find information on setting up the safety net and adjusting the head section in the section entitled "Bottom bunk" (→ Page 74).

- ▶ Push the bunk ④ against the rear panel.
- ▶ Press and hold catch ⑥.
- ▶ Detach rubber mount ⑤ from the wall bracket.
- ▶ Swing bunk ④ down.

### Folding the bunk up

- ▶ Lower the head section of the bunk all the way.
- ▶ Fold up bunk ④ and push it against the rear panel.
- ▶ Push rubber mount ⑤ against catch ⑥ and clip it into the wall bracket.
- ▶ Fold the seat backrest back until it engages.

### Bunks in the M-cab

#### Overview of bunks in the M cab

The following bunks may be fitted in the M cab:

- Bottom standard bunk / upholstered stowage space (→ Page 81)
- Bottom standard bunk, partitioned (→ Page 82)

### Bottom standard bunk/upholstered stowage space



**Danger**

**Risk of injury and death if the bunk is used while the vehicle is in motion**

If the vehicle occupant is on a bunk while the vehicle is in motion, it will not be possible to restrain them.

- ▶ Only use the bunk while the vehicle is switched off.



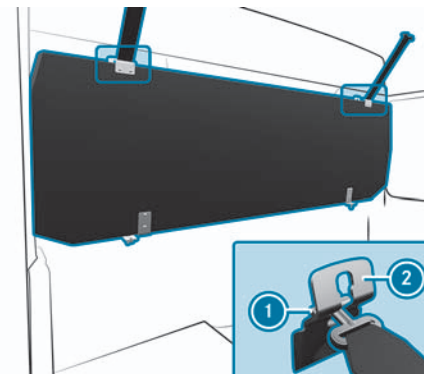
**Note**

### Damage to the bed and seats

When folding up and down, the bed can hit the seats and both components can be damaged.

- ▶ Fold the backrests of the driver's and co-driver's seats forwards or move the seats further forwards.

### Folding the berth down



- ▶ Vehicles with standard bottom bunk: Move or fold the backrests of the driver's and front passenger's seats forwards.
- ▶ If necessary, slide the driver's and co-driver's seats an adequate distance forwards.
- ▶ Push the bed against the rear panel and hold.
- ▶ Turn hook ① 90° and unhook it from the wall brackets ②.
- ▶ Fold bunk downwards.



## Driver cockpit

### Adjusting the multifunction steering wheel

#### Fold the berth upwards

- ▶ Fold up the berth and push it against the rear panel and hold.
- ▶ Turn the hook ① 90° and attach it to the wall brackets ②.

#### Use bottom standard bunk (partitioned)



**Danger**

**Risk of injury and death if the bunk is used while the vehicle is in motion**

If the vehicle occupant is on a bunk while the vehicle is in motion, it will not be possible to restrain them.

- ▶ Only use the bunk while the vehicle is switched off.



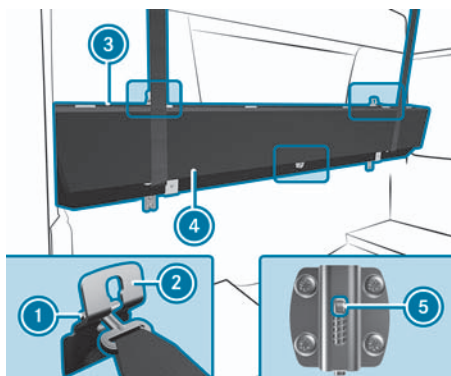
**Note**

#### Damage to the bed and seats

When folding up and down, the bed can hit the seats and both components can be damaged.

- ▶ Fold the backrests of the driver's and co-driver's seats forwards or move the seats further forwards.

#### Folding the berth down



- ▶ Push the bed against the rear panel and hold.
- ▶ Turn the hooks ① 90° and unhook them from the wall brackets ②.
- ▶ Slide the locking slide ⑤ down.
  - ◁ The front ④ and rear ③ berth parts are no longer locked.
- ▶ Fold bunk downwards.

- ▶ Press the hook ① between the halves of the cushion.

#### Fold the berth upwards

- ▶ Fold up the berth and push it against the rear panel and hold.
- ▶ Hook the hooks ① into the wall brackets ② and turn them 90°.
- ▶ Press the front berth section ④ against the rear berth section ③ until the safety slide ⑤ engages.

#### Adjusting the multifunction steering wheel



**Danger**

#### Risk of accident when making significant adjustments while driving

You may lose control of the vehicle, in particular in the following situations:

- If you adjust the driver's seat, the head restraints, the steering wheel, or the mirror while the vehicle is in motion.
- If you fasten your seat belt while the vehicle is in motion.



- ▶ Before starting the vehicle: Adjust the driver's seat, head restraints, steering wheel, and mirror in particular, and fasten your seat belt.

**Danger****Risk of accident due to unlocked steering wheel**

If the steering wheel remains unlocked while the vehicle is in motion, it may adjust unexpectedly.

- ▶ Ensure that the steering wheel is locked before every journey.
- ▶ Do not unlock the steering wheel while the vehicle is in motion.

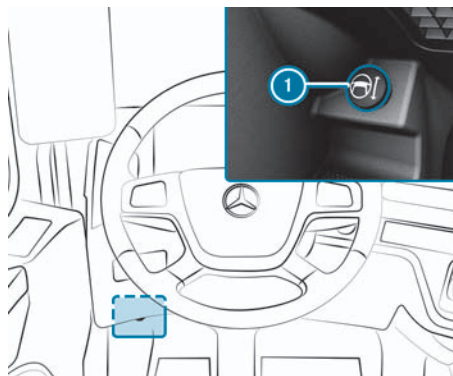
**Requirements**

- The vehicle is stationary.
- The parking brake is applied.

Observe the following when adjusting the steering wheel:

- First, adjust the seat to the correct position (→ Page 66).
- The angle of the steering wheel must be set as low as possible.

- After adjusting the steering wheel, the freedom of movement and steerability should be checked.



Steering column release in the driver's footwell

- ▶ Step on the ① button and hold down.
  - ◁ The steering column is unlocked.
- ▶ Adjust the multifunction steering wheel height and angle.
- ▶ Remove your foot from button ①.
  - ◁ The steering column is locked.

**Outside mirrors****Adjusts the outside mirrors****Danger****Risk of accident when making significant adjustments while driving**

You may lose control of the vehicle, in particular in the following situations:

- If you adjust the driver's seat, the head restraints, the steering wheel, or the mirror while the vehicle is in motion.
- If you fasten your seat belt while the vehicle is in motion.

- ▶ Before starting the vehicle: Adjust the driver's seat, head restraints, steering wheel, and mirror in particular, and fasten your seat belt.

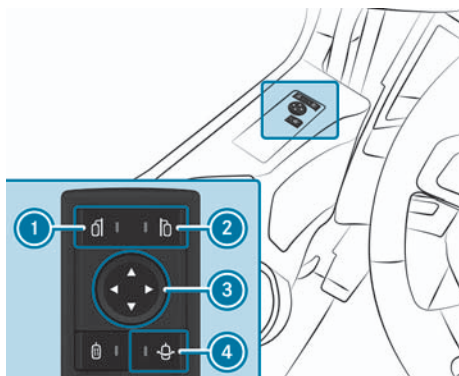
**Danger****Risk of accident if the distance is misjudged when using the outside mirror**

The outside mirrors reduce the size of the image. The objects in view are in fact closer than they appear.

## Driver cockpit

### Outside mirrors

- ▶ You should therefore always ascertain the actual distance of other road users by looking over your shoulder.



#### Driver's door switch panel

- ① Left outside mirror
- ② Right outside mirror
- ③ Adjust outside mirrors
- ④ Manoeuvring position for the outside mirrors

Adjust the front bumper-view mirror, kerb view mirror, and wide-angle mirror manually. In the manoeuvring position, the out-

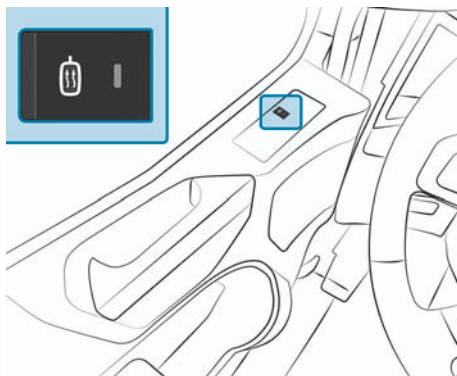
side mirror on the front passenger's side can swivel outwards to allow you to see the trailer/semitrailer while manoeuvring. If the outside mirror is in the manoeuvring position, it can be adjusted horizontally.

- ▶ Switch on the vehicle.
- ▶ **To adjust the outside mirrors:** Press button for the left outside mirror or button for the right outside mirror.
  - ◁ The indicator lamp on the button comes on.
- ▶ Push the button forwards or backwards and on the right or left, until the outside mirror is in the correct position.
- ▶ **To swivel the outside mirrors into the manoeuvring position:** Press the button .
  - ◁ The indicator lamp on the button comes on. The front-passenger outside mirror will swivel outwards into the manoeuvring position.
- ▶ **To set the exterior mirrors to the manoeuvring position:** Push the

button on the right or left until the outside mirror is in the correct position.

- ◁ The manoeuvring position that was set is saved. If you press the button when next manoeuvring, the outside mirror will swivel into the last manoeuvring position selected.
- ▶ **To swivel the outside mirrors into the drive position:** Press the button .
  - ◁ The indicator lamp on the button will go out. The front-passenger outside mirror will swivel back into the drive position that you have set.

## Activate/deactivate the mirror heater



- ▶ Switch on the vehicle.
- ▶ **To switch on/off:** Press the button .
  - ◁ When the indicator lamp on the button lights up, the mirror heater is switched on.

 **Note**

If the mirror heater is switched on and the outside mirrors are swivelled to the manoeuvring position, the mirror heater will be deactivated. If the outside mirrors

are swivelled to the drive position again, the mirror heater will be reactivated.

The ramp mirror is not heated.

## MirrorCam system

## Notes on the MirrorCam system

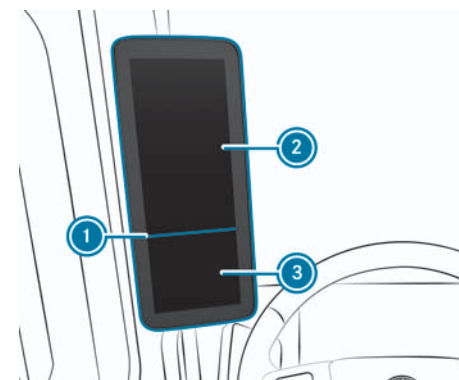
**Danger**
**Risk of accident due to malfunction or system failure of the MirrorCam system**

In the following cases, the system must be repaired before driving continues:

- complete failure of a display
  - still images — despite moving objects in front of the camera
  - lagged visualisation of the traffic situation
- ▶ Park the vehicle safely as soon as possible.
  - ▶ Notify a qualified specialist workshop.

If only one of the two fields of vision in the display fails, the journey can be continued

cautiously to the next workshop. Have the system repaired there.



The MirrorCam system display is divided by status display (blue line) ① into areas ② and ③.

If status display ① is not shown in the display, there is a system error.

Depending on the temperature, no image is shown in the display in the following situations:

- The temperature measured on the display is approximately -18°C or below.

## Driver cockpit

### MirrorCam system

- The temperature measured on the display is approximately 67°C or higher.

In addition, a corresponding display message is shown in the instrument cluster.

The MirrorCam system display does not have a separate heating function.

In these cases the vehicle interior must be heated up or cooled down until the display shows an image.

If a display shows an unusual or faulty image, the system must be checked as soon as possible at a qualified specialist workshop and, if necessary, be repaired.

This includes, for example, the following display situations:

- distorted images
  - clearly noticeable pixel errors, column or row failures
  - no visible information, for example arrows when a field of view is moved when cornering (→ Page 92)
  - contrast or colour changes
- If a monitor displays a blurry or unclear image, check if the camera lens

is dirty. Clean the camera lens if necessary.

- Observe the notes on cleaning the MirrorCam camera in the section "Cleaning the sensors" (→ Page 406).
- If the displayed image does not improve as a result of this, have the system checked as soon as possible at a qualified specialist workshop.

Certain sunlight conditions (e.g., low sun) or light from another intense source can reduce the contrast of the display and cause glare. In such situations, objects in the display may be obscured or difficult to see.

- In these cases, be particularly attentive and adjust your driving behaviour accordingly.

Drivers must always wear the necessary personal visual aids required for them to drive a vehicle. Drivers with presbyopia (age-related long-sightedness) should, if necessary, wear visual aids with multifocal lenses to be sufficiently able to see traffic including via the displays.

- When cleaning the MirrorCam display, observe the notes on cleaning the interior (→ Page 397).

### Function of the MirrorCam system

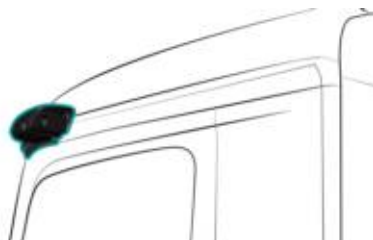
The MirrorCam system is used to replace legally prescribed mirror systems on the vehicle with electronic image detection and display systems. It assists you in keeping an overview of your vehicle and its surroundings.

The system is designed for forward travel in all speed ranges, for reversing and for vehicle standstill.

To optimise what is shown in the display, a distinction is made between the following driving situations:

- Forward travel
- Forward travel with left or right turning
- Reversing, including manoeuvring

The vehicle is equipped with one camera and one display on each side.



Camera arm (example: left-hand side of the vehicle)

Depending on the vehicle version, the camera arm can be folded.

#### Vehicles with folding camera arm:

To ensure the camera is in the correct operating position, a sensor is fitted in the camera arm. When the camera arm is folded forwards or backwards by more than 4°, the symbol  appears in the display.

#### Note

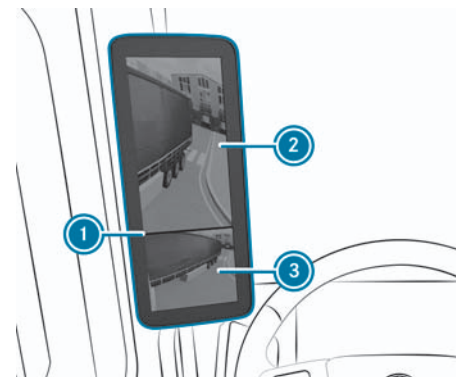
A fitted spring enables the camera arm to automatically return to the correct operating position in the event of minor deviations. In the event of larger deviations, it may be necessary to manually return the camera arm to the correct position.

The optical system of the camera is equipped with a heating function, which is automatically activated/deactivated depending on the temperature of the camera's sensor and the outside temperature. This avoids the accumulation of snow and ice in the area of the camera.

Alternatively, press the button  to manually switch the heating on/off (→ Page 88).

#### Note

Depending on the temperature signals it receives, the automatic control system can reverse manual activation or deactivation of the heating.



Display (example: left-hand side of the vehicle)

The display is divided in two by a status display (blue line) .

The field of view shown in the upper section of screen  corresponds to the main mirror; the field of view in the bottom section  corresponds to the wide-angle mirror.

## Driver cockpit

### MirrorCam system

#### Operating the MirrorCam system

##### Automatic activation of the MirrorCam system

The system is automatically activated when the following occurs:

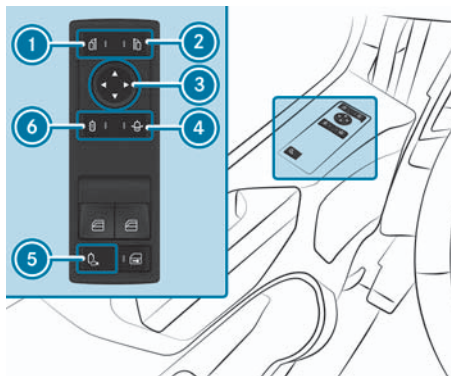
- Unlocking/opening the door
- Unlocking/opening the vehicle
- Switching on the vehicle

#### **i** Note

Switching on the vehicle results in permanent activation.

##### Manual activation of the MirrorCam system

- ▶ Press the button .
  - ◀ Within seven seconds of automatically or manually activating the system, the field of view (basic setting) is available to the driver in the display.



#### Driver's side door control unit

- ①  Selects display, left
- ②  Selects display, right
- ③  Sets field of view
- ④  Activate/deactivate automatic field of view/manoeuvring view
- ⑤  Manually activate system
- ⑥  Activates/deactivates camera heating

Buttons ①, ②, ④, and ⑥ are equipped with indicator lamps, which indicate the status of the function. The function is activated when the indicator lamp in the button is lit.

#### Standby mode and automatic deactivation

In the following cases, the MirrorCam system automatically switches to standby mode:

- two minutes after switching off the vehicle
- two minutes after the last time the button  was pressed with the vehicle switched off

#### **i** Note

Ten seconds before the system switches to standby mode, symbol  is shown in the display.

In the following cases, the system that is in standby mode is reactivated:

- The  button is pressed.
- A door is opened.

**i Note**

When the system is activated from standby mode, an image is available to the driver in the display within one second.

After five minutes in standby mode, the system is automatically deactivated.

**Adjusting the field of vision****Adjusting the back edge of the semitrailer/trailer**

After switching on the vehicle or changing the semitrailer/trailer, the adjustable distance line ① shown in the display can be moved to the end edge of the trailer/semitrailer.

For a more exact setting, it is recommended to place an object at the end of the vehicle on the ground and align the line with it.

Requirements:

- The symbol  is shown in the display.
  - The vehicle speed is less than 10 km/h.
  - The automatic field of vision adjustment function is not active.
- Press the  button forwards or backwards to move the line ① shown in the display.
- ◁ The line in the display flashes.
- Storing the setting: Press the  button right or left.
- ◁ The line shown in the display stops flashing.
  - ◁ The setting is stored for both sides.

**i Note**

The selected setting remains stored even after the vehicle is switched off. This way, the end edge must be reset only if the overall length changes, e.g. due to a different semitrailer/trailer or if there is an overhanging load.

**i Note**

The semitrailer/trailer back edge is hidden when semitrailer tracking is active or if the field of view is manually set.

**i Note**

If manoeuvring view has been activated, the semitrailer/trailer back edge is displayed elongated for better orientation.

**Manual field of vision adjustment**

The driver is able to move the field of view shown in the upper section of the display up, down, left, or right.

- **Manually adjusting the field of view:** Press the button  for the

left-hand display, or the button  for the right-hand display.

- ◁ The indicator lamp on the respective button comes on.
- ▶ Using the  button, move the field of vision.
  - ◁ If the field of vision shown in the display deviates from the legally prescribed field of vision (basic setting), the  or  icon is shown in the display.

#### Note

If the manoeuvring view is activated, both fields of vision shown in the display are moved.

#### Note

The distance lines are hidden if the field of vision was set manually (→ Page 92).

- ▶ **Reset field of vision to basic setting:** Press the button  for the left-hand display, or the button  for the right-hand display.

- ◁ The indicator lamp on the respective button comes on.
- ▶ Press and hold the  button for approximately two seconds.
  - ◁ The field of vision is reset to the basic setting. When the legally prescribed field of vision is shown in the display again, the  or  icon flashes in the display for five seconds and then goes out.

#### Note

A manually set field of vision is reset to the default setting by switching off the vehicle.

#### Automatic field of view adjustment for forward travel (semitrailer tracking)

The automatic field of view adjustment function for forward travel is only possible on tractor/semitrailer combinations.

Requirements:

- The system detects a driving situation in which it is useful to adjust the field of view.
- The semitrailer is correctly connected to the towing vehicle (signal transmission).
- Automatic field of view adjustment  is activated.

Automatic field of view adjustment only occurs in the upper section of the display.

Automatic field of view adjustment only occurs in the display of the inside side of the bend.

The function detects cornering manoeuvres in which an adjusted field of view is useful.

The influencing variables for the automatic field of vision adjustment are as follows:

- The swivel angle between the towing vehicle and the trailer/semitrailer
- The vehicle speed
- ▶ **Activating automatic field of view adjustment:** Press the  button.



- ◁ The function is activated when the indicator lamp in the  button is on.

The driver is shown an automatic field of vision adjustment by the symbol  in the display for the relevant side.

### Note

If automatic field of vision adjustment is active, no distance lines are shown in the display (→ Page 92).

During the automatic field of vision adjustment, an additional manual field of vision adjustment is possible. This allows, for example, the influence of different trailers on the position of the trailer end to be compensated for with active trailer tracking.

- Press the button  for the left-hand display or the button  for the right-hand display.
  - ◁ The indicator lamp on the respective button will light up.

- ◁ The symbol  (green right/left arrows) is shown in the display.

- Use the button  to adjust the field of vision shown to the left or to the right.
  - ◁ When the  icon flashes in the display, the setting is stored. Automatic field of view adjustment continues to remain active.

### Note

Manual field of vision adjustment can be reset to the basic setting by pressing the  button for approximately two seconds.

### Note

When driving without a semitrailer, it is necessary to deactivate the automatic field of view adjustment function.

- **Deactivating automatic field of view adjustment:** Press the  button.

- ◁ The function is deactivated when the indicator lamp in the  button goes off.

### Manoeuvring view

The manoeuvring view assists drivers when manoeuvring by providing them with a better overview of the vehicle and its surroundings.

When the manoeuvring view is activated, the upper part of the display shows the immediate vehicle surroundings, while the lower part shows the more distant ones.

### Note

Tractor/semitrailer combinations with attached semitrailer: When automatic field of vision adjustment has been activated, the system automatically switches to manoeuvring view when reverse gear is engaged.

#### Note

Manual activation of manoeuvring view is only possible below a vehicle speed of 10 km/h.

- ▶ **Activating manoeuvring view:** Press the  button.
  - ◁ If manoeuvring view has been activated, the  or  icon is shown in the display.
  - ◁ The indicator lamp in the  button also lights up.

#### Note

If manoeuvring view has been activated, an additional up or down manual adjustment of the fields of vision shown in the display is possible. For this, observe the "Manual field of vision adjustment" section.

#### Note

If manoeuvring view has been activated, the adjustable distance line is shown elongated in the display for better orientation (→ Page 92). The other distance lines are not displayed if manoeuvring view has been activated.

- ▶ **Deactivate manoeuvring view** Press the  button.
  - ◁ The indicator lamp in the button  goes out.

#### Note

When a vehicle speed of 10 km/h is exceeded during forward travel, the function is automatically deactivated.

#### Adjusting the display brightness

The brightness of the display is controlled automatically, depending on the brightness of the ambient light.

In addition, the driver has the option of manually adjusting the brightness of the display.

The brightness of the "instrument lighting" must be set to perform a manual adjustment.

- ▶ In the on-board computer Settings menu  select menu item [Lighting, Instrument panel](#) (→ Page 171).

#### Overview of display situations in the display

There are some display options for the MirrorCam system which can be shown in the display to indicate driving conditions, system errors, and active functions.

#### Distance lines

The distance lines are shown in the basic setting of the field of view after the system start. These help you to better estimate speeds and distances to objects (e.g. vehicles).

**i Note**

The line display is in an area of the display where no legally required field of view is shown.



Trailer/semitrailer back edge and distance lines (example)

### Trailer/semitrailer back edge and distance lines

- ① Adjustable distance line (→ Page 89)
- ② Distance line
- ③ Distance line
- ④ Distance line

**i Note**

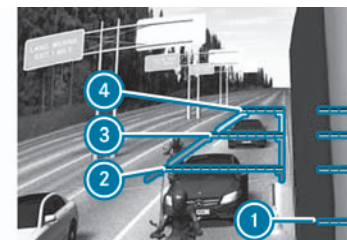
The adjustable distance line ① can be set after switching on the vehicle or changing the semitrailer/trailer (→ Page 89).

**i Note**

The distances in which the distance lines ②, ③ and ④ are displayed are not adjustable and can vary depending on the topography of the roads driven on.

In the following cases, the distance lines are hidden in the display:

- when semitrailer tracking is active
- when the field of view has been set manually
- when manoeuvring view has been activated (②, ③ and ④ only)

**Overtaking assistant**

The overtaking assistant is an extended display of the distance lines. The function is intended to assist the driver when overtaking on roads with several lanes in the direction of travel.

Here, distance lines ②, ③ and ④ are extended outward accordingly.

The display appears on the relevant side when the turn signal indicator is activated starting at vehicle speeds above 30 km/h.

On the front passenger's side, the areas between the lines are also marked in colour.

Ten seconds after deactivating the turn signal indicator, or if the vehicle falls be-

## Driver cockpit

### Exterior lighting

low a speed of 25 km/h, the guide lines are hidden.

#### Explanation of the symbols in the display

##### Symbols in the display

|                                                                                                                                                                        |                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|                                                                                       | Sideguard Assist/Active Sideguard Assist warning ( → Page 283)                                                         |
|                                                                                       | Sideguard Assist/Active Sideguard Assist warning ( → Page 283)                                                         |
|                                                                                       | Automatic semitrailer tracking for forward travel active                                                               |
|                                                                                       | Manual setting during active automatic semitrailer tracking (flashes when storing the new setting)                     |
|                                                                                       | Displayed for ten seconds before the system switches to standby mode                                                   |
|                                                                                       | Displayed after system start or after changing the semitrailer/trailer<br>Trailer/semitrailer end edge can be adjusted |
| <br> | The display does not show the legally required field of vision                                                         |
| <br> | The display now shows the legally prescribed field of vision (basic setting)                                           |

|                                                                                   |                                                                                                         |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
|  | (Green right/left arrows) Manual field of vision adjustment during active semitrailer tracking possible |
|  | System without calibration (consult workshop)                                                           |
|  | Vehicles with folding camera arm: Camera outside the operating position                                 |
|  | Manoeuvring view active (example, left side)                                                            |

#### Note

Several symbols may be shown in the display simultaneously.

#### Note

In addition to the symbols in the MirrorCam display, the driver may be shown messages in the instrument cluster.

### Exterior lighting

#### Lamp check

The lamp check is only an aid. Responsibility for the correct vehicle lighting in accordance with the legal requirements always rests with the driver.

All the vehicle's exterior lighting is electronically monitored. A malfunction in the exterior lighting is signalled to the driver via the indicator lamp  in the instrument cluster.

- Observe the notes in the display messages in the instrument cluster.
- Have a second person check the vehicle lighting.

Depending on the configuration, you may be able to check the lighting with the electronic vehicle key ( → Page 47).

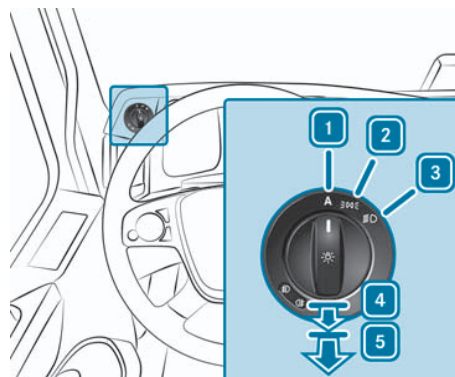
## Light switch overview

**Danger****Risk of accident if the exterior lighting is covered by the side board**

If you open the rear side board, the rear exterior lighting is covered.

This could delay other road users in recognising the vehicle as an obstacle.

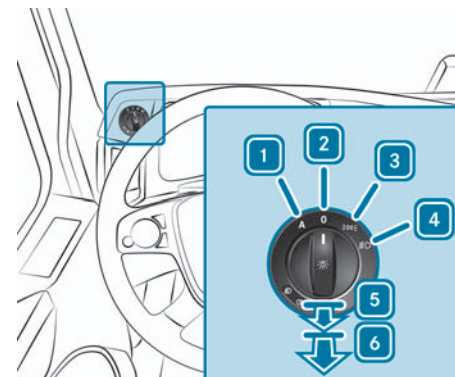
- Secure the rear area of the vehicle according to the national requirements, e.g. using a warning triangle.



Light switch without 0 position (example)

**Light switch**

- 1 **A** Automatic driving lights and daytime running lights
- 2 Parking and tail lights; licence plate lighting; perimeter and side marker lights
- 3 Dipped beam
- 4 Fog light
- 5 Rear fog light



Light switch with 0 position (example)

**Light switch**

- 1 **A** Automatic driving lights and daytime running lights
- 2 **0** Lights off or daytime running lights
- 3 Standing and tail lights; licence plate lighting; perimeter and side marker lights
- 4 Dipped beam
- 5 Fog light
- 6 Rear fog light

You can operate the main beam and flash the headlamps using the combination switch (→ Page 101).

## Driver cockpit

### Exterior lighting

A warning tone will sound in the following cases:

- You open the driver's door with the dipped beam switched on and the ignition lock in the radio position.
- You open the driver's door with the parking lights or dipped beam switched on and the ignition lock in the  position.

#### Vehicles with light switch without 0 position:

The entire exterior lighting can be switched off in the [Lighting](#) menu window in the Settings  menu (→ Page 171).

#### Switching dipped beam on/off

- ▶ **Switching on:** Turn the light switch to .
- ◁ The dipped beam and the parking lights will be switched on. The indicator lamp  on the instrument cluster will come on.

#### Note

The dipped beam is asymmetrical. In countries in which traffic moves on the opposite side of the road to the country in which the vehicle is registered, there is a risk of dazzling other road users. Parts of the headlamps must therefore be masked when you are driving in these countries (→ Page 117).

- ▶ **Switching off:** Turn the light switch to .
- ◁ The dipped beam is switched off. The parking lights remain switched on.

Vehicles with manual headlamp range adjustment: When the dipped beam is engaged for the first time, or after the vehicle has been switched on or started, the instrument cluster will show the display message [Headl. range ctrl.](#)

If the illumination of the road is not sufficient or oncoming traffic is being dazzled, the headlamp range must be adjusted.

- ▶ Change the setting shown using the button  or  on the steering wheel.

#### Note

When you are driving a laden vehicle, the illumination of the road must be 40 m to 100 m and the low beam must not dazzle oncoming traffic.

- ▶ When the vehicle is unladen, select level .

#### Note

The headlamp range can also be adjusted via the [Lighting](#) menu window in the Settings menu  (→ Page 171).

#### Switch daytime running lights on/off

- ▶ Start the vehicle.
- ▶ Turn the light switch to .
- ◁ If the dipped beam and parking lights are automatically switched

off, the daytime running lights will switch on.

If the light switch is turned to , the daytime running lights will automatically switch off.

#### Switching automatic driving lights on/off



**Danger**

#### Risk of accident when the dipped beam is switched off in poor visibility

When the light switch is set to , the dipped beam may not be switched on automatically if there is fog, snow or other causes of poor visibility such as spray.

- ▶ In such cases, turn the light switch to .

The automatic driving lights are only an aid. The responsibility for vehicle lighting rests with the driver.

The light switch should be turned from  to  immediately in the event

of darkness or fog. Otherwise, the driving light may be temporarily interrupted.

- ▶ Switch on the vehicle.
- ▶ Turn the light switch to .
  - ◁ The dipped beam and parking lights will be switched on or off automatically depending on the light conditions.
  - ◁ If the dipped beam is switched on, the  indicator lamp on the instrument cluster will switch on.
  - ◁ Vehicles with daytime running lights: If the low beam and standing lights are automatically switched off, the daytime running lights will switch on.



**Note**

If the vehicle is switched off manually or automatically (→ Page 213), the vehicle lighting switched on by the automatic driving lights will also be switched off. If necessary, switch the vehicle lighting on manually.



**Note**

If the rain and light sensor is malfunctioning, the dipped beam and parking lamps will automatically be switched on and remain on.

#### Switch front and rear fog light on/off

- ▶ Turn the light switch to  or .
- ▶ **To switch fog lights on:** Pull the light switch out to stage .
  - ◁ The fog light and the fog light indicator lamp  next to the light switch will go on.
- ▶ **To switch front and rear fog lights on:** Pull the light switch out to stage .
  - ◁ The front and rear fog lights and the indicator lamps for the front  and rear fog lights  next to the light switch go on.

## Driver cockpit

### Exterior lighting

#### Note

If the vehicle has a rear fog light only, turn the light switch to  and pull it out to level **6**.

#### Cornering light and manoeuvring light function

##### Cornering light

If the low beam is switched on, the cornering light will improve the illumination of the carriageway in the turning direction.

The cornering light will switch on automatically in the following situations:

- You are travelling at a speed below around 25 km/h and are indicating or turning the multifunction steering wheel.
- You are travelling between around 25 km/h and 40 km/h and turn the multifunction steering wheel.

The cornering light may stay lit up for a short time but will be switched off automatically after a maximum of around three seconds.

#### Manoeuvring light

If you shift into reverse gear with the dipped beam switched on, the illumination in front of the vehicle is improved when the steering the vehicle.

- Vehicles with static main headlights: Both fog lamps are switched on.
- Vehicles with matrix LED headlights: Additional light modules in the main headlights are switched on.

#### Intelligent Light Performance function

Intelligent Light Performance is only available for vehicles with matrix LED headlights.

The matrix LED headlights adapt to the driving and weather situation and offer extended functions for improved illumination of the carriageway.

The system consists of the following functions:

- Cornering light
- Extended fog light

- City light
- Intelligent main beam

#### Function of cornering light

The function improves the wide-angle illumination of the carriageway on the inside of bends, so that tight bends, for example are easier to see.

If you drive between approx. 40 km/h and approx. 60 km/h with the dipped beam switched on and turn the steering wheel, the cornering light is activated automatically.

#### Extended fog light

The function improves the illumination of the edge of the carriageway.

The function is active in the following cases:

- When the rear fog light is switched on
- If the windscreen wipers are activated for a longer period of time with a fast wiping interval



### City light

The city light improves the illumination on the sides in urban areas by means of a wider light distribution.

The function is active in the following cases:

- At speeds typical for inner-city traffic
- In lit up areas in urban areas

### Intelligent main beam

The Adaptive Highbeam Assist function is extended by the following functions:

- Partial main beam
- BOOST main beam

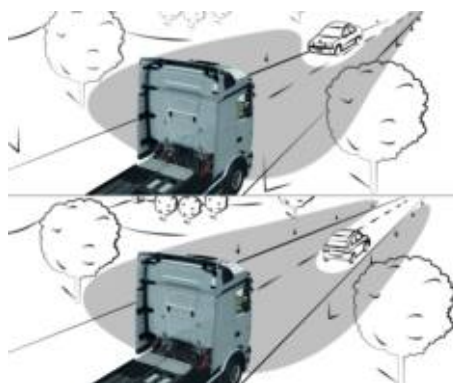
Observe the notes on Adaptive Highbeam Assist (→ Page 99).

#### Partial main beam

If the main beam is activated during automatic control of the main beam by Adaptive Highbeam Assist and other road users are detected, the system switches to the partial main beam function.

The partial main beam shines past other road users with the main beam and does

not dazzle them. The vehicle in front or oncoming vehicle is in the dipped beam illumination area.



Partial main beam active function (example)

#### BOOST main beam

The BOOST main beam function increases the brightness of the light cone for greater visibility in the dark. The function is automatically activated and deactivated depending on the traffic situation and vehicle speed.

### Adaptive Highbeam Assist

#### How Adaptive Highbeam Assist works



**Danger**

#### Risk of accident despite Adaptive Highbeam Assist

Adaptive Highbeam Assist does not recognise:

- Road users without lights, e.g. pedestrians
- Road users with poor lighting, e.g. cyclists
- Road users whose lighting is obstructed, e.g. by a crash barrier
- Crossing road users

An overtaking vehicle will not be detected by Adaptive Highbeam Assist until it is directly in front of your own vehicle.

On very rare occasions, Adaptive Highbeam Assist may fail to recognise other road users with their own lighting, or may recognise them too late.

## Driver cockpit

### Exterior lighting

In these or in similar situations, the automatic main beam will therefore not be deactivated, or will be activated nevertheless.

- ▶ Always observe the road and traffic conditions carefully and switch off the high beam in good time.

Depending on their illumination and the road and traffic conditions, it is possible to identify cyclists and crossing traffic, but this is not guaranteed.

- ▶ Monitor the traffic situation attentively and manually switch off the high beam if necessary.

Adaptive Highbeam Assist is only an aid. Responsibility for correctly adjusting the vehicle's lighting to the prevailing light, visibility, and traffic conditions always rests with the driver.

Vehicles with Adaptive Highbeam Assist are equipped with a camera behind the windscreen.

The system detects the following traffic situations:

- Illuminated vehicles travelling in front

- Illuminated oncoming vehicles

When the system detects other road users, the high beam will automatically be deactivated. This will prevent other road users from being dazzled.

In vehicles with matrix LED headlights, the partial main beam function is activated (→ Page 98).

When the system no longer detects any other vehicle, it will reactivate the main beam.

The following influences may also lead to automatic activation/deactivation of the high beam:

- The light conditions
- Vehicle speed

#### System limits

Adaptive Highbeam Assist cannot take into account road, weather, or traffic conditions.

The system may be impaired or may not function in the following situations:

- If visibility is poor, e.g. due to snow, rain, fog, or heavy spray.

- If the windscreen in the area of the camera is dirty, misted up or damaged.
- If the windscreen in the area of the camera is obscured, for example, due to a faulty windscreen wiper or a sticker.
- If the carriageway is very narrow and winding.
- If detachable parts, e.g. a snow plough, restrict the camera's view of the lane markings.
- After a major change in load with the vehicle switched on.
  - ▶ Therefore, start the vehicle again after a significant change in load, so that Adaptive Main Beam Assist is available without any restrictions.
  - ▶ Keep the windscreen around the camera free of dirt, snow, or ice.
  - ▶ Use the windscreen wipers, or clean the windscreen manually wherever necessary. See the sections entitled "Notes on external cleaning" (→ Page 400) and "Cleaning sensors" (→ Page 406).

If the system is malfunctioning, the main beam will be switched off. The driver will be notified of the malfunction by a display message displayed in the instrument cluster.

- If necessary, switch on the high beam manually.

### Switching Adaptive Main Beam Assist on/off

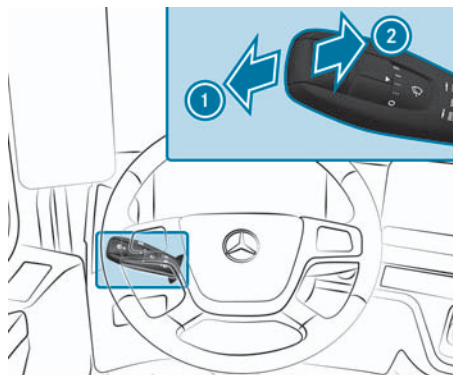
The function can be activated/deactivated in the instrument cluster under the Settings menu , Assistance menu window (→ Page 171).

If Adaptive Main Beam Assist is activated, the  indicator lamp in the instrument cluster lights up.

If the Adaptive Main Beam Assist has automatically switched on, the  indicator lamp in the instrument cluster lights up.

### Combination switch

#### Using the high beam and headlamp flashing



- Switch on the vehicle.

#### Switching on high beam

- Switch on dipped beam .
- Press the combination lever in the direction of arrow ① and latch into place.
  - ◁ The indicator lamp  in the instrument cluster comes on.

### Vehicles with Adaptive Highbeam Assist

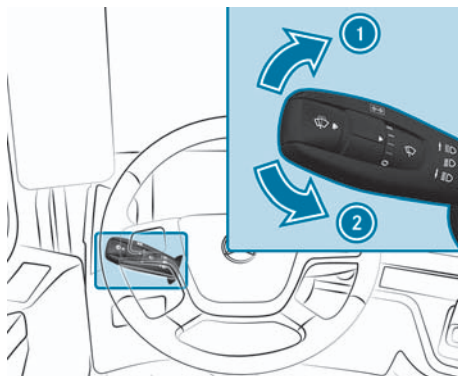
The high beam can be controlled automatically.

- Switch on Adaptive Highbeam Assist  (→ Page 99).
- Switch on dipped beam .
- Press the combination lever in the direction of arrow ① and latch into place.
  - ◁ The high beam will be switched on/off automatically depending on the situation.
  - ◁ The indicator lamp  in the instrument cluster comes on (when high beam is OFF).
  - ◁ The indicator lamp  in the instrument cluster comes on (when high beam is ON).
- **Headlamp flasher:** Briefly pull the combination lever in the direction of arrow ②.
  - ◁ The indicator lamp  in the instrument cluster and the high beam will come on briefly.

## Driver cockpit

### Exterior lighting

#### Using the turn signal indicators

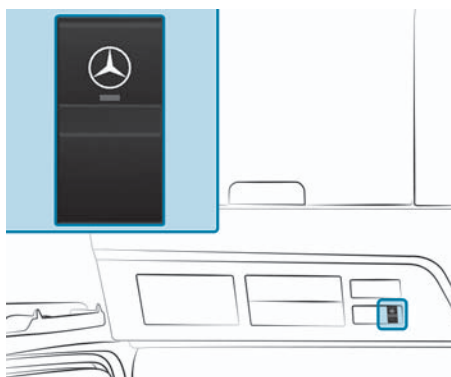


- ▶ **To indicate:** Push the combination lever upwards to indicate right ①, or downwards to indicate left ② until it engages.
  - ◁ The corresponding turn signal lamps and indicator lamp  or  in the instrument cluster will flash.
- ▶ **To flash briefly:** When you are overtaking or changing lanes, briefly tap the combination lever in the desired direction to indicate right ① or indicate left ②.

◁ The corresponding turn signal lamps and indicator lamp  or  in the instrument cluster will flash five times.

- ▶ **To cancel the flash:** Briefly tap the combination lever in the opposite direction.

#### Switch the illuminated Mercedes star on/off

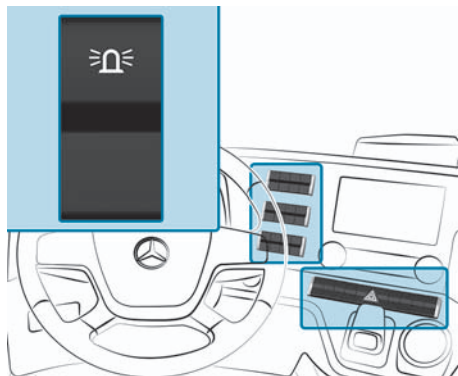


The illuminated Mercedes star on the maintenance flap is approved exclusively for use on private land. Use on public roads is prohibited.

According to legal conditions, differences from the use of the illuminated Mercedes star described here are possible in some countries.

- ▶ Observe the legal requirements for your current location.
- ▶ **Activation:** Press the  switch at top.
  - ◁ The indicator lamp in the switch  comes on.
- ▶ **Deactivation:** Press the lower section of the switch .
  - ◁ The indicator lamp in switch  goes off.

### Switch the rotating beacon on/off



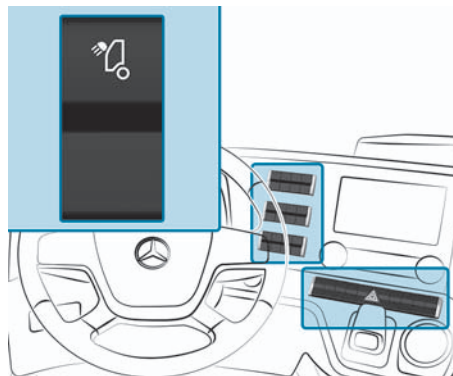
Rotating beacon button (example)

- **To switch on/off:** Press the button .

When driving the vehicle with a rotating beacon, observe the legal requirements in the country in which you are currently driving.

If the required field of view is not clear due to being obstructed by trailers, bodies, or attachments, safeguard the vehicle by using additional lights.

### Switch position lamps on roof on/off



Rotating roof position marker lamps (example)

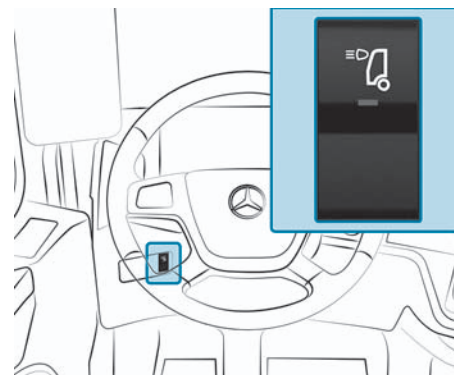
- **To switch on/off:** Press the  button above.

When operating the vehicle using rotating roof position marker lamps, observe the legal requirements for your current location.

### Activate/deactivate additional headlamp

#### Note

Find out about the legal requirements for the country in which you are currently driving before using additional headlamps on public roads.



- **To switch on/off:** Press the  button above.
  - ◁ When the additional headlamps are switched on, the indicator lamp  in the button lights up.

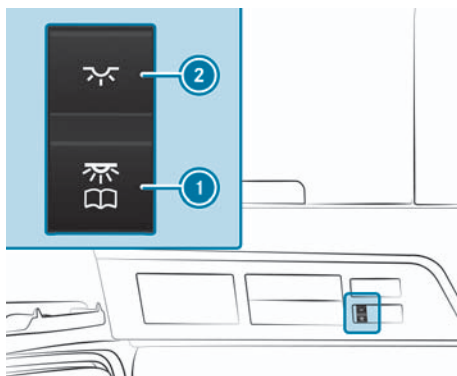
## Driver cockpit

### Interior lighting

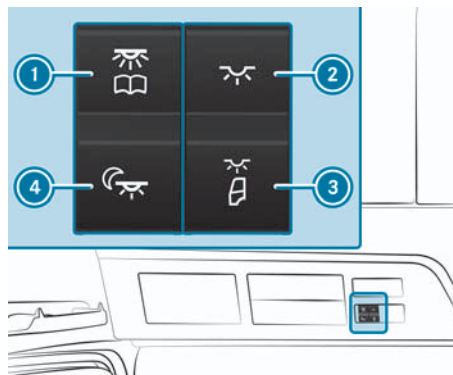
#### Interior lighting

#### Switch interior lighting on/off

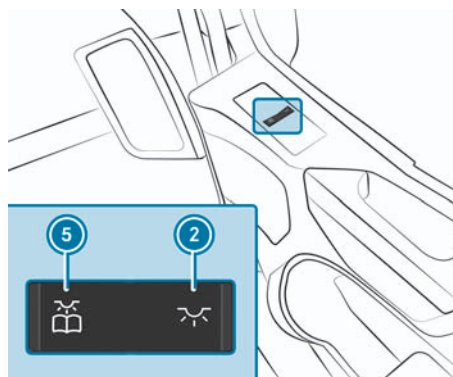
#### Interior lamps



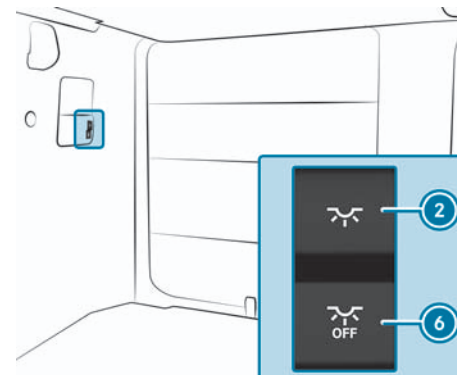
Switch panel above the windscreen (variant 1)



Switch panel above the windscreen (variant 2)



Front passenger's door switch panel



Bed/bunk switch panel with reading lamp (example: bottom bunk)

#### Interior lighting switch

- ① Switches the driver's reading lamp on/off or dims it
- ② Switches the interior lamps on/off or dims them
- ③ Switches automatic interior lighting control on/off
- ④ Switches night lighting on/off
- ⑤ Switches on/off or dims the front passenger's reading lamp
- ⑥ Switches off all interior lighting

► **Activation:** Briefly press the ② button.

- ◁ The interior lamps will be switched on but dimmed.
  - ▶ **To dim:** Press and hold the ② button.
    - ◁ The brightness of the interior lamps is adjustable from 0 to 100%. If you drive at above 30 km/h, the brightness will be dimmed down automatically.
  - ▶ **Switching off:** Press button ② again briefly.
- or
- ▶ Press the button ⑥ on the bed/bunk switch panel
    - ◁ The interior lamps will go out.

#### Automatic interior lighting control

Depending on the vehicle's equipment, you have the following options for activating/deactivating the function:

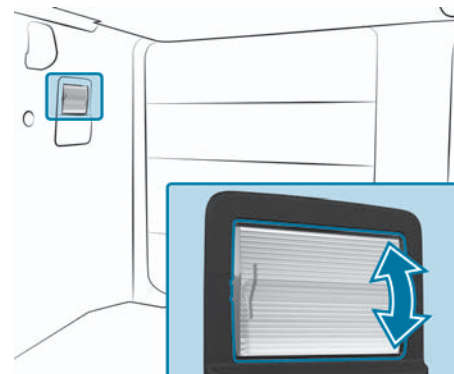
- the menu window **Lighting** in the Settings menu  (→ Page 171)
- Button ③ as described in the following

- ▶ **Switch on/off with button:** Press the ③ button until a brief acoustic signal sounds.
  - ◁ When the driver's door or co-driver's door is opened and the interior lamps and entrance lighting switch on automatically, automatic control will be activated.

#### Driver's/front passenger's reading lamp

- ▶ **Switching on/off:** Briefly press button ① for the driver's reading lamp or button ⑤ for the front passenger's reading lamp.
- ▶ **To dim:** Press and hold ① button for the driver's reading lamp or ⑤ button for the front passenger's reading lamp.

#### Bunk/daybed reading lamp



Bunk/daybed reading lamp (example)

- ▶ **Activation:** Press the lower section of the reading lamp lens.
- ▶ **Switching off:** Press the upper section of the reading lamp lens.

#### Night lighting

The night lighting provides non-dazzle ambient lighting while you are driving.

## Driver cockpit

### Replacing bulbs

Depending on the vehicle's equipment, you have the following options for controlling the function:

- the menu window **Lighting** in the Settings menu  (→ Page 171)
- With button  as described in the following
- ▶ **Switch on/off with button:** Press the button .

#### Replacing bulbs

##### Notes on changing a bulb

Daimler Truck AG recommends that you have the headlamp bulbs changed at a qualified specialist workshop.



#### **Danger**

##### **Risk of burns from hot component parts whilst replacing a bulb**

Bulbs, lamps, and plugs can become very hot during operation.

When replacing a bulb, you may burn yourself on these component parts.

- ▶ Allow the component parts to cool down before replacing the bulbs.

A bulb may explode in the following cases:

- You touch the bulb when it is hot.
- You drop the bulb.
- You scratch the bulb.
- ▶ Do not use a light bulb that has been dropped or whose glass bulb is scratched.
- ▶ Protect bulbs from moisture during operation and do not allow bulbs to come into contact with liquids.

Bulbs and lights are a major element in vehicle safety. Therefore, it is important to ensure that all light bulbs are always functioning. The lamp check can help you when you are inspecting the bulbs (→ Page 94).

#### **Note**

Daimler Truck AG recommends that you also change the corresponding bulb in the other headlamp when a bulb for the dipped beam or main beam fails. Daimler Truck AG recommends that you use long-life bulbs for this.

When changing lamps, the following points should also be noted:

- ▶ To prevent a short circuit, switch off the lighting system and the vehicle before changing the bulb.
- ▶ Wear protective goggles and clean gloves.
- ▶ Always replace faulty bulbs with certified new bulbs with the correct wattage and voltage.
- ▶ New light bulbs should only be touched with a clean, lint-free cloth or similar material. Do not work with wet or oily fingers.
- ▶ Check the contacts for corrosion and clean them if necessary.
- ▶ Ensure that seals are seated correctly and replace damaged seals.



- If the new bulb does not come on, consult a qualified specialist workshop.

Vehicles with LED front headlamps: In the event of a fault to the lamps, contact a qualified specialist workshop.

Vehicles with rear LED lamp unit: The LED module can only be replaced as a whole.

- If necessary, have the LED module replaced at a qualified specialist workshop.

The following bulbs should also only be replaced at a qualified specialist workshop:

- LED daytime running lamps
- LED front fog lamp
- LED perimeter lamp, front
- LED turn signal lamp
- Lamps for ambient lighting in the cab
- LED interior lamps
- LED night light

### Bulbs

#### Front bulbs

|                                            |              |
|--------------------------------------------|--------------|
| Turn signal light, front                   | PY21 W 24 V  |
| High beam                                  | H1 24 V      |
| Daytime running lights                     | H21W 24 V    |
| Dipped beam (halogen headlamps)            | H7 24 V      |
| Turn signal light, side; side marker light | P21/5 W 24 V |
| Fog light                                  | H11 24 V     |
| Position lamp (halogen headlamps)          | W5W 24 V     |
| Roof position marker lamps                 | R10W 24 V    |

#### Rear bulbs

|                                                                       |           |
|-----------------------------------------------------------------------|-----------|
| Turn signal light, rear; brake light; reversing light; rear fog light | P21W 24 V |
| Rear light, number plate lamp, position lamp                          | R5W 24 V  |

#### Interior lighting bulbs

|                           |           |
|---------------------------|-----------|
| Dome lamp: Interior light | P18W 24 V |
| Dome lamp: Reading lamp   | R10W 24 V |

|                                                                   |                  |
|-------------------------------------------------------------------|------------------|
| Dome lamp: Night lighting                                         | EBS-R4 1.2W 24 V |
| Bunk/berth reading lamp (luminescent tube)                        | 10W 24 V         |
| Stowage compartment lighting under berth                          | W5W 5 W 24 V     |
| Stowage compartment lighting above wind-screen (luminescent tube) | 5W 24 V          |

#### Additional bulbs

|                    |            |
|--------------------|------------|
| Side marker lights | LED module |
| Work lamp, top     | H11 24 V   |
| Work lamp, bottom  | H3 24 V    |
| Rotating beacons   | H1 24 V    |

## Driver cockpit

### Replacing bulbs

#### Replacing front bulbs

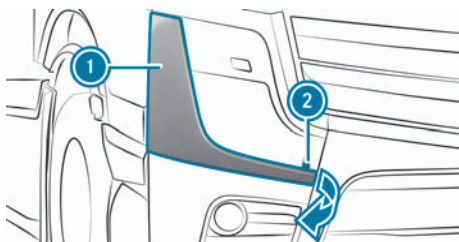
##### Swinging out headlamps (variant 1)



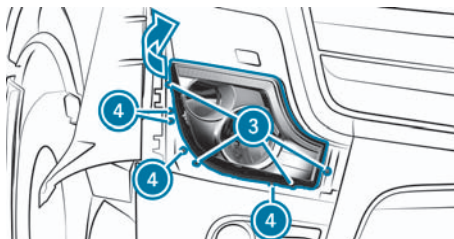
Cover next to headlamp

- ▶ Press on the cover next to the headlamp at the location marked by an arrow.

◀ The cover will fold out.



- ▶ Unscrew screw ②.
- ▶ Tilt bumper section ① outwards in the direction of the arrow.

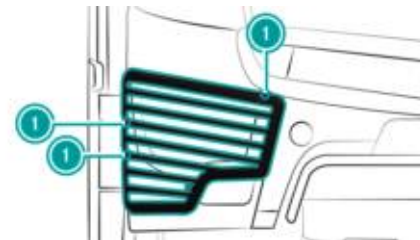


- ▶ Unscrew the screws with grey washer ③. Do not turn the adjustment screws ④ of the headlamp. Otherwise, the headlamp will have to be readjusted.
- ▶ Swing the headlamp out in the direction of the arrow.

#### **i** Note

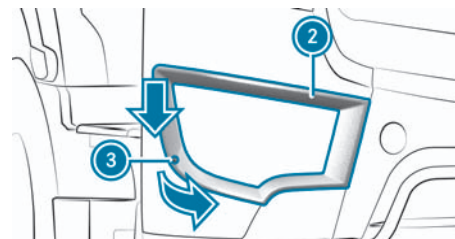
Do not lean on the headlamp that you have swung out.

##### Swinging out headlamps (variant 2)

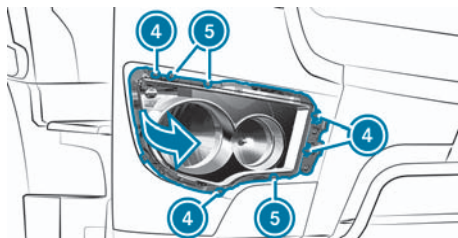


Protective grille (example)

- ▶ If the vehicle is fitted with protective grilles in front of the headlamps, loosen screws ① and remove the protective grille.



- ▶ Unscrew screw ③.
- ▶ Push outer cover frame ② downwards, tilt forwards in the direction of the arrow and remove.

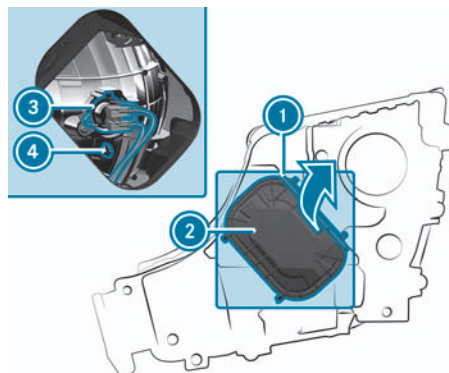


- Unscrew the screws with grey washer ④. Do not turn the adjustment screws ⑤ of the headlamp. Otherwise, the headlamp will have to be readjusted.
- Swing the headlamp out in the direction of the arrow.

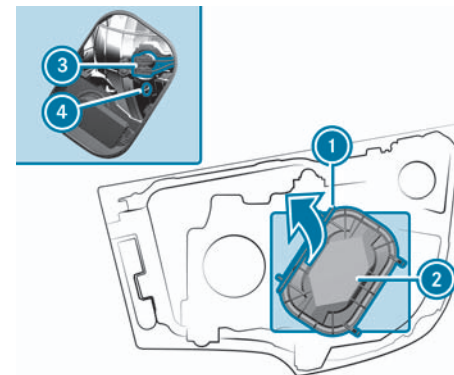
### **i** Note

Do not lean on the headlamp that you have swung out.

### Dipped beam and position lamp (halo-gen headlamp)



Halogen headlamp variant 1



Halogen headlamp variant 2

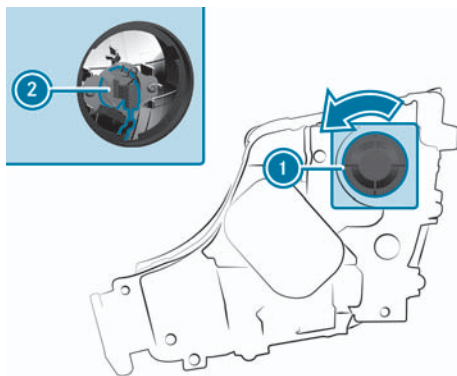
- Observe the notes on changing a bulb (→ Page 106).
- Swing out the headlamp (variant 1 or variant 2).
- Press clips ① in the direction of the arrow.
- Remove the cover ②.
- **Dipped beam:** Remove the connector from bulb ③.
- Disengage the safety spring.
- Remove the bulb ③.
- Insert the new bulb in the socket so that the base fits in the recess.

## Driver cockpit

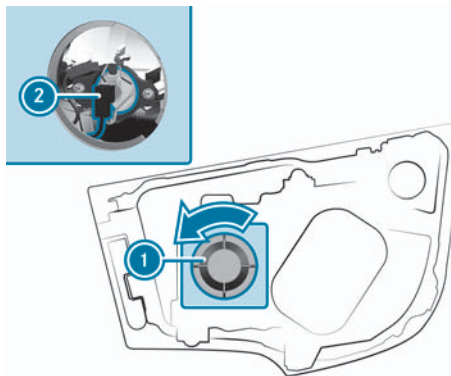
### Replacing bulbs

- ▶ **Position lamp:** Press on the side of socket ④ and pull the socket out.
- ▶ Pull the bulb out of the socket.

#### Main beam



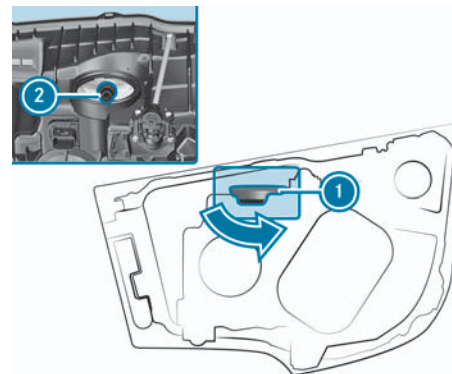
Headlamp variant 1



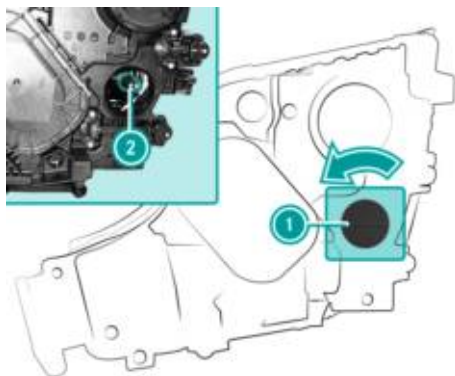
Headlamp variant 2

- ▶ Observe the notes on changing a bulb (→ Page 106).
- ▶ Swing out the headlamp (variant 1 or variant 2).
- ▶ Turn cover ① anticlockwise and remove.
- ▶ Remove the connector from bulb ②.
- ▶ Disengage the safety spring.
- ▶ Remove the bulb ②.
- ▶ Insert the new bulb in the socket so that the base fits in the recess.

#### Daytime running lights



Headlamp variant 2



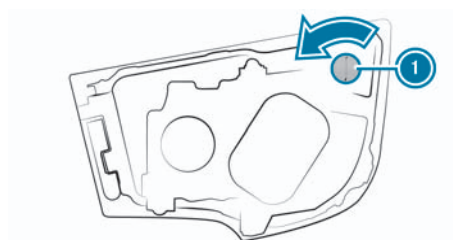
Headlamp variant 3

- ▶ Observe the notes on changing a bulb (→ Page 106).
- ▶ Swing out the headlamp (variant 1 or variant 2).
- ▶ Turn cover ① anticlockwise and remove.
- ▶ Gently turn the socket for bulb ② anticlockwise and remove.
- ▶ Gently turn bulb anticlockwise and remove.
- ▶ Insert the new bulb into the socket and gently turn it clockwise.

### Turn signal light



Headlamp variant 1



Headlamp variant 2



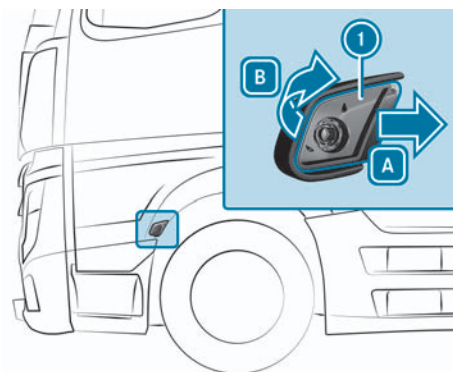
Headlamp variant 3

- ▶ Observe the notes on changing a bulb (→ Page 106).
- ▶ Swing out the headlamp (variant 1 or variant 2).
- ▶ Gently turn socket ① anticlockwise and remove.
- ▶ Gently turn bulb anticlockwise and remove.
- ▶ Insert the new bulb into the socket ① and gently turn it clockwise.

## Driver cockpit

### Replacing bulbs

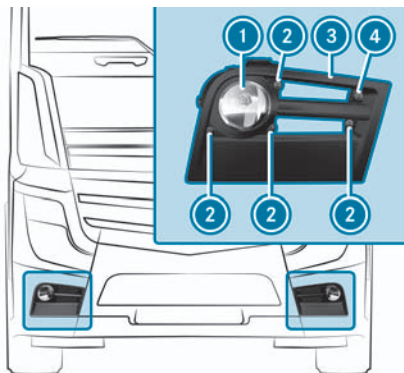
#### Turn signal light, side; side marker light



Turn signal light and side marker light (example)

- ▶ Observe the notes on changing a bulb (→ Page 106).
- ▶ Pull lamp ① backwards **A** and unclip at the front with a twisting motion **B**.
- ▶ Gently turn bulb mount anticlockwise and remove.
- ▶ Gently turn bulb anticlockwise and remove.
- ▶ Insert the new bulb in the bulb mount and gently turn it clockwise.

#### Front fog light (variant 1)

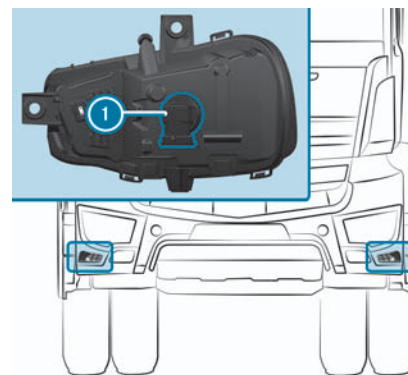


Front fog lamp (example: Actros)

- ▶ Observe the notes on changing a bulb (→ Page 106).
- ▶ Unscrew screw ④ of faceplate ③.
- ▶ Unclip faceplate ③ at the top and bottom and remove.
- ▶ Unscrew screws ② of front fog lamp ①.
- ▶ Pull front fog lamp ① out slightly.
- ▶ Remove the connector from the bulb for the front fog lamp ①.
- ▶ Pull front fog lamp ① out.

- ▶ Unscrew bulb anticlockwise from reflector.
- ▶ Insert the new bulb and screw it into the reflector in a clockwise direction.

#### Front fog lamp (variant 2)



Front fog lamp (example: front fog lamp with LED daytime running lamp in the Arocs)

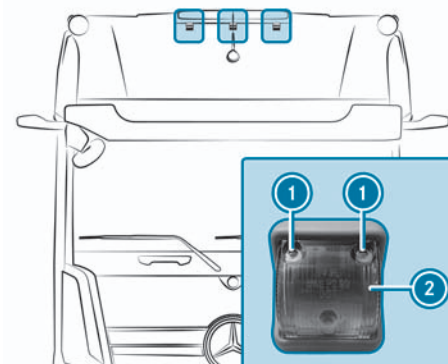
#### **i** Note

If front fog lamp ① is removed with the LED daytime running lamp, do not change the illuminant of the LED daytime running lamp. If necessary, have

the illuminant changed at a qualified specialist workshop.

- ▶ Observe the notes on changing a bulb (→ Page 106).
- ▶ Swing out the headlamp.
- ▶ Remove the connector from the bulb ❶ for the front fog lamp.
- ▶ Unscrew bulb ❶ anticlockwise from reflector.
- ▶ Insert the new bulb and screw it into the reflector in a clockwise direction.

### Roof position marker lamps

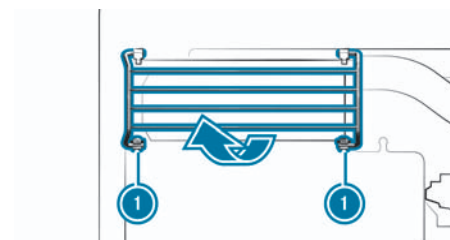


Roof position marker lamps

- ▶ Observe the notes on changing a bulb (→ Page 106).
- ▶ Unscrew screws ❶.
- ▶ Remove lens ❷.
- ▶ Gently turn bulb anticlockwise and remove.
- ▶ Insert the new bulb in the bulb mount and gently turn it clockwise.

### Replacing rear bulbs

#### Swinging the protective grille out of the way



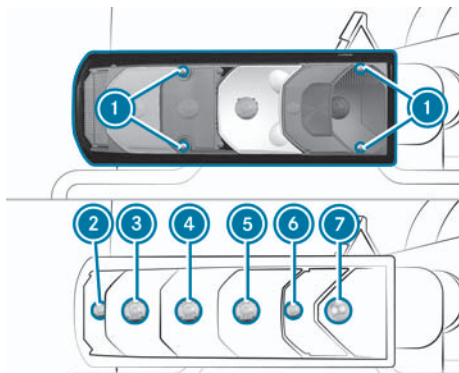
- ▶ Unclip the protective grille from the clamps ❶ and swing it upwards.



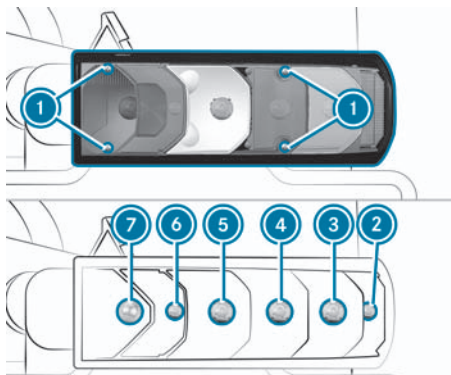
## Driver cockpit

### Replacing bulbs

#### Replacing bulbs



6-chamber lamp unit, rear left (example)



6-chamber lamp unit, rear right (example)

#### Rear lamp unit

- ① Screws
- ② Clearance light/side marker light
- ③ Turn signal light
- ④ Brake light
- ⑤ Reversing light
- ⑥ Tail light
- ⑦ Rear fog light

The number plate lamp is behind the reflector unit.

Vehicles with rear LED lamp unit: The LED module can only be replaced as a whole.

If necessary, have the LED module replaced at a qualified workshop.

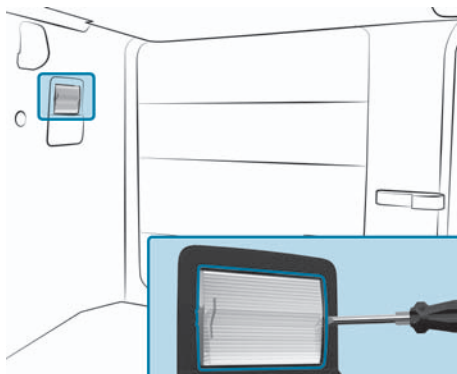
- ▶ Observe the notes on changing a bulb (→ Page 106).
- ▶ Unscrew screws ①.
- ▶ Remove the lens.
- ▶ Gently turn the bulb anti-clockwise and remove it.
- ▶ Insert the new bulb and gently turn it clockwise.
- ▶ Insert the lens.
- ▶ Screw in screws ①.

#### Replacing interior lighting bulbs

- ▶ Observe the notes on changing a bulb (→ Page 106).



### Bunk/daybed reading lamp



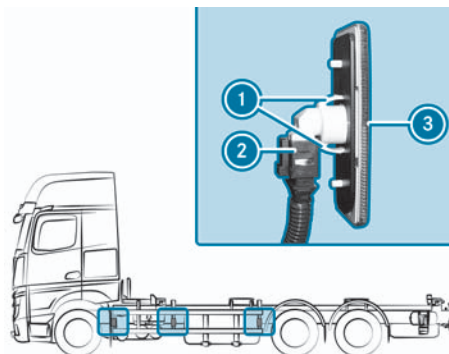
Bed/bunk reading lamp

- ▶ Push the lens out of the pivot hinge using a screwdriver.
- ▶ Remove the bulb.
- ▶ Insert the new bulb.
- ▶ Attach the lens.

### Changing additional bulbs

- ▶ Observe the notes on changing a bulb (→ Page 106).

### Side marker lamps



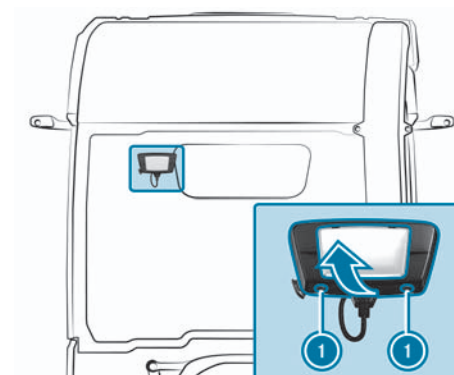
Side marker lamps (example)

**i Note**  
Semitrailer truck: Fold the side trim outwards before you change the side marker lamp (→ Page 380).

- ▶ Press and firmly hold the retainer on cable connector ② with a screwdriver.
- ▶ Pull out cable connector ②.

- ▶ Press retainers ① on side marker lamp ③ together and hold them firmly.
- ▶ Replace side marker lamp ③.

### Work lamp, top

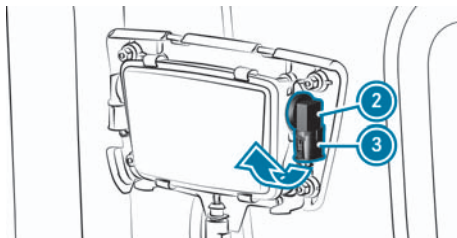


Work lamp (example)

- ▶ Press safety buttons ① and swing the housing up.

## Driver cockpit

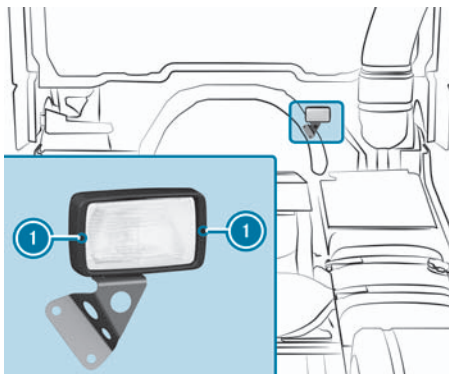
### Replacing bulbs



Bulb with cable connector (example)

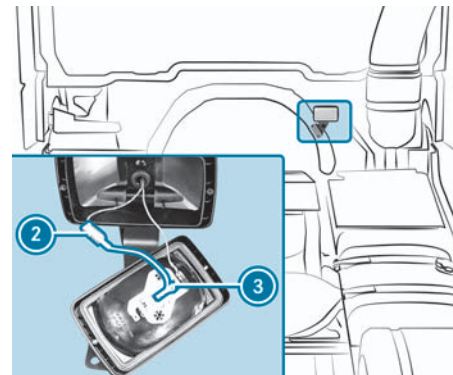
- ▶ Turn bulb ② with cable connector ③ up and remove it.
- ▶ Press the retainer on cable connector ③ together and hold it firmly.
- ▶ Pull out cable connector ③.
- ▶ Replace the bulb ②.

### Work lamp, bottom



Work lamp (example)

- ▶ Loosen screws ①.
- ▶ Remove the reflector with frame.



- ▶ Pull out cable connector ②.
- ▶ Disengage the safety spring.
- ▶ Remove the bulb ③.
- ▶ Insert the new bulb in the socket so that the base fits in the recess.

## Partially masking headlights – left-hand/right-hand traffic

## Partially masking headlights – left-hand/right-hand traffic

**Note****Damage to the headlamps when removing the adhesive film**

If you use sharp or pointed objects to remove the adhesive film on the headlamps, you may damage them.

- ▶ Do not use sharp or pointed objects to remove the adhesive film.
- ▶ When you are using the vehicle in other countries, observe the legal requirements for the country you are currently in.

The responsibility for vehicle lighting rests with the driver.

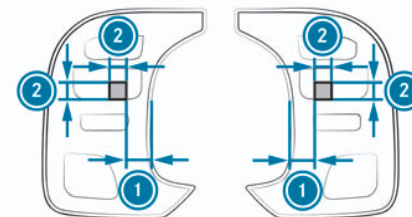
In countries that drive on the other side of the road to the country of registration, measures are required so that oncoming traffic is not dazzled, depending on the headlamp installed.

## Measure at border crossing

| Headlamp type                              | Measure                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED headlamps (L1G) in vehicles with L cab | No action required                                                                                                                                                                                                                                                                                                                                                                    |
| LED headlamps (L1G) with ProCabin          | Before crossing the border, mask halogen headlamps as close to the border as possible in accordance with the following Daimler Truck AG specifications. Make adhesive strips using a commercially available, opaque self-adhesive foil, and mask the relevant areas of the headlamp. When making the return journey, remove the adhesive strips as closely to the border as possible. |
| Matrix LED headlamps (L1K)                 | When crossing borders with changing directions of traffic, change the direction of traffic stored in the Settings menu  , <b>Vehicle</b> ► <b>DirectionTravel</b> menu window in the instrument cluster as closely as possible to the border.                                                      |
| Halogen headlamps                          | Before crossing the border, mask halogen headlamps as close to the border as possible in                                                                                                                                                                                                                                                                                              |

| Headlamp type | Measure                                                                                                                                                                                                                                                                                      |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | accordance with the following Daimler Truck AG specifications. Make adhesive strips using a commercially available, opaque self-adhesive foil, and mask the relevant areas of the headlamp. When making the return journey, remove the adhesive strips as closely to the border as possible. |

With the masked headlamps, the edge of the carriageway will no longer be illuminated as far or as high.



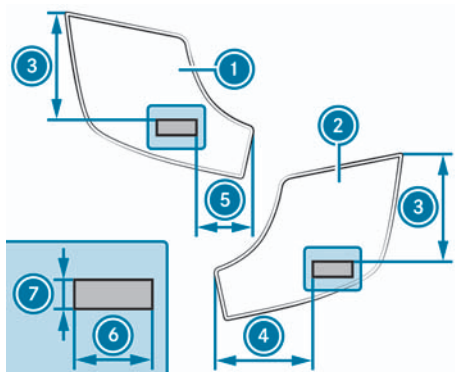
Masking area for ProCabin vehicles with static LED headlights (L1G)

## Dimensions for masking the headlights

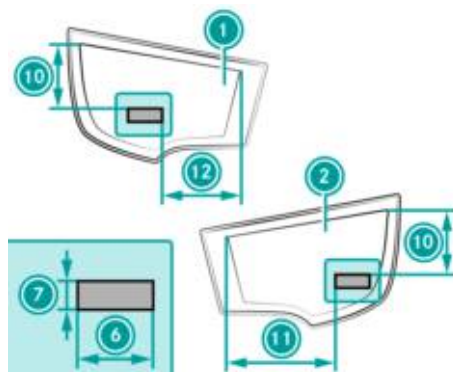
- ① 65 mm
- ② 40 mm

## Driver cockpit

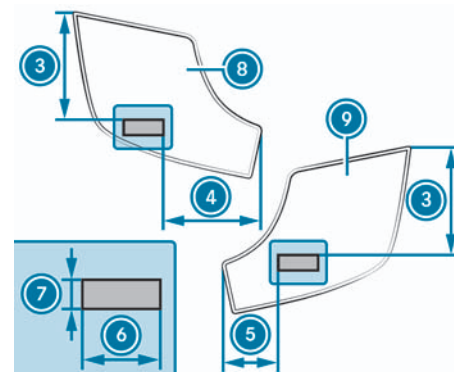
### Partially masking headlights – left-hand/right-hand traffic



Masking area for right-hand traffic vehicles when used in countries with left-hand traffic (example: halogen headlamps, variant 1)



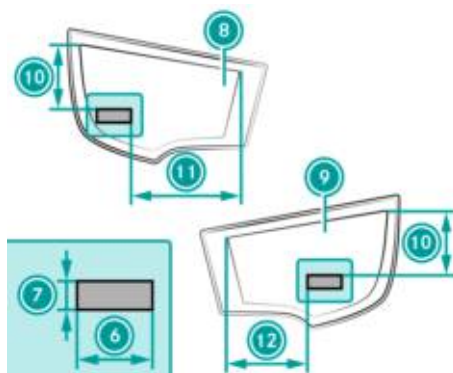
Masking area for right-hand traffic vehicles when used in countries with left-hand traffic (example: halogen headlamps, variant 2)



Masking area for left-hand traffic vehicles when used in countries with right-hand traffic (example: halogen headlamps, variant 1)

### Dimensions for masking the headlights

- ① Right headlamp
- ② Left headlamp
- ③ 235 mm
- ④ 210 mm
- ⑤ 130 mm
- ⑥ 80 mm
- ⑦ 30 mm
- ⑩ 140 mm
- ⑪ 260 mm
- ⑫ 175 mm



Masking area for left-hand traffic vehicles when used in countries with right-hand traffic (example: halogen headlamps, variant 2)

### Dimensions for masking the headlights

- ③ 235 mm
- ④ 210 mm
- ⑤ 130 mm
- ⑥ 80 mm
- ⑦ 30 mm
- ⑧ Right headlamp
- ⑨ Left headlamp
- ⑩ 140 mm
- ⑪ 260 mm
- ⑫ 175 mm

### Good visibility

#### Using the windscreen wipers



#### Note

#### Damage to the windscreen on vehicles with a rain sensor

In dry weather, dirt or optical factors may cause the windscreen wipers to make unwanted wiping movements. This may damage the wiper rubbers or scratch the windscreen.

- Switch off the windscreen wiper in dry weather.



#### Note

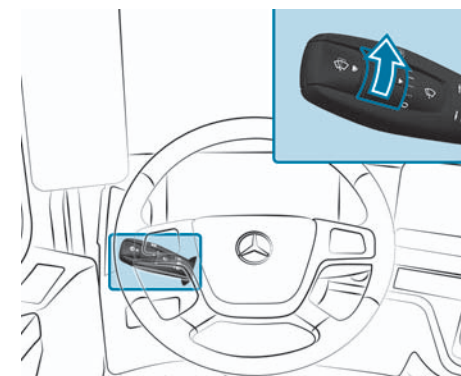
#### Damage to the windscreen caused by the windscreen wipers being activated when starting a new journey

If the windscreen wipers are not switched off before parking the vehicle, this may cause the windscreen wipers to make unwanted wiping movements when starting a new journey. This may damage the wiper blades or windscreen,

particularly if the windscreen is dirty or covered with ice.

- Switch off the windscreen wipers before parking the vehicle.

Worn or damaged wiper blades can cause smearing on the windscreen. This can cause malfunctions in vehicles with a rain sensor.



#### Wiper switch on the combination switch

- 0 Windscreen wipers off
- ... Slow intermittent wiping or wiping with the rain sensor

## Driver cockpit

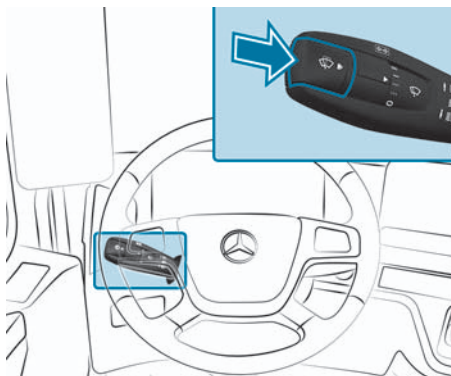
### Good visibility

- .... Fast intermittent wiping or wiping with the rain sensor
- Continuous wiping, slow
- ≡ Continuous wiping, fast

- ▶ **Activation:** Switch on the vehicle.
- ▶ Turn the wiper switch to the desired position depending on the intensity of the rain.

**Vehicles with rain sensor:** If the ... or .... setting is used, the appropriate wipe frequency will be set depending on the precipitation. In the position ...., the rain sensor is more sensitive than in the position ..., causing the windscreen wipers to wipe more frequently. If the rain sensor fails, the windscreen wiper will automatically switch to the wiping interval corresponding to the position of the switch.

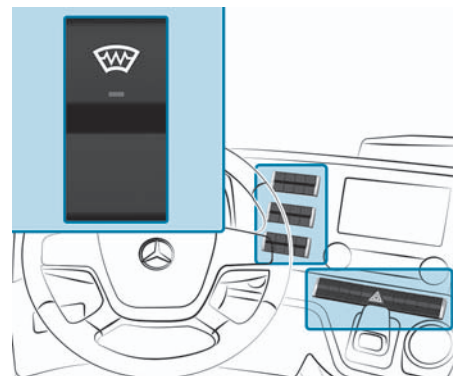
### Using the windscreen washer system



Combination switch (example)

- ▶ **Single wipe:** Briefly press the  button.
- ▶ **Wiping with washer fluid:** Press and hold the  button.

### Switch the windscreen heater on/off



The windscreen heater is ready for operation when the vehicle is started and switches off automatically after approx. 15 minutes.

- ▶ **To switch on/off:** Press the  button above.
  - ◁ When the indicator lamp on the button lights up, the windscreen heater function is switched on.

## Notes on winter operation

## Headlamps



## Note

**Damage to the headlamps when removing ice**

If you use an ice scraper to remove ice and snow from the headlamp, you may scratch the plastic cover of the headlamp.

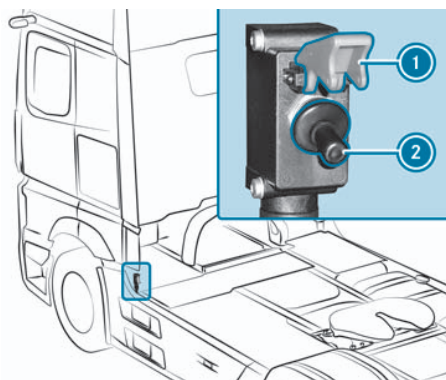
- Use a de-icer spray suitable for plastic covers.

## Windscreen wipers

- At temperatures of approximately 5°C to -5°C and during snowfall, direct the air to the windscreen ( or position) using the air-distribution control ( → Page 140).

You can also switch on the windscreen heater. With these settings, the wiper blades on the windscreen will be heated. You can thereby prevent smearing or the snow freezing on the wiper rubber.

## Power supply

**Using the battery disconnect switch (vehicles without ADR classification)**

Example: Battery disconnect switch

You can interrupt the power supply to the starter batteries using the battery disconnect switch. Do this if the vehicle will not be used for an extended period of time.

The battery disconnect switch must only be operated when the ignition and all electrical consumers in the vehicle are switched off.

To ensure that there are no malfunctions and that no control units are damaged, you must wait approximately five minutes after having switched off the vehicle before interrupting the voltage supply using the battery disconnect switch.

**Interrupting the power supply**

- Park the vehicle safely.
- Switch off the vehicle.
- Vehicles with anti-theft alarm system: Deactivate the anti-theft alarm system ( → Page 51).
- Vehicles with auxiliary heating: Switch off the auxiliary heating ( → Page 143).
- Wait for approximately five minutes.
- Swivel the cover ① upwards.
- Swivel the switch ② upwards.
  - ◁ All consumers other than the digital tachograph are disconnected from the batteries.

**Reconnecting the power supply**

- Swivel the cover ① downwards.



## Driver cockpit

### Power supply

Using the battery disconnect switch  
(vehicles with ADR classification)

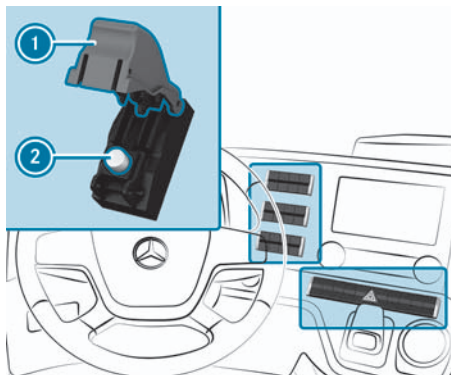


**Danger**

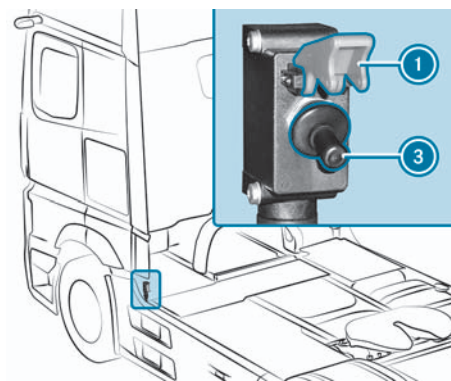
**Risk of accident as a result of deactivation of the MirrorCam system when operating the battery disconnect switch**

The MirrorCam system will no longer work if you disconnect the power supply using the battery disconnect switch. As a result, you will not be able to monitor the traffic situation behind the vehicle when getting out.

- ▶ If possible, use the battery disconnect switch on the chassis frame.
- ▶ Take particular care when getting out the vehicle if the battery disconnect switch in the interior has been operated.



Battery disconnect switch in the vehicle interior (example)



Battery disconnect switch on the chassis (example)

The voltage supply can be interrupted using the battery disconnect switches. This prevents short circuits that may generate sparks which might, in turn, cause a fire or an explosion. Vehicles for hazardous material transport are equipped with one or two battery disconnect switches depending on the ADR classification regarding the interruption of the voltage supply.

Use the battery disconnect switches, e.g. when loading the vehicle in a hazardous goods area.

Interrupting the power supply with the battery disconnect switch only works when the vehicle is stationary. If you attempt to interrupt the power supply while the vehicle is in motion, the instrument cluster shows the **Only disconnect the battery when stationary** display message.

#### Interrupting the power supply

- ▶ Park the vehicle safely.
- ▶ Switch off the vehicle.
- ▶ Vehicles with anti-theft alarm system: Deactivate the anti-theft alarm system (→ Page 51).



If the auxiliary heating is switched on, wait for the auxiliary heating run-on phase to end.

- ▶ Swivel the  cover ① upwards.
- ▶ Pull out switch pin ②.

or

- ▶ Swivel the switch ③ upwards.
    - ◁ It takes up to ten seconds from the disconnecting procedure until the power supply is interrupted. The hazard warning lights switch on automatically during the disconnection process.
- All consumers other than the digital tachograph are disconnected from the batteries.

### Note

If the hazard warning lights are not switched on automatically after the battery disconnect switch has been actuated, disconnection may not be possible. In this case, the instrument cluster shows a corresponding display message.

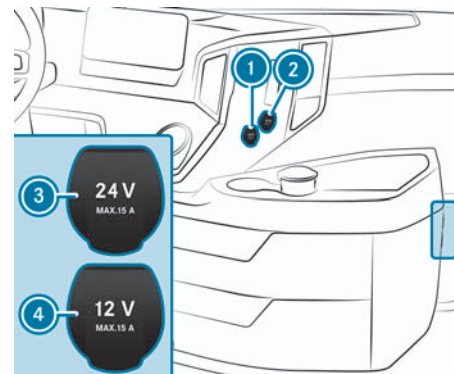
### Reconnecting the power supply

- ▶ Press the cover  ① downwards.

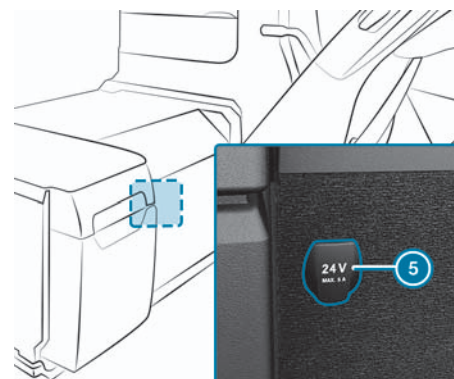
### Note

If the vehicle's power supply cannot be restored, the cause may be a discharged battery. In order to restore the power supply in this case, the battery must first be supplied with power by jump starting (→ Page 474). Jump starting using the jump-startconnection point is not possible if the power supply is interrupted.

### Overview of 12 V/24 V sockets



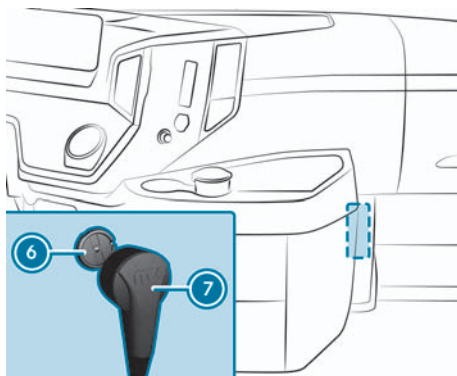
Example: sockets in the cockpit



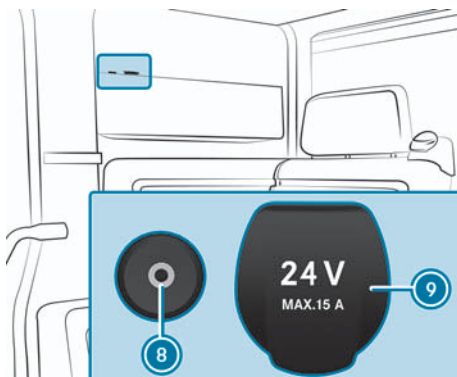
Example: socket in the stowage compartment

## Driver cockpit

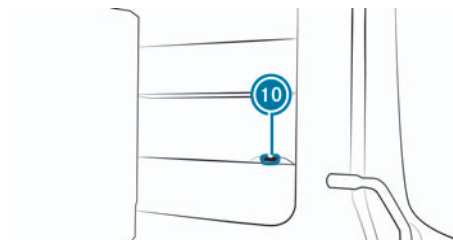
### Power supply



Example: 24 V power socket



Example: AUX socket/socket



Example: socket in the lower bunk

### Sockets

- ① Cigarette lighter 5 A (max. 120 W) or 24 V socket 15 A (max. 360 W)
- ② 24 V socket 15 A (max. 360 W), electric circuit 1
- ③ 24 V socket 15 A (max. 360 W), electric circuit 2
- ④ 24 V socket 15 A (max. 360 W), electric circuit<sup>2</sup> or 12 V socket 15 A (180 W)
- ⑤ 24 V socket 15 A (max. 360 W), electric circuit<sup>1</sup>
- ⑥ 24 V power socket 25 A (max. 600 W)
- ⑦ Adapter plug 24 V power socket
- ⑧ AUX socket
- ⑨ 24 V socket 15 A (max. 360 W), electric circuit<sup>2</sup>
- ⑩ 24 V socket 15 A (max. 360 W), electric circuit<sup>2</sup>

### 12 V sockets

You must not exceed the maximum permissible load of 180 W (15 A) on the 12 V socket.

**Vehicles with 12 V outlet for secondary consumers:** If you would like to use the 12 V socket, you must switch on the voltage converter.

### 24 V sockets

You can use each 24 V socket for accessories up to max. 15 A (max. 360 W).

If you are using multiple 24 V sockets at the same time, a maximum total load of 360 W (15 A) must not be exceeded.

**Vehicles without cigarette lighter:** A 24 V socket ① is installed in place of the cigarette lighter.

### Note

To use the 24 V socket, you must switch on the vehicle.

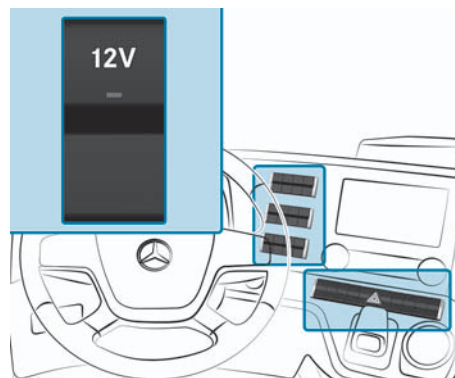
### 24 V power socket

You can use 24 V power socket ⑥ for accessories up to max. 600 W (25 A) independently of how the other sockets are used. For use of the 24 V power socket ⑥, Daimler Truck°AG recommends having adapter plug ⑦ fitted to your accessory at a qualified specialist workshop. Otherwise, safe usage cannot be guaranteed.

### Use 12 V voltage converter

The voltage converter supplies the 12 V socket and the 12 V connection point for auxiliary consumers, together at a maximum of 15 A.

If you need to connect other devices, contact a qualified workshop.



### Vehicles with a 12 V connection point for secondary consumers:

- ▶ **Switching on/off:** Press the 12 V button above.
  - ◁ When the indicator lamp in the button 12 V lights up, the 12 V sockets and the 12 V connection point for secondary consumers are supplied with voltage.

### Note

On vehicles without button, 12 V the 12 V voltage converter has a permanent supply.

### Using the 230 V socket



### Danger of death if the connecting cable or socket is damaged

If the connecting cable or the 230 V socket is pulled out of the panelling, damaged or wet, you may receive an electric shock.

- ▶ Use only connecting cables that are dry and free of damage.
- ▶ Make sure that the 230 V socket is dry.
- ▶ If a 230 V socket is pulled out of the panelling or damaged, have it checked or replaced at a qualified specialist workshop immediately.
- ▶ Never insert the connecting cable into a 230 V socket that is pulled out of the panelling or damaged.



#### **Danger**

##### **Risk of fatal injury due to improper handling of the power socket**

In particular, you may receive an electric shock:

- If you reach into the power socket.
- If you plug unsuitable devices or objects into the power socket.
- ▶ Do not reach into the power socket.
- ▶ Only connect suitable devices to the power socket.



#### **Danger**

##### **Risk of injury or death from components that supply power to the 230 V socket**

Electrical components for supplying voltage to the 230 V socket are located in the stowage compartment behind the driver's seat.

If you modify or touch these components, particularly the orange cables, you may receive an electric shock.

The voltage converter in the stowage compartment may become hot when using the socket. You may burn yourself or objects stored in the stowage compartment may be damaged.

- ▶ Do not modify or touch electrical components in the stowage compartment.
- ▶ Ensure that objects stored in the stowage compartment do not come into contact with electrical components.



#### **Danger**

##### **Danger of death due to electric shock**

If you clean the 230 V socket with a damp cloth, there is a risk of electric shock.

There is a risk of fatal injury!

- ▶ Avoid the area around the 230 V socket when cleaning.

Do not connect multiway sockets to the 230 V socket.

Only use the 230 V socket at ambient temperatures between -40 °C and +50 °C.

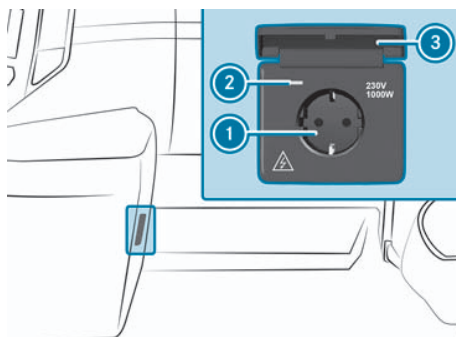
Further requirements for operating the 230 V socket:

- Only connect devices that have a suitable plug that complies with the respective country-specific standards.
- For a duration of use under 30 minutes: Only devices up to a maximum of 1000 W may be connected.
- For a duration of use over 30 minutes: Only devices up to a maximum of 600 W may be connected.
- The on-board electrical system voltage must be within the permissible voltage range.
- The plug of the electronic device must be fully plugged into the 230 V socket.
- The insulation of the device to be plugged in is undamaged.

**i Note**

Many devices consume quiescent current even when not in use. Therefore, unplug the device when you are no longer using it.

If you are not using the 230 V socket, keep the socket flap closed.

**Using the 230 V socket**

- ▶ Open the socket flap ③.
- ▶ Insert the plug of the device into the 230 V socket ①.

- ◁ The indicator lamp ② lights up green.

**Other indicator lamp display states ②:****Indicator lamp ② is off while a device is connected.**

- The LED is defective.
- ▶ Unplug the device from the socket.
- ▶ Stop using the socket.
- ▶ Have the socket checked at a qualified specialist workshop.

**Indicator lamp ② flashes green**

- The maximal load of 1000 W has been exceeded.
- ▶ Check whether the consumer connected to the socket is within the permissible power range.

**Indicator lamp ② lights up red**

- The on-board electrical system voltage is too low.
- or
- The socket has overheated.
- ▶ Charge the vehicle battery.

If the fault persists even with the battery sufficiently charged:

- ▶ Unplug the device from the socket.
- ▶ Wait 20–30 minutes.
- ▶ Plug the device into the socket.

If the malfunction persists:

- ▶ Have the socket checked at a qualified specialist workshop.

**Indicator lamp ② flashes red slowly**

- The socket is faulty.
- ▶ Stop using the socket.
- ▶ Have the socket checked at a qualified specialist workshop.

**Indicator lamp ② flashes red rapidly**

- The surge protection device is active.
- ▶ Have the socket checked at a qualified specialist workshop.

## Driver cockpit

### Practical tips

#### Practical tips

#### Using the cigarette lighter



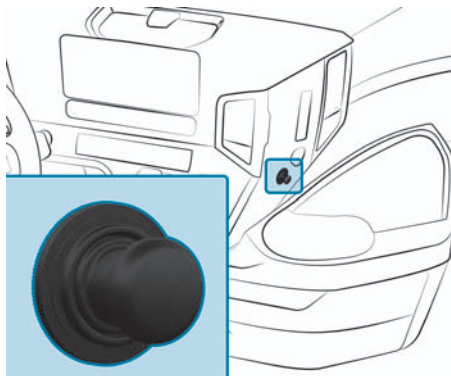
**Danger**

#### **Risk of fire and injury from the hot cigarette lighter**

You can burn yourself if you touch the hot heating element or the socket of the cigarette lighter.

Additionally, flammable materials can ignite if the hot cigarette lighter falls or if, for example, children hold the hot cigarette lighter against objects.

- ▶ Always hold the cigarette lighter by the knob.
- ▶ Always make sure that the cigarette lighter is out of reach of children.
- ▶ Do not leave children unattended in the vehicle.

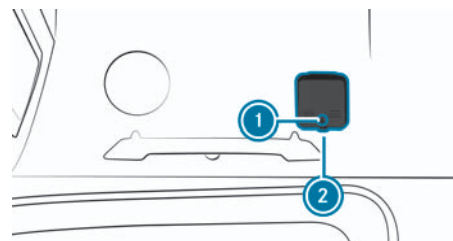


- ▶ Switch on the vehicle.
- ▶ Push in the cigarette lighter.
  - ◁ The cigarette lighter will pop out automatically when the heating element is red-hot.
- ▶ Use the handle to pull the cigarette lighter out of the socket.

The cigarette lighter should be charged with a maximum of 5°A.

#### Activate/deactivate the smoke detector

#### Switch the alarm off/temporarily disable the smoke detector



The smoke detector is located above the co-driver's door or on the ceiling behind the driver.

The smoke detector will alert you if smoke is emitted in the cab. The alarm can also be triggered by particles such as those found in cigarette smoke, dust, or exhaust fumes.

- ▶ Press the button ①.
  - ◁ The smoke detector will be disabled for approximately 20°minutes and will then automatically switch on again.

- ◁ While the smoke detector is disabled, a brief tone will sound roughly every 40°seconds and button ❶ will flash every ten seconds.

#### Checking that the smoke detector is working properly



**Danger**

#### Risk of fatal injuries if the smoke detector is out of order

If the battery is empty or the smoke detector is faulty, it may not warn you.

- ▶ Check the smoke detector's operational readiness on a regular basis.
- ▶ Replace an empty battery as soon as possible.

The smoke detector should be tested for functionality once a week.

- ▶ Press and hold button ❶.
  - ◁ If the smoke detector is working properly, the alarm will sound. When the button is pressed, the

smoke detector will be disabled for approximately 20°minutes.

- ▽ If the battery is empty, a brief tone will sound roughly every 40°seconds.
  - ▶ Replace the battery as soon as possible to ensure the function of the smoke detector.

#### Replacing the battery

The smoke detector is powered by a 9°V block battery.

- ▶ Press release catch ❷ and remove the smoke detector from the holder.
- ▶ Replace the battery.
- ▶ Fit the smoke detector back into the holder.

#### Stowage spaces and stowage compartments

#### Notes on stowage spaces and compartments



**Danger**

#### Risk of injury due to objects being stowed incorrectly

If objects in the vehicle interior are stowed incorrectly, they may slide or be thrown around and hit vehicle occupants. In addition, cup holders, open stowage spaces, and mobile phone receptacles will not always be able to retain all objects that they contain in the event of an accident.

There is a risk of injury, particularly in the event of braking manoeuvres or abrupt changes in direction!

- ▶ Always stow objects such that they cannot be thrown around in such situations.
- ▶ Always make sure that objects do not protrude from stowage spaces, luggage nets, or stowage nets.

## Driver cockpit

### Practical tips

- ▶ Close the lockable stowage spaces before starting a journey.
- ▶ Stow and secure objects that are heavy, hard, pointed, sharp-edged, fragile, or too large in the load compartment.



**Danger**

#### **Risk of injury if the maximum permitted load is exceeded**

Objects may be flung out of the stowage compartment. There is a risk of injury for vehicle occupants, particularly in the event of sudden braking or abrupt changes in direction!

- ▶ Always comply with the maximum permitted load of the stowage compartment.



**Danger**

#### **Risk of injury if the maximum permitted load is exceeded**

Objects may be flung onto the road surface.

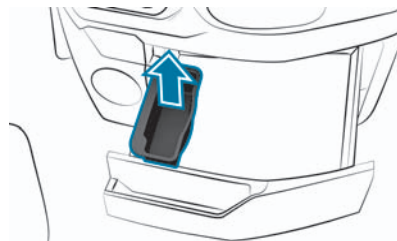
- ▶ Always comply with the maximum permitted load of the stowage compartment.
- ▶ Always ensure that the stowage compartment is locked before every journey.

### **Maximum weights for storage compartments and drawers**

| Storage compartment/drawer                                                                   | Maximum weight |
|----------------------------------------------------------------------------------------------|----------------|
| Stowage compartment above the windscreen with cover                                          | 8 kg           |
| Stowage compartments/cockpit drawers                                                         | 10 kg          |
| Stowage compartments/drawers in the centre under the berth                                   | 25 kg          |
| Stowage compartments/drawers on the outside under the berth (including tool and accessories) | 50 kg          |

### **Opening and closing stowage compartments**

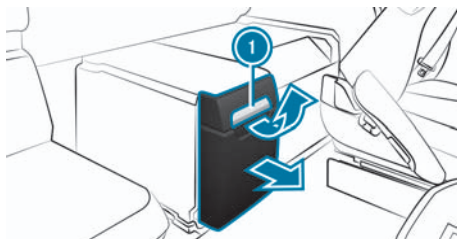
#### **Drawers in the driver cockpit**



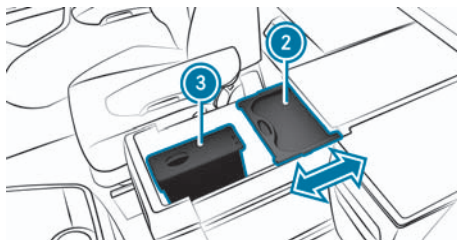
- ▶ Remove the insert and attach it to the left/right side of the drawer or another drawer.



### Drawer under the bunk



- **Open/close:** Pull handle ① upwards and pull the drawer out or push it in as far as it will go.

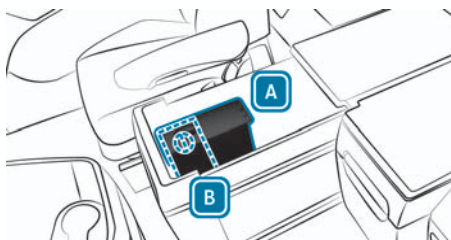


### Storage tray and waste container

- ② Stowage tray
- ③ Waste receptacle

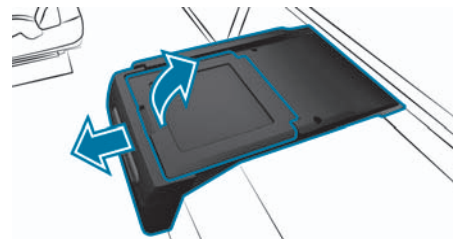
- **Open/close:** Pull stowage tray ② out into the desired position or push it in as far as it will go.

### Waste receptacle



- Use waste receptacle ③ only in positions **A** or **B**. Otherwise, the waste receptacle will not be secured and may tip over during a journey.

### Refrigerator box



Depending on the equipment, one or two coolboxes may be installed instead of drawers.

- **To open:** Pull out the drawer in the direction of the arrow as far as it will go.
- Use the handle to swing the lid up in the direction of the arrow until it engages.
- **To close:** Use the handle to swing the lid down.
- Push the drawer in as far as it will go.

There is a control knob in the refrigerator box that you can use to switch it on and off.

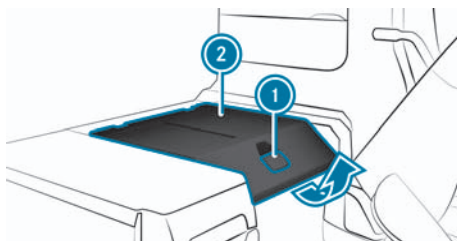
## Driver cockpit

### Practical tips

#### **i** Note

To reduce the vehicle's power consumption, switch the coolbox off manually when it is not in use.

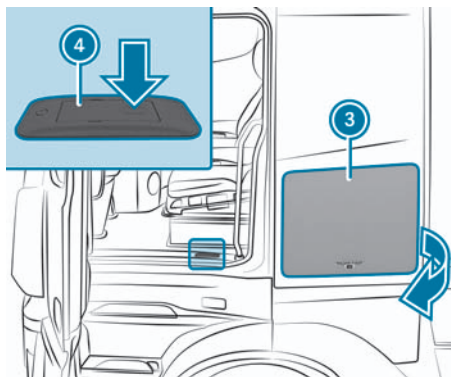
#### Stowage compartments with outside flaps



You can access the stowage compartments from inside via the stowage compartment flaps under the bunk and from outside via the outside flaps.

- ▶ Fold up the bottom bunk and secure it.
- ▶ **To open a stowage compartment flap:** Pull handle ①, swing stowage compartment flap ② upwards until the lock engages.

- ◁ The stowage compartment lighting will automatically switch on.
- ▶ **To close the stowage compartment flap:** Swing stowage compartment flap ② downwards until it engages in the lock.
- ◁ The stowage compartment lighting will automatically switch off.

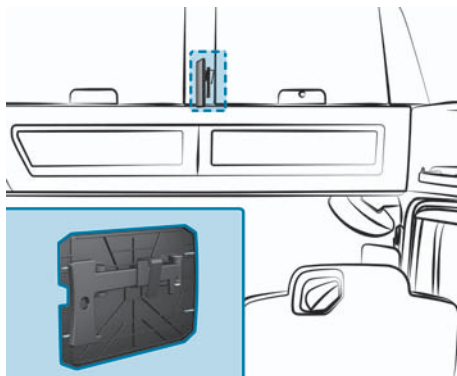


#### Outside stowage compartment flap

- ③ Outside stowage compartment flap
- ④ Release lever for outside stowage compartment flap

- ▶ **Opening the outside flap:** Push release lever ④ out.
  - ◁ The outside flap of stowage compartment ③ will open as far as the safety hook will allow.
- ▶ Push release lever ④ again.
  - ◁ The outside flap of stowage compartment ③ will be completely unlocked. The stowage compartment lighting will automatically switch on.
- ▶ Swing the outside flap of stowage compartment ③ forwards.
- ▶ **Closing the outer flap:** Close the outside flap of stowage compartment ③ until you hear the lock engage.
  - ◁ The stowage compartment lighting will automatically switch off.

## Notes on the cosmetic mirror



The cosmetic mirror is attached to the left partition wall of the right stowage compartment with snap-in hooks. You can remove the cosmetic mirror and set it up using the fold-out stand or hang it up in a suitable place using the hook.

## Folding the folding table in/out

**Danger****Risk of injury from the open folding table**

Vehicle occupants could bump into the folding table and injure themselves.

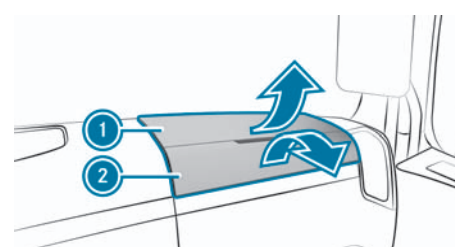
- Close the folding table before each journey.

**Danger****Risk of injury if the maximum load for the folding table is exceeded**

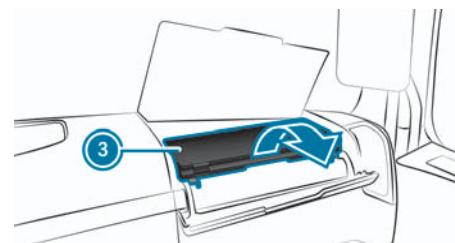
The table panel may fold down suddenly.

- Never exceed the maximum permitted load for the folding table.
- Load the folding table up to a maximum of 15 kg.

## Folding out the folding table



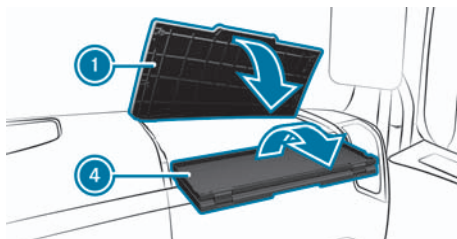
- Swing cover ② down.
- Swing cover ① up and hold it in place.



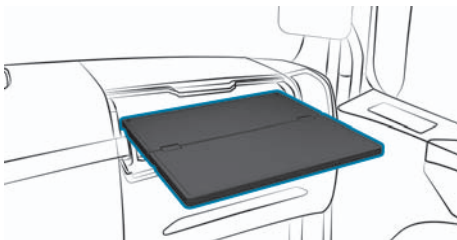
- Once the folding table ③ is folded together, swing it out as far as it will go.

## Driver cockpit

### Practical tips



- ▶ Swing cover ① down.
- ▶ Fold out folding table half ④.



#### Notes on cup/bottle holders



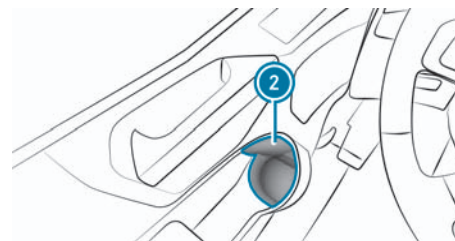
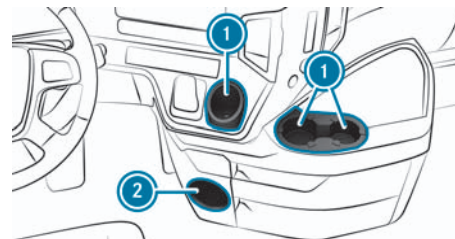
#### **Danger**

#### **Risk of accident or injury when using the cup holder while driving**

The cup and bottle holders cannot be used to secure containers while the vehicle is in motion.

If you use cup or bottle holders while the vehicle is in motion, containers may be thrown around and liquid may be spilled. The vehicle occupants may come into contact with the liquid and if it is hot, they could be scalded. You could be distracted from traffic conditions, and you may lose control of the vehicle.

- ▶ Only use the cup and bottle holder when the vehicle is stationary.
- ▶ Only put suitable containers into the cup or bottle holders.
- ▶ Close the container, particularly if the liquid is hot.



#### **Cup holder/bottle holder**

- ① Cup holder
- ② Bottle holder

### Couple/uncouple the compressed-air connection in the cab



**Danger**

#### Risk of injury due to swirling particles if compressed air is used for cleaning

The dispersed particles could get into your eyes, nose, mouth, or ears and cause irritation.

- ▶ Always wear a respiratory protective mask, safety glasses, and hearing protection when cleaning the cab with compressed air.



**Danger**

#### Risk of injury from use of the compressed-air gun

If you point the compressed-air gun at parts of your body or those of other people, you could cause injury to eyes, ears, or the skin, for example.

- ▶ Always direct the compressed-air gun away from your body.

- ▶ Never point the compressed-air gun at other people.

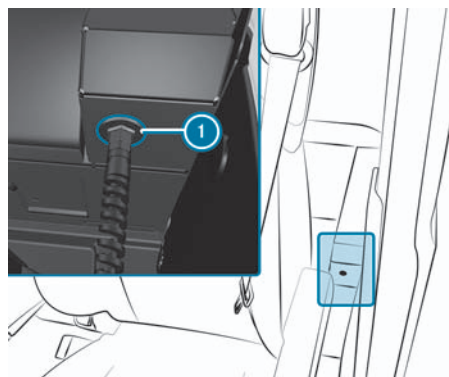


**Note**

#### Damage to the air filter due to compressed air

To avoid damage:

- ▶ Do not clean the air filter with a compressed-air gun.
- ▶ Replace dirty air filters.



- ▶ **Coupling up:** Push the compressed-air hose into compressed-air connection ① and engage.

- ▶ **Uncoupling:** Push the compressed-air hose into compressed-air connection ① and remove.

### Communication

#### Notes on the audio device (radio)

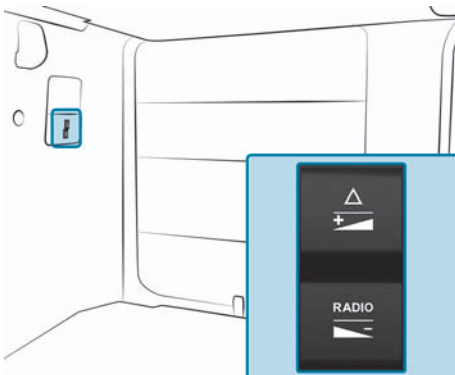
If you have Mercedes-Benz Trucks audio equipment, you can operate your audio equipment as follows:

- With the buttons on the multifunction steering wheel in the [Audio](#) menu window of the on-board computer (→ Page 163)
- With the audio equipment button in the bunch/daybed switch panel (→ Page 136)

## Driver cockpit

### Communication

Operate audio devices (radio) with the bed/bunk switch panel



#### Bed/berth radio switching field



To switch the audio devices on, to increase the volume, to select the next radio station, to select the next track



To switch the audio devices on/off, to decrease the volume

- **Activation:** Briefly press the button  or .
- **Deactivation:** Press and hold the lower section of the button .

- **Increase the volume:** Briefly press the upper section of the button .
- **Decrease the volume:** Briefly press the lower section of the button .
- **Select the next station/track:** Press and hold the upper section of the button .

#### Telephone

##### Notes on the telephone



**Danger**

#### Risk of distraction by information systems and communications equipment

If you operate information systems and communications equipment integrated in the vehicle when driving, you may be distracted from what is happening in traffic.

You may also lose control of the vehicle.

- Only operate this equipment when the traffic situation permits.
- If this cannot be ensured, stop the vehicle as soon as possible, paying

attention to road and traffic conditions. Pay attention to the traffic conditions.

- Make the entries when the vehicle is stationary.
- When operating the phone or any other communication device, adhere to the legal regulations of the country you are currently in.

The vehicle may be equipped with an integrated Bluetooth® hands-free system. To charge the Bluetooth® mobile phone in the vehicle, you will need a suitable mobile phone charger bracket. These are available from retailers of Mercedes-Benz Trucks accessories.

- You can operate the mobile phone using the  and  buttons on the multifunction steering wheel.

The Daimler Truck AG installation specifications must be observed if you subsequently install one of the following communication devices:

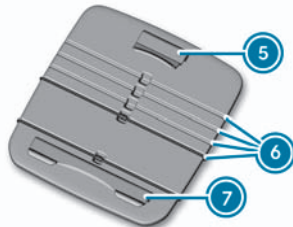
- Mobile phone
- Two-way radio

- Fax machine

### Using the notebook holder



Upper side



Lower side

- ▶ Only use the notebook holder ① when the vehicle is stationary.

### Secure the notebook

- ▶ Place the notebook holder ① on the steering wheel and attach it to

the upper guide ⑤ on the steering wheel.

- ▶ Open the notebook and slide the bottom part of the keyboard under the elastic bands ③ and ④ as far as the edge ② the notebook holder ①.
  - ◁ The upper elastic band ③ must be guided in one of the recesses ⑥.

The notebook holder can be attached to the following positions in the cab:

- ▶ Hook the notebook holder with the upper guide ⑤ into an open stowage space above the windscreen.

or

- ▶ Hook the laptop holder with the upper guide ⑤ into a handle above the doors.

or

- ▶ Hook the notebook holder with the upper ⑤ and lower guides ⑦ into the side wall stowage compartments of the lower bed or the lower bunk.

## Air conditioning

### Notes on climate control

#### Notes on climate control



#### Note

##### Damage to the air-conditioning system due to rare use

If the air-conditioning system is not used for an extended period of time, the refrigerant compressor may be damaged.

- ▶ Switch on the air-conditioning system for at least approx. ten minutes once a month.



#### Note

##### Using the air-conditioning system increases the fuel consumption

Your fuel consumption will increase if the air-conditioning system or the automatic climate control is switched on.

- ▶ Only switch this function on if required.

The heating and air-conditioning system are operational only if the vehicle has been started.

The air-conditioning system regulates the temperature and air humidity in the cab.

The installed filter filters most of the dust particles, pollen and unpleasant odours out of the incoming outside air or the recirculated air in air-recirculation mode. A clogged filter reduces the airflow into the cab. Depending on the operating conditions and environmental influences, the interval for replacing the filter may be shorter than prescribed.



#### Note

Air the vehicle briefly in warm weather. This will accelerate cooling and the required temperature will be reached more quickly.

#### Overview of air conditioning system functions

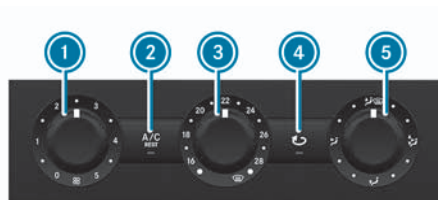


#### Heating settings

- ① Setting the airflow (→ Page 140)
- ② Switch residual heat utilisation on/off (→ Page 141)
- ③ Setting the temperature (→ Page 140)  
 Defrosting the windscreen (→ Page 141)
- ④ Switch air-recirculation mode on/off (→ Page 141)
- ⑤ Setting the air distribution (→ Page 140)  
 Defrost windscreen (→ Page 141)

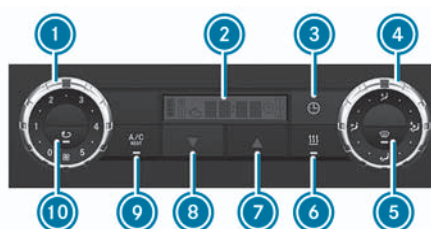


## Cooling with air dehumidification



### Climate control settings

- ① Setting the airflow (→ Page 140)
- ② Switch cooling or cooling with air dehumidification on/off (→ Page 139)  
 Switch residual heat utilisation on/off (→ Page 141)
- ③ Setting the temperature (→ Page 140)  
 Defrosting the windscreen (→ Page 141)
- ④ Switch air-recirculation mode on/off (→ Page 141)
- ⑤ Setting the air distribution (→ Page 140)  
 Defrost windscreen (→ Page 141)



### Settings with auxiliary heating

- ① Setting the airflow (→ Page 140)
- ② Display
- ③ Setting programmed times for:  
 Auxiliary heating (→ Page 142)  
 Engine preheating (→ Page 143)
- ④ Setting the air distribution (→ Page 140)
- ⑤ Defrosting the windscreen (→ Page 141)
- ⑥ Switch auxiliary heating on/off (→ Page 142)
- ⑦ Increase temperature (→ Page 140)  
 Change settings for programmed times (→ Page 144)
- ⑧ Reduce temperature (→ Page 140)  
 Change settings for programmed times (→ Page 144)

- ⑨ Switch cooling or cooling with air dehumidification on/off (→ Page 139)  
 Switch residual heat utilisation on/off (→ Page 141)
- ⑩ Switch air-recirculation mode on/off (→ Page 141)

Some functions have an additional indicator lamp. The function is switched on if the indicator lamp is on.

### Cooling with air dehumidification

#### Notes on cooling with air dehumidification

The air-conditioning system is only operational if the vehicle has been started.

In vehicles with an air-conditioning system, you can dehumidify and cool the interior air to a set temperature in warm weather. Depending on the vehicle's equipment, the "Cooling with air dehumidification" function can have one or two steps.

If the function has two steps, switch on the "Cooling" function first to cool the interior air. If necessary, you can switch

## Air conditioning

### Setting the temperature

on the "Air dehumidification" function as well. The interior air will then also be dehumidified and the windows and the windscreen cannot mist up.

The "Cooling" function consumes less fuel than the "Cooling with air dehumidification" function. Switch the "Cooling with air dehumidification" function on only when the windows/windscreen mist up.

If the function has one step, you can switch on only the "Cooling with air dehumidification" function.

#### Note

Condensation may drip from the underside of the vehicle when cooling mode is active.

#### Switching cooling with air dehumidification (air-conditioning system) on/off

#### Switching on cooling with air dehumidification (one stage)

- ▶ Press the button  or .

- ◁ The indicator lamp in the button lights up red.

#### Switching on cooling without air dehumidification (two stage)

- ▶ Press the button  or .
- ◁ The indicator lamp in the button lights up green.

#### Switching on cooling with air dehumidification (two stage)

- ▶ Press the button  or  again.
- ◁ The indicator lamp in the button lights up red.

#### Deactivating

- ▶ Press the button  or .
- ◁ When the indicator lamp in the button goes out, the cooling functions are switched off.

#### Setting the temperature

##### Vehicles without auxiliary heating

- ▶ Turn the temperature control to the right to increase the

temperature or to the left to reduce it (→ Page 138).

##### Vehicles with auxiliary heating

- ▶ Press the  button to increase the temperature or the  button to reduce it (→ Page 138).

#### Setting the air distribution/airflow

##### Air distribution

The symbols for air distribution have the following meanings:

|                                                                                     |                                                                      |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------|
|  | Directs additional air towards the windscreen                        |
|  | Directs additional air towards the windscreen and throughout the cab |
|  | Directs additional air into the footwell                             |
|  | Directs air via the centre and side vents only                       |

#### Heating/air-conditioning system

- ▶ Set air distribution control on the heating/air-conditioning system  to the appropriate symbol (→ Page 138).

### Heating/air conditioning with auxiliary heater

- ▶ Set air distribution control on the heating/air-conditioning system ④ to the appropriate symbol (→ Page 138).

### Airflow

- ▶ Set the airflow control  to the desired level (→ Page 138).

### Demisting/defrosting the windscreen and windows

Select the following setting only for as long as it takes for the windscreen to be clear again.

- ▶ **Vehicles with windshield heater:**  
Switch on the windscreen heater (→ Page 120).

### Heating/air-conditioning system

- ▶ Set temperature control ③ to  (→ Page 138).
- ▶ Set air distribution control ⑤ to .

- ▶ Close the centre air vents (→ Page 146).
- ▶ Turn the adjustment wheel for the side air vents fully outwards to the  position (→ Page 146).

### Heating/air conditioning with auxiliary heater

- ▶ Press the button .
- ▶ Turn the adjustment wheel for the side air vents fully outwards to the  position (→ Page 146).

### Switching air-recirculation mode on/off

#### Note

When air-recirculation mode is switched on, the windows may mist up more quickly, especially in low outside temperatures. Only briefly switch air-recirculation mode on, e.g. when dust or unpleasant odours are causing annoyance.

- ▶ Close the windows, roof hatch and pop-up roof or sliding sunroof.

- ▶ Press the button .

### Switch residual heat utilisation on/off

In vehicles with residual heat utilisation, the residual heat from the engine can be used to continue heating the parked vehicle for up to approximately 90 minutes.

#### Note

If residual heat utilisation is switched on, the auxiliary heating will automatically be switched off (→ Page 142).

- ▶ Press the **REST** or  button (→ Page 138).
- ▶ Set the temperature, airflow, air distribution and air vents according to your needs.

Residual heat utilisation will switch off automatically in the following situations:

- The vehicle is started.
- After a maximum operating time of 90 minutes (depending on the tem-

## Air conditioning

### Auxiliary heating

perature set and the coolant temperature).

#### Auxiliary heating

##### Notes on auxiliary heating



#### **Danger**

#### **Risk of fatal injury due to poisonous exhaust gases**

If the tailpipe is blocked or sufficient ventilation is not possible, poisonous exhaust gases such as carbon monoxide may enter the vehicle. This is the case in enclosed spaces or if the vehicle gets stuck in snow, for example.

- ▶ Always switch the stationary heater off in enclosed spaces without an air extraction system, e.g. in garages.
- ▶ Keep the tailpipe and the area around the vehicle free from snow when the engine or the stationary heater is running.
- ▶ Open a window on the side of the vehicle facing away from the wind to

ensure an adequate supply of fresh air.



#### **Danger**

#### **Risk of poisoning when working on the auxiliary heating**

Exhaust gases may penetrate the vehicle interior if work on the auxiliary heating heat exchanger is not carried out correctly.

- ▶ Always have any work on the auxiliary heating carried out at a qualified specialist workshop.



#### **Note**

#### **Damage to the auxiliary heating**

If the auxiliary heating is not used for an extended period of time, it may be damaged.

- ▶ Switch on the auxiliary heating for at least approx. ten minutes once a month.

If you do not use the auxiliary heating for an extended period, deposits may form in the fuel system of the auxiliary heating

due to exposure to heat and condensation. These deposits can cause malfunctions in the auxiliary heating.

- ▶ Have the auxiliary heating checked and repaired at a qualified specialist workshop before you use it again.
- ▶ When using the auxiliary heating system, ensure that you have sufficient fuel. If the indicator lamp  lights up, do not use the auxiliary heating.
- ▶ Only operate the auxiliary heater with commercially available diesel fuel (→ Page 515).

The auxiliary heating operates independently of the engine and supplements the vehicle's heating. To support the heating (booster heater function), you can also switch on the auxiliary heating when the vehicle is running and in low outside temperatures.

Depending on the vehicle's equipment, the following options are available for controlling the auxiliary heating:

- The operating unit of the heating/air-conditioning system (→ Page 138)

- The bed/berth switch panel

If your vehicle is equipped with engine preheating, the auxiliary heating can also heat the coolant. Engine preheating therefore also protects the engine and saves fuel. You can switch the auxiliary heating on or off manually or define up to two switch-on times.

If you switch on the auxiliary heating system manually or using switch-on times, residual heat utilisation will be switched off automatically (→ Page 141).

#### Forced switch-off



#### Note

#### Damage to the auxiliary heating due to a power supply interruption

If the power supply is interrupted in heating mode, the cooling-off period cannot be activated and the auxiliary heating could be damaged as a result.

- ▶ Interrupt the power supply using the battery disconnect switch only in cases of danger in heating mode

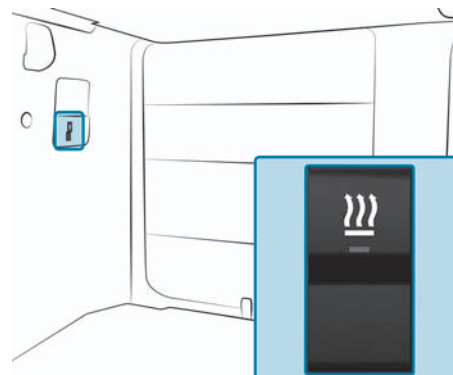
and in the auxiliary heating cooling off period.

In vehicles used to transport hazardous goods, you must switch off the heater before entering hazardous zones (e.g. refineries).

For safety reasons, you cannot set any switch-on times for these vehicles and can switch on engine preheating only with the immediate heating mode.

If you switch off the vehicle or switch on a power take-off, the heater will switch off automatically. The combustion-air blower will continue to run for a short time after engine shutdown and then shut off automatically.

#### Switch immediate heating mode on/off



Additional button on the bed/bunk switch panel

- ▶ **Activating/deactivating:** Press the button  on the operating unit for the heating/air-conditioning system.
- or
- ▶ Press the button  on the bed/bunk switch panel.
- ▶ Set the temperature, airflow, air distribution and air vents according to your needs.

## Air conditioning

### Auxiliary heating

The auxiliary heating will switch off automatically after around eleven hours. The auxiliary heating will continue to run for around two minutes after it switches off.

#### Switch engine preheating on/off

In vehicles for transporting hazardous goods, you can switch engine preheating on manually.

#### Activating/deactivating

- ▶ Switch on immediate heating mode.
- ▶ Press the  button on the operating unit of the heating/air-conditioning system to switch to engine preheating .

Engine preheating will switch off automatically with the auxiliary heating.

#### Note

When the engine preheating  function is switched on, the cab will automatically be heated as well.

#### Setting the switch-on time



#### Danger

#### Risk of fatal injury when parking the vehicle in unsuitable locations with a preselected switch-on time for the auxiliary heating

If you do not ensure that there is sufficient ventilation, poisonous exhaust gases may accumulate.

If there are highly flammable substances or combustible materials in close proximity, there is a risk of fire and explosion.

- ▶ If the vehicle is parked under these or similar conditions, always deactivate the preselected switch-on times.

Switch-on times can be set for auxiliary heating (warming the cab) and engine preheating (warming the coolant). If the vehicle is equipped to transport hazardous goods, no switch-on times can be set.

Select an option shown on the operating unit display by pressing the  or  button. The selected option will flash.

Confirm the selection by pressing the  button. When you are configuring settings, ensure that the set operating times do not clash.

- ▶ Switch on the vehicle.
- ▶ Press the button  on the operating unit for the heating/air-conditioning system.
  - ◁ The display will show the two memory presets **1** and **2**. The number of the selected memory preset will flash.
- ▶ Select the memory preset using the button  or .
- ▶ Press the button .
- ◁ The display will show the selection of the auxiliary heating  and engine preheating  climate control systems.
- ▶ Using the button  or , select auxiliary heating  or engine preheating .

### Note

If no symbol is selected, the corresponding memory preset will be deleted.

- ▶ Press the button .
- ▶ Use the button  or  to set the day of the week.
- ▶ Press the button .
- ▶ Use the button  or  to set the hour.
- ▶ Press the button .
- ▶ Use the button  or  to set the minutes.
- ▶ Press the button .
- ▶ Use the button  or  to set the temperature.
- ▶ Press the button .
  - ◁ The display will show the temperature, the timer symbol  and the selected memory preset.
- ▶ Switch off the vehicle.
  - ◁ The auxiliary heating and/or engine preheating will switch on automatically at the set switch-on times. When the indicator

lamps on the button  on the operating unit and on the additional button  on the bed or berth light up, the auxiliary heating and/or engine preheating is switched on.

- ▶ If you activate the switch-on time: Open the centre and side air vents (→ Page 146).
- ▶ Heating and air conditioning: Set air distribution control to .
- ▶ Heating and air conditioning: Set the airflow control to level .
  - ◁ If the coolant temperature is sufficiently high, the cab will also be heated while engine preheating is on.

The switch-on time for engine preheating can also be programmed while auxiliary heating is on. The auxiliary heating will continue to run after engine preheating is switched on.

Engine preheating and auxiliary heating will switch off automatically after around two hours. The auxiliary heating will con-

tinue to run for around two minutes after it switches off.

### Air vents

#### Notes on air vents



#### **Danger**

#### **Risk of cold or hot burns due to being too close to the air vents**

Very hot or very cold air can flow from the air vents.

- ▶ Make sure that all vehicle occupants always maintain a sufficient distance from the air vents.
- ▶ If necessary, direct the airflow to another area of the vehicle interior.

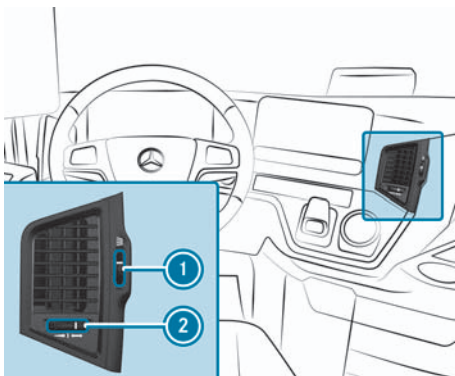
Always keep all air vents and ventilation grilles in the cab free so that the air can flow into the cab unhindered.

## Air conditioning

### Air vents

#### Adjusting the air vents

##### Centre air vents

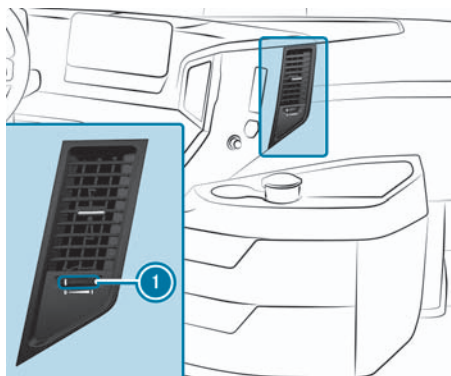


Centre air vent in driver cockpit (example)

- **To open:** Turn adjustment wheel° ② to position° I, or to the right as far as it will go.
- **To set the airflow direction:** Turn adjustment wheel° ② to the right beyond the position° I and adjust the airflow according to the direction of rotation.

or

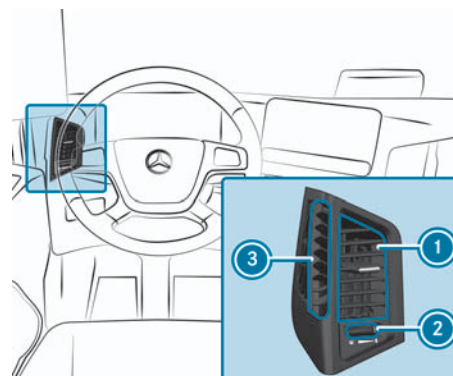
- Move adjustment wheel° ① up or down according to the airflow direction.
- **To close:** Turn adjustment wheel° ② to the left as far as it will go.



Centre air vent in co-driver's area (example)

- **To open or to close:** Turn adjustment wheel° ① to position° I to open, and to position° 0 to close.

##### Side air vents



Side air vent in driver cockpit (example)

- **To open or to close:** Turn adjustment wheel° ② to the left to open, and to position° ① 0 to close the side air vent°.
- ◁ Turning the adjustment wheel° ② to the left beyond the detent position into position°  opens the demister vent° ③.



### Instrument cluster

#### Notes on the instrument cluster



**Danger**

#### Risk of distraction by information systems and communications equipment

If you operate information systems and communications equipment integrated in the vehicle when driving, you may be distracted from what is happening in traffic.

You may also lose control of the vehicle.

- ▶ Only operate this equipment when the traffic situation permits.
- ▶ If this cannot be ensured, stop the vehicle as soon as possible, paying attention to road and traffic conditions. Pay attention to the traffic conditions.
- ▶ Make the entries when the vehicle is stationary.



**Danger**

#### Risk of accident if the instrument cluster fails

If the instrument cluster fails or malfunctions, you will not see any limitations to the functioning of safety-relevant systems. This may impair operating safety.

- ▶ Park the vehicle safely as soon as possible and inform a qualified specialist workshop.

When operating the instrument cluster, adhere to the legal regulations of the country you are currently in.

#### Notes on the rev counter



**Note**

#### Engine damage due to the maximum engine speed being exceeded

If the maximum permissible engine speed is exceeded, a warning tone will sound.

- ▶ Avoid driving in the red speed range (danger zone).



Exemplary representation

#### Rev counter

- ① Economical operating range (green)
- ② Engine brake operating range (yellow)
- ③ Danger zone, danger of overrevving (red)

If the indicator lamp  on the instrument cluster lights up, the engine speed is high, e.g. when you shift down to a lower gear.

- ▶ Observe further information in the display messages.
- ▶ Reduce the driving speed with the service brake or shift up one gear.
  - ◁ The indicator lamp  in the instrument cluster goes out.

## Instrument cluster and on-board computer

### Instrument cluster

General driving instructions for the rev counter:

- When driving, the rev counter should be observed and the economical range ① maintained.

In some situations, it may make sense to operate the engine outside the economical operating range, e.g. on uphill gradients or when you are overtaking.

- Driving the vehicle within an economical operating range ① brings about low fuel consumption and reduced wear.
- The engine speed range ② should be used in engine braking mode. The maximum engine braking effect is produced just before red danger zone ③.
- When driving downhill, make sure that the engine speed does not enter the red danger zone ③.
- Idle speed will be set automatically depending on the coolant temperature.

- When the vehicle is stationary, the engine is running and the transmission is in neutral, the engine will accelerate only slowly.

#### Note

Observe the information on an economical driving style in the menu window **Eco-Support** under the Driving mode menu  (→ Page 160). The on-board computer can help you to optimise the way you drive and to develop fuel-saving driving habits.

### Notes on the AdBlue® display



Instrument cluster (example)

The AdBlue® gauge is only available in vehicles with BlueTec® exhaust gas after-treatment.

The AdBlue® reducing agent is required for reducing engine emission values.

The MOT approval will be invalidated if the vehicle is operated without AdBlue®. The legal consequence of this is that the vehicle may no longer be operated on public roads.

You can display the range of your vehicle based on the current amount in the tank using the **Range** menu window of the Trip data menu  (→ Page 159).

If the AdBlue® level has dropped to approximately 10% of the tank capacity, a

display message with the  symbol will appear on the instrument cluster.

- Top up AdBlue® tank immediately (→ Page 351).

**BlueTec® 4 vehicles and BlueTec® 5 vehicles:** if you drive until the AdBlue® tank is empty, engine output may be reduced.

**BlueTec® 6 vehicles:** If the AdBlue® level drops to approx. 2.5 %, engine output may be reduced.

If the AdBlue® tank has run dry, the event is recorded and signalled by the indicator lamp  as an emissions-related fault when starting the vehicle (→ Page 153). In addition, speed may be limited to approximately 20 km/h.

### Notes on the fuel display



Instrument cluster (example)

If the fuel level has dropped to approximately 14%, the needle will enter the red reserve area. The instrument cluster shows a corresponding display message with the symbol .

You can display the range of your vehicle based on the current amount in the tank in the [Range](#) menu window in the Trip data menu  (→ Page 159).

### Overview of time and outside temperature



Instrument cluster (example: Display on speedometer)

You must pay special attention to road conditions when temperatures are around freezing point.

Note that the outside temperature display shows the measured air temperature and not the road temperature.

There is a delay in displaying a change in outside temperature.

- Switch on the vehicle.
  - ◁ The display on the speedometer will show the time ① and outside temperature ②.

## Instrument cluster and on-board computer

### Instrument cluster

The menu window **Truck info** in the Trip data  menu also displays the time and outside temperature (→ Page 159). You can change the time mode and the unit for temperature in the menu window **Menu** of the Settings menu  (→ Page 171).

urement in the **Menu** menu window of the Settings menu  (→ Page 171). You can reset the trip distance ② in the **Truck info** menu window of the Trip data menu  (→ Page 159).

### Odometer overview



Instrument cluster (example: Display on rev counter)

- Switch on the vehicle.
  - ◄ The display on the rev counter shows the total distance ① and the trip distance ②.

The **Truck info** menu window in the Trip data menu  (→ Page 159) also shows the total distance and trip distance. You can change the unit of meas-

### Engine diagnosis indicator lamp: Vehicles without BlueTec® exhaust gas aftertreatment

| Warning/indicator lamp                                                                                                   | Possible causes/consequences and ► solutions                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Engine diagnostics warning lamp</p> | <p>If there are no malfunctions, the indicator lamp will light up briefly and then go out during the instrument cluster display check after the vehicle is started.</p> |

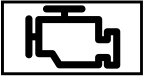
## Instrument cluster and on-board computer

### Instrument cluster

Engine diagnosis indicator  
lamp: BlueTec® 4 vehicles and  
BlueTec® 5 vehicles:

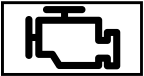
| Warning/indicator lamp                                                                                                   | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Engine diagnostics warning lamp</p> | <p>If there are no malfunctions: The indicator lamp will light up briefly and then go out during the instrument cluster's display check after the vehicle is started.</p>                                                                                                                                                                                                                                                                                                                                                                                                            |
|  <p>Engine diagnostics warning lamp</p> | <p>The indicator lamp is flashing. The instrument cluster will display a red display message. AdBlue® has been used up or an emissions-related malfunction has been detected. Engine output may be reduced.</p> <ul style="list-style-type: none"> <li>► Follow the instructions in the display message.</li> <li>► Carefully drive to the nearest filling station and top up with AdBlue® ( → Page 352).</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Drive carefully to the nearest qualified workshop and have the malfunction rectified immediately.</li> </ul> |
|  <p>Engine diagnostics warning lamp</p> | <p>Indicator lamp lights up.</p> <p>The BlueTec® exhaust gas aftertreatment system is malfunctioning or has an emissions-related fault. The malfunction or fault may damage the BlueTec® exhaust gas aftertreatment system.</p> <ul style="list-style-type: none"> <li>► If the instrument cluster shows a display message, observe it.</li> <li>► Have the BlueTec® exhaust gas aftertreatment system checked immediately at a qualified specialist workshop.</li> </ul>                                                                                                            |

### Engine diagnosis indicator lamp: BlueTec® 6 vehicles

| Warning/indicator lamp                                                                                                   | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Engine diagnostics warning lamp</p> | <p>The indicator lamp is flashing.</p> <p>Once you have switched on the vehicle, the indicator lamp will indicate the system's status by means of a sequence of flashes. If there are no malfunctions, the indicator lamp will go out after the vehicle is started (→ Page 155).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|  <p>Engine diagnostics warning lamp</p> | <p>The indicator lamp lights up and remains lit after the vehicle is started.</p> <p>The BlueTec® exhaust gas aftertreatment system is malfunctioning or has an emissions-related fault. The malfunction or fault may damage the BlueTec® exhaust gas aftertreatment system.</p> <ul style="list-style-type: none"> <li>► If the instrument cluster shows a display message, observe it.</li> <li>► Have the BlueTec® exhaust gas aftertreatment system checked immediately at a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|  <p>Engine diagnostics warning lamp</p> | <p>Indicator lamp lights up. The instrument cluster shows a display message and the indicator lamp  in the status area lights up.</p> <p>An emissions-related malfunction has been detected.</p> <ul style="list-style-type: none"> <li>► Follow the instructions in the display message.</li> <li>► Have the BlueTec® exhaust gas aftertreatment system checked immediately at a qualified specialist workshop.</li> </ul> <p>If you do not follow the instructions in the display message, the engine output may be reduced as per the message displayed:</p> <ul style="list-style-type: none"> <li>• After approximately 10 hours, e.g. if a low-grade diluted reducing agent is used or metering is incorrect</li> <li>• After approximately 36 hours, e.g. if exhaust gas recirculation or the security system is faulty</li> </ul> <p>In certain cases, engine output may be reduced even earlier.</p> |

## Instrument cluster and on-board computer

### Instrument cluster

| Warning/indicator lamp                                                                                                   | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Engine diagnostics warning lamp</p> | <p>The indicator lamp comes on. Engine output is reduced. The instrument cluster shows a display message and the indicator lamp  in the status area lights up at the same time.</p> <p>You have not rectified a detected emissions-related malfunction.</p> <ul style="list-style-type: none"> <li>► Follow the instructions in the display message.</li> <li>► Drive carefully to the nearest qualified workshop and have the malfunction rectified immediately.</li> </ul> <p>If you do not follow the instructions in the display message, the speed may be limited as per the message displayed:</p> <ul style="list-style-type: none"> <li>• Approximately 20 hours after the first occurrence of a malfunction, e.g. if a low-grade diluted reducing agent is used or the metering is incorrect</li> <li>• Approximately 100 hours after the first occurrence of a malfunction, e.g. if the exhaust gas recirculation or the safety system is faulty</li> </ul> <p>In certain cases, speed may be limited even earlier.</p> |
|  <p>Engine diagnostics warning lamp</p> | <p>The indicator lamp comes on. The speed is limited to approximately 20 km/h. The instrument cluster also displays the .</p> <p>AdBlue® has been used up or a detected emissions-related malfunction has not been rectified.</p> <ul style="list-style-type: none"> <li>► Follow the instructions in the display message.</li> <li>► Carefully drive to the nearest filling station and top up with AdBlue® (→ Page 352).</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Drive carefully to the nearest qualified workshop and have the malfunction rectified immediately.</li> </ul> <p>The MOT approval will be invalidated if you continue to use the vehicle.</p>                                                                                                                                                                                                                                                                                                                                           |



#### System check after a malfunction

#### BlueTec® 4 vehicles and BlueTec® 5 vehicles:

Once the AdBlue® tank has been refilled or the fault rectified, full engine output will be restored. If the system check does not detect any other faults, the  indicator lamp will go out. It may take several journeys to complete the system check.

#### BlueTec® 6 vehicles

Once the AdBlue® tank has been refilled or the fault rectified, full engine output will be restored. If the system check does not detect any other faults, the  indicator lamp will go out after the system status display. It may take several journeys to complete the system check.

If the reducing agent in the AdBlue® tank is low quality or diluted, you must empty the tank and then refill it with AdBlue® in accordance with DIN 70070/ISO. You can then initiate a system check.

- ▶ To do so, carry out manual regeneration of the diesel particulate filter (→ Page 341).

#### BlueTec® 6 exhaust gas aftertreatment status display

In BlueTec® 6 vehicles, the BlueTec® exhaust gas aftertreatment status is indicated for quick on-site inspection by authorities.

Signalling takes place using the  indicator lamp in three successive phases. The signal lights up after you have switched on the vehicle and goes out when the vehicle starts.

The first phase is the instrument cluster display check. The indicator lamp will light up for approximately five seconds and then go out for approximately ten seconds.

The second phase indicates the system check status. The indicator lamp will either light up again for five seconds or flash for approximately five seconds. It will then go out for around five seconds.

In the third phase, the indicator lamp will indicate whether any emissions-relevant malfunctions have been detected.

If no malfunctions relevant to emissions are identified, the indicator lamp will light up briefly and then go out for approximately five seconds. This flashing sequence will be repeated until the vehicle is started.

If a malfunction relevant to emissions is identified, the indicator lamp will flash three times and then go out for approximately five seconds. This flashing sequence will be repeated until the vehicle is started. The indicator lamp will remain lit for approximately 15 seconds after the vehicle is started.

In the following cases, the indicator lamp will light up and remain lit after the vehicle is started:

- A serious emissions-related malfunction has been detected.
- An emissions-related malfunction was detected more than 200 hours ago and is still applicable.

## Instrument cluster and on-board computer

### On-board computer

#### On-board computer

#### Notes on/overview of the on-board computer



**Danger**

#### Risk of distraction by information systems and communications equipment

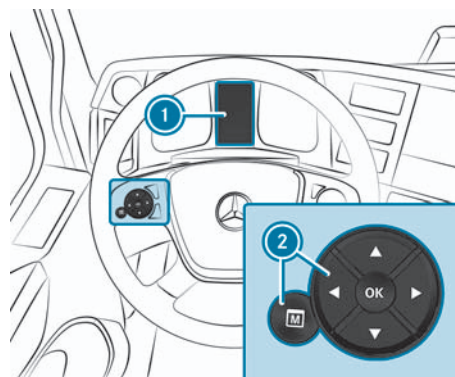
If you operate information systems and communications equipment integrated in the vehicle when driving, you may be distracted from what is happening in traffic.

You may also lose control of the vehicle.

- ▶ Only operate this equipment when the traffic situation permits.
- ▶ If this cannot be ensured, stop the vehicle as soon as possible, paying attention to road and traffic conditions. Pay attention to the traffic conditions.
- ▶ Make the entries when the vehicle is stationary.

When operating the on-board computer, observe the legal requirements for the

country in which you are currently located.



Exemplary representation

#### On-board computer

① Display

② Button group

Selecting the next main menu/  
selecting the next entry in input window,  
increasing or resetting value

Selecting the previous main menu/  
selecting previous entry in input window or  
reducing the value

Next menu window/one menu bar  
down in input window

Previous menu window/one menu bar  
up in input window

Opening and closing input window/  
acknowledging display messages

Saving/displaying favourite menu window

The on-board computer is operated using the left-hand button group on the multi-function steering wheel.

The on-board computer will provide you with the following information when you are driving:

- Fuel consumption
- Trip time
- Operating statuses
- Maintenance due dates
- Malfunctions
- Causes of malfunctions
- Actions to be taken

#### Operating the on-board computer

- ▶ Switch on the vehicle.
  - ◁ The on-board computer will show the last active menu window. If a malfunction is detected, the on-board computer will display the event in a display message first. In addition to the display

message, an indicator lamp may light up in the status area. If there are several events, the on-board computer will show the display messages one by one according to significance. If further information on the fault is available, the display message shows the  symbol. The information can be displayed with the  button.

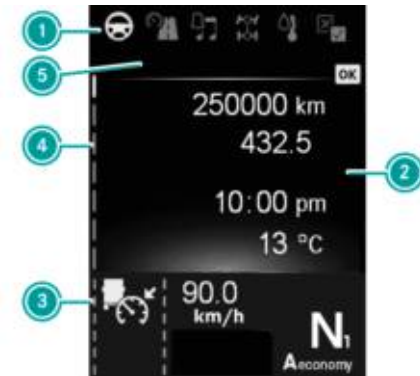
- ▶ Acknowledge the display message by pressing the .
- ▶ **To scroll through the main menus:** Press the button  or .
- ▶ **Displaying further menu windows in the main menu:** Press the button  or .
- ▶ **To open and close the input windows:** When a menu window displays the symbol , press the .
- ▶ **Selecting menu bars in the input window:** Press the button  or .
- ▶ **Changing the value or selecting an entry in the input window:** Press the  or  button.

### Note

If a menu window is called up regularly, e.g. to check the engine oil level, save it using the .

- ▶ **To store a favourite menu:** Open the desired menu window and press and hold the  button for approximately two seconds.
  - ◀ A tone will sound and the menu window will be saved.
- ▶ **To display a favourite menu window:** Briefly press the .

### Overview of areas on the display



Areas on the display (example)

### Register and title bar

The  tab shows you the main menus. The active main menu is shown in white. The  tab shows you the number of menu windows (sub-menus) and the currently selected window. The  title bar shows the name of the active menu window.

### Display area

The on-board computer will display a menu window or display message in dis-

## Instrument cluster and on-board computer

### On-board computer

play area ②. A display message is displayed automatically and contains a message or information about a malfunction. In addition to the display message, an indicator lamp may light up in the status area ③. Acknowledging the display message with the  button causes the display message to disappear. An indicator lamp that lights up in status area ③ will not go out after you acknowledge the display message.

#### Status area

For automatic transmissions, the ③ status area shows the selected drive program, e.g. A<sub>Economy</sub> and the engaged gear, e.g. N<sub>1</sub> (→ Page 240).

Depending on the selected driving system, the following information will be displayed in the ③ status area:

- Cruise control: The  symbol and the set speed, e.g. 85 km/h (→ Page 269)
- Lane Keeping Assist: the lane markings (→ Page 299)

- Proximity Control Assist: The  symbol and the set speed, e.g. 85 km/h (→ Page 272)
- Limiter: The  symbol and the set speed limit, e.g. 50 km/h (→ Page 268)
- PPC (Predictive Powertrain Control): The speed tolerances that were set (→ Page 281)

The status of the driving system, e.g. on or off, is represented using colours.

The status area ③ also contains an indicator lamp panel. If there is a fault, warning or operating information, an indicator lamp will light up automatically. The indicator lamp will light up in different colours depending on the priority of the malfunction, warning or operating information. The indicator lamp may also light up in addition to a display message.

For an overview of the indicator lamps, see "Overview of indicator lamps in the status area" (→ Page 175).

### Overview of menus on the on-board computer

#### Note

The number and order of the menus depends on your vehicle's equipment and the type of vehicle.

#### Trip data (→ Page 159)

- [Truck info](#)
- [Tachograph](#)
- [Since start](#)
- [Range](#)
- [Since reset 1](#)
- [Since reset 2](#)

#### Driving mode (→ Page 160)

- [Speed](#)
- [Eco-Support](#)
- [Navigation](#)
- [Assistance](#)
- [Video](#)

#### Audio and communications (→ Page 163)

- [Alarm clock](#)

- Telephone
- Audio

### Operation and maintenance

(→ Page 165)

- Axles
- Tyres
- Level control
- Trailer
- Maintenance

### Monitoring information

(→ Page 170)

- Reserve pressure
- Coolant
- Engine
- Events

### Settings (→ Page 171)

- Menu
- Lighting
- Language
- Service products
- Vehicle
- Assistance

#### Trip data menu

#### Truck info menu screen



#### Truck info menu window

- ① Total distance
- ② Trip distance
- ③ Time
- ④ Outside temperature

- **To display the total distance, trip distance, time and outside temperature:** Use the  or  button to scroll to the trip data .

- **To reset the trip distance:** Press the button .

◁ The on-board computer shows a confirmation window.

- Use the  button to select the **Yes** menu bar and confirm this with the  or  button.

#### Tachograph menu screen

The **Tachograph** menu screen is available in vehicles with a digital tachograph.

- Use the  or  button to scroll to the trip data .
- **To show driving and rest times:** Use the  or  button to scroll to the menu screen **Tachograph**.

Further information on the digital tachograph can be found in the separate operating instructions.

#### From start/from reset 1/from reset 2 menu screen

The **Since start** trip data contains values for driving and stationary periods from the start of the trip. If you switch off the

## Instrument cluster and on-board computer

### On-board computer

vehicle for longer than four hours, the values will be automatically reset.

The [Since reset 1](#) or [Since reset 2](#) trip data contains values for driving and stationary periods from the last time the menu screen was reset.

- ▶ Use the  or  button to scroll to the trip data .
- ▶ **To show trip data:** Use button  or  to scroll to menu screen [Since start](#), [Since reset 1](#) or [Since reset 2](#).

The menu screen will show the following information, for example:

- Distance travelled
- Driving time
- Average speed
- Average fuel consumption
- ▶ **To display values for driving and stationary periods:** Press the button .
- ▶ Use button  or  to scroll to menu screen [Consumption](#), [Times](#) or [Speeds](#).

- ▶ **To reset the trip data:** In menu screen [Consumption](#), [Times](#) or [Speeds](#), press button .
  - ◀ The on-board computer shows a confirmation window.
- ▶ Use the  button to select the [Yes](#) menu bar and confirm this with the  or  button.

#### Range menu screen

- ▶ Use the  or  button to scroll to the trip data .
- ▶ **To show the ranges:** Use the  or  button to scroll to the menu screen [Range](#).
  - ◀ The menu screen displays the approximate ranges of the fuel level  and the AdBlue® level .
  - ◀ In addition, the menu screen shows the current fuel consumption level as a bar display underneath the ranges. When the vehicle is stationary, the bar display will change and show the stationary fuel consumption level

(l/h). The marker above the bar display corresponds to the average consumption [Since start - all](#). The menu screen displays the range up to 50 km. For lower values, the on-board computer will display <50 km.

#### Driving mode menu

##### Speed menu window

- ▶ Use the  or  button to scroll to driving mode .
- ▶ **To display the vehicle speed:** Use the  or  button to scroll to the menu window [Speed](#).

##### EcoSupport menu window

The on-board computer records the driving style in eight categories, evaluates it, and displays it in the [Eco-Support](#) menu window. The on-board computer can help you to optimise your driving style and develop fuel-saving driving habits.

The [Eco-Support](#) menu window identifies the driver by their tachograph driver

card and saves the evaluations of two drivers. If a third driver inserts his or her driver card into the digital tachograph, the oldest evaluations will automatically be deleted. You can reset the evaluations at any time. All evaluations will then automatically be deleted.

- ▶ Use the  or  button to scroll to driving mode .
- ▶ Use the  or  button to scroll to the menu window [Eco-Support](#).
- ▶ **Show ratings:** Press the button .
  - ◀ The menu window will show the following categories:
- **Evenly:** The on-board computer evaluates the steadiness of the vehicle speed over an extended period of time.
- **Roll/brake:** The on-board computer evaluates the braking phases that do not result in the vehicle coming to a standstill. It evaluates whether the vehicle will decelerate by rolling or by application of the brakes (engine brake or retarder and service brake).

The most economical process for reducing kinetic energy is in the following order:

- Deceleration by coasting
- Deceleration with the engine brake or retarder
- Deceleration with the service brake

If you often reduce the vehicle speed by coasting, you will receive a positive evaluation.

- **Stop:** The on-board computer evaluates the braking phases that result in the vehicle coming to a standstill. If you employ an anticipatory driving style and thus prevent the vehicle coming to a standstill, you will receive a positive evaluation.
- **Speed:** The on-board computer evaluates excessively high vehicle speeds. If you drive above approximately 85 km/h, you will receive a negative evaluation.
- **Use of cont.brake:** The on-board computer evaluates how the continuous brake is used and activates the brake

stages in an anticipatory and incremental manner.

- **Shift:** The on-board computer evaluates whether the gear shifting recommendations on the on-board computer are being followed and which drive program is selected. If, for example, you drive in the fuel-efficient [A economy](#) shift program, you will receive a positive evaluation.
- **Use of acc. pedal:** The on-board computer evaluates how you use the accelerator pedal and the kick-down function. Gentle and constant use of the accelerator pedal will be evaluated positively.
- **Truck check:** The on-board computer evaluates the following:
  - The engine running time when the vehicle is stationary  
If you leave the engine running for approximately one minute for no discernible reason when the vehicle is stationary, you will receive a negative evaluation. If you switch off the vehicle while in sta-

## Instrument cluster and on-board computer

### On-board computer

tionary traffic, for example, you will receive a positive evaluation.

- The tyre pressure (vehicles with a tyre pressure monitoring system)  
If the tyre pressures are too low when you drive, you will receive a negative evaluation.
  - The regeneration of the diesel particulate filter  
If you do not carry out a scheduled regeneration of the diesel particulate filter, you will receive a negative evaluation.
  - The maintenance of the air filter  
If the air filter's maintenance due date is passed, you will receive a negative evaluation.
- Press the  or  button to select a category.
- ◁ In the corresponding category, the menu window will display:
- the average evaluation, e.g. **Ø 25%**
  - a bar chart with the current evaluation
  - a message on the current valuation

- **Reset evaluations:** Press the button .

◁ The on-board computer shows a confirmation window.

- Use the  button or select  **Yes** and confirm this with the  or  button.

#### Navigation menu window

- Use the  or  button to scroll to driving mode .

- **To display route guidance:** Use the  or  button to scroll to the menu window **Navigation**.

◁ The menu window will show the following information:

- The destination, the street name
- The direction of travel
- The distance to the next change of direction

#### Assistance menu window

The menu **Assistance** window shows information, warnings and statuses of certain driver assistance/driving safety systems.

Observe the notes on the corresponding driver assistance/driving safety systems:

- Proximity Control Assist  
(→ Page 272)
  - Lane Keeping Assist (→ Page 299)
  - PPC (→ Page 279)
  - Traffic Sign Assist (→ Page 296)
  - Sideguard Assist/Active Sideguard Assist (→ Page 305)
- Use the  or  button to scroll to driving mode .
- Use the  or  button to scroll to the menu window **Assistance**.

#### Video menu window

- Use the  or  button to scroll to driving mode .
- **To show the camera image:** Use the  or  button to scroll to the menu window **Video**.
- ◁ The display on the instrument cluster will show the camera image.
- **To adjust the brightness and contrast:** Press the button .



- ▶ Select the bar display for brightness and contrast using the  or  button.
- ▶ Adjust the brightness and contrast of the camera image using the  or  button.

### Audio and communications menu

#### Alarm clock menu window

If the vehicle is equipped with Mercedes-Benz Trucks audio equipment, the radio can be set as an alarm in alarm clock mode. If the alarm clock mode has been set to **Radio** and the audio device is activated for the set wake-up time, no further signals will be issued.

- ▶ **Displaying the wake-up time:** Use the  or  button to scroll to audio and communications .
  - ◁ The menu window **Alarm clock** will show the following:
- Day of the week and date
- Wake-up time for the alarm clock 

- Wake-up time for the alarm clock 
- ▶ **To set the alarm clock:** Press the button .
- ▶ Select the desired menu bar with the button  or .
- ▶ Change the value with the button  or .

#### Note

If you press and hold the  or  button, the hours/minutes will scroll quickly.

- ▶ **To stop the alarm:** Press the  button.

#### Note

The wake-up alarm will switch off automatically after two minutes.

### Telephone menu window



#### **Danger**

#### **Risk of distraction from operating information systems and communication equipment**

If you operate mobile information systems and communication equipment while driving, you may be distracted from traffic conditions. You may also lose control of the vehicle.

- ▶ Only operate this equipment when the vehicle is stationary.



#### **Note**

You can obtain information about suitable mobile phones and connecting mobile phones via Bluetooth® at an authorised Mercedes-Benz Trucks Service Centre.

- ▶ Bluetooth® mobile phone: Connect the mobile phone with the audio equipment.
- ▶ Use the  or  button to scroll to audio and communications .

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- ▶ Use the  or  button to scroll to the menu window **Telephone**.
  - ◁ The menu window will show the provider name and the name of the connected Bluetooth® mobile phone.

#### Note

If the button  is pressed briefly, the menu window **Telephone** can be called up directly.

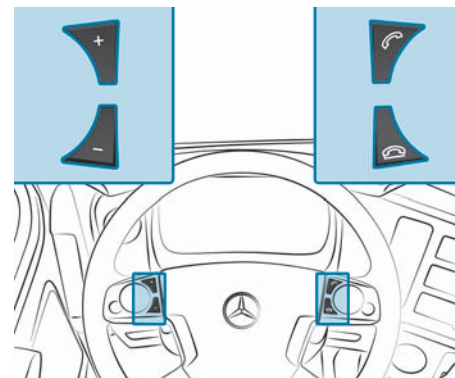
- ▶ **Display phone book/caller list:** Press the button .
  - ◁ The input window shows the phone book (for example).
- ▶ Select the desired menu bar with the  or  button.
- ▶ Use the  button to display the entries.
- ▶ Select a name or number with the button  or .

#### Note

By pressing and holding the button  or , you can quickly scroll through the phone book or the missed calls list.

#### Note

To call the number in the phone book or a missed calls list, press the  button. The menu window will initially display details about the call. Pressing the button  again will dial the phone number.



(Sample illustration)

### Telephone switch on steering wheel



Making, accepting calls/displaying telephone menu window



Ends/rejects a call



Increases volume



Decreases volume

- ▶ **Answering a call:** Press the button .
  - ◁ The on-board computer will show the caller's number.
- ▶ **To adjust the call volume:** Increase or reduce the volume during the call using the  or  button.

- ▶ **To reject or end a call:** Press the button .

### Audio menu window, audio source, track/station, MP3 browser

The menu window **Audio** is available in vehicles with Mercedes-Benz Trucks audio equipment.

- ▶ Switch on the audio device (→ Page 179) (→ Page 193).
- ▶ Use the  or  button to scroll to audio and communications .
- ▶ **Displaying the audio source and track/station:** Use the  or  button to scroll to the **Audio** menu window.
- ▶ **To change the audio source or track/radio station:** Press the button .
- ▶ Select the desired menu bar with the button  or .
- ▶ Change the selection by pressing the button  or .

### Note

When using MP3 files stored on a USB device, you can navigate through folders to select MP3 files for playback.

### Operating the MP3 browser

- ▶ Open the **Audio** menu window.
- ▶ Press the button .
- ▶ Press the button  or  to select the MP3 browser menu bar.
- ▶ **Opening the MP3 browser:** Press the  or  button.
- ▶ **Changing MP3 files/folders:** Press the  or  button.
- ▶ **To select an MP3 file or open a folder:** Press the  button.
- ▶ **To close current folder:** Briefly press the  button.
- ▶ **To close MP3 browser:** Press and hold the  button.

In audio mode, the volume can be adjusted at any time.

- ▶ **To adjust the volume** Press the  or  button on the multi-function steering wheel.

### Operation and maintenance menu

#### Axles menu screen

#### Displaying axle loads

Vehicles with air suspension: The vehicle may be equipped with an axle load display. The axle load display is not calibrated, nor is it a system capable of being calibrated. The measured data provides only an approximate guide. The values cannot be used for official purposes. Load the vehicle uniformly to avoid inaccuracies in the measurement. When the chassis is at driving level, the axle load measuring system determines the axle load from the pressure in the air suspension bellows.

- ▶ Park the vehicle on a level surface.
- ▶ Apply the parking brake.
- ▶ Set driving level (→ Page 320).
- ▶ Switch off the starting-off aid (→ Page 324).

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### On-board computer

- ▶ Use the  or  button to scroll to Operation and maintenance .
- ▶ Use the  or  button to scroll to the **Axles** menu screen.
  - ◁ The menu screen will show the vehicle's axles and the axle loads.

### Setting the axle load display

You can adjust the axle load display if there is a notable difference between the axle load display and the weighbridge results.

- ▶ Park the vehicle on a level surface.
  - ▶ Apply the parking brake.
  - ▶ Switch off the starting-off aid (→ Page 324).
  - ▶ Set driving level (→ Page 320).
  - ▶ Drive the vehicle onto a single-axle load-measuring device.
  - ▶ Use the  or  button to scroll to Operation and maintenance .
  - ◁ The menu screen will show the axle loads and the overall axle load.
  - ▶ Press the .
- ◁ The input window will show the axle loads.
  - ▶ Select the desired axle with the  or  button.
  - ▶ Using the  or  button, correct the axle load according to the value shown by the single-axle load-measuring device.

### Tyres menu screen



**Danger**

#### **Risk of accident due to insufficient or excessive tyre pressure**

Tyres with too low or too high tyre pressure can burst or wear excessively and/or unevenly.

In addition, the handling as well as steering and braking characteristics may be severely impaired.

- ▶ Observe the recommended tyre pressures and check the pressure of all tyres, including the spare, monthly, when the load changes, before embarking on a longer jour-

ney, and when operating conditions change (e.g., off-road driving).

- ▶ Adjust the tyre pressure as necessary.

The tyre pressure monitor has the following advantages:

- Assistance with regular tyre pressure monitoring
- Automatic warning in the event of tyre pressure loss

The tyre pressure monitoring system can provide reliable warnings only if the correct specified pressure for the tyres has been set on the on-board computer.

The tyre pressure monitoring system will detect an incorrect value if:

- The vehicle is overloaded or incorrectly loaded.
- The vehicle is fitted with wheels that have a different tyre size and the specified pressure on the on-board computer has not been corrected.
- An incorrect specified pressure has been set on the on-board computer.

You are always responsible for setting the correct tyre pressure. You should always have the correct, specified pressure on the on-board computer set at a qualified workshop.

### Note

Read the notes on tyre pressure in the section entitled "Regular checking of wheels and tyres" (→ Page 485).

The tyre pressure monitoring system keeps a check on the pressures of all the tyres of the towing vehicle both when the vehicle is stationary and when it is in motion.

### Note

If the trailer is equipped with a tyre pressure monitoring system, the trailer tyres will also be monitored and shown in the menu screen [Trailer](#).

If radio transmitting equipment (e.g. cordless headphones, two-way radios) is operated inside the vehicle or in the vicinity of the vehicle, this may interfere with the

operation of the tyre pressure monitoring system.

The on-board computer will display "- -" instead of the tyre pressure in the following cases:

- a tyre pressure sensor is temporarily malfunctioning, e.g. due to radio transmitting equipment
- values from the tyre pressure sensor are not yet available
- ▶ Wait a few minutes and/or move the vehicle out of the operating range of the radio transmitting equipment.

The tyre pressure values on the on-board computer may differ from those measured with a tyre pressure gauge. The tyre pressures shown by the on-board computer refer to those measured at sea level. At high altitudes, the tyre pressure indicated by tyre pressure gauges will be higher than those shown by the on-board computer. In this case, do not reduce the tyre pressure.

After tyre pressure sensors have been replaced, the vehicle should remain stationary for 15 minutes.

- ▶ Afterwards, drive the vehicle at a speed of more than 30 km/h for at least ten minutes.

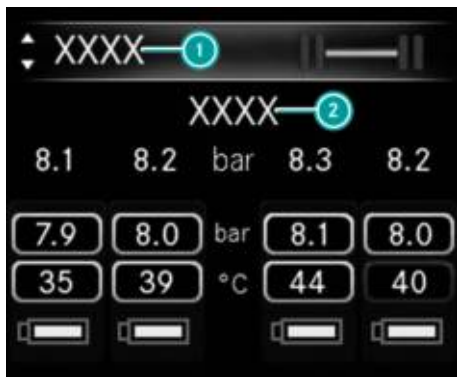
### Displaying the tyre pressure

- ▶ Use the  or  button to scroll to Operation and maintenance .
- ▶ Use the  or  button to scroll to the [Tyres](#) menu screen.
  - ◁ The menu screen will display the tyre pressure for all the towing vehicle's tyres.
- ▶ Press the  button.
  - ◁ Depending on the equipment, the input window will show the following items of information:
- Battery status of the tyre pressure sensors for the tyres on this axle
- Selected axle
- Tyre pressures and temperatures for the tyres on this axle
- The specified pressure for the tyres on this axle (at 20 °C)

## Instrument cluster and on-board computer

### On-board computer

- The specified pressure for each tyre depending on the tyre's temperature



#### Tyres menu window

- ① Axle
- ② Specified pressure

#### Note

When the tyre temperature differs, different specified pressures may be shown for the tyres, e.g. due to exposure to sunlight.

- ▶ Scroll to the next axle using the  or  button.

#### Tyre pressure loss warning system

If the tyre pressure in at least one tyre drops, the on-board computer will display the warning  in a display message. A warning tone will also sound. Each tyre pressure value for which a loss of pressure has been determined will be highlighted in red or yellow. When there is a notable loss of tyre pressure, the tyre pressure value will be shown in red.

#### Level control menu screen

- ▶ Observe the notes on level control (→ Page 315).
- ▶ Raise or lower the chassis using the on-board computer (→ Page 318).

#### Trailer/semitrailer menu screen

Observe the notes on equipment and its operation in the manufacturer's operating instructions for the trailer/semitrailer.

If the axle loads must be displayed in the Trailer menu screen, comply with the following points:

- Park the vehicle on a level surface.
- Apply the parking brake.
- ▶ Use the  or  button to scroll to Operation and maintenance .
- ▶ Use the  or  button to scroll to the **Trailer** menu screen.
- ▶ Press the button .
  - ◁ The display will show the first input window, e.g. **Brake info**.
- ▶ Press the  or  button to display the next input window.
  - ◁ The following information or input windows may be displayed, depending on the equipment installed:
    - **Brake info** shows the temperature and wear of the trailer/semitrailer brake.
    - **Axle loads** shows the overall axle load of the trailer/semitrailer.

- **Tyres** shows the tyre pressure of the trailer/semitrailer tyres.
- **Reserve pressure** shows the supply pressure in the trailer/semitrailer compressed-air tanks.

### Maintenance menu screen



#### Note

#### Confirming maintenance work

If confirmation is given without the necessary maintenance work being carried out on time, the vehicle or its major assemblies may be damaged and wear may increase significantly.

- ▶ Only confirm maintenance work once it has been carried out.
- ▶ If maintenance work has been confirmed in error or prematurely, have the maintenance work in question performed immediately.

The maintenance system calculates maintenance due dates for the vehicle and its major assemblies based on the vehicle's operating conditions. A display message will automatically display maintenance due dates for the first time 14 days before they are due.

If the maintenance work is carried out at an authorised Mercedes-Benz Trucks Service Centre, the Service Centre will confirm that the work has been carried out professionally in the on-board computer and in the service report.

- ▶ Use the or button to scroll to Operation and maintenance .
- ▶ Use the or button to scroll to the **Maintenance** menu screen.
- ▶ **To display the maintenance point and date:** Press the button .
  - ◀ The input window will show, for example:
- The maintenance point **Engine**
- The maintenance due date **09/23/2024**
- The remaining distance 2000 km

If it is not possible to predict the maintenance due date, the input window will show, for example:

- The maintenance point **Engine**
- The maintenance due date
- ▶ **To display next maintenance point and due date:** Use the or button to display the next maintenance point.
- ▶ **To reset the maintenance due date:** Press the or button to display the desired maintenance point.
  - ◀ If a reset is possible, a confirmation window will appear on the on-board computer.
- ▶ Press the button .
- ▶ Use the button to select the menu bar **Yes** and confirm this with the or .

## Instrument cluster and on-board computer

### On-board computer

#### Monitoring information menu

##### Reserve pressure menu screen

###### ► To display the supply pressure:

Use the  or  button to scroll to the monitoring information .

- ◁ The menu screen will show the reserve pressure of brake circuits  and  as a bar chart.

##### Coolant menu window

- Use the  or  button to scroll to the monitoring information .
- **To show the coolant temperature:**  
Use the  or  button to scroll to the **Coolant** menu window.

If the coolant level is too low, the coolant temperature display will not be conclusive.

##### Engine menu window

You can check the engine's oil level and operating hours in the **Engine** menu window. Check the engine oil level before the start of every journey. No information

concerning the engine oil level will be displayed while you are driving.

- Park the vehicle on a level surface.
- Apply the parking brake.
- Switch off the vehicle.
- Switch on the vehicle but do not start it.
- Wait at least five minutes.
- Use the  or  button to scroll to the monitoring information .
- **Displaying the engine oil level and operating hours:** Use button  or  to scroll to the menu window.  
**Engine**

The operating hours counter is not suitable for measuring the driving hours of the driver.

- Do not start the vehicle if menu window **Oil level low** or **Oil level too low** are displayed. Immediately add the amount of oil shown (→ Page 421) and check the oil level again.
  - ◁ If menu window **Oil level ok** and a quantity of oil is displayed, the engine oil level is sufficient.

The amount of oil required to reach the maximum fill level is purely for your information. At the moment, you do not need to top up the oil.

- If the oil level display is not available, repeat the oil level check.
- If it is not possible to display the oil level after repeated attempts, have the oil level display checked at a qualified workshop.

##### Events menu window

You can display saved malfunctions and messages displayed in menu window **Events**. If the cause of the malfunction/message has been rectified, the on-board computer will no longer display the event.

- Use the  or  button to scroll to the monitoring information .
- Use button  or  to scroll to the **Events** menu window.
  - ◁ The menu window will show the number of events, for example.
- **To show event:** Press the  button.



- **To show more events:** Press the  or  button.

### Settings menu

#### Menu screen for the menu

If settings are changed in the Settings menu screen **Menu**, these changes will have an impact on how the menu screens are displayed.

- Use the  or  button to scroll to settings .
- **To set the units system:** Press the button .
  - ◁ The input window will display a list of possible settings.
- Select the desired menu bar with the  or  button.
- Change the setting by pressing the  or  button.

### Lighting menu screen

The following settings are possible in the **Lighting** menu screen:

- Switch off dipped beam and/or day-time running lights (depending on equipment)
  - The headlamp range of the dipped beam
  - The brightness of the instrument lighting and the audio display when it is dark and the lights are switched on
  - The switch-off delay time of the exterior lighting (surround lighting)
  - Switch automatic interior lighting control on/off
  - Activating/deactivating the night lighting
- Use the  or  button to scroll to settings .
  - Use the  or  button to scroll to the **Lighting** menu screen.
  - Press the button .

- **Switching on the dipped beam:** Use the  or  button to scroll to **Low beam**.

#### Note

The function is only available in vehicles without the 0 position on the light switch (→ Page 95).

#### Note

The light switch must be in position  to switch off the dipped beam.

- Press the  or  **Off** button.
  - ◁ The dipped beam will be switched off.
  - ◁ If one of the following conditions is met, the display shows the confirmation window **Switch off light?** before switching off.
    - The parking brake is released.
    - The front fog lamps are switched off (depending on the equipment)

## Instrument cluster and on-board computer

### On-board computer

- ▶ Select **Yes** and confirm with the  button.

When you set the vehicle in motion, the vehicle lighting is switched on automatically depending on the light conditions.

- ▶ **Switching off the daytime running lights** Use the  or  button to scroll to **Daytime running lights**.

#### **Note**

The function is only available in vehicles without the 0 position on the light switch (→ Page 95).

#### **Note**

To switch off the daytime running lights, the light switch must be in position .

- ▶ Press the  or  **Off** button.
  - ◁ The daytime running lights are switched off.

When you set the vehicle in motion, the vehicle lighting is switched on automatically depending on the light conditions.

- ▶ **Adjusting the headlamp range of the dipped beam:** Use the  or  button to select **Headl. range ctrl.**.

- ▶ Change the setting by pressing the  or  button.

#### **Note**

When you are driving a laden vehicle, the illumination of the road must be 40 m to 100 m and the dipped beam must not dazzle oncoming traffic. When the vehicle is unladen, select level .

- ▶ **To adjust the instrument lighting:** Use the  or  button to select **Instrument panel**.

- ◁ If the light is switched off and night mode has not been detected, the input window will display **Day mode**. It will then not be possible to configure any settings. Otherwise, the input window will show the brightness of the instrument lighting and the audio display as a bar chart.

- ▶ Change the setting by pressing the  or  button.
- ▶ **To set the switch-off delay time for the exterior lighting:** Use the  or  button to select **Delayed switch-off ext. lighting**.
  - ◁ The input window shows the switch-off delay time set for the exterior lighting (surround lighting).
- ▶ Change the setting by pressing the  or  button.
  - ◁ If you set the switch-off delay time to 0 seconds, the surround lighting is deactivated.

Vehicles with a rain and light sensor:

Surround lighting will be switched on for the switch-off delay time set if:

- The vehicle is unlocked with the remote control when it is dark.
- One of the vehicle's doors is opened when it is dark.

Vehicles without a rain and light sensor:

Surround lighting will be switched on for the switch-off delay time set if:

- The vehicle is unlocked using the remote control.
- The low-beam headlamps or standing lights and the vehicle are switched off and a door is opened within around four minutes.
- ▶ **To switch automatic interior lighting control on/off:** Use the  or  button to select **Automatic interior light control**.
- ▶ Press the button  or  to activate or deactivate automatic control.
  - ◁ The interior lights and the entrance lighting will switch on automatically if automatic control is switched on and you open a door.
- ▶ **To switches night lighting on/off** Use the  or  button to select **Nightlight**.
- ▶ Press the button  or  to activate or deactivate the night lighting.
  - ◁ If the Auto setting is selected, the night lighting will automatically

switch on when the dipped beam is activated.

### Language menu screen

Information on installing more languages can be obtained from an authorised Mercedes-Benz Trucks Service Centre.

- ▶ Use the  or  button to scroll to settings .
- ▶ Use the  or  button to scroll to the **Language** menu screen.
- ▶ **To set the language:** Press the  button.
  - ◁ The input window will display a selection of languages.
- ▶ Select the desired language with button  or .
- ▶ Change the setting with the button .

### Operating fluids menu window

If the operating fluids data are changed via the on-board computer, the maintenance system will automatically adjust the maintenance due dates accordingly.

The data about the operating fluids added must be set.

- ▶ Read the information in the "Operating fluids" section (→ Page 511).



### Note

#### Increased wear due to mixing different grades of oil

If engine oils of different quality grades are mixed, the intervals for changes of engine oil will be shorter than with engine oils of the same quality.

- ▶ Only mix engine oils of different quality grades in exceptional cases.
- ▶ Adjust the specification of the engine oil to a lower quality level.

### Setting the operating fluids

- ▶ Use the  or  button to scroll to settings .
- ▶ Use the  or  button to scroll to the **Service products** menu screen.
- ▶ Press the button .
  - ◁ The input window shows the major assembly and operating

### On-board computer

fluid property, e.g. [Engine](#) and [Oil grade](#) as well as the currently operating fluid specification.

- ▶ **To select a major assembly:** Using the button  or , select a major assembly with a corresponding operating fluid property.

You can select the following major assemblies with a corresponding operating fluid property, for example:

- Engine fuel grade
- Engine oil viscosity
- Engine oil quality
- Transmission oil quality
- Rear axle oil quality
- ▶ **To set the operating fluid value:** Using the  or  button, select an operating fluid value.
- ▶ Set the operating fluid value of the operating fluid added using the  or  button.

#### Vehicle menu window

For information about managing regeneration in the diesel particulate filter, read the following sections:

- Regeneration lockout (→ Page 340)
- Starting manual regeneration (→ Page 341)

For information about the drive functions of the automated manual transmission, read the following sections:

- Rocking-free function (→ Page 246)
- Crawler mode (→ Page 244)
- Hydromove (vehicles with turbo retarder clutch) (→ Page 253)

Setting [DirectionTravel](#) has an effect on the Sideguard Assist/Active Sideguard Assist function. Read the notes on Sideguard Assist/Active Sideguard Assist (→ Page 305).

For information on adjusting steering assistance, see the section entitled “Adjusting the steering assistance” (→ Page 255).

- ▶ Use the  or  button to scroll to  Settings.
- ▶ Use the  or  button to scroll to the [Vehicle](#) menu screen.
- ▶ **To switch the function on/off:** Press the button .
- ▶ Press the  or  button to select a function.
- ▶ Switch on or off with the button .

#### Assistance menu window

For information about the driving systems, read the following sections:

- Attention Assist (→ Page 302)
- Lane Keeping Assist (→ Page 299)
- PPC (Predictive Powertrain Control) (→ Page 279)
- PPC (Predictive Powertrain Control) Interurban (→ Page 279)
- Adaptive Highbeam Assist (→ Page 99)
- Traffic Sign Assist (→ Page 296)
- Frontguard Assist (→ Page 283)
- Active Brake Assist (→ Page 285)
- Sideguard Assist/Active Sideguard Assist (→ Page 305)

## Instrument cluster and on-board computer

### Overview of warning/indicator lamps in the status area

- EcoRoll mode ( → Page 244)
- ▶ Use the  or  button to scroll to  Settings.
- ▶ Use the  or  button to scroll to the Assistance menu screen.
- ▶ **To switch driving systems on/off:**  
Press the button .
- ▶ Press the  or  button to select a driving system.
- ▶ Switch on or off with the button .
  - ◁ If the menu item for a driving system is greyed out, the driving system cannot be switched off for your vehicle.

#### Overview of warning/indicator lamps in the status area

##### Safety instructions

If you ignore warning/indicator lamps, you cannot recognise failures and malfunctions in components or systems. Driving/braking characteristics may be affected and the reliability and road safety of your vehicle may be impaired.

- ▶ Have the vehicle checked and repaired as soon as possible at a qualified specialist workshop.
- ▶ Always observe warning/indicator lamps and follow the appropriate remedial measures.

#### Overview



Status area in the instrument cluster

If there is a malfunction, warning, or operating status information, a warning/indicator lamp will automatically light up in the status area  of the on-board computer. The warning/indicator lamp comes on in a

different colour depending on the priority of the malfunction, warning, or operating status information. The warning/indicator lamp may also light up in addition to a display message.

|                                                                                       |                                                                                                                                                             |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Adaptive Highbeam Assist<br>( → Page 99)                                                                                                                    |
|    | Floodlights                                                                                                                                                 |
|    | Preglow system                                                                                                                                              |
|    | Restraint system ( → Page 33)                                                                                                                               |
|    | Seat belt warning ( → Page 38)                                                                                                                              |
|    | Assistance systems faulty<br>( → Page 557)                                                                                                                  |
|    | Active Brake Assist initialisation<br>( → Page 285)                                                                                                         |
|    | Lane Keeping Assist switched off<br>( → Page 301)                                                                                                           |
|    | Frontguard Assist malfunction<br>( → Page 283)                                                                                                              |
|    | The acoustic warning from Sideguard Assist and the additional automatic brake intervention from Active Sideguard Assist have been deactivated ( → Page 313) |
|  | Sideguard Assist or Active Sideguard Assist are only available to a limited                                                                                 |

## Instrument cluster and on-board computer

### Overview of warning/indicator lamps in the status area

|                                                                                     |                                                                                                |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
|                                                                                     | extent (e.g. only available on one side) ( → Page 283)                                         |
|    | Sideguard Assist or Active Sideguard Assist unavailable ( → Page 283)                          |
|    | Engine oil pressure too low; see corresponding display message                                 |
|    | Oil level too low                                                                              |
|    | Coolant temperature too high ( → Page 564)                                                     |
|    | Coolant level too low ( → Page 414)                                                            |
|    | Emissions-related malfunction in the BlueTec® exhaust gas aftertreatment or low AdBlue® supply |
|    | Energy-saving mode active                                                                      |
|    | Battery charge level too low                                                                   |
|    | Alternator faulty or undervoltage                                                              |
|    | Service due date; see corresponding display message                                            |
|    | Turbo retarder clutch ( → Page 253)                                                            |
|    | Leading axle ( → Page 325)                                                                     |
|  | Trailing axle ( → Page 325)                                                                    |
|  | Moving-off aid ( → Page 324)                                                                   |
|  | Differential locks ( → Page 259)                                                               |
|  | Steered additional axle centred ( → Page 326)                                                  |

|                                                                                     |                                                                                                                                         |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|    | Steering angle disparity in steered additional axle ( → Page 326)                                                                       |
|    | Hydraulic auxiliary drive                                                                                                               |
|    | Off-road gear transfer case                                                                                                             |
|    | Transmission oil temperature too high ( → Page 422)                                                                                     |
|    | Steerable additional axle malfunction (leading/trailing axle, centred) or power steering malfunction; see corresponding display message |
|    | Steerable additional axle malfunction or power steering malfunction, see corresponding display message                                  |
|    | Monitored fifth-wheel coupling ( → Page 356)                                                                                            |
|    | Monitored fifth-wheel coupling ( → Page 356)                                                                                            |
|    | Monitored fifth-wheel coupling malfunction ( → Page 356)                                                                                |
|    | Fifth-wheel coupling; refill grease reservoir (see separate operating instructions)                                                     |
|    | Cargo liftgate (see separate operating instructions)                                                                                    |
|    | Tipper operation                                                                                                                        |
|    | Power take-off ( → Page 387)                                                                                                            |
|  | Continuous brake malfunction ( → Page 236)                                                                                              |

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Tyre pressure monitor warning message, see corresponding display message ( → Page 567)                                                                                                                                                                                                                                                                                                                                                                 |
|  | Tyre pressure monitoring system ( → Page 485)                                                                                                                                                                                                                                                                                                                                                                                                          |
|  | Frequent-stop brake ( → Page 232)                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  | Holding brake on the front axle ( → Page 231)                                                                                                                                                                                                                                                                                                                                                                                                          |
|  | HOLD function ( → Page 235)                                                                                                                                                                                                                                                                                                                                                                                                                            |
|  | ABS equipment  additionally shown with  ,  or  for towing vehicle and/or trailer/semitrailer ( → Page 223) |
|  | Trailer/semitrailer brake system malfunction ( → Page 224)                                                                                                                                                                                                                                                                                                                                                                                             |
|  | Brake pad wear  shown additionally with  for a towing vehicle, or shown with  for trailer/semitrailer                                                                                         |
|  | Control intervention by Stability Control Assist in the trailer/semitrailer ( → Page 257)                                                                                                                                                                                                                                                                                                                                                              |

## Notes on operating safety

**Danger****Risk of distraction by information systems and communications equipment**

If you operate information systems and communications equipment integrated in the vehicle when driving, you may be distracted from what is happening in traffic.

You may also lose control of the vehicle.

- ▶ Only operate this equipment when the traffic situation permits.
- ▶ If this cannot be ensured, stop the vehicle as soon as possible, paying attention to road and traffic conditions. Pay attention to the traffic conditions.
- ▶ Make the entries when the vehicle is stationary.

When operating the multimedia system, observe the legal requirements for the country in which you are currently located.

## Operating temperature

The following temperature ranges must be observed for the device:

- Operating temperature: -20°C to 70°C
- Storage temperature: -40 °C to 85 °C

## Bluetooth® specification

**Properties of the Bluetooth® technology used:**

|                    |                  |
|--------------------|------------------|
| Bluetooth® version | 2.0              |
| Energy class       | Class 2          |
| Service            | Maximum +4 dBm   |
| Frequency range    | 2402 to 2480 MHz |

The device is equipped with an internal Bluetooth® antenna that is not accessible from the outside.

## Radio with USB connection and Bluetooth®

### Frequency ranges

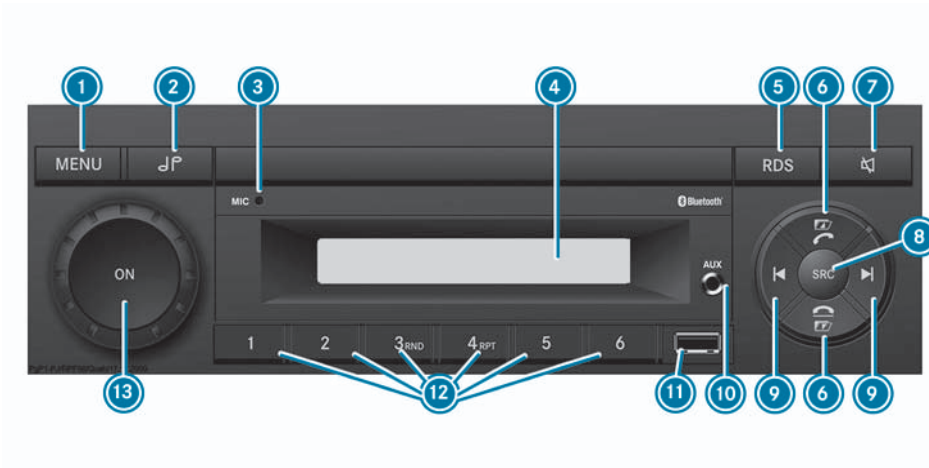
#### Frequency ranges

| Frequency band                       | Frequency range | Tuning steps for automatic station search function | Tuning steps for manual station search function |
|--------------------------------------|-----------------|----------------------------------------------------|-------------------------------------------------|
| <b>Frequency range Europe</b>        |                 |                                                    |                                                 |
| FM                                   | 87.5–108.0 MHz  | 100 kHz                                            | 100 kHz                                         |
| MW                                   | 531 – 1620 kHz  | 9 kHz                                              | 9 kHz                                           |
| LW                                   | 153 – 282 kHz   | 3 kHz                                              | 1 kHz                                           |
| SW                                   | 5800 – 6250 kHz | 5 kHz                                              | 5 kHz                                           |
| <b>Frequency range South America</b> |                 |                                                    |                                                 |
| FM                                   | 87.9–107.9 MHz  | 200 kHz                                            | 100 kHz                                         |
| AM                                   | 530 – 1710 kHz  | 10 kHz                                             | 10 kHz                                          |



## Overview of the control panel

### Overview of the control panel



### Overview of the control panel

- ① Selects a menu.  
In USB mode: Toggle playback time display.
- ② Selects the sound menu.
- ③ Microphone
- ④ Display
- ⑤ In radio mode: Switch RDS comfort functions on/off.
- ⑥   
In radio mode: Switch frequency bands.  
In MP3 mode (USB): Change folder.  
In AUX mode: Switch between FRONT and REAR MAN.  
Press briefly: Answering a call.  
Press and hold:  
Switches on Bluetooth®.  
Starts Bluetooth® search.  
Start Bluetooth® pairing (Pairing/External).  
Press briefly: End/reject call.  
Press and hold: Deactivate Bluetooth®.
- ⑦ Press briefly:  
Mute audio source (Mute/Pause).  
Ends the current traffic announcement.  
Press and hold: In radio mode:  
Switch RDS comfort functions on/off.
- ⑧ Selects an audio source.  
Press and hold: ASTORE

## Radio with USB connection and Bluetooth®

### System settings

- 9 Mutes the current traffic announcement.  
In radio mode:  
Press briefly: Start station search.  
Press and hold: Manual station search  
In USB mode:  
Press briefly: Skips to the next/previous track.  
Press and hold: Fast forward/return.
- 10 AUX port
- 11 USB port
- 12 In radio mode:  
Press briefly: Select a station from the station presets.  
Press and hold: Store stations manually  
In USB mode:  
Button 3 (RND): Switches random playback on/off or toggles.  
Button 4 (RPT): Switches repeat track on/off or toggles.
- 13 Press: Switches the audio device on or off.  
Turn: Adjusts the volume.

In conjunction with a Bluetooth®-capable mobile phone, it is possible to use your phone via the radio.

#### Note

The audio equipment switches off automatically after approximately one hour when the ignition is switched off.

The audio equipment switches off automatically when the battery charge level is low.

#### Note

Depending on the vehicle's equipment, some buttons may not be present or have no function.

### System settings

#### Sound settings

##### Adjusting the treble

- ▶ **Open sound menu:** Press the button  repeatedly until **TREB** and the current setting appear.
- ▶ Turn the control knob  until the desired level is set.

##### Setting the bass

- ▶ **Open sound menu:** Press the button  repeatedly until **BASS** and the current setting appear.
- ▶ Turn the control knob  until the desired bass is set.

##### Adjusting the balance

- ▶ **Open sound menu:** Press the button  repeatedly until **BAL** and the current setting appear.
- ▶ Turn the control knob  until the desired volume distribution is set.

##### Resetting sound settings

- ▶ **Open sound menu:** Press the  button repeatedly until **RESET N** appears.
- ▶ Turn the control knob clockwise  until **RESET Y** appears.
  - ◀ The sound settings are reset after about two seconds.

or

- ▶ Press and hold the  button.

### Setting the playing time display

This function allows you to set whether the **ELAPSED** playback or the **REMAIN**-ing playback is displayed.

- ▶ **To activate setting mode:** Press the **MENU** button until **ELAPSED** or **REMAIN** appears briefly in the display.
- ▶ **To change playing time display:** Turn the control knob **ON**.
  - ◁ You switch between the two settings.

### Radio mode

#### Function of the RDS (radio data system)

The radio stations can provide inaudible additional information in the FM-frequency band with the radio data system.

The following information can be displayed, for example:

- Name of the radio station (PS)
- Transmitted traffic reports from the station (TP)
- Current traffic announcement (TA)

- Current programme is a regional programme (REG)
- Alternative transmitter frequencies (AF)

When RDS is switched on, the radio attempts to ensure optimum reception by using alternative frequencies if necessary. In doing so, regional programmes are taken into account.

In addition, the switching behaviour is also affected by environmental and reception conditions and may, therefore, change.

#### Switching RDS on or off

When the RDS function is active, the **RDS** symbol can be seen in the display.

- ▶ In radio mode press the **RDS** button.
  - ◁ Depending on its current setting, the RDS function is switched on or off.

### Switching on the radio

- ▶ Press the **SRC** button until **Radio** appears briefly in the display.
  - ◁ You will hear the last station selected.

### Storing radio stations

#### Storing stations manually

You can save the station currently being listened to at any preset.

- ▶ Press one of the buttons **1** to **6** until an audible signal sounds.
  - ◁ The current station is stored in the corresponding preset position.

#### Save stations automatically

You can automatically assign the six respective station presets of the selected frequency band FM-AS or AM-AS with stations that can be received. The order of the stations is determined by the reception quality.

## Radio with USB connection and Bluetooth®

### Radio mode

#### Note

Stations that have already been stored manually in the FM-AS or AM-AS frequency band presets are lost with the automatic station storage.

- ▶ Use the  or  button to select the desired frequency band.
- ▶ Press and hold the **SCR** button.
  - ◁ **A-Store** appears on the display. The six stations with the strongest reception are searched for and stored automatically in the presets of the FM automatic storage area (AFM) or AM automatic storage area (AMW, ALW or ASW). The station at memory preset 1 is played.

#### Note

For the AM frequency ranges MW, LW and SW there is just one automatic storage area. If you store stations again automatically, previously stored stations for another AM frequency range can be overwritten.

### Setting the traffic information service

#### Switching traffic information service priority (TP) on/off

When the TP function is switched on the display shows the **TP** symbol.

If priority for the traffic information service is switched on, a traffic announcement suppresses playback of another audio source for its duration. Playback volume is adjusted automatically. The function is also possible with the mute function active.

Traffic information service priority is only possible if FM is selected and RDS is activated.

- ▶ Press the button .
  - ◁ The selected function **TP ON** or **TP OFF** can be seen in the display.
- ▶ Turn the control knob  clockwise or anti-clockwise.
  - ◁ The current setting appears in the display.

#### Note

Even when the TP function is active, a call using the connected Bluetooth® telephone is not interrupted. The traffic information service priority is also unavailable if an external audio source has muted the audio device.

### Adjusting the volume of the traffic announcement

- ▶ During the traffic announcement, turn the control knob  clockwise or anti-clockwise.

### Ending traffic announcements

- ▶ Press the **SRC** button during a traffic announcement.

The next traffic announcement will still be heard.

### Media

### AUX mode

### Functions of AUX mode



#### **Danger**

#### **Risk of distraction when handling data storage medium**

If you handle a data storage device while driving, you may be distracted from traffic conditions. You may also lose control of the vehicle.

- ▶ Only handle a data storage medium when the vehicle is stationary.

The varying volumes of external audio sources can mean that system messages (e.g. traffic announcements) are played at a noticeably increased volume. You may need to deactivate the system messages or adjust their volume manually.

External audio sources are connected to the audio device as follows:

- Via the front AUX-IN socket
- Via the rear AUX connection

For equipment with an AUX input at the berth, the AUX input at the berth is assigned to the rear AUX port.

An adapter cable from Mercedes-Benz Trucks accessories is required for the rear AUX port.

External audio sources are played back as follows:

- Using their own speakers
- Using the speakers of the audio equipment

The type of playback must be observed when connecting the external audio devices.



#### **Note**

Do not run the external audio equipment using a power supply unit that is connected with the vehicle's 12 V power supply. This can audibly impair playback.

### Switching to AUX mode

- ▶ Press the **SRC** button until **FRONT** or **REAR-MAN** appears in the display.
- ▶ Use the  or  button to switch between **FRONT** and **REAR-MAN**.
  - ◁ If no external audio equipment is connected at the front, the display flashes.

### Selecting options for the AUX port



#### **Note**

The AUX connection is optimised for external equipment that has an AUX output. If an external device with only a headphone output is connected, the signal level of the external device may be too low to automatically activate the AUX port.

The following options are available for the rear AUX port:

- **XMUTE OFF**

When the external audio source activates the mute signal, the audio equip-

## Radio with USB connection and Bluetooth®

### Media

ment switches to the rear AUX port. Playback then occurs through the speakers of the audio equipment. The **REAR-EXT** message is shown in the display. You can adjust the volume and the sound settings of the audio equipment.

- **XMUTE ON**

When the external audio source activates the mute signal, the audio equipment is muted. The **EXT MUTE** message is shown in the display. You will only be able to operate a limited number of the audio equipment's functions.

- ▶ Press the **MENU** button repeatedly until the **XMUTE ON** or **XMUTE OFF** message is shown in the display.
- ▶ **To change the selection:** Turn the control knob .

#### Connecting an external audio source to the rear AUX input

#### Connecting an external audio source (playback via the audio device speaker)

Playback of the external audio source via the speakers of the audio equipment can be switched manually or automatically.

- ▶ **Switching manually:** Connect the external audio source to the C1 plug (→ Page 192).

Playback can be switched manually (→ Page 183).

- ▶ **Automatic switching:** Also connect the external audio source to the Mute (C2) (→ Page 192).
- ▶ Select the **XMUTE OFF** playback option (→ Page 183).

#### Connecting an external audio source (playback via its own speaker)

- ▶ Connect the mute output of the external audio source with the C2 plug (→ Page 192).

- ▶ Select the **XMUTE ON** playback option (→ Page 183).
  - ◁ When the external audio source activates the mute signal, the audio equipment is muted.

### USB mode

#### Information on USB mode



#### **Danger**

#### **Risk of distraction when handling data storage medium**

If you handle a data storage device while driving, you may be distracted from traffic conditions. You may also lose control of the vehicle.

- ▶ Only handle a data storage medium when the vehicle is stationary.

#### **Supported USB devices**

You can connect USB devices to the audio equipment.

The connection is established using a type-A USB port in the function button row under the cover.

The following USB devices are supported:

- USB flash drives (flash memory)
- USB hard drives (starting/continuous current of max. 800 mA, separate external power supply equipment may be necessary) with a size of:
  - 4.57 cm
  - 6.35 cm
- Selected MP3 players

### Note

The audio equipment supports "USB Device Subclass 6" USB storage media. For information on which USB device subclass your device offers, please contact the device manufacturer.

### Note

A wide variety of USB devices is available. It cannot therefore be guaranteed that playback is possible with every USB device.

### Supported data formats

The following data types are supported:

- mp3: CBR, VBR (up to 320 kbit/s)

- wma: CBR, VBR (up to 320 kbit/s)

The following special features of USB devices must be observed:

- No data other than music data may be placed on the USB device to prevent unnecessarily increasing the initialisation time.
- Up to eight directory levels with up to 1000 tracks per directory are supported.
- USB extension cables should not be used. These may impair functionality.

### Note

Files protected by DRM (Digital Rights Management) are not supported by your audio equipment.

### Activating the USB socket

- ▶ The USB device is connected in the correct position with the USB port.
- ▶ Press the **SRC** button repeatedly until the **USB** symbol is shown in the display.

- ◁ USB playback resumes from the point at which you last exited USB mode.

### Note

When a USB data storage medium is connected for the first time, the system first has to read the files. **READING** appears in the display.

During USB playback, the display shows the current track number and the time elapsed or remaining.

### Note

In extreme cases, it may take several minutes to start certain functions, depending on the external device and the content of the medium.

### Note

If your audio equipment cannot find a USB device, the **NO USB** message is shown. If your audio equipment cannot find any music files, the **DEV ERR** message is shown.

## Radio with USB connection and Bluetooth®

### Media

#### Playback options

##### Selecting the playback folder

- ▶ Press the  or  button during music playback.
  - ◁ The next or previous folder is selected.



#### Note

Notes on the MP3 function:

Any folders without MP3 or WMA files are automatically skipped.

All folders and subfolders are treated as if they are located in sequence on the same level. By repeatedly pressing the  or  button, you can access all subfolders.

#### Setting playback options

In MP3 mode, playback occurs in the order in which the tracks were written to the data storage medium. Once all the tracks in a folder have been played, the tracks in the next folder are played.

- ▶ **Play all tracks in the current folder in random order:** Press the **RND**  button repeatedly until **RND DIR** appears in the display.
- ▶ **Play all tracks on the data medium in random order:** Press the **RND**  button repeatedly until **RND ALL** appears in the display.
- ▶ **To end random playback:** Press the **RND**  button repeatedly until **RND OFF** appears in the display.
  - ◁ The **RND** display disappears.
- ▶ **To repeat the current track:** Press the **RPT**  button repeatedly until **RPT TRK** is shown in the display.
  - ◁ The **RPT** display message appears in the display.
- ▶ **To repeat all tracks in the current folder:** Press the **RPT**  button repeatedly until **RPT DIR** is shown in the display.
  - ◁ The **RPT** display message appears in the display.
- ▶ **To end track repeat:** Press the **RPT**  button again.

- ◁ **RPT OFF** appears briefly in the display.
- ◁ The **RPT** symbol disappears.

#### Notes on MP3 mode

##### Information on supported file types



#### Danger

##### Risk of distraction when handling data storage medium

If you handle a data storage device while driving, you may be distracted from traffic conditions. You may also lose control of the vehicle.

- ▶ Only handle a data storage medium when the vehicle is stationary.

The equipment supports the following types of MP3 file:

- Constant and variable data transfer rates from 32 kBit/s to 320kBit/s
- Sampling rates of 8 kHz to 48 kHz



The equipment supports the following types of WMA file:

- Constant data transfer rates from 8 kBit/s to 384 kBit/s
- Sampling rates of 8 kHz to 48 kHz

The equipment does not support the following types of WMA file:

- DRM (Digital Rights Management) encrypted files
- variable data transfer rates
- WMA Pro
- 5.1 Surround

#### Note

Only use tracks with a data transfer rate of at least 128kbit/s and a sampling rate of at least 44.1kHz. Lower rates may cause a noticeable deterioration in quality.

### Bluetooth® mode

#### Notes on Bluetooth® operation



#### **Danger**

#### **Risk of distraction from operating integrated communication equipment while the vehicle is in motion**

If you operate information systems and communications equipment integrated in the vehicle when driving, you may be distracted from what is happening in traffic.

You may also lose control of the vehicle.

- ▶ Only operate this equipment when the traffic situation permits.
- ▶ If this cannot be ensured, stop the vehicle as soon as possible, paying attention to road and traffic conditions. Pay attention to the traffic conditions.
- ▶ Make the entries when the vehicle is stationary.

In addition, the legal requirements for the country you are currently in must be observed.

In conjunction with a Bluetooth®-capable mobile phone, it is possible to use Bluetooth® using the radio.

The following requirements must be met for the radio to find the mobile phone:

- The mobile phone is close to the radio in the vehicle.
- The Bluetooth® function of the radio is engaged.
- The mobile phone is ready to be paired.

#### Note

The radio stores the pairing information of up to six mobile phones so that they are automatically recognised and connected. If another mobile phone is paired, the radio overwrites pairing information of the mobile phone that has not been connected for a long time.

## Radio with USB connection and Bluetooth®

### Bluetooth® mode

#### Note

When connecting, the radio automatically loads the telephone book (maximum 600 entries) and the list of the most recently dialled telephone numbers.

#### Note

Note on pairing mobile phones:

Bluetooth® pairing: The mobile phone search is started by the radio.

Bluetooth® external: The radio search is started from the mobile phone.

#### Activates or deactivates the Bluetooth® function

- ▶ **Activation:** Press and hold the  button.
  - ◁ The display briefly shows **BT ON**. The Bluetooth® symbol  flashes in the display. The radio automatically searches for mobile phones that have already been paired.

- ▶ **Switching off:** Press and hold the  button.
  - ◁ The display briefly shows **BT OFF**. The connection to the mobile phone is disconnected.

#### Note

The Bluetooth® function remains active until it is deactivated again. When the radio is switched off, the Bluetooth® connection is disconnected. When the radio is switched on, the connection is automatically established again.

#### Pairing mobile phones

##### Pairing mobile phones using Bluetooth® pairing

The pairing process starts from the radio.

- ▶ Press the **MENU** button as often as necessary until the display shows **BT PAIR** or **BT EXT**.
- ▶ **Start search for mobile phones:** Press and hold the  button.
  - ◁ The Bluetooth® symbol  flashes in the display. The radio

searches for mobile phones that are in range for a specific time. At the end of the search, an acoustic signal sounds. If at least one mobile phone is found, the display briefly shows **BT LIST** and then the device name of the mobile phone.

#### Note

If the radio cannot find any mobile phones, the display briefly shows **BT LIST EMPTY**.

- ▶ Select the desired mobile phone with the  or  button.
- ▶ Press and hold the  button.
- ▶ Using the number keys  to  on the radio, enter an easy-to-remember number up to six figures in length (e.g. 1234).

The sequence of numbers begins with . If you press the number key  to  on the radio more than once, numbers  to  appear.

### Note

The number of digits to be entered depends on the respective mobile phone.

- ▶ Press and hold the  button.
  - ◁ The radio is ready to be paired with the mobile phone.
- ▶ On the mobile phone, select the "MB Bluetooth" Bluetooth® device name.
- ▶ Enter the previously selected number on the mobile phone.
  - ◁ The radio establishes a connection with the mobile phone. When the connection is established, the display shows **PAIR OK** briefly.
- ▶ Confirm any queries using the mobile phone.
  - ◁ The telephone data is transferred from the mobile phone to the radio. Once the transfer is finished, the display shows the current audio source and the Bluetooth® symbol  continuously.
- ▶ **Showing the name of the mobile phone currently connected on the**

**display** Press and hold the  button.

### Pairing mobile phones using Bluetooth® External

The pairing process starts from the mobile phone.

- ▶ Press the button  repeatedly until the display shows **BT PAIR** or **BT EXT**.
- ▶ Turn the control knob  clockwise.
  - ◁ The display shows **BT EXT**.
- ▶ **To prepare radio for the search:** Press and hold button .
  - ◁ The Bluetooth® symbol  flashes in the display.
- ▶ Using the number keys  to  on the radio, enter an easy-to-remember number up to six figures in length (e.g. 1234).

The sequence of numbers begins with . If you press the number key  to  on the radio more than once, numbers  to  appear.

### Note

The number of digits to be entered depends on the respective mobile phone.

- ▶ Press and hold the  button until an acoustic signal sounds.
  - ◁ The radio is ready to be paired with the mobile phone.
- ▶ Start the search for Bluetooth® devices on the mobile phone. See the manufacturer's operating instructions.
- ▶ On the mobile phone, select the "MB Bluetooth" Bluetooth® device name.
- ▶ Enter the previously selected number on the mobile phone.
  - ◁ The radio establishes a connection with the mobile phone. When the connection is established, the display shows **PAIR OK** briefly.
- ▶ Confirm any queries using the mobile phone.
  - ◁ The telephone data is transferred from the mobile phone to the radio. Once the transfer is finished, the display shows the current au-

## Radio with USB connection and Bluetooth®

### Bluetooth® mode

radio source and the Bluetooth® symbol  continuously.

- ▶ **Showing the name of the mobile phone currently connected on the display** Press and hold the  button.

#### Accepting and ending a call

When there is an incoming call, a ringtone can be heard via the radio speakers. The display briefly shows **PHONE** and then the telephone number of the caller, if this is transmitted.

- ▶ **Answering a call:** Press the button .
- ▶ If desired, adjust the volume using the control knob .
- ▶ **Ending/rejecting a call:** Press the button 
  - ◁ The radio plays the current audio source again.

#### Playing back MP3 files

- ▶ Press the **SRC** button until the display shows **BT Audio**.
  - ◁ The radio is ready to playback the mobile phone MP3 files.
- ▶ Starting MP3 playback on the mobile phone.
  - ◁ The radio speakers playback the MP3 files.
- ▶ **Selecting a track:** Briefly press the button  or .

#### Operating Bluetooth® functions via the multi-function steering wheel

##### Accepting and ending a call

- ▶ **Answering a call:** Press the  button on the multifunction steering wheel.
- ▶ If desired, adjust the volume using the control knob .
- ▶ **Ending/rejecting a call:** Press the button .

#### Accessing the telephone main menu

- ▶ Press the  button on the multifunction steering wheel.
- ▶ Use the  or  button to scroll to audio and communications .
- ▶ Use button  or  to scroll to the **Telephone** menu screen.
  - ◁ The menu screen will show the provider name and the name of the connected Bluetooth® mobile phone.
- ▶ Press the button 
  - ◁ The on-board computer display shows the phone book main menu.
- ▶ **Exiting a menu:** Press the  or  button.

#### Conducting a call using the phone book

- ▶ Call up the phone book main menu.
- ▶ Press the button .
- ▶ Select the person you wish to call using the  or  button.

### Note

Please note, when selecting the person you wish to call:

Briefly press the  or  button: Names are clicked through individually in the phone book.

Press and hold the  or  button. Jumps to the next or previous initial letter.

- ▶ Press the button .

If several numbers are saved for the person you wish to call:

- ▶ Select the desired telephone number with the  or  button.
- ▶ Press the  button again.

### Conducting a call using the call lists

You can conduct calls using one of the following call lists:

- Missed calls
- Accepted calls
- Numbers called
- ▶ Call up the phone book main menu.

- ◁ The **Phone book** line is selected.
- ▶ Select the desired call list with the  or  button.
- ▶ Press the button .
- ▶ Select the desired telephone number with the  or  button.
- ▶ Press the button .

### Updating the phone book

- ▶ Call up the phone book main menu.
  - ◁ The **Phone book** line is selected.
- ▶ Select **Load phone book** using the  button.
- ▶ Press the button .
- ▶ Press the button .
  - ◁ Depending on the number of phone book entries on the mobile phone, this process can take several minutes.

### Playing back MP3 files

- ▶ Start MP3 playback on the mobile phone.
- ▶ Press the  button on the multifunction steering wheel.

- ▶ Use the button  or  to scroll to audio and communications .
- ▶ Use the  or  button to select the audio submenu.
- ▶ Use the  or  button to select the BT Audio menu.
- ▶ **Selecting a track:** Press the  button on the multifunction steering wheel.
- ▶ Press the button  or .
  - ◁ The radio plays back the previous or next track.

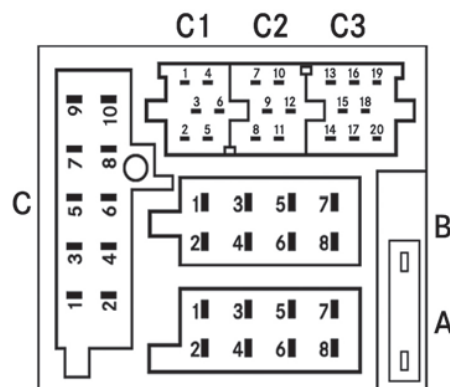
### Note

This function depends on the respective mobile phone.

# Radio with USB connection and Bluetooth®

## Pin assignment

### Pin assignment



Connection field on the rear side

### PIN assignment slot A (CAN and Power)

|   |                                     |
|---|-------------------------------------|
| 1 | CAN-HF-GND                          |
| 2 | CAN-L                               |
| 3 | CAN-H                               |
| 4 | Battery (24 V)                      |
| 5 | Connected 12 V output (max. 150 mA) |
| 6 | Not in use                          |

|                  |            |
|------------------|------------|
| 7 Ethernet cable | Not in use |
| 8                | Power GND  |

### PIN assignment slot B (speaker)

|                  |                  |
|------------------|------------------|
| 1                | Not in use       |
| 2                | Not in use       |
| 3                | Front speaker R+ |
| 4                | Front speaker R- |
| 5                | Front speaker L+ |
| 6                | Front speaker L- |
| 7 Ethernet cable | Not in use       |
| 8                | Not in use       |

### PIN assignment slot C

|      |            |
|------|------------|
| 1–10 | Not in use |
|------|------------|

### PIN assignment slot C1 (AUX)

|   |                      |
|---|----------------------|
| 1 | Rear AUX R+          |
| 2 | Rear AUX L+          |
| 3 | Rear AUX GND         |
| 4 | Rear AUX (shielding) |

|   |            |
|---|------------|
| 5 | Not in use |
| 6 | Not in use |

### PIN assignment slot C2

|      |                     |
|------|---------------------|
| 7–11 | Not in use          |
| 12   | ext. Mute/AUX, rear |

### PIN assignment slot C3

|       |              |
|-------|--------------|
| 13–20 | Not assigned |
|-------|--------------|

Pin assignment slot FAKRA (HF connector)

Code B, white radio aerial (FM/AM)

#### Overview and operation

#### Overview of Multimedia Radio Touch



#### **Danger**

#### **Risk of accident from operating mobile communication equipment while the vehicle is in motion**

Mobile communication devices distract the driver from traffic around them. This can also cause the driver to lose control of the vehicle.

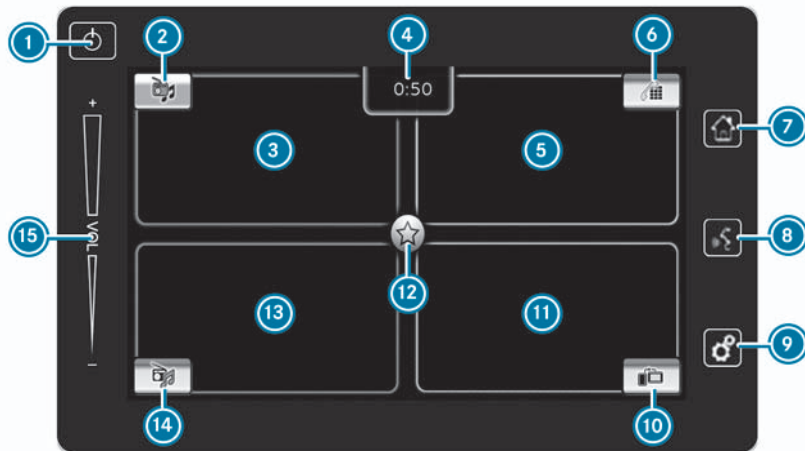
- ▶ As a driver, only operate mobile communication devices when the vehicle is stationary.
- ▶ As a vehicle occupant, only use mobile communication devices in the designated area, e.g. in the rear passenger compartment.

The legal requirements for the country in which you are currently driving must be observed.

In conjunction with a Bluetooth-capable mobile phone, it is possible to use your phone via the multimedia system.

## Multimedia Radio Touch

### Overview and operation



### Overview of Multimedia Radio Touch

- ① Activate/deactivate.
- ② Select the frequency band.
- ③ Open radio menu.
- ④ Time
- ⑤ Open telephone display.
- ⑥ Select and connect a Bluetooth® device.
- ⑦ Call up start page.
- ⑧ Activate voice control.
- ⑨ Calls up the settings.
- ⑩ Select app.
- ⑪ Call up MirrorLink™ or Apple CarPlay®.
- ⑫ Call up favourites.
- ⑬ Call up media menu.
- ⑭ Selects a media source.
- ⑮ Adjusts the volume.



### Operating the display

#### Move view

- ▶ Touch the touch-sensitive surface with one finger.
- ▶ Swipe up, down, left or right.
  - ◁ The selection in the display moves in accordance with the direction of movement.

This allows you to navigate through the lists or menus.

#### Moving displays quickly

- ▶ Use a finger to touch the touch-sensitive surface and swipe quickly to the left or right.
  - ◁ The selection in the display moves quickly in accordance with the direction of movement.

In this way, you can navigate in the lists and menus or move the map.

### Confirm the selection

- ▶ Touch the touch-sensitive surface with one finger until the pressure point is reached.
  - ◁ A menu item or an option is selected.

### Open menu

- ▶ Touch and hold the touch-sensitive surface with one finger until a menu opens.

### Enlarge view

- ▶ Place two fingers slightly apart on the touch-sensitive surface.
- ▶ Spread your fingers apart.
  - ◁ The view is enlarged.

### Reduce view

- ▶ Place two fingers on the touch-sensitive surface with a greater distance between them.
- ▶ Pull your fingers together.
  - ◁ The view is reduced.

### Basic functions

#### Switching the multimedia system on/off

The multimedia system is automatically switched on and off together with the vehicle's ignition. You can also switch the multimedia system on and off in manual mode.

- ▶ **Manual activation:** Briefly press the button .
- ▶ **Manual deactivation:** Press and hold the  button.

#### Switch sound on or off

- ▶ Briefly press the  button.
  - ◁ The sound is switched on or off.

#### Adjusting the volume

- ▶ Press the volume control.
  - ◁ The volume display appears.
- ▶ **Increase the volume:** Swipe your finger up on the volume control.

## Multimedia Radio Touch

### System settings

or

- ▶ Press the upper part of the volume control.
- ▶ **Decrease the volume:** Swipe your finger down on the volume control.

or

- ▶ Press the lower section of the volume control.

### Displaying and selecting quick-access



- ▶ Press the button .
- ▶ Select .
- ◁ The available quick-access options ① are displayed.
- ▶ Select the desired quick-access option.

### System settings

#### Sound settings

#### Adjusting treble and bass settings

You can select different sound settings for the individual audio sources.

- ▶ Press the button  in the desired audio mode.
- ▶ Select [Sound settings](#).
- ▶ Implement the desired settings for [bass](#) and [treble](#).

#### Setting the balance and fader

You can select different sound settings for the individual audio sources.

With balance and fader, the surround sound inside the vehicle can be moved forwards or backwards and to the right or left.

- ▶ Press the button  in the desired audio mode.
- ▶ Select [Sound settings](#).
- ▶ Implement the desired settings for [balance](#) and [fader](#).

### Selecting the equaliser setting

Various sound profiles can be selected in the equaliser, e.g. Rock, Pop or Classical.

- ▶ Press the button  in the desired audio mode.
- ▶ Select [Sound settings](#).
- ▶ Select [Equaliser presets](#).
- ▶ Select the desired setting.

### Setting speed-dependent volume adjustment

- ▶ Press the button  in audio mode.
- ▶ Select [Sound settings](#).
- ▶ Select [Speed-dependent volume adjustment](#).
- ▶ Select the desired setting.

### Adjusting the AUX volume

- ▶ Press the button  in audio mode.
- ▶ Select [Sound settings](#).
- ▶ Select [AUX level](#).
- ▶ Select the desired volume level.

**Activating/deactivating system sounds**

- ▶ Press the button  in audio mode.
- ▶ Select **Sound settings**.
- ▶ Select **System message sound**.
  - ◀ The tick ☒ indicates the activated function.

**Setting screen brightness**

The brightness for day and night mode can be set separately.

- ▶ Press the  button in the start menu.
- ▶ Select **Display**.
- ▶ Select **Brightness**.
- ▶ Set the desired brightness.

**Date and time settings****Selecting the date and time format**

- ▶ On the home page, select the  button.
- ▶ Select **time settings**.
- ▶ Select **date format** or **time format**.

- ▶ Select the desired format.

**Selecting the time zone**

- ▶ Press the  button in the start menu.
- ▶ Select **time settings**.
- ▶ Select the **time zone**.
- ▶ Select the desired time zone.

**Setting the system language**

- ▶ Press the button  in the main menu.
- ▶ Select the **language**.
  - ◀ A list of available languages appears.
- ▶ Select the desired language.

**Resetting to factory settings**

This function returns the multimedia system settings to the factory settings. This will delete all personal settings.

- ▶ Press the button  in the main menu.
- ▶ Select **Reset to factory settings**.

- ▶ **To cancel:** Select **No**.
- ▶ **Reset:** Select **Yes**.

**Bluetooth® connection****Requirements for a Bluetooth® connection**

You can connect Bluetooth®-compatible mobile phones and other audio equipment to the multimedia system.

To do so, the following conditions must be met:

- mobile phones must support Hands Free Profile 1.0 or above
- the Bluetooth® device must be located inside the vehicle in the vicinity of the multimedia system
- every Bluetooth® device must have its own Bluetooth® name, which you can assign yourself
- Bluetooth® must be activated on both the multimedia system and on the respective Bluetooth® device
- the Bluetooth® device must be visible for the multimedia system

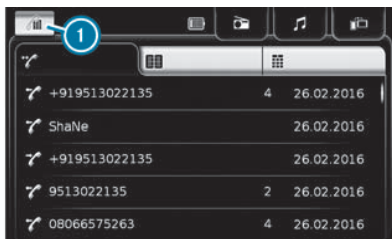
### System settings

- the Bluetooth® device must support the audio profile A2DP

#### Notes on activating or deactivating Bluetooth®

Bluetooth® is activated as standard and cannot be deactivated. If [Connect new device](#) is selected, the multimedia system is automatically visible for five minutes to other Bluetooth® devices.

#### Searching for and authorising a Bluetooth® device



When connecting your Bluetooth® device with the multimedia system for the first time, you must search for the Bluetooth® device and then authorise it.

Depending on the Bluetooth® device used, a pairing code has to be entered into the Bluetooth® device or a prompt confirmed on the Bluetooth® device for authorisation.

The search has to be started from the Bluetooth® device.

- ▶ Select ①.
  - ◁ A list appears with Bluetooth® devices that have already been authorised.
- ▶ Select [Add device](#).
  - ◁ The multimedia system is visible to other Bluetooth® devices for five minutes.
- ▶ Start a search for other Bluetooth® devices on the Bluetooth® device (see the manufacturer's operating instructions).
- ▶ Select the multimedia system on the Bluetooth® device.
- ▶ Observe any messages on the Bluetooth® device and on the multimedia system.
  - ◁ After authorisation, the Bluetooth® device is

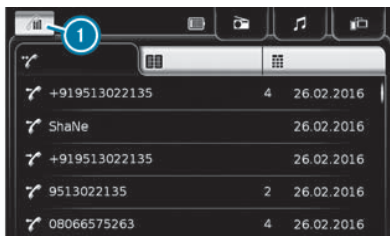
automatically connected to the multimedia system.

#### Note

You can authorise up to ten Bluetooth® devices at the same time. If you have already authorised ten Bluetooth® devices, one Bluetooth® device must be deauthorised before a new Bluetooth® device can be authorised (→ Page 199).

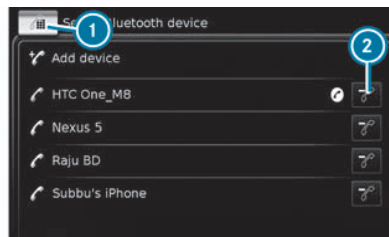
#### Connecting a Bluetooth® device

An already authorised Bluetooth® device can be connected to the multimedia system either manually or automatically. After switching on, the multimedia system attempts to connect automatically to the last connected Bluetooth® device.



- ▶ **Manual connection:** ① must be selected.
  - ◁ A list appears with Bluetooth® devices that have already been authorised.
- ▶ Select the desired Bluetooth® device from the list.
  - ◁ The Bluetooth® device is connected to the multimedia system.

### Deauthorising a Bluetooth® device



- ▶ Select ①.
  - ◁ A list appears with Bluetooth® devices that have already been authorised.
- ▶ ② next to the Bluetooth® device to be deauthorised.
  - ◁ A prompt appears asking whether the Bluetooth® device should be deauthorised.
- ▶ **To not deauthorise:** Select **No**.
- ▶ **To de-authorise:** Select **Yes**.
  - ◁ The Bluetooth® device is deauthorised and deleted from the list of authorised Bluetooth® devices.

### Voice control

#### Starting voice control

The voice control should not be used in an emergency situation, as the sound of the voice may change in stressful situations.

#### **i** Note

Voice control is not available in all languages.

#### **i** Note

Make sure that the voice output is clear and loud enough so that the multimedia system can recognise your voice command correctly.

#### **i** Note

Note that driving noises, e.g. due to open side windows or other noises in the driver's cab, may interfere with voice control.

## Multimedia Radio Touch

### Telephone

#### Note

The multimedia system can also recognise a voice command if you use certain terms with the same meaning or similar formulations, e.g. “Tune” instead of “Radio”. Use the terms and phrases that are displayed on the screen or spoken by the multimedia system. This ensures that the multimedia system recognises the desired voice command.

#### Note

You cannot activate voice control during an incoming call or an ongoing phone call.

- ▶ Press the button .
  - ◁ The current audio source is muted. A menu with the possible voice commands for the current main function appears on the screen. A tone indicates that the voice control system is ready.
- ▶ Say a possible voice command.
    - ◁ The multimedia system repeats the recognised voice command and executes the function. If the multimedia system does not recognise the voice command, the **Please say a voice command message** appears.
  - ▶ Repeat the voice command or say another possible voice command.
    - ◁ If the multimedia system does not recognise the voice command again, it offers you some voice commands from the current menu or announces **Cancel** and ends voice control.

#### Note

If voice control does not support the set system language, a corresponding message appears. Voice control cannot be activated.

### Saying voice commands

### Ending voice control

You can end voice control at any time.

- ▶ Say the **Cancel** voice command.

or

- ▶ Press the button .

### Telephone

### Information about on Bluetooth® telephony



#### **Danger**

#### **Risk of accident from operating mobile communication equipment while the vehicle is in motion**

Mobile communication devices distract the driver from traffic around them. This can also cause the driver to lose control of the vehicle.

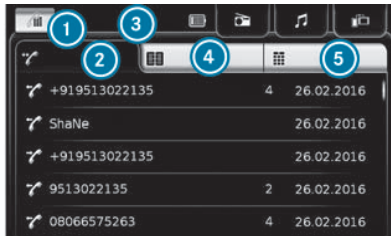
- ▶ As a driver, only operate mobile communication devices when the vehicle is stationary.
- ▶ As a vehicle occupant, only use mobile communication devices in

the designated area, e.g. in the rear passenger compartment.

The legal requirements for the country in which you are currently driving must be observed.

In conjunction with a Bluetooth-capable mobile phone, it is possible to use your phone via the multimedia system.

### Telephone menu overview



### Telephone menu

- ① Select an authorised Bluetooth® device or connect a new Bluetooth® device
- ② Call lists (dialled, answered and missed calls)
- ③ Status bar (connected mobile phone, charge level)
- ④ Call up contacts

- ⑤ Call up keypad

### Telephone operation

#### Notes on call disconnections when the vehicle is in motion

The following could be the cause of call disconnection:

- The GSM<sup>1</sup> network coverage is insufficient.
- The vehicle has moved into a GSM cell with no free channels.
- The SIM card used is not compatible with the network available.
- You are using a mobile phone with "Twincard" and the mobile phone with the second SIM card is already logged on to the network.

<sup>1</sup> Global System for Mobile Communication – D network

### Notes on emergency number 112

An emergency call without entering a PIN can only be made directly via the mobile phone.

The emergency number **112** is public. Any misuse is punishable by law.

### Selecting the telephone number

- ▶ Call up the telephone display.
- ▶ Select the **numeric keypad**.
- ▶ Enter the telephone number.
- ▶ Select **calls**.

### Calling a contact

- ▶ Call up the telephone display.
- ▶ Select the **contacts**.
- ▶ Select the desired contact.

### Dialling phone numbers from a call list

- ▶ Call up the telephone display.
- ▶ Select **Calls**.
- ▶ Select the desired entry.

# Multimedia Radio Touch

## Radio mode

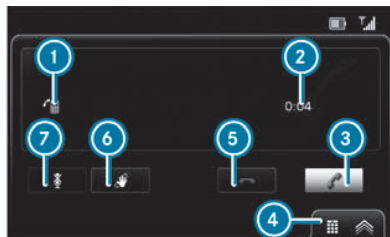
### Accepting a call

- Select .

### Rejecting a call

- Select .

### Functions during a call

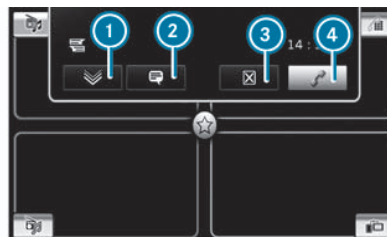


### Functions available during a call

- 1 Active call
- 2 Call duration
- 3 To accept another call or switch between active calls
- 4 To display the keypad
- 5 To end the call
- 6 To transfer the call from the hands-free system to the mobile phone
- 7 To switch the microphone on or off

### SMS functions

If the function is switched on and a new text message is received, a corresponding message appears.



### SMS functions

- 1 Display the SMS.
- 2 Read out the SMS.
- 3 Close the message.
- 4 Call the sender.

### Selecting telephone options

The following options are available:

- [Displaying incoming SMS messages](#)
- [Using the telephone ringtone](#)

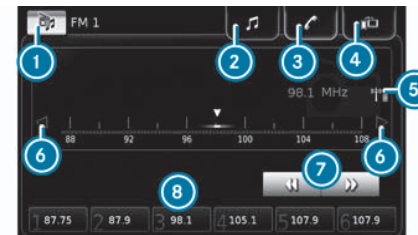
- In telephone mode, press the button



- Select [telephone settings](#).
- Select the desired option.
  - ◁ The tick ☒ indicates the activated option

## Radio mode

### Overview of radio menu



### Radio menu

- 1 Selecting the frequency band
- 2 Call up last media display
- 3 Call up last telephone display
- 4 Call up last app display
- 5 Calls up the list of stations
- 6 Set frequency manually
- 7 Start automatic station search
- 8 Call up stored stations



### Setting radio options

The radio stations can provide inaudible additional information with the Radio Data System (RDS).

If the traffic reports (TA) function is switched on, the multimedia system switches to a traffic report station for the duration of a traffic report in the following cases:

- If a station without traffic information is activated.
- If another audio source is activated.

With RDS switched on, the radio tries to ensure optimum reception with the assistance of alternative frequencies (AF).

Poor reception conditions can lead to undesired and disruptive frequency changes. In that case, deactivate AF station tracking.

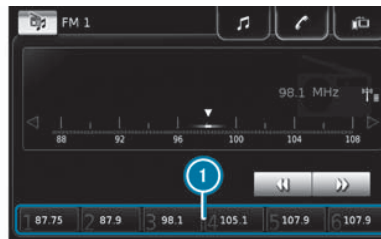
The following options are available:

- [Alternative frequency search](#)
- [Display radio text](#)
- [Regional programme](#)
- [Displaying traffic reports](#)

- ▶ In radio mode press the  button.
- ▶ Select [radio settings](#).
- ▶ Select the desired option.

### Storing radio stations

#### Storing stations manually



- ▶ Set the desired frequency band.
- ▶ Select the desired station.
- ▶ Select the desired preset  and press and hold.
  - ◁ The station is stored in the selected preset.

### Save stations automatically

There is an automatic station memory for the AM, FM and DAB frequency bands (AM-AST, FM-AST and DAB-AST).

The Autostore (AST) function automatically assigns receivable radio stations to the six station presets of the AST ranges. The order of the radio stations is determined by the reception quality.

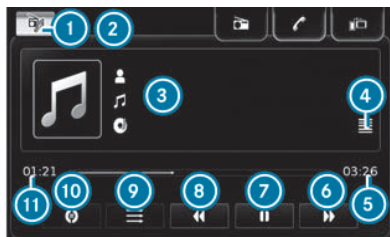
- ▶ Set the desired frequency band.
- ▶ Select **AST**.
  - ◁ The six radio stations with the strongest signal are sought and stored automatically.

# Multimedia Radio Touch

## Media

### Media

#### Overview of media menu



#### Media menu

- ① Selects a media source.
- ② Display of the current media source
- ③ Media information (artist/track/album)
- ④ Display of track list or media information
- ⑤ Display of remaining time
- ⑥ Start next track or fast forward.
- ⑦ Pause or start playback.
- ⑧ Start previous track or fast rewind.
- ⑨ Switch random playback on/off
- ⑩ Repeat track, list or album.
- ⑪ Display of the played time

### MirrorLink

#### Information on MirrorLink™

MirrorLink™ is a standard for the connection between the multimedia system and your mobile phone. MirrorLink™ allows the content of the display of your mobile phone to be shown in the multimedia system. Audio content from your mobile phone can also be played back in the multimedia system.

MirrorLink™ is available for mobile phones with the Android operating system. The availability of MirrorLink™ and MirrorLink™ apps may vary depending on the country. The support of buttons in the vehicle depends on the mobile phone and the available apps.

The service provider is responsible for this application and the services and content connected to it.

#### Note

Some applications are deactivated while driving.

#### Connecting a mobile phone via MirrorLink™

##### Requirements

- The mobile phone supports MirrorLink™ version 1.1 and above.
- A MirrorLink™ certified app is installed on the mobile phone. An Internet connection is necessary for regular updates.
- The full range of functions for MirrorLink™ is only possible with an Internet connection.
- The mobile phone is connected to the multimedia system using a suitable connecting cable.
- For the telephone functions, the mobile phone is connected via Bluetooth® with the multimedia system.

- ▶ Activate MirrorLink™ on the mobile phone (see the manufacturer's operating instructions).
- ▶ Connect the mobile phone via a suitable connecting cable to the USB port.

#### Note

Better MirrorLink™ performance is achieved if the multimedia system and mobile phone are connected with the original USB connection cable.

- ▶ Connect the mobile phone to the multimedia system via Bluetooth® (→ Page 198).
  - ◁ MirrorLink™ starts automatically. Apps that have been certified for MirrorLink™ are displayed on the multimedia system screen. Only one mobile phone at a time can be connected via MirrorLink™ to the multimedia system.

#### Note

Every manufacturer has a different interpretation of the MirrorLink™ protocol. Therefore, the behaviour can also vary.

#### Calling up MirrorLink™ apps

- ▶ Select **MirrorLink™** on the homepage.
  - ◁ The available apps are shown on the multimedia system display.
- ▶ Select the desired app.

#### Apple CarPlay®

##### Information about Apple CarPlay®

Apple CarPlay® allows iPhone® functions to be used via the multimedia system.

Only one mobile phone at a time can be connected via Apple CarPlay® to the multimedia system.

While using Apple CarPlay®, various functions of the multimedia system, e.g. the telephony and Bluetooth® audio and iPod® media sources are not available.

The availability of Apple CarPlay® may vary according to the country.

The service provider is responsible for this application and the services and content connected to it.

#### Connecting an iPhone® via Apple CarPlay®

##### Requirements

- Apple CarPlay® can be used with the Apple® operating system version iOS 8.3 or above.
- The full range of functions for Apple CarPlay® is only available with an Internet connection.
- The mobile phone is connected to the multimedia system using a suitable connecting cable.
  - ▶ Activate Apple CarPlay® on the mobile phone (see the manufacturer's operating instructions).
  - ▶ Connect the mobile phone via a suitable connecting cable to the USB port.

## Multimedia Radio Touch

### Apple CarPlay®

- ◁ Apple CarPlay® starts automatically.

### Information about Truck Data Centre

The Truck Data Centre is the telematics control unit of Daimler Truck AG. It enables the transmission of all data generated by the vehicle and driver.

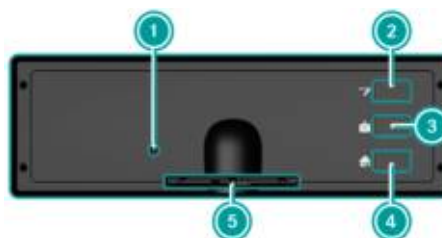
In addition to the Truck Data Centre, a valid framework agreement with a respective service booking is also required for use of digital services.

### Information on the card reader for the Truck Data Center

The card reader for Truck Data Center enables driver identification from the Fleetboard DriverCard in the vehicle.

Press the buttons on the right-hand side of the front panel to display Fleetboard Home and Event Call services. Use the Service Call button in conjunction with Mercedes-Benz Uptime and for assistance in a responsive S24h call-out.

### Overview of the card reader for the Truck Data Center



#### Card reader

- ① Status LED
- ② Service Call button
- ③ Event Call button
- ④ Home Call button
- ⑤ Card slot

### LED indicator lamp display

The status of the Truck Data Center computer can be seen from the LED indicator lamp beside the card slot.

### **i** Note

If the Truck Data Center is not activated, the LED indicator lamp is not lit up.

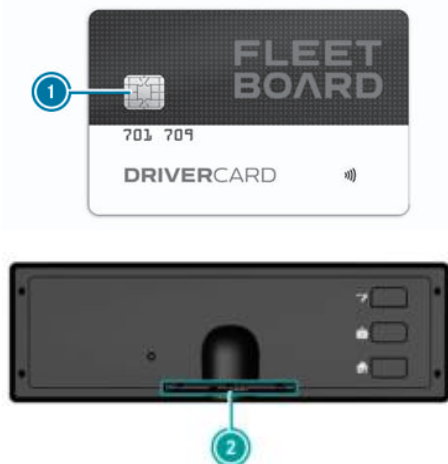
### LED indicator lamp displays

| LED indicator lamp                                                                             | Meaning                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flashes green                                                                                  | The card reader for the Truck Data Center is starting.<br>The process can last several minutes.                                                                                                           |
| Flashes green until the card reader for the Truck Data Center has booted up and then goes out. | The card reader for the Truck Data Center is operational.                                                                                                                                                 |
| Lights up continuously in red                                                                  | The card reader for the Truck Data Center has detected a fault and is no longer operational.<br>Turn the vehicle off and then on again.<br>If the problem persists:<br>Call Mercedes-Benz Trucks Support. |

## Truck Data Centre

### Reading out the Fleetboard DriverCard

#### Reading out the Fleetboard DriverCard



#### DriverCard

- ① Fleetboard DriverCard memory chip
- ② Card slot

The Fleetboard DriverCard is used to uniquely identify the driver for driver-related evaluation. Do not touch the contact surfaces of the memory chip

① with your fingers. Otherwise, faults might occur when reading the memory chip ①.

- Switch the ignition lock to the drive position.

Before beginning the journey/trip:

- **Insertion of the driver card:** Insert the Fleetboard driver card with the lettering facing upwards and memory chip ① facing towards the card slot ② until it engages.

#### **i** Note

If the Fleetboard DriverCard is inserted incorrectly, a warning tone sounds five times in quick succession.

After the end of the journey/trip:

- **Removal of the driver card:** Pull the Fleetboard DriverCard out of the bracket.

#### Sending messages

With the card reader for the Truck Data Center, there are three different messages that you can send.

- Switch the ignition lock to the drive position.

#### **i** Note

The Truck Data Centre computer is operational when the LED indicator lamp on the Fleetboard vehicle computer lights up continuously green.

- **To send a Home or Event Call message:** Press the button  or  on the card reader for the Truck Data Center.
  - ◁ The card reader for the Truck Data Center generates the data which is to be sent; this may take a few seconds.
- **Send a Service Call message/run telediagnosics:** Press the button  on the card reader for the Truck Data Center for approximately two seconds.

- ◁ The LED indicator lamp flashes orange: The card reader for the Truck Data Center generates the data which is to be sent; This may take some time. Leave the ignition switched on while the data is being sent. The LED indicator lamp briefly flashes green when the message has been successfully sent.

If the LED indicator lamp briefly lights up red, the message has not been sent:

- ▶ Change the vehicle location.
- ▶ Send the message again.

#### Connectivity services

##### Mercedes-Benz Trucks Uptime

Further information can be found under  
<https://www.uptime-info.mercedes-benz.com>

or an authorised Mercedes-Benz Trucks Service Centre.

##### Fleetboard

Further information can be obtained from  
<https://www.fleetboard.com>

## Driving mode

### Driver assistance/driving safety systems and your responsibility

#### Driver assistance/driving safety systems and your responsibility

Please bear in mind that the driver assistance/driving safety systems described here can only reduce the risk of accidents within system limits and the laws of physics.

Poor road and weather conditions as well as certain traffic situations can impair the function of driver assistance/driving safety systems.

Driver assistance/driving safety systems are only aids. They cannot replace your awareness of your surroundings and do not relieve you of your responsibility under road traffic laws.

Pay attention to the traffic conditions at all times and intervene when necessary.

#### Vehicles with fittings for front attachments (code C50)

It is possible that front attachments, e.g. a temporarily fitted front mounting plate, can partially or entirely cover the sensors' detection range.

If the sensor detection ranges are partially or completely covered, deactivate the following driver assistance and driving safety systems manually:

- Active Brake Assist (→ Page 289)
- Proximity Control Assist (→ Page 274)
- Lane Keeping Assist (→ Page 301)
- Frontguard Assist (→ Page 283)
- Sideguard Assist/Active Sideguard Assist (→ Page 305)

#### Driving

#### Notes on preparing for a journey

Please note that all electronic safety systems in the vehicle merely serve to assist you. They do not relieve you of the obligation to carry out a visual check of the vehicle and the trailer/semitrailer before starting a journey.



#### Danger

#### Risk of injury from unsecured items in the vehicle

If objects, luggage, or loads are not secured or not secured sufficiently, they could slip, tip over, or be thrown around and thereby hit vehicle occupants.

There is a risk of injury, particularly in the event of braking manoeuvres or abrupt changes in direction!

- ▶ Always stow objects in such a way that they cannot be thrown around.
- ▶ Before the journey, secure objects, luggage, or loads against slipping or tipping over.



#### Danger

#### Risk of accident due to objects in the driver's footwell

Objects in the driver's footwell may impede pedal travel, or block a depressed pedal.

This compromises the operating and road safety of the vehicle.



- ▶ Stow all objects in the vehicle securely so that they cannot get into the driver's footwell.
- ▶ Always ensure that there is sufficient clearance for the pedals.
- ▶ Always install the floor mats securely and as specified.
- ▶ Do not use loose floor mats, and do not place floor mats on top of one another.



**Danger**

### Danger of accident due to uneven loading

The driving characteristics, as well as steering and braking characteristics, may be greatly impaired.

- ▶ Load the vehicle evenly.
- ▶ Secure the load against sliding.

### Preparing for a journey

#### Visual and functional inspection of the vehicle exterior

The following checks must be performed on the towing vehicle and on the trailer or semitrailer before starting a journey:

- ▶ Check the vehicle for leaks.
- ▶ Make sure that the licence plate number, vehicle lighting, turn signals, and brake lights are not dirty or damaged.



**Note**

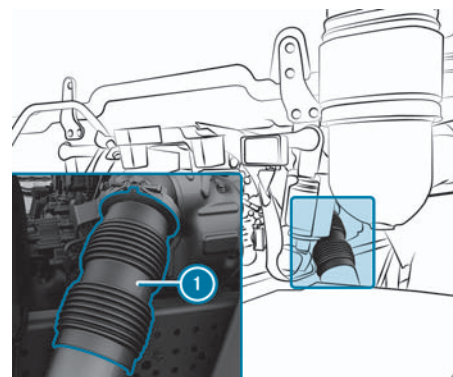
The lamp check of the electronic key helps you check the vehicle lighting (→ Page 47).

- ▶ Check that the outline markings of all attachments and add-on equipment are in good condition.
- ▶ Check the wheels and tyres (→ Page 485).

When doing so, observe the following:

- General condition
- Visible damage and cracks
- Tyre pressure

- Tyre tread depth
- The wheels are fitted securely



Decoupling element between the engine and the exhaust pipe (example)

- ▶ Check the decoupling element of the exhaust system ① for visible damage, e.g. cracks.



**Note**

The decoupling element is a part subject to wear and must be checked regularly.

Vehicles with BlueTec® 4, 5, 6:  
The decoupling element must be replaced immediately if there is

## Driving mode

### Driving

damage and/or leaks. Traces of soot on the decoupling element signify leakage.

- ▶ Make sure that the vehicle is loaded correctly.
- ▶ Make sure that the dropside and exterior flaps are locked securely and not damaged.
- ▶ Fold/push in and lock the folding/extendable steps before driving.
- ▶ Move the folding underride guard to the on-road position.
- ▶ Fit and secure the mudguard centre part when operating the vehicle without a semitrailer.
- ▶ Fold down the mud flaps.
- ▶ In wintry conditions, remove accumulations of snow and ice from the towing vehicle and trailer/semitrailer (→ Page 380).
- ▶ Make sure that cables and compressed-air lines are connected properly (→ Page 360).
- ▶ Make sure that the fifth-wheel/trailer coupling is locked and secured cor-

rectly. Observe the separate operating instructions issued by the manufacturer for the operation, care, and maintenance of the fifth-wheel/trailer coupling. Have all faults and damage rectified. If necessary, have the causes determined and rectified at a qualified specialist workshop.

#### Check the emergency equipment/first-aid kit



#### Note

You will find an overview of emergency equipment and first-aid kits in the "Breakdown assistance" section (→ Page 436).

- ▶ Check the following emergency equipment to make sure that it is accessible, complete, and fully-functional.
  - High visibility vest
  - Warning triangle
  - Warning beacon
  - First-aid kit
  - Fire extinguisher

- ▶ Check that the first-aid kit is usable at regular intervals. Note the use-by dates of the contents.
- ▶ Have the fire extinguisher checked every one to two years.
- ▶ The fire extinguisher must be refilled after each use.

When transporting emergency equipment, please observe the legal requirements of the country you are currently in.

#### Checking the vehicle illumination system

- ▶ Switch on the vehicle.
  - ◁ If a bulb on the towing vehicle is faulty, the instrument cluster shows the display messages  and  for the towing vehicle.
- ▶ Check the vehicle lighting, turn signal lamps, and brake lights on the towing vehicle and trailer/semitrailer with the help of a second person.

or

- ▶ Check the vehicle lighting using the vehicle key lamp check (→ Page 47).
- ▶ Replace the faulty bulbs (→ Page 106).

### Checking levels of fuel and AdBlue®

- ▶ Check the fuel and AdBlue® level shown on the fuel display (→ Page 149) and on the AdBlue® display (→ Page 148).
- ▶ If necessary, refuel and top up with AdBlue® (→ Page 352).

### Checking the engine oil level

- ▶ Check the engine oil level before the start of every journey (→ Page 170).



#### Note

No information concerning the engine oil level will be displayed while you are driving.

### Information on preparation for alcohol tester with immobiliser

The retrofit is prescribed as part of the General Safety Regulation and provides for a standardised interface in the cab, which is intended for the connection of a breathalyser from third-party providers.

By retrofitting an alcohol tester, companies can prevent the vehicle from being put into operation without a successful breathalyser test being completed.



#### Note

Country-specific regulations may prescribe or permit a bypass switch for the alcohol tester. This can be used in an emergency to start the vehicle without carrying out a breathalyser test.



#### Note

Further information on retrofitting an alcohol tester with immobiliser can be obtained from an authorised Mercedes-Benz Trucks Service Centre.



#### Note

Information on operating the alcohol tester has been specified in the vehicle's operating instructions.

### Notes on the ignition lock



#### Danger

### Risk of accident and injury due to children left unattended in the vehicle

If you leave children unattended in the vehicle, some of the things that might happen include:

- They may open doors, thereby endangering other persons or road users.
- They may get out and be struck by oncoming traffic.
- They may operate vehicle equipment and become trapped.

In addition, children could also set the vehicle in motion, for example, by

- Releasing the parking brake.

## Driving mode

### Driving

- Changing the transmission position.
- Starting the vehicle.
- ▶ Do not leave children unattended in the vehicle.
- ▶ When leaving the vehicle, always take the key with you and lock the vehicle.
- ▶ Keep the key out of the reach of children.



#### **Danger**

#### **Risk of accident when the vehicle is switched off while driving**

If during an emergency you switch off the vehicle while you are driving, safety-relevant functions will be restricted or no longer available.

This may affect the power steering system and the brake force boosting, for example.

You will then need to exert considerably more power when steering and braking, for example.

- ▶ For this reason alone, you should never switch off the vehicle while you are driving.



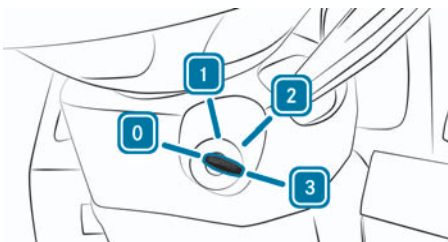
#### **Danger**

#### **Risk of accident due to the key inadvertently turning in the ignition lock**

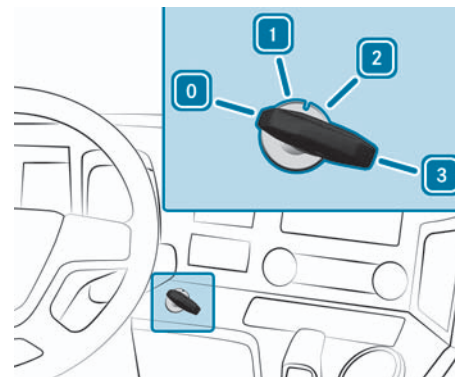
If heavy or large objects are attached to the key, the key may inadvertently turn within the ignition lock.

- ▶ Do not attach large or heavy objects to the key.
- ▶ Remove the key from a bulky bunch of keys before inserting it into the ignition lock.

#### **Key positions of the mechanical ignition lock**



Ignition lock on the steering column

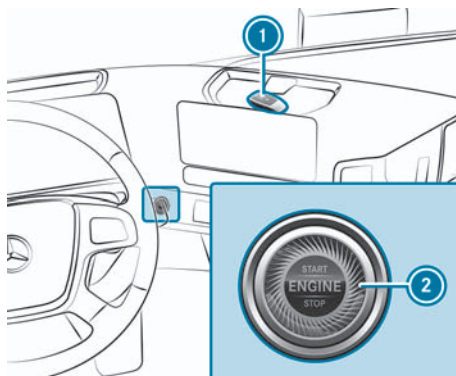


Ignition lock on the cockpit

#### **Ignition lock**

|   |                                        |
|---|----------------------------------------|
| 0 | Insert/remove the vehicle key          |
| 1 | Steering wheel unlocked/radio position |
| 2 | Vehicle switched on/drive position     |
| 3 | Vehicle start/start position           |

**Vehicles with the ignition lock on the steering column:** When you remove the key in position 0, the steering is locked.



Electronic ignition lock (example)

### Switch positions of the electronic ignition lock

#### Electronic ignition lock

- ① Key
- ② Start/stop button

### The ignition lock has the following switch positions:

|   |                                                                      |
|---|----------------------------------------------------------------------|
| 0 | The vehicle is switched off.                                         |
| 1 | Radio position – the power supply for some consumers is switched on. |
| 2 | Drive position – the vehicle is switched on.                         |

|   |                                          |
|---|------------------------------------------|
| 3 | Start position – the vehicle is started. |
|---|------------------------------------------|

If you press the start/stop button ② when the brake is not depressed, the ignition lock will switch to the next switch position. If you press the start/stop button in switch position 2, the ignition lock will switch to switch position 0.

If you press the start/stop button ② when the vehicle is stationary and has been started, the vehicle will switch off.

### Radio position/power supply/drive position

#### Requirements

- The key is in the vehicle.
- The key battery is charged.

To switch the ignition lock to the radio position, press the button ② once without depressing the brake pedal. In the radio position, the power supply is switched on for some consumers.

The power supply is switched off again when one of the following conditions is met:

- You open the driver's or co-driver's door.
- Press the button ② twice.

To switch on the vehicle, press the button ② twice. When the vehicle is switched on, the indicator lamps in the instrument cluster light up.

The vehicle is switched off again if one of the following conditions is met:

- You do not start the vehicle within 30 minutes.
- Press the button ② once.

### Note

If the vehicle is switched off automatically, vehicle lighting switched on by the automatic driving lights is also switched off.

If necessary, switch the vehicle illumination system on manually (→ Page 97).

## Driving mode

### Driving



#### Note

In an emergency, you can switch off the vehicle while driving. To do this, press the button ② for about three seconds or press the button ② three times within three seconds. Be sure to observe the safety instructions at the beginning of this chapter.

#### Ignition run-on

The ignition run-on function is only available in combination with an electronic ignition lock.

The ignition run-on function allows you to leave the vehicle switched on and take the key out of the vehicle with you. This means you can leave and lock the cab when the vehicle is switched on, for example. The ignition run-on function is limited to a maximum duration of 60 minutes. The ignition lock then switches to position 0 and the vehicle switches off.

#### Engine run-on



#### Danger

##### **Risk of accident due to the vehicle roll-starting unintentionally**

If you use the engine run-on function, the vehicle may roll-start unintentionally if crawler mode is activated and the start-off gear is engaged.

- Shift the transmission to neutral.
- Apply the parking brake.

The engine run-on function is only available in combination with an electronic ignition lock.

The engine run-on function allows you to leave the engine running while the vehicle is stationary and take the key out of the vehicle with you. This means you can lock the cab and operate power take-offs or use the level control system in work mode, for example.

#### **Automatic engine start/stop for refrigerated vehicles (code E4E)**

For refrigerated truck bodies which are powered by the engine, the vehicle can

be automatically started and stopped by the body electronics. This is the case regardless of whether or not the cab is locked. This function ensures that the desired temperature is maintained when the vehicle is stationary.

If the vehicle is started by the body electronics, the transmission remains blocked. This means that the vehicle continues to be protected against theft.

#### Start the vehicle



#### Danger

##### **Risk of fatal injuries due to exhaust gases**

Combustion engines emit poisonous exhaust gases, such as carbon monoxide. Breathing in these exhaust gases is hazardous to health and results in poisoning.

- Do not leave the engine and, if installed, the auxiliary heating, running in an enclosed space without sufficient ventilation.

- ▶ Press and hold the brake or apply the parking brake.
- ▶ Switch on the vehicle.
  - ◁ The display check of the instrument cluster starts.
- ▶ Check the engine oil level ( → Page 170).
- ▶ Shift the transmission to neutral.
- ▶ Deactivate the power take-off ( → Page 388).
- ▶ Switch off the cargo liftgate, see the separate operating instructions.
- ▶ Vehicles with engine preheating: In outside temperatures below -20 °C, preheat the engine before starting ( → Page 142).
- ▶ Press and hold the start/stop button or turn the key to the start position in the ignition lock. Do not depress the accelerator pedal while doing so.

### Note

The idle speed is increased at very low outside temperatures or during diesel particulate filter regeneration.

### Note

On vehicles with engines OM 470 and OM 471, an increased operating noise occurs when the engine is cold and during manual regeneration of the diesel particulate filter.

### Note

Depending on the equipment, the starting procedure is automatically interrupted for the following vehicles:

For vehicles with the OM 936 engine, after approx. 60 seconds.

For vehicles with OM 470, OM 471 and OM 473 engines, after approx. 40 seconds.

For vehicles with the OM 460 engine, the starting procedure must be interrup-

ted after 20 seconds and repeated after approximately one minute.

After three starting procedures, take a break of about three minutes.

Vehicles with an electronic ignition lock: If the vehicle does not start and the [Hold key on contact point as described in the Operating Instructions](#) display message is displayed in the instrument cluster, the vehicle can be started in emergency mode.

### Start the vehicle in emergency operation mode

- ▶ Hold the vehicle key to the right next to the Start/Stop button and press the Start/Stop button.
- ▶ If the vehicle starts up: Have the vehicle key checked at a qualified workshop.
- ▶ If the vehicle does not start: Consult a qualified specialist workshop.

## Driving mode

### Driving

#### Notes on automatic engine speed increase



**Danger**

#### Risk of fire from hot exhaust system components

Flammable materials, such as leaves, grass or twigs, may ignite.

- ▶ Park the vehicle such that no flammable materials can come into contact with hot vehicle parts.
- ▶ In particular, do not park on dry grassland or harvested grain fields.



**Note**

#### Damage due to hot exhaust gases

During the automatic engine speed increase, very hot exhaust gases escape from the exhaust tailpipe.

- ▶ Keep a minimum distance of one metre away from other objects, such as parked vehicles.

In order to reduce deposits of unburned hydrocarbon (fuel) in the catalytic converter of the exhaust system, a sufficiently

high operating temperature is necessary. If the operating temperature e.g. at very low outside temperatures for a longer period of time, the engine speed is increased automatically. This leads to increased operating noises.

The automatic engine speed increase starts when the following conditions are met:

- The vehicle is switched off with the engine running and the parking brake applied.
- The operating temperature of the catalytic converter was not reached within approximately five hours.

If you release the parking brake or engage a gear, the process is cancelled.

#### BlueTec® 6 vehicles

If the display message  **Rotational speed increase** appears in the instrument cluster, the process is started.

This is performed at increased engine speeds.

The display message disappears after approximately 30 minutes.

The automatic engine speed increase does not regenerate the diesel particulate filter.

#### BlueTec® 5 vehicles (with code M5S)

If the display message  **Rotational speed increase** appears in the instrument cluster, the process is started.

The engine speed is increased to approximately 1400 1/min for a maximum of 60 minutes and the engine also works against the engine brake.

When the operating temperature of the catalytic converter has been reached and the process is complete, the display message disappears and the engine runs at idle speed again.

If the operating temperature of the catalytic converter has not been reached after 60 minutes, the display message disappears and the process restarts after a break of approximately four hours.



### Notes on automatic engine speed increase at low on-board electrical system voltage

If the energy requirement from the on-board electrical system is increased at a low engine speed (idle speed), the engine speed may increase automatically. This increases the alternator output and ensures operation of the required electrical consumers.

### Safety checks

#### Checking the supply pressure in the compressed-air brake system



**Danger**

#### Risk of accident due to leaking compressed-air brake system

If a compressed-air brake system is leaking or there is insufficient reserve pressure, it will not be possible to brake the vehicle.

- ▶ Only set the vehicle in motion if the necessary reserve pressures are reached.

- ▶ In case of a loss of pressure while driving, immediately stop the vehicle safely. Pay attention to the traffic conditions.
- ▶ Consult a qualified specialist workshop as soon as possible.
- ▶ Check the compressed-air brake system for leaks (→ Page 224).
- ▶ Start the vehicle and wait until the  warning lamp in the instrument cluster goes out.
- ▶ Vehicles without BlueTec® exhaust gas after-treatment: Check the supply pressure on the display in the instrument cluster.
- ▶ With BlueTec® vehicles: In the instrument cluster, open the Check info menu , menu window [Reserve pressure](#) (→ Page 170) and check the current supply pressure.
- ▶ Observe the display messages and the indicator lamps in the status area of the instrument cluster for the supply pressure and the compressed-air brake system.

#### Checking supply pressure in the transmission/clutch circuit



**Danger**

#### Risk of accident due to low supply pressure

In the event of pressure loss or if the supply pressure in the transmission/coupling circuit is too low, you will no longer be able to shift gear.

- ▶ Do not set the vehicle in motion or stop the vehicle as soon as possible, paying attention to surrounding road and traffic conditions. Pay attention to the traffic conditions.
- ▶ Use the parking brake to secure the vehicle against rolling away.
- ▶ Consult a qualified workshop immediately to have the compressed-air system repaired.

The supply pressure in the transmission/clutch circuit is only replenished after brake circuits 1 and 2. If the supply pressure in the transmission/clutch circuit is too low, the instrument cluster shows the display message  [Trans-](#)

## Driving mode

### Driving

mission/clutch reservoir pressure too low.

- ▶ Start the vehicle and wait until the display message disappears.

#### Check the function of the compressed-air dryer

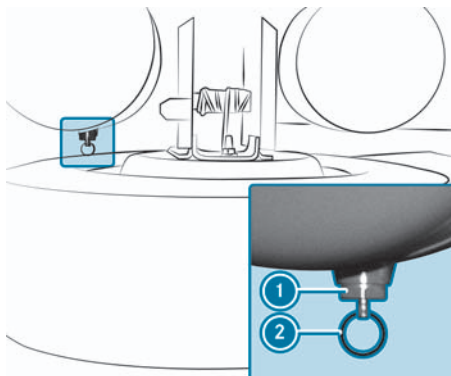


**Danger**

#### Risk of accident due to an excessively high condensation level

If the condensation level in the compressed-air reservoirs is too high, the braking effect may be reduced, or the compressed-air brake system may fail.

- ▶ Check the compressed-air system for condensation before starting a journey.
- ▶ If the compressed-air brake system has an excessively high condensation level, have it checked at a qualified specialist workshop as soon as possible.



Drain valve on the compressed-air reservoir

- ▶ Start the vehicle.
- ▶ Check the reservoir pressure in the compressed-air brake system (→ Page 170).
- ▶ If the instrument cluster shows the red display message **Brake supply pressure in circuit 1 too low** and/or **Brake supply pressure in circuit 2 too low**: Leave the vehicle switched on until the red display messages disappear.
  - ◀ The compressed-air system is filled.
- ▶ Switch off the vehicle.

- ▶ Press the ring ② on the drain valve ① upwards and drain the condensate.
- ▶ If a large amount of condensation runs out, have the compressed-air brake system checked at a qualified specialist workshop.

#### Vehicles with condensation monitoring:

If it is detected that there are too few regeneration phases, the instrument cluster will show display message  **Condensation in compressed-air reservoir**.

#### Check the vehicle height



**Danger**

#### Risk of accident due to lowered or raised chassis

The braking and handling characteristics may be greatly impaired. The permitted vehicle height may be exceeded.

- ▶ Set the driving level before you set off.

If the indicator lamp  lights up in the instrument cluster, this means the chassis is not at driving level.

- ▶ Set driving level (→ Page 320).
  - ◁ The indicator lamp  in the instrument cluster goes out.

### Notes on pulling away



#### Note

#### Engine damage due to low oil pressure

The engine needs a short time to build up the necessary oil pressure after starting, especially if it is cold. There is a risk of increased wear and engine damage if the oil pressure is insufficient.

- ▶ Before driving off or increasing the engine speed, let the engine run in neutral for a short time.
- ▶ Avoid high engine speeds if the engine is cold.



#### Note

#### Damage to the power steering due to overload

If, for example, the wheels are touching a kerb, holding the steering at the stop for too long or turning the steering wheel too forcefully could cause the steering to be damaged or malfunction.

- ▶ Do not hold the steering wheel in the fully turned position for longer than ten seconds.
- ▶ Do not steer too forcefully if the wheels are close to objects.

Vehicles with automated manual transmission and without turbo retarder clutch: The vehicle has a selectable crawler mode. When crawler mode is activated, the vehicle automatically crawls forwards after the service brake has been released, and continues to roll at idle speed. You can find information on crawler mode in the "Automated manual transmission" section (→ Page 240).

- ▶ Vehicles with turbo retarder clutch: Observe the information on pulling

away in the "Turbo retarder clutch" section (→ Page 253).

- ▶ If the drive wheels spin when pulling away, switch on the starting-off aid (→ Page 324).
- ▶ Test the brakes when moving off. Pay attention to the traffic situation.
- ▶ If you notice a reduction in braking power when testing the brakes, stop the vehicle as soon as possible while paying attention to traffic conditions. Have the braking system checked and repaired at a qualified specialist workshop.

### Notes on stopping and switching off the engine



#### Danger

#### Risk of fire from hot exhaust system components

Flammable materials, such as leaves, grass or twigs, may ignite.

## Driving mode

### Driving

- ▶ Park the vehicle such that no flammable materials can come into contact with hot vehicle parts.
- ▶ In particular, do not park on dry grassland or harvested grain fields.



#### **Danger**

#### **Risk of accident on uphill or downhill slopes**

The parking brake may not be sufficient to secure the vehicle on uphill and downhill slopes.

A loaded vehicle or a vehicle with a trailer/semitrailer may roll away.

- ▶ In the check position, check whether the braking force of the parking brake alone is sufficient to hold the complete vehicle.
- ▶ Generally, secure the towing vehicle and trailer/semitrailer with the parking brake and, additionally, with chocks.



#### **Danger**

#### **Risk of accident when the vehicle is switched off while driving**

If during an emergency you switch off the vehicle while you are driving, safety-relevant functions will be restricted or no longer available.

This may affect the power steering system and the brake force boosting, for example.

You will then need to exert considerably more power when steering and braking, for example.

- ▶ For this reason alone, you should never switch off the vehicle while you are driving.



#### **Danger**

#### **Risk of accident and injury due to children left unattended in the vehicle**

If you leave children unattended in the vehicle, some of the things that might happen include:

- They may open doors, thereby endangering other persons or road users.

- They may get out and be struck by oncoming traffic.

- They may operate vehicle equipment and become trapped.

In addition, children could also set the vehicle in motion, for example, by

- Releasing the parking brake.
- Changing the transmission position.
- Starting the vehicle.

- ▶ Do not leave children unattended in the vehicle.
- ▶ When leaving the vehicle, always take the key with you and lock the vehicle.
- ▶ Keep the key out of the reach of children.

If children are being transported in the vehicle, please observe the additional notes/instructions (→ Page 40).

You can find information on crawler mode in the "Automated manual transmission" section (→ Page 244).

Vehicles with automated manual transmission:

After the vehicle has been halted with crawler mode activated, the vehicle begins to crawl again in the following cases:

- The transmission is not shifted to neutral.
- The parking brake is not applied.
- The service brake is released again.

In the following situations, leave the stationary vehicle switched on for approximately two additional minutes before switching it off:

- The vehicle has been driven for a prolonged period with the turbo retarder clutch in operation.
- The vehicle has been driven for a prolonged period in retarder mode.
- The coolant temperature is above approximately 100 °C.
- Full engine output has been used, e.g. while driving in mountainous terrain or during combined operation.

### Stopping and switching off the engine

#### Stopping when crawler mode is activated

To prevent the vehicle from roll-starting when crawler mode is activated, observe the following:

- ▶ Stop the vehicle.
- ▶ Apply the parking brake.
- ▶ Shift the transmission to neutral.

#### Switching off the vehicle

- ▶ Turn the key back in the ignition lock as far as it will go.

or

- ▶ Press and release the start/stop button.
- ▶ Secure the vehicle against rolling away; use chocks if necessary.

### Brakes

#### Notes on the brake system

Always observe the information in the yellow or red display messages (→ Page 525) shown in the instrument cluster when there is a malfunction in the brake system. In addition, an indicator lamp lights up in the status area of the instrument cluster and a warning tone may sound. Have the brake system checked and repaired at a qualified specialist workshop.

The vehicle is equipped with an electronic braking system (EBS) when it leaves the factory and can include the following functions:

- ABS (anti-lock braking system)
- ASR (acceleration skid control system)
- ALB (automatic load-dependent brake)
- Hill holder
- BAS (Brake Assist System)

## Driving mode

### Brakes

#### Checking the compressed-air brake system for leaks



**Danger**

#### **Risk of accident due to leaking compressed-air brake system**

If a compressed-air brake system is leaking or there is insufficient reserve pressure, it will not be possible to brake the vehicle.

- ▶ Only set the vehicle in motion if the necessary reserve pressures are reached.
- ▶ In case of a loss of pressure while driving, immediately stop the vehicle safely. Pay attention to the traffic conditions.
- ▶ Consult a qualified specialist workshop as soon as possible.

#### **Note**

Do not let anyone enter or exit the vehicle during the test. This avoids mistaking pressure loss from the air-sprung cab suspension system, air-sprung seats or the level control system for a leak.

- ▶ Stop the vehicle on a level surface.
- ▶ Apply the parking brake.
- ▶ Use chocks to prevent the vehicle from rolling away.
- ▶ Release the parking brake.
- ▶ Switch on the vehicle.
- ▶ In the instrument cluster, open the **Reserve pressure** menu window in the Monitoring information  menu (→ Page 170).
- ▶ Start the vehicle and wait until the display shows a supply pressure of at least 11 bar.
- ▶ Switch off the vehicle.
  - ◀ The parking brake is automatically applied.
- ▶ Switch on the vehicle.
- ▶ Release the parking brake again.

- ▶ In the instrument cluster, open the **Reserve pressure** menu window again.
- ▶ Depress the brake pedal and keep it in this position.
- ▶ After a brief moment, read off the supply pressure.
- ▶ Read off the supply pressure once again after approximately one minute.

If no significant loss of pressure is detected in the menu window **Reserve pressure** after that minute, the compressed-air brake system is not leaking.

If a significant loss of pressure is detected, the compressed-air brake system is leaking.

- ▶ If the compressed-air brake system is leaking, have it checked and repaired at a qualified workshop.

#### **Notes on the trailer/semitrailer brake system**

The  indicator lamp for the trailer/semitrailer brake system can light up in

two different colours in the status area of the instrument cluster.

If the indicator lamp  lights up in the status area of the instrument cluster, observe the following information:

- The trailer's/semitrailer's brake system is malfunctioning.
- Driving/braking behaviour may change.
- Also observe the notes in the separate operating instructions provided by the trailer/semitrailer manufacturer.
- Deactivate driver assistance systems that intervene actively in the brake depending on the driving situation, as the overall braking behaviour of your vehicle can be significantly altered on slippery surfaces due to the existing fault.
- Continue your journey carefully.
- Have the brake system checked at a qualified specialist workshop as soon as possible.

If the indicator lamp  lights up in the status area of the instrument cluster, observe the following information:

- The trailer's/semitrailer's brake system has a fault or the trailer/semitrailer is automatically braked.
- Driving/braking behaviour may change.
- Also observe the notes in the separate operating instructions provided by the trailer/semitrailer manufacturer.
- Brake carefully and stop the vehicle, paying attention to road and traffic conditions.
- Apply the parking brake.
- Notify a qualified specialist workshop.

#### ABS (anti-lock braking system)

##### Function of ABS

ABS controls the brake pressure so that the wheels do not lock when braking. This means that the vehicle can still be steered while braking.

#### ABS display check



**Danger**

#### Risk of skidding when ABS malfunctions

If ABS malfunctions, the wheels may lock during braking.

- ▶ Continue your journey carefully.
- ▶ Have the ABS checked at a qualified specialist workshop as soon as possible.

The anti-lock protection function is not guaranteed in the following situations:

- After switching on the vehicle, the indicator lamp  is not displayed in the status area of the instrument cluster.
- The vehicle has been switched on for three seconds and the indicator lamp is still lit.
- The indicator lamp lights up after the vehicle has pulled away.

## Driving mode

### Brakes

#### Braking with anti-lock protection



**Danger**

#### Risk of accident due to brakes locking

When braking, the wheels of the trailer/semitrailer may lock and the tractor/trailer combination may become unstable if:

- the trailer/semitrailer does not have any ABS
- the trailer/semitrailer ABS has failed
- ABS has failed completely

As a result, you could lose control of the tractor/trailer combination and cause an accident.

- ▶ Always adapt your driving style to the prevailing road and weather conditions, and maintain a sufficient, safe distance from other road users.
- ▶ Avoid maximum full-stop braking, apart from in an emergency situation.
- ▶ As you consider your driving style, always keep in mind that active

driver assistance systems can unexpectedly intervene at any time to assist with braking.



**Note**

Even if Stability Control Assist is activated, the wheels of the trailer or semitrailer can still lock when braking.

- ▶ **If ABS intervenes:** Continue to depress the brake pedal until the braking situation has passed.
  - ◁ When ABS is intervening, the continuous brake is switched off. The indicator lamp  in the instrument cluster remains on.
- ▶ **If emergency braking is engaged:** Vigorously depress the brake pedal.
  - ◁ Under certain conditions, the hazard warning light system switches on automatically.

If you want to drive the towing vehicle with a trailer or semitrailer with ABS or an electronic brake system:

- ▶ Connect the connecting cable to the ABS/BS socket or the ABS plug (→ Page 361).

If you want to drive the towing vehicle without a semitrailer or with a semitrailer without ABS:

- ▶ Insert the connecting cable into the empty socket.

#### Function of BAS (Brake Assist System)



**Danger**

#### Risk of an accident caused by a malfunction in BAS (Brake Assist System)

If BAS malfunctions, the braking distance may be longer in emergency braking situations.

- ▶ Depress the brake pedal with full force in emergency braking situations. ABS will prevent the wheels from locking.

BAS supports you in emergency braking situations. If you depress the brake pedal



quickly, BAS boosts the brake pressure and thus shortens the braking distance.

- Keep the brake pedal firmly depressed until the emergency braking situation has passed.

The brakes will function as usual once you release the brake pedal. BAS is deactivated.

### Electronic parking brake

#### Notes on the electronic parking brake



**Danger**

#### **Risk of accident and injury due to children left unattended in the vehicle**

If you leave children unattended in the vehicle, some of the things that might happen include:

- They may open doors, thereby endangering other persons or road users.
- They may get out and be struck by oncoming traffic.

- They may operate vehicle equipment and become trapped.

In addition, children could also set the vehicle in motion, for example, by

- Releasing the parking brake.
- Changing the transmission position.
- Starting the vehicle.
- Do not leave children unattended in the vehicle.
- When leaving the vehicle, always take the key with you and lock the vehicle.
- Keep the key out of the reach of children.



**Danger**

#### **Risk of accident on uphill or downhill slopes**

The parking brake may not be sufficient to secure the vehicle on uphill and downhill slopes.

A loaded vehicle or a vehicle with a trailer/semitrailer may roll away.

- In the check position, check whether the braking force of the parking brake alone is sufficient to hold the complete vehicle.
- Generally, secure the towing vehicle and trailer/semitrailer with the parking brake and, additionally, with chocks.



**Danger**

#### **Risk of skidding and accident due to secondary braking with the parking brake**

If you brake the vehicle using the parking brake, no ABS braking regulation takes place. The wheels could lock. There is an increased risk of skidding and/or accident.

- Do not pull the parking brake lever past the resistance point.
- If the wheels lock, as soon as possible move the parking brake lever in the release direction to the point at which the wheels begin to turn again.

## Driving mode

### Brakes

#### Using the electronic parking brake



Exemplary representation

#### Electronic parking brake

- ① Lever  for electronic parking brake
- ② Button  for electronic parking brake

#### Note

If the vehicle is equipped with Trailer Stability Assist (TSA), the button  is next to the button  for this function (→ Page 314).

Depending on equipment, a lever version with an electrically-driven independent trailer brake is possible.

If the symbol  appears on the lever ①:

- Observe the notes in the section on the electrically-driven independent trailer brake (→ Page 230).

#### Applying the electronic parking brake manually

Requirements:

- The vehicle is stationary.
  - Press the button .
- or
- Pull the lever ① past the pressure point.
    - ◁ The parking brake is applied.
    - ◁ The indicator lamp of the  button and the  indicator lamp on the instrument cluster light up continuously.

#### Note

Only once the indicator lamp in the  button and the indicator lamp on the instrument cluster  light up does this indicate that the parking brake has been engaged correctly.

#### Releasing the electronic parking brake manually

Requirements:

- The vehicle is switched on.
- The pressure in brake circuits 1 and 2 is adequate.
- Depress the brake pedal.
- Press the button .
  - ◁ The parking brake is released.
  - ◁ The indicator lamp in the  button and the  indicator lamp on the instrument cluster go off.

### Applying the electronic parking brake automatically

Requirements:

- The vehicle is stationary.
- The vehicle is switched on.
- ▶ Switch off the vehicle.

or

- ▶ Open the driver's door.
  - ◁ The parking brake is automatically applied.
  - ◁ The indicator lamp of the  button and the  indicator lamp on the instrument cluster light up continuously.

### Releasing the electronic parking brake automatically

Requirements:

- The vehicle is switched on.
- The pressure in brake circuits 1 and 2 is adequate.
- The doors are closed.
- ▶ Shift transmission from  to  or .

- ◁ The HOLD function of the electronic brake system is activated.
- ◁ The  indicator lamp is displayed in the instrument cluster.
- ◁ The vehicle is held by the service brake.
- ◁ The parking brake is released.
- ▶ Depress the accelerator pedal.
  - ◁ The HOLD function of the electronic brake system is deactivated.
  - ◁ The vehicle starts moving.
  - ◁ The  indicator lamp in the instrument cluster goes out.

### Testing the parking brake (check position)

Requirements:

- The pressure in brake circuits 1 and 2 is adequate.
- The parking brake is applied.
- The  lever is in the starting position.
- ▶ Pull the  lever past the pressure point and hold it there.

- ◁ The check position of the parking brake is activated.
- ◁ The [Performing check position](#) display message appears in the instrument cluster.

### Note

During the test, the tractor/trailer combination is only held by the force exerted by the spring-loaded brake of the towing vehicle. The trailer or semitrailer brake is released.

### Secondary braking with electronic parking brake

Requirements:

- The parking brake is released.
- ▶ Depending on the desired strength of the auxiliary braking, pull the  lever no further than the pressure point.
  - ◁ The parking brake brakes the vehicle depending on the lever position.
  - ◁ If the pressure in the spring-loaded actuator is less than

## Driving mode

### Brakes

6.5 bar, the  indicator lamp lights up in the instrument cluster.

#### Activating the workshop mode of the electronic parking brake

Requirements:

- The vehicle is stationary.
- The parking brake is applied.
- Vehicle is switched off.

If you activate workshop mode of the electronic parking brake, all automatic parking brake functions are deactivated.

To avoid automatic application of the electronic parking brake when the vehicle is being towed, activate workshop mode and tow the vehicle with the front axle raised.

- ▶ Switch on the vehicle, but do not start it.
- ▶ Press and hold the  button.
- ▶ Switch off the vehicle.
  - ◁ Workshop mode of the electronic parking brake is activated.

- ◁ The instrument cluster shows a corresponding display message after the vehicle is switched on again.

If you drive faster than 30 km/h while workshop mode is activated, this mode will deactivate.

#### Electric independent trailer brake

##### Notes on the electric anti-jackknife brake

The anti-jackknife brake can be used independently of the service brake and parking brake of the towing vehicle. The anti-jackknife brake brakes the wheels on the trailer/semitrailer and, depending on the configuration, the towing vehicle. Pull the anti-jackknife brake lever to perform braking adjustments on downhill gradients. This prevents the tractor/trailer combination from jack-knifing.

- ▶ If the anti-jackknife brake is not sufficient, reduce speed using the service brake or the retarder.

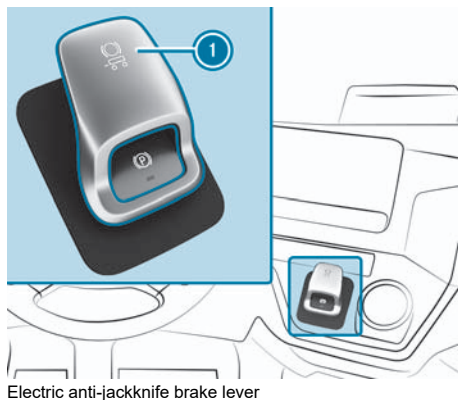


#### **Danger**

##### **Risk of accident due to incorrect use of the anti-jackknife brake**

If you use the anti-jackknife brake improperly, e.g. as a replacement for the continuous brake, the trailer/semitrailer brake can overheat or lock. This means that the vehicle is no longer safe for operation or road use.

- ▶ Only use the anti-jackknife brake briefly for adaptive braking.



Electric anti-jackknife brake lever

### **i** Note

Depending on configuration, a lever variant of the electronic parking brake with auxiliary brake function is available. In this case, the symbol ① is shown on the (P) lever. Read the information in the section on the electronic parking brake (→ Page 227).

### Applying and releasing the holding brake on the front axle



**Danger**

#### **Risk of accident due to limited brake force of the holding brake on the front axle**

The holding brake is not a parking brake. The brake force at the front axle is available for a limited period only and only when the vehicle has been started. The vehicle may roll away.

- ▶ Additionally secure the vehicle with chocks.

### Applying the holding brake



Switch for holding brake on the front axle (example)

The holding brake on the front axle provides a safe support, e.g. for fire engines when carrying out rescue operations using the winch. The holding brake at the front axle can exclusively be activated when the parking brake is applied.

- ▶ Start the vehicle.
- ▶ Shift the transmission to neutral.
- ▶ Apply the parking brake.

## Driving mode

### Brakes

#### Note

The supply pressure in brake circuit 2 must be above 7.5 bar.

- ▶ Press the  switch at top.
  - ◁ The indicator lamp in the  switch lights up.

#### Note

If you switch off the vehicle when the holding brake is switched on or the parking brake is released, the holding brake on the front axle is automatically released.

#### Releasing the holding brake

- ▶ Press the  switch at the bottom.
  - ◁ The holding brake on the front axle is released. The parking brake remains applied. The indicator lamp in switch  goes off.

#### Frequent-stop brake

##### Notes on the frequent-stop brake

#### Danger

##### **Risk of accident due to excessively low brake pressure of the frequent-stop brake**

If you use the frequent-stop brake to secure the vehicle to prevent it from rolling away, the brake pressure may be too low.

This may cause the vehicle to roll away even though the frequent-stop brake is applied.

- ▶ Never exit the driver's seat when the frequent-stop brake is applied, and be ready to brake.
- ▶ If the vehicle rolls away, also apply the service brake.

#### Danger

##### **Risk of accident due to the frequent-stop brake being applied in winter**

If, in wintry road conditions, you brake with the frequent-stop brake applied, the wheels may lock just before the vehicle stops. Even if you remove your foot from the brake pedal, the wheels will remain locked.

This may cause the vehicle to skid or slide away, e.g. on uphill or downhill slopes.

- ▶ Never apply the frequent-stop brake in wintry road conditions.

#### Danger

##### **Risk of accident due to the frequent-stop brake not being applied**

If you do not stop the vehicle with the service brake, e.g. when coasting down, the frequent-stop brake will not be applied. The vehicle may roll away.

- In order to apply the frequent-stop brake, always use the service brake to brake the vehicle to a standstill.

The frequent-stop brake uses less compressed air than the parking brake. Use the frequent-stop brake if you frequently pull away and stop for short periods of time, e.g. in refuse collection operation. The frequent-stop brake does not replace the service brake or the parking brake. You will find further information on stopping in the "Pulling away and stopping" section (→ Page 223).

When the frequent-stop brake is released, the  indicator lamp in the status area goes out.

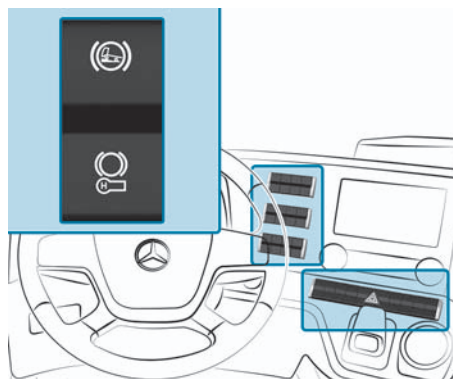
If you switch the vehicle off while the frequent-stop brake is applied, the function will remain switched on even after the vehicle is restarted.

**Vehicles with automated manual transmission:** When you engage the frequent-stop brake, crawler mode is deactivated automatically. You can find information on crawler mode in the

section entitled "Automated manual transmission" (→ Page 244).

### Applying and releasing the frequent-stop brake

#### Deactivating



Example: frequent-stop brake switch

- Press the  switch at the bottom.
  - ◁ The indicator lamp  in the status area lights up.

#### Deactivation

- Press the  /  switch up and move to the centre position.

- ◁ The indicator lamp  in the status area goes out.

### Using the hill holder

#### Danger

#### Risk of accident due to the hill holder being activated in winter

If you brake in wintry road conditions with the hill holder switched on, the wheels may lock shortly before stopping. Even if you remove your foot from the brake pedal, the wheels will remain locked. This may cause the vehicle to skid or slide away, e.g. on uphill or downhill slopes.

- Do not activate the hill holder in wintry road conditions.

#### Danger

#### Risk of accident due to the hill holder not being activated

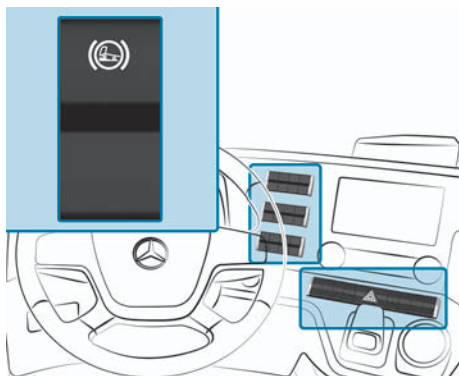
If you do not stop the vehicle with the service brake, e.g. when coasting down,

## Driving mode

### Brakes

the hill holder will not activate. The vehicle may roll away.

- In order activate the hill holder, always use the service brake to brake the vehicle to a standstill.



The hill holder assists you when pulling away on uphill or downhill slopes. The hill holder prevents the vehicle from rolling. This facilitates controlled pulling away.

- **To switch on:** Press the  switch at top.
- **Deactivation:** Press the  switch at the bottom.

If the hill holder is activated and you depress the brake pedal when the vehicle is stationary, the indicator lamp  lights up in the instrument cluster. If you release the brake pedal, the vehicle is held for two seconds to facilitate controlled pulling away.

#### Note

One second before the brake is released by the hill holder, a warning tone sounds.

**Vehicles with manual transmission:** If you do not depress the accelerator, clutch or brake pedal when the vehicle is stationary and the hill holder is active, a warning tone sounds. The hill holder is released and the  indicator lamp in the instrument cluster goes out. When you brake the vehicle to a standstill while the hill holder is activated, the hill holder is active and the  indicator lamp in the instrument cluster lights up. If you then apply the parking brake, the hill holder is deactivated and the  indicator lamp in the instrument cluster goes out. The

vehicle is then held by the parking brake. After the parking brake is released, the hill holder is no longer active. If you depress the brake pedal, the hill holder remains active after the parking brake is released. If you depress the accelerator pedal and the vehicle pulls away, the hill holder is released automatically. The indicator lamp  goes out in the instrument cluster.

The hill holder remains active in forward and reverse gear even after an intermediate stop or after the vehicle has been switched off.

**Vehicles with automated manual transmission:** If crawler mode is active, the hill holder is automatically released when the vehicle begins to creep forward after the service brake has been released. When crawler mode reaches its functional limits, it is automatically cancelled. The instrument cluster shows the display message [Crawler mode cancelled](#). A warning tone will sound and the transmission control will disengage the clutch. In this case, depress the brake pedal to bring the vehicle to a halt or



depress the accelerator pedal to move off again.

If you do not depress the brake pedal while the vehicle is stationary and the hill holder is activated, a warning tone sounds. The hill holder is deactivated and the indicator lamp  on the instrument cluster goes out.

### Using the HOLD function

The HOLD function holds the vehicle in place without requiring you to continue applying the brakes, for example, when pulling away on a hillside or during periods spent in stationary traffic.

- ▶ Do not use the HOLD function when off-road, on steep downhill or uphill slopes, or with slippery or loose surfaces. Under these conditions, the HOLD function may not be able to hold the vehicle.

The HOLD function is only an aid. The driver is always responsible for safeguarding the vehicle against unintentional rolling away.



### Danger

#### Risk of accident due to the HOLD function being activated when leaving the vehicle

If the vehicle is only braked by the HOLD function, it may roll away in the event of a malfunction in the system or in the power supply. The vehicle can also roll away if the HOLD function is switched off due to the accelerator pedal being depressed, e.g. by a vehicle occupant.

- ▶ Before exiting it, switch off the vehicle and use the parking brake to secure it against rolling away.
- ▶ **To activate the HOLD function:**  
Depress the brake pedal and, after a brief moment, quickly continue to depress it.
  - ◀ The **HOLD** display lights up in the instrument cluster.
- ▶ Release the brake pedal.



### Note

If, instead of the **HOLD** indicator lamp, the  indicator lamp of the hill holder is shown in the instrument cluster, refer to the notes under "Hill holder" (→ Page 233).

The HOLD function is not activated if the vehicle has been braked to a standstill by the distance control assistant.

The HOLD function will deactivate and the **HOLD** indicator lamp will go out in the following circumstances:

- You depress the accelerator pedal with both the clutch and a gear engaged.
- The electronic parking brake is applied.
- The vehicle is switched off.
- A system error occurs.
- The power supply is too low.

## Driving mode

### Brakes



#### Note

**Vehicles with automated manual transmission:** After the HOLD function is deactivated, the activated crawler mode will not cause automatic creeping (→ Page 244).

#### Continuous brake

##### Notes on the continuous brake



#### Danger

##### Risk of accident and skidding when driving on a slippery carriageway

If you activate the retarder or shift down a gear on a slippery carriageway in order to increase the engine's braking effect, the drive wheels may lose their grip.

- ▶ To increase the braking effect of the engine, never activate the retarder and avoid shifting down to a lower gear when driving on a slippery carriageway.



#### Danger

##### Risk of skidding and accident due to malfunction of the retarder or retarder controller

If the retarder or retarder controller malfunctions, the handling and braking characteristics of the vehicle may change.

The vehicle may brake in an uncontrolled manner.

The wheels may lock and therefore lose their grip.

The vehicle may skid.

Vehicle acceleration while overtaking may be lower than desired.

Overtaking may take longer and may need to be aborted.

- ▶ Drive particularly carefully or stop promptly in accordance with traffic regulations.
- ▶ Have the retarder or retarder controller checked immediately at a qualified specialist workshop and repaired if necessary.

- ▶ Always observe the warning lamps and display messages and take the actions described.

You can make optimal use of the engine's braking effect, particularly on long down-hill slopes, if you observe the following points:

- Activate the continuous brake.
- Shift to a lower gear in good time.

#### Engine brake

- ▶ Observe the effective engine braking range marked on the rev counter (→ Page 147).

At very low outside temperatures, the engine brake has limited or no effect after the vehicle has been started.

#### Retarder

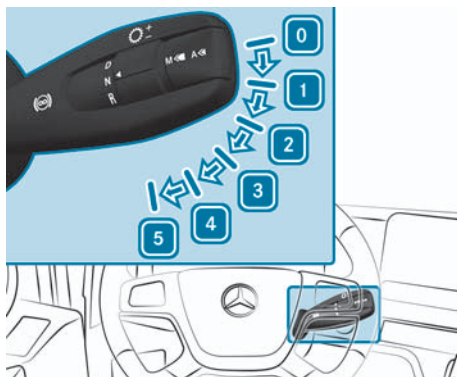
If the  indicator lamp flashes in the instrument cluster, the retarder's braking power is reduced.

- ▶ Shift to a lower gear in good time to increase the engine braking effect and engine cooling.

### Activate/deactivate the continuous brake

If the retarder is deactivated and the indicator lamp  in the instrument cluster does not go out, the retarder is damaged.

- Have the continuous brake checked at a qualified specialist workshop.



Example: multifunction lever

BlueTec® vehicles without a retarder are equipped with three brake stages (**1** – **3**) and vehicles without BlueTec® exhaust gas aftertreatment have two brake stages (**1** – **2**).

If the vehicle is switched on and the  indicator lamp flashes in the instrument cluster, the multifunction lever is not in position **0**.

- **To switch on:** Pull the multifunction lever to the desired brake stage.
  - ◁ The check lamp  in the instrument cluster lights up.
- **Switching off:** Push the multifunction lever to position **0**.
  - ◁ The indicator lamp  in the instrument cluster goes out.

### Manual transmission

#### Notes on the manual transmission



**Danger**

#### Risk of accident due to low supply pressure

In the event of pressure loss or if the supply pressure in the transmission/coupling circuit is too low, you will no longer be able to shift gear.

- Do not set the vehicle in motion or stop the vehicle as soon as possible,

paying attention to surrounding road and traffic conditions. Pay attention to the traffic conditions.

- Use the parking brake to secure the vehicle against rolling away.
- Consult a qualified workshop immediately to have the compressed-air system repaired.



#### Note

#### Damage to the transmission, engine or clutch by selecting reverse gear

Observe the following notes:

- Do not drive at too low or too high an engine speed.
- Only engage reverse gear when the engine is at idling speed and the vehicle is stationary.
- During shift operations, make sure that the engine speed does not rise into the red danger zone of the rev counter.
- Release the gearshift lever once the shift operation is over. Do not rest your hand or arm on the gearshift lever.

## Driving mode

### Manual transmission

- ▶ The maximum permissible engine speed has been exceeded if the warning tone sounds when downshifting. Do not shift to the lower gear, but rather into a higher gear. Power-assisted gearshifts are switched off to protect the transmission synchronisation. For this reason, more effort is needed for shifting.

### Changing gear

#### Changing gear

The engine only accepts throttle with a delay in the following cases:

- if the vehicle is stationary.
- if the transmission is in neutral position.

To support the most fuel-efficient driving style possible, the instrument cluster displays a gearshift recommendation in the form of an arrow. Shift the gears up ↑ or down ↓ according to the recommended gear.

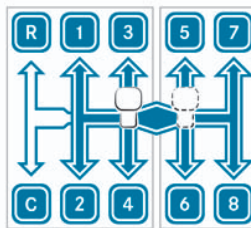
- ▶ Depress the clutch pedal.
- ▶ Change the shift range if necessary (→ Page 239).
- ▶ Shift into the desired gear with the gearshift lever, without using excessive force.
- ▶ **Engaging reverse gear** Engaging reverse gear: overcome the gearshift lever pressure point in the reverse-gear gate by gently tapping the side of the gearshift lever with your hand.

In neutral, the gearshift lever is in the shift gate between 3rd and 4th gear or 5th and 6th gear.

The transmission is divided into the following shift ranges:

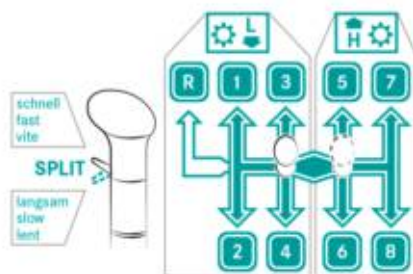
- Low shift range L with the following gears:
  - gears **1** to **4**
  - crawler gear **C**
  - reverse gear **R**
- high shift range H with gears **5** to **8**

### Function of the 9-speed transmission



The 9-speed transmission is a manually operated transmission. The transmission is equipped with a double-H gearshift.

### Function of the 16-speed transmission



The 16-speed transmission is a manually operated transmission. The transmission is equipped with a double-H gearshift.

Thanks to additional reduction, you can select a total of 16 forwards gears and two reverse gears.

In neutral, the gearshift lever is in the shift gate between 3rd and 4th gear or 5th and 6th gear.

The transmission is divided into the following shift ranges:

- low shift range L with gears **1** to **4** and reverse gear **R**
- high shift range H with gears **5** to **8**

### Gear change options

Your selection of gears depends on the current type of use:

- Slow splitter group e.g. for driving off-road
- Fast splitter group e.g. for driving on the road
- Alternating between slow and fast splitter groups e.g. when the vehicle is loaded

### Changing the shift range



#### Note

#### Damage to the transmission due to changing the shift range

If you change the shift range from the fast to the slow group at too high a speed, the transmission can be damaged. The following speed limits must be observed when shifting:

- ▶ When driving in the off-road gear of the transfer case, do not drive faster than 20 km/h when shifting.
- ▶ When driving in the on-road gear or in vehicles without transfer cases, do not drive faster than 25 km/h.

- ▶ Depress the clutch pedal.



#### Note

Fully depress the clutch pedal when changing gear. Otherwise the shift force assistance is not activated.

- ▶ Gently tap the side of the gearshift lever with your hand to overcome the

## Driving mode

### Automated manual transmission

lever pressure point between the shift ranges.

- ▶ Only shift to the desired gear after approximately one second and do not apply force.

#### Shifting the splitter group



Choosing a splitter group selects a slow or fast ratio for the engaged gear without changing the gear itself.

- ▶ Shift the splitter group to the upper position for the high splitter group ① or the lower position for the low splitter group ②.
- ▶ Depress the clutch pedal and hold it down until the splitter group is engaged.
- ▶ Release the clutch pedal.

### Automated manual transmission

#### Function of the multifunction lever and the gear display



**Danger**

#### Risk of accident due to low supply pressure

In the event of pressure loss or if the supply pressure in the transmission / coupling circuit is too low, you will no longer be able to shift gear.

- ▶ Do not set the vehicle in motion or stop the vehicle as soon as possible, paying attention to surrounding road and traffic conditions. Pay attention to the traffic conditions.
- ▶ Use the parking brake to secure the vehicle against rolling away.
- ▶ Consult a qualified workshop immediately to have the compressed-air system repaired.

The vehicle has a selectable crawler mode. When crawler mode is activated, the vehicle automatically crawls forwards

after the service brake has been released, and continues to roll at idle speed.

Mercedes PowerShift has eight, twelve or 16 forward gears and two or four reverse gears.

The transmission control controls clutch and transmission actuation during driving operation in the following cases, for example:

- when pulling away
- when manoeuvring
- when changing gear
- when stopping

#### Multifunction lever



#### Multifunction lever operation

- ① Select direction of travel:

## Automated manual transmission

**D** Driving forwards (→ Page 247)

**N** Neutral (→ Page 247)

**R** Reverse

② **Select drive program:** (→ Page 243)

**A** Automatic drive program with the driving-specific and vehicle-specific shift program

**M** Manual drive program

③ **Manual downshift in automatic** (→ Page 249)/manual (→ Page 250)drive program

④ **Manual upshift in automatic** (→ Page 249)/manual (→ Page 250) drive program

### Gear display



### Overview of gear display

- ① Direction of travel and/or selected gear
- ② Gear shifting recommendation (shift up ↑ / down ↓) or pre-selected gear (flashing)
- ③ Drive program

### Possible displays (example):

|      |                     |
|------|---------------------|
| 1-16 | 1st to 16th gear    |
| N    | Neutral position    |
| N1   | Slow splitter group |
| N2   | Fast splitter group |

|                                                                                                 |                                                                                |
|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| E                                                                                               | Neutral position in EcoRoll mode                                               |
| R1–R4                                                                                           | 1st to 4th reverse gear                                                        |
| A                                                                                               | Automatic drive program                                                        |
| A economy<br>A power<br>A fleet<br>A offroad<br>A municip<br>A economy+<br>A heavy<br>A fire–sv | Automatic drive program with drive-specific and vehicle-specific shift program |
| M                                                                                               | Manual drive program                                                           |

### Drive programs and drive functions

### Function of the automatic transmission and manual drive program

### Automatic transmission

You can switch EcoRoll mode on and off using the [Assistance](#) menu window and the crawler mode as a drive function using the [Vehicle](#) menu window in the Settings menu  (→ Page 171).

## Driving mode

### Automated manual transmission

For vehicles without a turbo retarder clutch and with the **offroad** shift program, you can switch the crawler mode specially designed for off-road driving  on or off (→ Page 246) using the button.

#### Automatic transmission with drive-specific shift program

Depending on the type of transmission and programming, the shift program is designed for the following functions:

- Performance-oriented, dynamic driving mode with relatively high engine speeds — **power**
- Fuel-efficient driving mode — **economy**
- Performance-oriented driving mode on light off-road terrain and on construction sites with relatively high engine speeds — **offroad**
- Performance-oriented, dynamic driving mode with relatively high engine speeds and a high gross combination mass — **heavy**
- Fleet mode — **fleet**

- Waste collection vehicle mode — **municip**
- Dynamic driving mode with optimum acceleration during emergency and alarm responses by fire engines — **fire-sv**

In shift programs **power**, **offroad**, **heavy** and **fire-sv**, the automatic transmission only shifts to the next gear at relatively high engine speeds.

The crawler mode configured for on-road driving is automatically switched off in the **offroad** shift program. For vehicles without a turbo retarder clutch, you can switch on the crawler mode specially designed for off-road driving with the  button (→ Page 246).

You can switch crawler mode on and off using the **Vehicle** menu window in the Settings menu  (→ Page 171).

When you depress (kick down) and hold the accelerator pedal beyond the pressure point in the **heavy** shift program, the transmission does not shift up automatically.

The **economy** shifting program has the following features:

- EcoRoll mode is always switched on.
- The adjustable speed in cruise control is limited to 85 km/h.

The **fleet** shift program has the following features:

- EcoRoll mode is always switched on.
- The maximum speed is limited to around 85 km/h.
- The automatic drive program is always active, except in gears one to six and in reverse gear.

The **municip** shift program has the following features:

- EcoRoll mode is deactivated.
- Crawler mode is deactivated.
- The clutch overload warning tone is deactivated.

The **economy+** shift program has the following features:

- EcoRoll mode is always switched on.



### Automated manual transmission

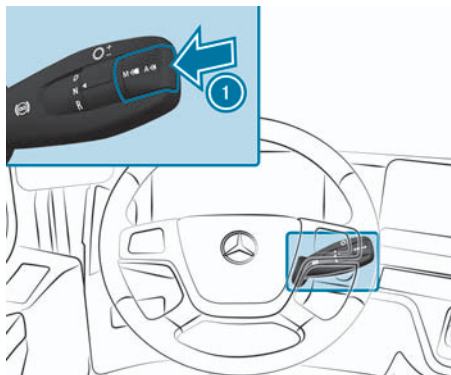
- The adjustable speed in cruise control is limited to 82 km/h.

#### Manual drive program

In the manual drive program, you change gears yourself. The gearshift recommendation is shown on the display of the instrument cluster.

In particularly demanding driving situations, you should switch to the manual drive program. This will enable you to avoid any undesired interruptions in tractive power that may occur with automatic gear shifts.

#### Select the drive program



For vehicles with the **fleet** shift program, the manual drive program can only be activated up to 6th gear (on 12-speed transmissions). It is not possible to choose between the shift programs.

After the vehicle is started, the **economy/economy+** drive program is always switched on. For vehicles with the **fire-sv** shift program, this is always the **A fire-sv** drive program. For vehicles with the **fleet** shift program, this is always the **A fleet** drive program. For vehicles with the **offroad, municipal** or **heavy** shift

programs, the last-selected program is always active after the vehicle starts.

After the display check, the display shows **A** or e.g. **A economy** and **N** or **N 1**.

The drive program can be changed at any time.

- ▶ **Activate the manual drive program:** Press and hold the **A/M** button ①.
  - ◁ The display will show the manual drive program **M**, the selected gear, and a gearshift recommendation.
- ▶ **To switch automatic on:** Press the **A/M** button briefly ①.
  - ◁ The display will show the automatic drive program **A** and the selected and preselected gears.
- ▶ **Shift the automatic shift program:** Press the **A/M** button briefly ①.
  - ◁ When the display shows **A**, the standard shift program is switched on. If, for example, the display shows **A economy** or **A power**, the drive-specific shift program is switched on. If,

## Driving mode

### Automated manual transmission

in the **A power** shift program, the transmission control does not detect a higher power requirement for more than ten minutes, the transmission control will automatically shift to the more economical standard shift program.

#### Function of the EcoRoll mode and crawler mode

##### EcoRoll mode

EcoRoll mode enables a fuel-saving driving style. If you do not depress the accelerator pedal while driving, the transmission control shifts to neutral position depending on the driving situation.

In the following cases, the transmission does not shift into neutral position or shifts from neutral position back into a suitable gear:

- You depress the accelerator pedal.
- You depress the service brake pedal.
- The continuous brake is activated.

- Cruise control or Proximity Control Assist controls the speed.
- The limiter is active and the set limit speed is exceeded.
- The gross combination weight is very high.

In shift programs **power**, **heavy**, **municip**, **offroad** and **fire-sv**, EcoRoll mode is always switched off and cannot be switched on. In the standard drive program **A** and in the other shift programs, EcoRoll mode is always switched on after the vehicle is started.

You can switch EcoRoll mode on and off in the standard drive program **A** via the **Assistance** menu window in the Settings menu  (→ Page 171).

#### Note

You cannot switch off EcoRoll mode in the **economy** and **fleet** shift programs.

EcoRoll mode is active from a speed of approximately 35 km/h.

#### Note

When EcoRoll mode is switched on, steering forces on the multifunction steering wheel may be somewhat greater in certain driving situations, for example, on slightly curving downhill gradients. This does not endanger operational safety or road safety.

#### Crawler mode

Crawler mode allows the vehicle to creep forwards automatically when the service brake is released and to coast when the accelerator pedal is not depressed. You can reduce the crawling speed by gently depressing the brake pedal. After creeping forwards, the vehicle will coast at idle speed until you bring the vehicle to a halt using the service brake or until crawler mode is deactivated or cancelled.

Creeping forwards and coasting are possible in all pulling-away gears. You can manually change gear in traffic jams, for example, to adjust the rolling speed to that of the traffic.

Crawler mode is automatically deactivated in the following cases:

- You shift the transmission to neutral position **N** for more than around two seconds.
- You activate the rocking-free drive function.
- The parking brake is applied.
- Proximity Control Assist controls the speed.
- The idle speed is above approx. 700 rpm.
- Active Brake Assist intervenes.
- There is a risk of the clutch being overloaded.
- A change of direction cannot be carried out.

When none of the conditions are present any longer, crawler mode is reactivated by pulling away using the accelerator pedal or shifting into a start-off gear again with the service brake depressed.

When crawler mode reaches its functional limits, it is automatically cancelled in the following cases.

- The vehicle does not start moving due to an unexpectedly high driving resistance, for example.
- The wheels are spinning on a slippery carriageway, for example.
- The driving resistance when crawling and coasting exceeds the functional limit.

If crawler mode has been automatically cancelled, the instrument cluster will show the display message **Crawler mode cancelled**. A warning tone will sound and the transmission control will disengage the clutch. In this case, depress the brake pedal to bring the vehicle to a halt or depress the accelerator pedal to move off again.

Crawler mode is designed for driving on roads on vehicles without a driven front axle. You can the switch crawler mode adjusted for on-road driving on and off via the **Vehicle** menu window in the Settings menu  (→ Page 171).

The crawler mode configured for on-road driving is always switched off in the **off-road** shift program. You can switch the crawler mode specially configured for off-road driving on and off in all permissible pulling-away gears using the  button (→ Page 246).

The crawler mode configured for on-road driving is always switched on after the vehicle is started in the standard drive program **A** and in the other shift programs.

On all-wheel drive vehicles, crawler mode is always deactivated after the vehicle starts.

Once crawler mode has been activated, you can activate creeping forwards by shifting into a start-off gear with the service brake depressed or by shifting into a start-off gear and then depressing the accelerator pedal.

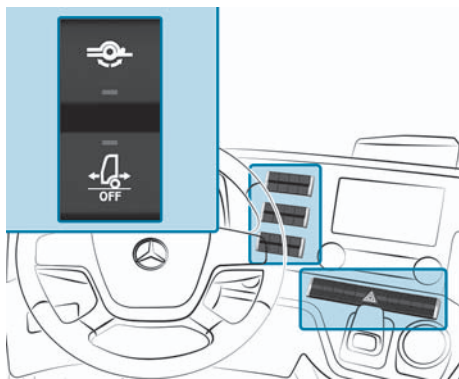
If you change over to the manual drive program, the current crawler mode will remain activated. After you change back to the automatic drive program, the crawler mode assigned to the drive and shift

## Driving mode

### Automated manual transmission

program will be activated. It may not be available again until the accelerator pedal has been used for pulling away once more or you have shifted into a start-off gear with the service brake depressed.

#### Switching crawler mode on and off (all-wheel drive vehicles)



The crawler mode adapted specially for off-road driving and all-wheel drive vehicles is always deactivated once the vehicle is started. The indicator lamp on the  button will light up.

- ▶ **To switch on:** Press the lower section of the  button.
  - ◁ The indicator lamp in the button  goes out.
- ▶ Depress the service brake and shift into a start-off gear.

or

- ▶ Depress the accelerator pedal and pull away.
  - ◁ Crawler mode is activated.



#### Note

If crawler mode is not activated within approx. 10–15 seconds of pressing the button, the indicator lamp in the button  will light up again. Crawler mode then remains deactivated.

- ▶ **Switching off:** Press the lower section of the  button again.
  - ◁ The indicator lamp on the  button will light up.

Crawler mode is automatically deactivated in the following situations:

- A gear above the permissible pulling-away gears is selected.
- Neutral position is selected.
- The parking brake is applied.
- The rocking-free drive function is activated.

#### Rocking-free function



#### Note

##### Damage to the dry clutch due to a very high gross combination mass

Due to a very high gross combination mass, the dry clutch can be overloaded and damaged in rocking mode.

- ▶ Do not use the rocking mode with a very high gross combination mass.

You can use the rocking-free function to rock the vehicle out of a deep rut in all permissible pulling-away gears. After the rocking-free function is switched on, the transmission control will automatically switch to the manual drive program. When you release the accelerator pedal while

## Automated manual transmission

rocking free, the dry clutch will suddenly open and the vehicle will roll back. When you depress the accelerator pedal again, the dry clutch will close immediately and the vehicle will pull away.

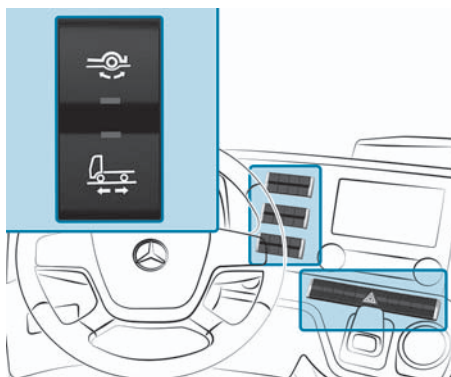
After engaging the start-off gear, you can switch the rocking-free function on and off in the **Vehicle** menu window in the Settings menu  (→ Page 171).

In all-wheel drive vehicles, switch the rocking-free function on or off after engaging the start-off gear with the  button.

The rocking-free function will switch off automatically in the following cases:

- You are driving above approximately 8 km/h.
- You shift to a gear above the permissible pulling-away gears.
- Vehicles with turbo retarder clutch: The instrument cluster shows the display message **Clutch under heavy strain**.

### Switch crawler mode on/off (all-wheel drive vehicles)



- ▶ Press the  button above.
  - ◀ When the indicator lamp in the  button lights up, the rocking-free drive function is switched on.

### Notes on pulling away and stopping (automated manual transmission)

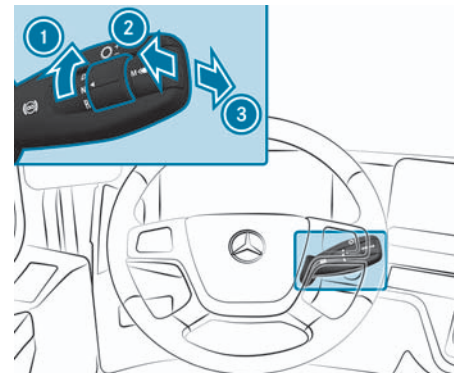
Depending on the transmission, different pulling-away gears can be selected. 1st-2nd gear can be selected with the 8-speed transmission, 1st-6th gear with

the 12-speed transmission and 1st-8th gear with the 16-speed transmission.

If the clutch is under heavy strain, you can only pull away in 1st gear. In the **municip** and **heavy** shift programs, the highest gear that can be used for pulling away is 2nd gear (→ Page 558).

### Pulling away and stopping the vehicle (automated manual transmission)

#### Pulling away



- ▶ Start the vehicle.

## Driving mode

### Automated manual transmission

- ▶ Turn the direction switch to position **D** (drive/forwards) ①.
  - ◁ In all drive programs, the transmission control will shift to a suitable start-off gear depending on the vehicle load, which can be changed manually.
- ▶ Release the brake pedal or the parking brake and depress the accelerator pedal.
  - ◁ To achieve higher torque, the engine speed may increase to approximately 1100 1/min when pulling away in first gear with the accelerator pedal fully depressed. The engine speed is increased automatically and as required for pulling away.

#### Changing the start-off gear

- ▶ Pull the multifunction lever backwards briefly (to shift up) ② or push it forwards briefly (to shift down) ③.
  - ◁ The transmission control shifts up or down one gear. When the

selected gear appears on the display, gear shifting is complete.

or

- ▶ Vehicles with 12/16-speed transmission: Pull the multifunction lever backwards and hold it there (to shift up) ② or push it forwards and hold it there (to shift down) ③.
  - ◁ Vehicles with 12-speed transmission: The transmission control will shift up or down to 1st, 3rd or 6th gear. If the display shows 1, 3 or 6, gear shifting is complete.
  - ◁ Vehicles with 16-speed transmission: The transmission control will shift up or down to 1st, 4th or 8th gear. If the display shows 1, 4 or 8, gear shifting is complete.

#### Note

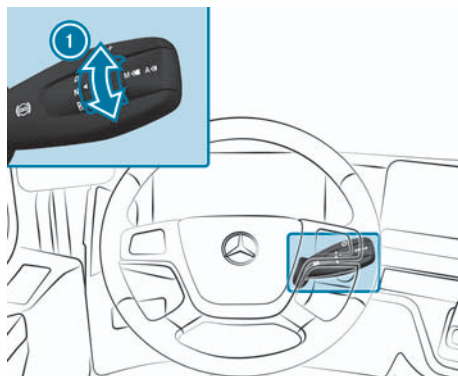
When the service brake is released after the first time the vehicle stops, the vehicle will begin to crawl (→ Page 244).

### Stopping

- ▶ Depress the brake pedal.
  - ◁ The transmission control will shift down according to the driving situation and to a suitable start-off gear shortly before it comes to a standstill. When the service brake is released again after stopping, the vehicle will crawl forwards again.

### Selecting neutral position

A warning tone will sound if the vehicle is stationary for about nine minutes with the engine running and a gear selected. **N** will flash on the display. After another minute, the transmission control will automatically select neutral position.



During relatively long stops, e.g. at traffic lights or before switching off the vehicle, shift the transmission to neutral position.

- ▶ Depress the brake pedal or apply the parking brake.
- ▶ Turn the direction switch to the **N** position (neutral) ①.

### Driving in the automatic drive program

#### Using kick-down

#### **i** Note

In the **economy** and **fleet** shift programs, the kick-down function is limited.

The kick-down serves to accelerate the vehicle to the maximum extent.

If necessary, the pull-away performance can be increased using the kick-down function, e.g. on relatively steep uphill gradients. When pulling away in 1st gear, the kick-down function delivers a higher engine speed.

- ▶ Depress the accelerator pedal beyond the point of resistance as far as it will go.
  - ◁ The transmission control will shift to a lower gear if required.
- ▶ Ease off the accelerator pedal slightly once the desired speed is reached.
  - ◁ The transmission control will shift up again.

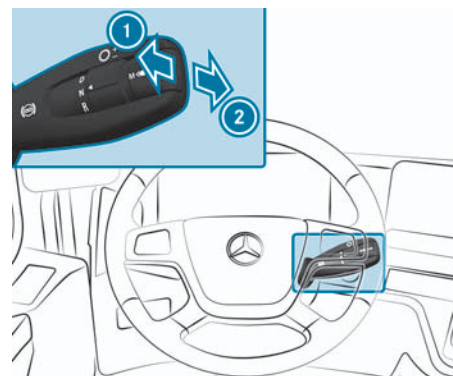
### Decelerating

- ▶ Release the accelerator pedal.
- ▶ Depress the brake pedal.

or

- ▶ Activate the continuous brake.
  - ◁ The transmission control will automatically shift down according to the driving situation.

### Selecting a gear manually



Another gear can also be selected manually. The automatic control functions are not changed by doing this.



## Driving mode

### Automatic transmission

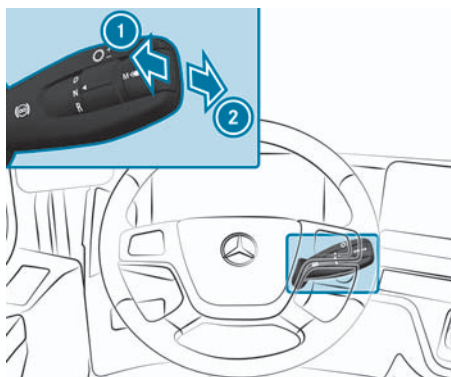
- ▶ Depending on the number of gears to be shifted, briefly pull the multifunction lever backwards (to shift up) ① or briefly push it forwards (to shift down) ② a corresponding number of times.

or

- ▶ Pull the multifunction lever backwards and hold it there (to shift up) ① or push it forwards and hold it there (to shift down) ②.

- ◁ The transmission control will determine the suitable gear (target gear) for the selected shift direction depending on the vehicle load. The transmission control shifts up or down at least one gear to a suitable gear.

#### Driving using the manual drive program



- ▶ Depending on the number of gears to be shifted, briefly pull the multifunction lever backwards (to shift up) ① or briefly push it forwards (to shift down) ② a corresponding number of times.

or

- ▶ Pull the multifunction lever backwards and hold it there (to shift up) ① or push it forwards and hold it there (to shift down) ②.

- ◁ The transmission control will determine the suitable gear (target gear) for the selected shift direction depending on the vehicle load. The transmission control shifts up or down at least one gear to a suitable gear.

### Automatic transmission

#### Overview of push-button gearshift and gear display



#### Note

#### Damage to the automatic transmission when rolling in neutral

If the automatic transmission is in neutral when the vehicle is rolling, this may lead to damage to the automatic transmission.

- ▶ Do not allow the vehicle to roll in neutral, especially when driving downhill.
- ▶ Follow the information on towing the vehicle.



If the retarder (engine brake/retarder) is active, the engine speed for downshifts will be higher than when the retarder is not active.

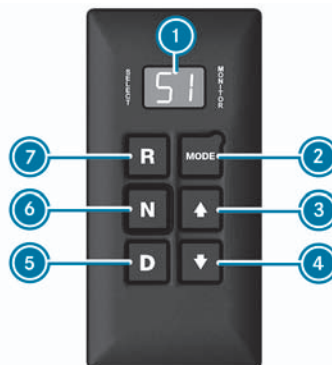
- Pay attention to the display messages on the automatic transmission control panel and the display messages on the instrument cluster. These indicate special operating states and help to prevent damage to the automatic transmission.

### **i** Note

Information provided by the automatic transmission control unit has a higher priority.

You can limit or extend the shift range at any time.

### Push-button gearshift and gear display



### Push buttons

- ① Shift range and gear display
- ② MODE button
- ③ Extend shift range
- ④ Limit shift range
- ⑤ Driving position **D**
- ⑥ Neutral position **N**
- ⑦ Reverse gear **R**

### Fault messages for automatic transmission

If the shift range or the currently engaged gear is not shown on the ① display, the display remains dark or implausible information is output, this means there is an operating fault in the automatic transmission.

If the **Transmission faulty** display message appears on the instrument cluster, read and obey the information and instructions.

### Changing drive programs

The automatic transmission is equipped with the **Economy** and **Power** drive programs. The drive programs support the desired driving style.

The **Economy** drive program offers a comfort-oriented, fuel-saving driving style and makes it easier to drive on slippery road surfaces.

After the vehicle is started, the standard **Economy** drive program will always be active.

## Driving mode

### Operation

The **Power** drive program is designed for driving with high performance requirements or driving dynamics.

For fire engines, the standard drive program is the **Power** drive program and this is always active after the vehicle is started.

- ▶ **Changing the drive program:** Press and hold the ② MODE button.
  - ◁ The display ① shows the selected drive program. If nothing is displayed, this means the standard drive program is active.

### Driving tips

#### Driving on uphill or downhill gradients



#### Note

##### **Risk of engine damage due to the limiting speed being exceeded**

If the shift range is limited, the engine speed may exceed the limiting speed. Exceeding the limiting speed for an ex-

tended period of time may lead to engine damage.

- ▶ If the shift range is limited, do not allow the engine speed to rise into the red danger zone of the rev counter.
- ▶ When driving on extreme uphill gradients or long downhill gradients, limit the shift range in good time for high engine output or engine braking power.

#### Manoeuvring and rocking free

When manoeuvring in confined spaces:

- ▶ use measured braking to regulate the vehicle speed.
- ▶ Accelerate slowly and evenly.



#### Note

At low speed, you can change between the drive position [D] and the reverse gear [R] without braking. This helps, for example, when manoeuvring quickly or rocking free in snow or slush.

### Operation

#### Notes on axle and wheel loads



#### Note

##### **Damage to vehicle parts if the permissible gross mass is exceeded**

If the permissible gross vehicle weight, the permissible axle load or the permissible wheel load are exceeded, the tyres, chassis frame and axle may be damaged.

Even if the permissible wheel load difference of 4% is exceeded, the tyres, chassis frame and axle may be damaged.

- ▶ Observe the permissible values for gross mass, axle and wheel loads.
- ▶ Observe the permissible difference between wheel loads of 4%.

**Note****Damage to vehicle parts if changeable platforms/containers tip and roll off or are set down**

The maximum permitted axle load may be exceeded if changeable platforms/containers tip and roll off or are set down. The tyres, chassis frame and axle may be damaged.

- ▶ Observe the permissible axle load.
- ▶ Do not exceed the value specified in the installation guidelines.
- ▶ Observe the information on attachments, bodies, installations and conversions (→ Page 3).
- ▶ While driving, regularly monitor the warning- and indicator lamps and the displays in the instrument cluster.

**Using the turbo retarder clutch**

The turbo retarder clutch enables sensitive and wear-free moving off and manoeuvring at the lowest speeds and high torque. Power transmission between the

engine and transmission takes place via a fluid circuit and a dry clutch.

If power is transmitted while driving with the dry clutch open, the oil temperature in the turbo retarder clutch's circuit increases depending on the load. If the oil temperature is too high, the instrument cluster shows a display message and a warning tone sounds.

If the oil temperature of the turbo retarder clutch is too high:

- ▶ Shift to a lower gear.
  - ◀ The engine speed will increase and the dry clutch will be closed.

If the display message and warning tone do not switch off:

- ▶ brake and stop the vehicle, taking into account the road and traffic conditions.
- ▶ Apply the parking brake.
- ▶ Shift the transmission to neutral.
- ▶ Let the engine run for around one minute at approximately 1200 1/min.

If the display message and warning tone still do not switch off:

- ▶ Have the turbo retarder clutch checked at a qualified specialist workshop.

**Pulling away****Note**

In the automatic drive program, the transmission control determines the optimum start-off gear and shift point. The dry clutch opens or closes depending on the driving resistance. As a result, the vehicle can be started off with maximum torque at a low engine speed (approx. 1200 1/min). Only when manoeuvring mode is switched on does the vehicle creep forwards automatically and coast after the service brake has been released (→ Page 255).

## Driving mode

### Operation

#### Note

If the dry clutch is open when pulling away, the transmission does not change gear.

- ▶ Please read the notes on the electronic parking brake (→ Page 227).

#### Level stretches

- ▶ Set the multifunction lever to .
- ▶ Depress the accelerator pedal.
  - ◁ The indicator lamp  in the instrument cluster will come on.
  - ◁ The turbo retarder clutch is filled and the vehicle pulls away. After pulling away, the indicator lamp  in the instrument cluster goes out and power is transmitted via the dry clutch.

#### Uphill slopes

The pulling-away characteristics depend on the following points:

- Gradient of the road surface
- Gross combination mass

- How quickly you depress the accelerator pedal
- ▶ Apply the parking brake or engage the hill holder.
- ▶ Switch on the automatic drive program.
  - ◁ The transmission control determines a suitable start-off gear.
- ▶ Set the multifunction lever to .
- ▶ Depress the accelerator pedal.
  - ◁ The indicator lamp  in the instrument cluster will come on.
  - ◁ The turbo retarder clutch is filled and the vehicle pulls away. After pulling away, the indicator lamp  in the instrument cluster goes out and power is transmitted via the dry clutch.

#### Using hydromove

A low pre-filling of the turbo retarder clutch makes the response time of the accelerator pedal more direct and reduces the rolling of the vehicle against the direction of travel when moving off. The

vehicle can be moved forwards or backwards slowly and in a controlled manner simply by changing the accelerator pedal position, e.g. on a downhill gradient. This is particularly advantageous when driving with a very high gross train weight, as the gear does not need to be changed and the service brake does not have to be pressed.

Driving down a steep gradient always takes place in a moving-off gear against the desired direction of travel.

The drive function is always switched on after a vehicle start. The drive function is only automatically deactivated in the **offroad** shift program.

Activate or deactivate the hydromove drive function via the **Vehicle** menu window in the Settings menu  (→ Page 171).

#### Driving down a slope forwards

- ▶ Stop the vehicle using the service brake.
- ▶ Depress the brake pedal.

- ▶ If necessary, switch on the Hydro-move drive function.
- ▶ Set **[R]** the multifunction lever to ( → Page 240).
- ▶ **Driving downhill quickly:** Release the service brake. Do not depress the accelerator pedal.
  - ◁ The vehicle rolls with minimal deceleration.
- ▶ **Driving downhill slowly:** Do not depress the accelerator pedal.
  - ◁ The further the accelerator pedal is depressed, the greater the drive force against the direction of travel. The vehicle rolls at a slower speed.

Depending on the gross train weight, the downhill gradient and the road surface you are driving on, you can stop the vehicle by depressing the accelerator pedal alone and drive back up the gradient again.

### Note

If you want to drive down a slope in reverse, set the multifunction lever to **[D]**.

### Adjusting power steering

You can adjust the power steering of your vehicle to suit current operating conditions using the on-board computer.

- ▶ Use the **[▶]** or **[◀]** button to scroll to **Settings**.
- ▶ Use the **[▼]** or **[▲]** button to scroll to the **Vehicle** menu screen.
- ▶ Press the button **[OK]**.
- ▶ Use the **[▼]** or **[▲]** button to scroll to **Adj. steering**.
- ▶ Press the button **[OK]**.
  - ◁ The following settings are available:
    - **Standard**  
Normal power steering
    - **High**  
Increased power steering for steering wheel angle

- **Manoeuvring**

Increased power steering for steering wheel angle and steering wheel return

- ▶ Select a setting by pressing button **[▼]** or **[▲]**.
- ▶ Press button **[▶]** to save the setting.

### Note

The selected setting remains stored even after the vehicle is switched off.

### Using manoeuvring mode

For vehicles with a turbo retarder clutch, manoeuvring mode allows you to manoeuvre more precisely. You can also start driving using manoeuvring mode. The starting power is higher in the **power**, **heavy** and **offroad** shift programs. In manoeuvring mode, the vehicle pulls away as soon as you release the service brake — automatic forward crawling.

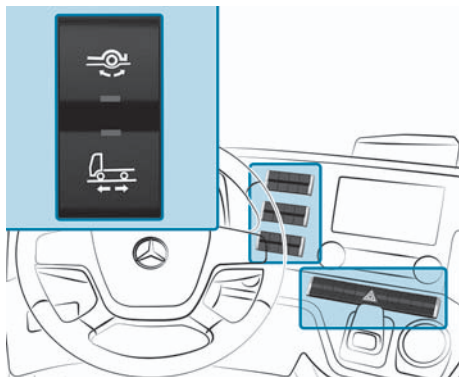
If manoeuvring mode is active, the transmission does not change gear automat-

## Driving mode

### Operation

ically. Deactivate manoeuvring mode to continue driving.

To prevent the turbo retarder clutch from overloading, manoeuvring mode is automatically deactivated depending on the load or after approximately nine minutes.



- ▶ **Activation:** Stop the vehicle and leave it switched on.
- ▶ Depress the brake pedal.
- ▶ Press the lower section of the button .

◁ The indicator lamp on the  button will light up.

- ◁ In manoeuvring mode, engine speed is limited to 1400 rpm and the transmission changes to the manual drive program .
- ▶ Depending on the gross combination weight, select a suitable start-off gear for pulling away.
- ▶ Release the service brake.

#### Note

When manoeuvring mode is active, it is only possible to change gears when the vehicle is stationary and the brake pedal is depressed.

- ▶ **Deactivation:** Press the lower section of the button  again.
- or
- ▶ Depress the accelerator pedal past the pressure point to the stop (kick-down).
    - ◁ The indicator lamp in the button  goes out.

### Function of ASR (anti-slip control)

If ASR intervenes, this has the following effects:

- The indicator lamp  or  flashes in the instrument cluster.
- Cruise control cannot be activated.

If cruise control has already been activated, it will remain active. It is not possible, however, to accelerate or decelerate using cruise control.

When you switch on the vehicle, the indicator lamp  or  lights up in the instrument cluster and goes out again after approximately two seconds. ASR is activated.

If the indicator lamp  or  does not go out, then ASR has a malfunction.

- ▶ Have the malfunction rectified at a qualified specialist workshop.

### Deactivating and activating ASR

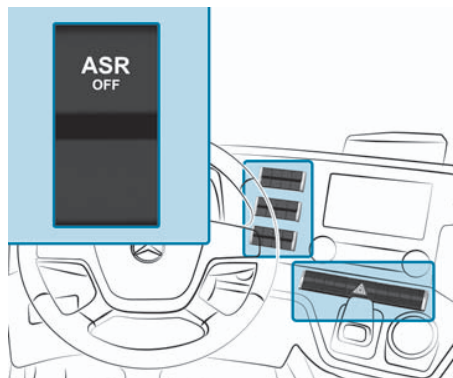


**Danger**

#### Risk of skidding if ASR is deactivated

If you deactivate ASR, ASR cannot carry out vehicle stabilisation when pulling away and accelerating.

- ▶ ASR must only be deactivated in the following situations.



### Note

Vehicles with Stability Control Assist lack the button. Traction control (ASR function) is part of Stability Control Assist (→ Page 258). When Stability Control Assist is deactivated, traction control is also deactivated.

It may be best to deactivate ASR in the following situations:

- when using snow chains
- when driving on roads with loose surfaces, e.g. gravel

- ▶ If the carriageway is slippery, engage the differential lock in an anticipatory fashion (→ Page 259).
- ▶ **To switch on and off:** Press the button .
  - ◁ When the indicator lamp or on the instrument cluster comes on, ASR is deactivated.

### Function of Stability Control Assist

Stability Control Assist is operational at speeds above approximately 20 km/h, regardless of the operating status of the service brake or continuous brake. If Stability Control Assist intervenes, the indicator lamp in the instrument cluster flashes.

If the indicator lamp in the instrument cluster lights up continuously when the vehicle is started, Stability Control Assist has a fault. Have Stability Control Assist checked at a qualified specialist workshop.

## Driving mode

### Operation

Regardless of the vehicle load or road surface conditions, Stability Control Assist can reduce the risk of the following situations:

- The tractor/semitrailer combination or drawbar combination skidding.
- The tractor/semitrailer combination or drawbar combination jack-knifing.
- The tractor/semitrailer combination or drawbar combination is at risk of tipping.

Stability Control Assist stabilises a tractor/semitrailer combination or drawbar combination with a maximum of two trailers or semitrailers using the following automatic control interventions:

- Engine output reduction
- Targeted braking of individual wheels on the towing vehicle
- Targeted braking of the trailer or semitrailer
- Braking the entire tractor/semitrailer combination or drawbar combination

When driving with more than two trailers or semitrailers, Stability Control Assist must be deactivated.

### Deactivating and activating Stability Control Assist



**Danger**

#### **Risk of skidding and accident due to deactivating Stability Control Assist**

If you deactivate Stability Control Assist, it cannot stabilise the vehicle.

- Only deactivate Stability Control Assist in the following situations.



**Note**

When you start the vehicle, Stability Control Assist is automatically activated.

It may be better to deactivate Stability Control Assist in the following situations:

- when driving on a loose surface
- when driving with snow chains
- when operating a snow plough

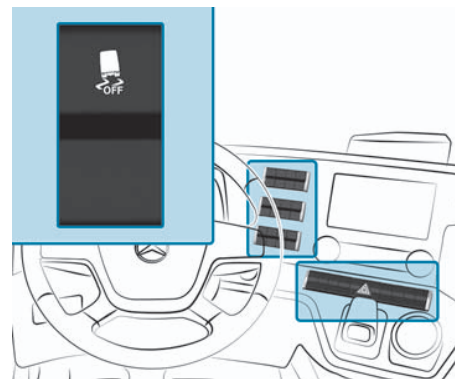
ASR is also deactivated.

- Switch on Stability Control Assist as soon as the situations previously described are no longer present.



**Note**

If you drive with more than two trailers or semitrailers, you must deactivate Stability Control Assist. Otherwise, malfunctions or faults might occur.



Example: Stability Control Assist OFF button

- Press the  button.
  - ◁ If the indicator lamp  in the instrument cluster comes on, Stability Control Assist is deactivated.



### Using differential locks



**Danger**

#### Risk of accident when the differential lock is engaged

When driving off-road or driving with an engaged differential lock in the automatic drive program, the electronic management system may perform unwanted gear changes.

The vehicle may, for example, roll backwards on slopes.

- ▶ Always drive carefully and be ready to brake.
- ▶ Switch to the manual drive program.



**Danger**

#### Risk of accident when the differential lock is engaged on a firm surface

If you engage differential locks on a firm and non-slip surface, you may lose control of the vehicle.

- ▶ Always disengage the differential locks as soon as possible on a firm, high-traction surface.

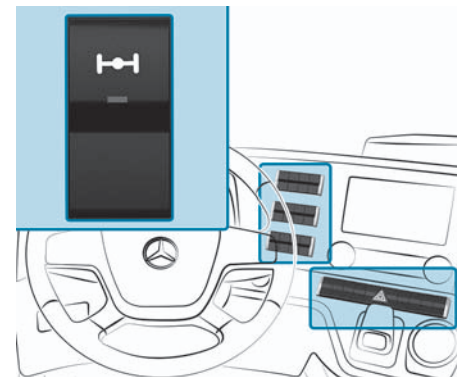


#### Note

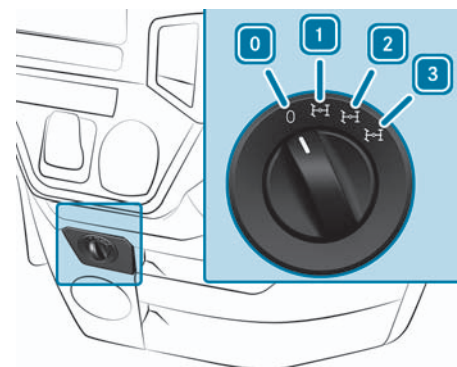
#### Damage to the differential as a result of improper use of the differential locks

The following points should be observed when using differential locks to avoid damaging the differential:

- ▶ Avoid spinning drive wheels on one side, engage the differential locks in advance.
- ▶ Do not engage the differential locks when pressing the accelerator or brake pedal.
- ▶ Only engage the differential lock when the vehicle is stationary or at walking pace.
- ▶ Pull away slowly after engaging the differential lock.
- ▶ Do not drive on high-grip carriage-way with engaged differential locks.
- ▶ Do not drive faster than 50 km/h with the differential locks engaged.



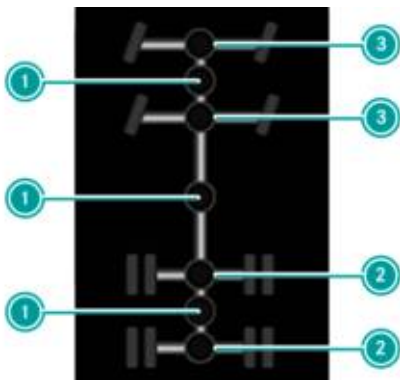
Rear differential lock switch (example)



Differential lock control knob (example)

## Driving mode

### Operation



Differential locks display (example)

#### Differential locks

- 0 Differential lock off
- 1 Shift position and display of inter-axle lock, axle through drive
  - 1
- 2 Shift position and display of transverse axle locks, rear axles
  - 2
- 3 Shift position and display of transverse axle locks, front axles also engaged
  - 3

#### **i** Note

Vehicles with one differential lock have a switch; vehicles with several differential locks have a control knob.

If the inter-axle lock is engaged when driving off-road, an ABS control intervention can lead to an interruption in the tractive power in switch positions **1** or **2**.

When the differential lock is engaged, the display will show the associated status display  in yellow.

If the  status display flashes, the differential lock is not yet engaged or disengaged. The conditions for engaging or disengaging have not been fulfilled, e.g. due to differing wheel speeds. The differential lock will be engaged automatically as soon as all engagement conditions are met.

- ▶ Engage the differential locks, e.g. on slippery carriageway or off road, to prevent drive wheels from spinning on one side.

When a differential lock is engaged, the shift range for upshifts is automatically limited for vehicles with an automated manual transmission. During ABS braking regulation, the inter-axle locks and the engaging all-wheel drive are deactivated and the circle on the display flashes. When ABS braking regulation ceases, the inter-axle locks and the all-wheel drive will be engaged again.

- ▶ Vehicles with automated manual transmission: In particularly challenging driving conditions, select the manual drive program to avoid unwanted gear shifting operations and interruptions to tractive power (→ Page 241).

#### To switch on: Vehicles with one differential lock

- ▶ Stop the vehicle.
- ▶ Press the  button above.
  - ◁ The indicator lamp on the button  will light up.
  - ◁ The indicator lamp  in the instrument cluster will come on.

- ◁ The instrument cluster will show a display message with the current status of the differential locks.

### Deactivation: Vehicles with one differential lock

- Press the lower section of the button .
  - ◁ The indicator lamps in the  button and instrument cluster go out.
  - ◁ The instrument cluster will show a display message with the current status of the differential locks.

### Activation: Vehicles with several differential locks



#### Note

The individual differential locks can be selected only one after the other.

- Stop the vehicle.
- Turn the control knob of the differential locks to position .

- ◁ The inter-axle locks in the inter-axle or transfer case are engaged.
- ◁ The indicator lamp  in the instrument cluster will come on.
- ◁ Vehicles with engageable all-wheel drive: The indicator lamp  comes on.
- Turn the control knob of the differential locks to position .
  - ◁ The transverse axle locks on the rear axles are engaged.
- Turn the control knob of the differential locks to position .
  - ◁ The transverse axle locks on the front axles are engaged.
  - ◁ The indicator lamp  comes on.

### Deactivation: Vehicles with several differential locks



#### Note

**Vehicles with engageable all-wheel drive (code G4E):** If possible, disengage the inter-axle locks while still on a loose surface and not on a high-grip carriageway. Otherwise, disengaging the inter-axle lock can lead to a pressure surge and a noticeable jerk in the cab. Different tyre diameters between the front and rear axles can also lead to a noticeable pressure surge when the inter-axle lock is disengaged. Avoid a difference of more than 3 % between the tyre diameters on the front and rear axles.

- Turn the switch of the differential locks to position .
  - ◁ When switching from position  to position : The indicator lamp  goes out.
  - ◁ The differential locks are disengaged. The differential lock indicators on the display go out.

## Driving mode

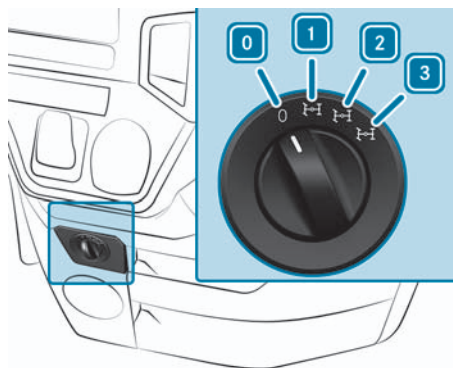
### Operation

- ◁ The indicator lamp  in the instrument cluster goes out.
- ◁ Vehicles with engageable all-wheel drive: The indicator lamp  goes out.
- If the status display  flashes, briefly change your speed, e.g. pull away, brake or change the direction of travel. Do not continue driving; otherwise, the differential may be damaged.
- If the  status display does not go out when the inter-axle locks are disengaged, stop the vehicle and reverse for a short distance.

If the differential lock is engaged and you are driving faster than 50 km/h, the current setting of the differential lock is again shown in the display.

- Disengage the differential locks or drive slower than 50 km/h.

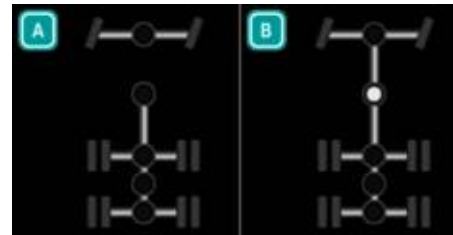
### Engaging/disengaging front axle transfer case



Differential lock control knob (example)

### Control knob

-  Differential lock off
-  Switch position for inter-axle lock, axle through drive
-  Switch position for cross-angle locks, rear axles additionally engaged
-  Switch position for cross-angle locks, front axles additionally engaged



Display for engaging front axle (example)

When the front axle is not engaged, the display shows . When the front axle is engaged, the display shows .

If the status display  is flashing, the front axle is not yet engaged/disengaged.

The engagement or disengagement conditions have not been met, e.g. different wheel speeds.

The transfer case inter-axle lock is engaged or disengaged and the front axle is engaged or disengaged as soon as all engagement conditions have been met.

When the front axle is engaged, the shift range for upshifts is automatically limited for vehicles with an automated manual transmission.

During ABS braking regulation, the inter-axle lock is disengaged, the front axle is disengaged and the status display  flashes. Once ABS has finished intervening, the inter-axle lock and the front axle are engaged again.

### Engaging the front axle transfer case

- ▶ Stop the vehicle.
- ▶ Turn the switch of the differential locks to position **1**.
  - ◁ The front axle and the rear axles are driven and the inter-axle lock is engaged. There is no rotational speed compensation between the front axle and the rear axles.

### Disengaging the front axle transfer case

- ▶ Stop the vehicle.
- ▶ Turn the switch of the differential locks to position **0**.
  - ◁ Only the rear axles are driven. The inter-axle lock is deactivated.

### Note

The **2** and **3** positions are the functions of the differential lock (→ Page 259).

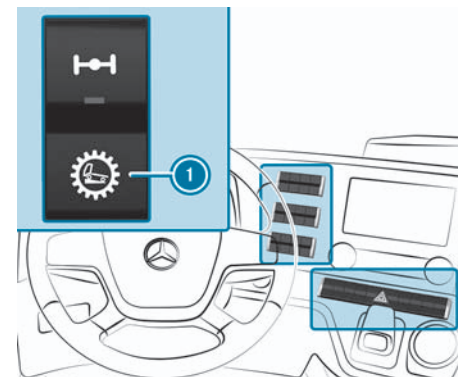
### Switching the off-road gear transfer case on and off

### Note

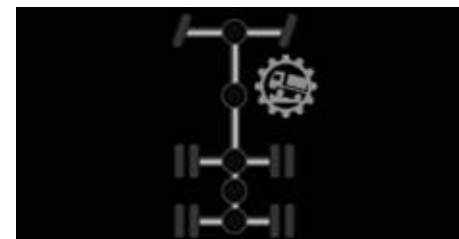
#### Damage to the retarder due to fast driving in off-road gear

The retarder may be damaged if the vehicle speed is too high when the off-road gear is selected.

- ▶ Do not exceed a road speed of 50 km/h.



**1** Off-road gear button (example)



Display in the on-board computer (example)

If the off-road gear is selected on vehicles with an automated manual transmission, the shifting range is automatically limited to upshifting. If the inter-axle lock is engaged when driving off-road, an ABS

## Driving mode

### Operation

control intervention can lead to an interruption in the tractive power in switch positions **1** or **2**.

- ▶ Vehicles with automated manual transmission: In particularly challenging driving conditions, select the manual drive program to avoid unwanted gear shifting operations and interruptions to tractive power (→ Page 241).

#### Engaging the off-road gear

- ▶ Stop the vehicle.
- ▶ Shift the transmission to neutral.
- ▶ Vehicles with automatic transmission: Shift the transmission into neutral **N**.
- ▶ Press the button .
  - ◁ When all engagement conditions are met, the off-road gear is engaged and the  symbol is shown in the instrument cluster.

#### Disengaging off-road gear

- ▶ Stop the vehicle.
- ▶ Shift the transmission to neutral.

- ▶ Vehicles with automatic transmission: Shift the transmission into neutral **N**.
- ▶ Press the button .
  - ◁ The off-road gear is disengaged when all engagement conditions are met. When the on-road gear is selected again, the  indicator in the instrument cluster goes out.

#### Notes on hydraulic auxiliary drive



**Danger**

##### **Risk of injury due to acceleration forces when driving off-road**

You could be thrown out of your seat, for example.

- ▶ Always fasten your seat belt, including when driving off-road.
- ▶ Only switch on the hydraulic auxiliary drive when driving off road.

Stability Control Assist is deactivated during activation of the hydraulic auxiliary drive and the indicator lamp  lights up in the instrument cluster.

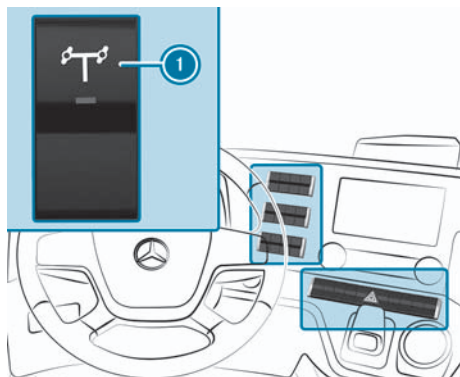
When you switch on the hydraulic auxiliary drive, this has the following effects:

- Crawler mode is automatically deactivated (→ Page 244).
- The rocking free drive function cannot be switched on (→ Page 246).

#### Switch hydraulic auxiliary drive on/off

##### Requirements

- The vehicle has been started.
- The vehicle speed is less than 60 km/h.
- the hydraulic fluid has reached operating temperature.
- a gear is engaged.
- the rocking free drive function is switched off.
- there is no fault that impairs safety or function.



- ① Hydraulic auxiliary drive button
- ② Indicator lamp for hydraulic auxiliary drive (example)

The hydraulic auxiliary drive is only engaged actively and as required when the following driving systems are switched off:

- Cruise control (→ Page 269)
- Proximity Control Assist (→ Page 272)

When the cruise control or Proximity Control Assist is switched on, the hydraulic auxiliary drive switches to standby mode.

- ▶ Vehicles with a gross combination weight greater than 40 t: In particularly challenging driving conditions, select the manual drive program to avoid unwanted gear shifting operations and interruptions to tractive power (→ Page 241).

### Deactivating

- ▶ Press the button .
  - ◁ If the indicator lamp in the button  flashes, the activation conditions (e.g. the hydraulic oil temperature) have not been met.

The hydraulic auxiliary drive is automatically activated as soon as the following activation conditions are met:

- the service brake is released.
- The vehicle speed is less than 15 km/h.
- the accelerator pedal is depressed.

If the activation conditions are met, the indicator lamp in the button  lights up and the indicator lamp  in the instrument cluster lights up white. The hydraulic auxiliary drive is in standby mode.

When the front axle is driven, the indicator lamp  in the instrument cluster lights up blue.

### Deactivation

- ▶ Press the button .
  - ◁ The hydraulic auxiliary drive is switched off. The indicator lamp in the button  and the indicator lamp  in the instrument cluster go out.

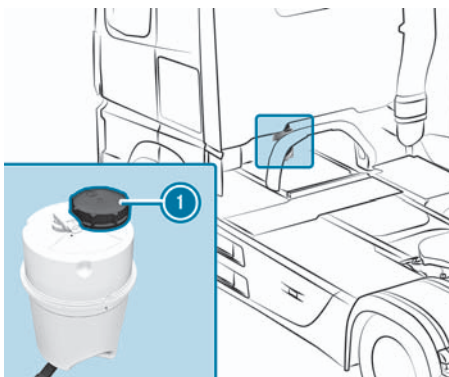
## Driving mode

### Operation

The hydraulic auxiliary drive is automatically switched off in any one of the following cases:

- the vehicle speed of 60 km/h is exceeded.
- the hydraulic oil temperature deviates from the permissible operating temperature.
- The vehicle is switched off.
- there is a fault that impairs safety or function.

#### Checking the oil level of the hydraulic auxiliary drive

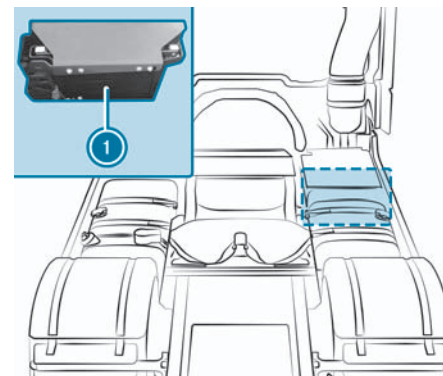


Before starting the journey, the hydraulic system's oil level should be checked when cold at an oil temperature of approximately 20°C.

- ▶ Park the vehicle on a level surface and apply the parking brake.
- ▶ Switch off the vehicle.
- ▶ Turn the cap ① anti-clockwise and remove it.
- ▶ Pull out the oil dipstick, wipe it with a clean, lint-free cloth and reinsert it.

- ▶ Pull out the oil dipstick again, check the oil level and correct if necessary.
- ▶ Slide in the oil dipstick, put on the cap and tighten it as far as it will go.

#### Cleaning the radiator/fan of the hydraulic auxiliary drive



Clean the radiator ① and its fan regularly to avoid malfunctions.



**Note**

Observe the instructions for external cleaning (→ Page 400).

- Clean the radiator and the blades with a jet of compressed air, steam or water. Guide the cleaning jet parallel to the radiator fins and against the airflow direction.
- After cleaning, dry the air side of the radiator with compressed air.

**Driving systems****Reversing camera****Reversing camera function**

The reversing camera is only an aid. It is not a substitute for your attention to your surroundings. The responsibility for safe manoeuvring and parking remains with you. When manoeuvring and parking, make sure that there are no persons, animals, or objects in the manoeuvring area. You could otherwise endanger yourself and others.

The reversing camera cannot replace a safety officer or signaller. When manoeuvring or parking, always seek assistance from a safety officer or signaller.

When reverse gear is engaged, the image from the reversing camera is automatically shown on the Multimedia Radio Touch display. It is then not possible to change the display manually.

If the display shows only a black, grey, or blue image instead of the image from the reversing camera, the reversing camera has a malfunction. In this case, have the reversing camera checked at a qualified specialist workshop.

You can set the screen brightness in the Multimedia Radio Touch (→ Page 197).

**System limits**

In the following situations, the reversing camera only has limited function, or does not function at all:

- The weather conditions are poor, e.g. heavy rain, snow, fog, storm, or spray.
- The light conditions are poor, e.g. at night, or there is glare.

- The surroundings are illuminated with fluorescent light, e.g. fluorescent lamps or LED lighting. The display may flicker.
- The camera lens is covered, dirty or fogged up. Observe the notes on cleaning the reversing camera (→ Page 406).
- The camera or the rear of the vehicle is damaged. In this case, have the camera, its position, and setting checked at a qualified specialist workshop.

Do not use the reversing camera in these situations. You may injure others or collide with objects when parking.

**Note**

The contrast of the display may be impaired by incident sunlight or other light sources, e.g. when you are driving out of a garage. In these cases, be particularly attentive.

## Driving mode

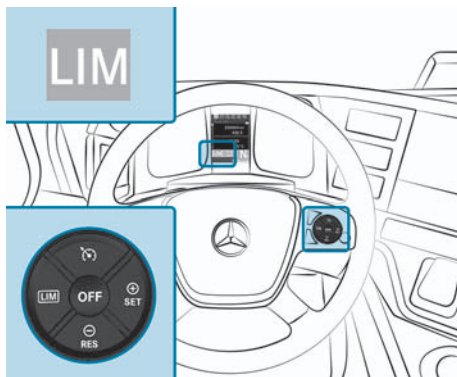
### Driving systems

#### Note

If the display's usability is significantly restricted, e.g. in the event of pixel errors, have it repaired or replaced.

#### Limiter

##### Overview of the limiter



#### Limiter

-  Selecting limiter
-  Activates and sets the current speed limitation, increases the set speed limitation

-  Activates and shows the stored speed/limit speed, decreases the set speed/limit speed
-  Selects cruise control/Proximity Control Assist (→ Page 272)
-  Deactivating the limiter

The  symbol in the instrument cluster shows the status of the limiter in colour:

- Grey symbol: The limiter is selected, but not engaged.
- White symbol: The limiter is engaged and restricts the vehicle speed to the limit speed you set.

#### Activating and deactivating the limiter

##### Select the limiter

The limiter restricts the vehicle speed to the set limit speed. You can accelerate the vehicle up to the limit speed using the accelerator pedal. In order to keep the set limit speed on downhill slopes, the limiter automatically brakes the vehicle with the continuous brake. If the set speed is exceeded, the  symbol will flash in the

instrument cluster. If you cannot switch on the limiter, the instrument cluster shows the display message **-- km/h** in grey.

- ▶ Press the button .
- ◁ The instrument cluster shows the  symbol in grey.

#### Activation while driving

- ▶ Select the limiter.
- ▶ Drive at the desired speed and briefly press the  button.
- ◁ The limiter is activated and the current vehicle speed is stored as the limit speed.

or

- ▶ Briefly press the .
- ◁ The limiter is activated and adopts the stored limit speed. The instrument cluster shows the  symbol and the set speed limit in white.

### Increasing or decreasing the limit speed

You can change the settings of the limit speed while driving.

- ▶ Activate the limiter.
- ▶ **In 1 km/h increments:** Press the  or  button briefly until the desired speed is displayed in the instrument cluster.

or

- ▶ Press and hold the  or  button until the desired speed is displayed in the instrument cluster.

### Driving

You can exceed the set limit speed, e.g. when overtaking.

- ▶ Briefly depress the accelerator pedal beyond the pressure point (kick-down).
  - ◁ The set limit speed is still shown and the **LIM** symbol flashes in the instrument cluster.

- ▶ When overtaking is complete, briefly release the accelerator pedal and depress it again.
  - ◁ The limiter again restricts the vehicle speed to the set limit speed.

### Deactivation

The limit speed remains stored if you deactivate the limiter.

- ▶ Press the  button.
  - ◁ The instrument cluster shows the **LIM** symbol in grey.

or

- ▶ Using the  button, select cruise control or the Proximity Control Assist.
  - ◁ The instrument cluster shows the  or  symbols and the set speed in grey.

### Cruise control

#### Overview of cruise control



#### **Danger**

#### **Risk of accident due to unknown stored speed**

If you call up the stored speed and it differs from the current speed, the vehicle will accelerate or brake.

If you do not know the stored speed, the vehicle may accelerate or brake unexpectedly.

- ▶ Take the traffic situation into account before calling up the stored speed.
- ▶ If the stored speed is not known, store the desired speed again.



#### **Note**

#### **Engine damage due to excessively high engine speed**

If you drive in the overspeed range, you will damage the engine.

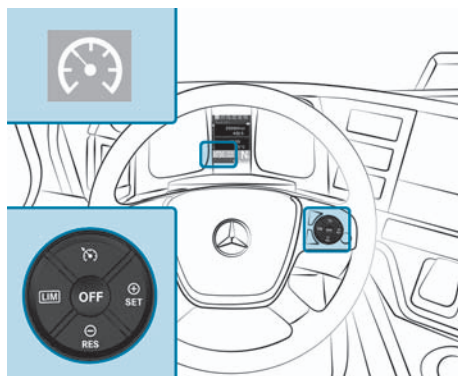
- ▶ Do not drive in the overspeed range.

## Driving mode

### Driving systems

Do not use cruise control in the following situations:

- if the traffic conditions do not allow you to drive at a constant speed (e.g. in heavy traffic or on winding roads)
- if the drive wheels could lose traction on slippery roads, e.g., when braking or accelerating
- if there is poor visibility, e.g. due to fog, heavy rain or snow



#### Cruise control



Select cruise control/Proximity Control Assist



Activate and adjust current speed/increase set speed



Activate and call up set speed/reduce set speed



Selecting limiter



Deactivates cruise control

The  symbol in the instrument cluster shows the status of cruise control by colour:

- Grey symbol: Cruise control has been selected, but not activated.
- White symbol: Cruise control has been activated and maintains the set speed.

#### Activating and deactivating cruise control

##### Selecting cruise control

Cruise control maintains the set vehicle speed on your behalf. If the set speed is exceeded on downhill gradients by more than the set speed tolerance, the continuous brake is applied automatically.

If you are driving slower than 15 km/h, cruise control cannot be activated.

If you cannot switch on the cruise control, the instrument cluster shows the display message **--- km/h** in grey.

Cruise control is automatically deactivated in the following situations, if:

- you are driving at less than 10 km/h.
- you shift the transmission into neutral for more than five seconds.

If cruise control is deactivated automatically, an acoustic signal sounds.

- ▶ Press the button  repeatedly until the instrument cluster displays the symbol  in grey.

#### Activation while driving

- ▶ Select cruise control.
- ▶ Drive at the required speed and briefly press the  button.
  - ◁ Cruise control is activated, and the current speed is set.

or

- ▶ Briefly press the  button.
  - ◁ Cruise control is activated and adopts the stored speed.

- ◁ The instrument cluster displays the  symbol and the set speed in white.
- ▶ Release the accelerator pedal.
  - ◁ In order to maintain the set speed, cruise control automatically brakes or accelerates the vehicle.

### Increasing and reducing the speed

When cruise control is active, you can change the speed setting while driving.

- ▶ **To adjust in 0.5 km/h increments:**  
Press  or  button repeatedly until the desired speed is shown in the instrument cluster.

or

- ▶ **To adjust in 5 km/h increments:**  
Press and hold the  or  button until the desired speed is displayed in the instrument cluster.

### Driving tips

In the [A economy](#) and [A fleet](#) drive programs, cruise control maintains the set speed less forcefully. This explains

why the vehicle speed and the set speed may differ slightly under certain circumstances. This results in lower fuel consumption. In the [A economy](#) and [A fleet](#) drive programs, you can set the speed to a maximum of 85 km/h. In the [A economy +](#) drive program, the speed can be set to a maximum of 82 km/h. In the [A economy](#) and [A economy +](#) drive programs, you can exceed the set speed by depressing the accelerator pedal, e.g. when overtaking.

You can use the continuous brake to decelerate. Cruise control remains activated.

If you reset the continuous brake lever, but do not deactivate it, the vehicle will only accelerate on downhill slopes up to the set speed.

If the continuous brake is deactivated, the vehicle will accelerate to the last stored speed.

If cruise control is decelerating the vehicle using the continuous brake and you simultaneously depress the brake pedal, cruise control remains activated.

If the braking power from the continuous brake is insufficient:

- ▶ Shift down a gear and reduce your speed.
  - ◁ If you shift down on a downhill slope without adjusting the speed, cruise control sets an engine speed lower than the engine overspeed. The set speed remains set and is automatically re-established as soon as this is possible in a higher gear.

The vehicle is braked by the continuous brake automatically in the following situations:

- Cruise control is activated.
- The vehicle speed exceeds the set speed by more than the upper speed tolerance.

When the continuous brake is activated and you activate cruise control, the continuous brake regulates the set speed on downhill slopes.

## Driving mode

### Driving systems

#### Overtaking

It is possible to exceed the set speed, e.g. when overtaking.

- ▶ Depress the accelerator pedal.
- ▶ Once the overtaking manoeuvre is finished, release the accelerator pedal again.
  - ◁ Cruise control adjusts the vehicle's speed to the set speed.

#### Deactivation

The speed remains stored if you deactivate cruise control.

- ▶ Press the  button.

or

- ▶ When cruise control accelerates the vehicle, depress the brake pedal.
  - ◁ The instrument cluster shows the  symbol and the set speed in grey.

or

- ▶ Select the limiter with the  button.

- ◁ The instrument cluster shows the  symbol in grey.

or

- ▶ Select Proximity Control Assist with the  button.
  - ◁ The instrument cluster displays the  symbol and the set speed in white. Proximity Control Assist is activated.

#### Proximity Control Assist

##### Overview of Proximity Control Assist



#### **Danger**

#### **Risk of accident due to the Proximity Control Assist's detection limitations**

Proximity Control Assist does not react:

- to pedestrians or animals
- to oncoming vehicles or cross traffic

Proximity Control Assist is therefore unable to issue a warning or intervene in these situations.

- ▶ Always carefully observe the traffic conditions and be ready to brake at all times.



#### **Note**

Proximity Control Assist reacts to obstacles on the carriageway, e.g. stationary or parked vehicles that have been detected by the camera and the radar sensor only up to a speed of 50 km/h.



#### **Danger**

#### **Risk of accident due to Proximity Control Assist's detection limitations**

Proximity Control Assist cannot always clearly identify other road users and complex traffic situations.

In these cases, Proximity Control Assist may unexpectedly accelerate or brake the vehicle and intervene unexpectedly.

- ▶ Drive on carefully and be ready to brake, particularly if Proximity Control Assist issues a warning.

**Danger****Risk of accident if Proximity Control Assist does not decelerate sufficiently**

Proximity Control Assist only brakes your vehicle with part of the maximum possible braking power. If this deceleration is not sufficient, Proximity Control Assist will give you a visual warning.

- ▶ Apply the brakes yourself in these situations, and try to take evasive action.
- ▶ Observe the notes on particular driving situations under "Active Brake Assist" (→ Page 292).

Proximity Control Assist has been developed for journeys on motorways and high-speed major roads. The system is not intended for use in urban traffic, for example.

Do not use Proximity Control Assist when towing or using the vehicle as a work machine.

The system may be impaired or may not function in the following situations:

- if there is poor visibility, e.g. due to insufficient road illumination or due to snow, rain, fog, or heavy spray
- if there is glare, for example, from oncoming traffic, direct sunlight, or reflections (e.g. if the road surface is wet)
- if the windscreen in the area of the camera is dirty, misted up or damaged
- If the windscreen around the camera is obscured, e.g. due to a defective windscreen wiper or a sticker
- if the carriageway is very narrow and winding
- If the radar sensor is impaired due to interference from other radar sources, such as strong radar reflections in car washes

Proximity Control Assist may not detect narrow vehicles driving in front, e.g. motorcycles or vehicles not travelling in line with your vehicle.

The following driving situations in particular should be noted:

- Cornering, entering and exiting bends
- Your own vehicle driving on a different line or vehicles in front of you driving on a different line
- The loads of vehicles in front that protrude into the lane
- Other vehicles changing lane
- Vehicles turning off
- Overtaking
- Winding stretches of road
- Obstacles and stationary vehicles
- ▶ Regularly clean the distance sensor cover and the window in the camera's field of view (→ Page 406).

If the distance sensor cover or the windscreen in the camera's field of vision is dirty or icy, its functionality may be impaired.

- ▶ Deactivate Proximity Control Assist before leaving the driver's seat and secure the vehicle using the parking brake.

## Driving mode

### Driving systems

Proximity Control Assist must not be used in the following cases:

- On slippery roads. The drive wheels may lose their grip when braking or accelerating and the vehicle may skid.
- when there is poor visibility, e.g. due to fog, heavy rain, or snow.
- In cities and on country roads.

If Proximity Control Assist no longer detects a vehicle driving in front because it has turned off the road, for example, Proximity Control Assist may accelerate to the set (stored) speed. On a filter lane or a slip road, this speed may be too high.

If the vehicle is equipped with PPC (Predictive Powertrain Control) (→ Page 279), the distance to the vehicle in front can be increased when PPC is intervening, e.g. before lowering. This is intended to help achieve an efficient driving style.

The  icon in the instrument cluster shows the Proximity Control Assist status by colour:

- Grey icon: Proximity Control Assist is selected, but not activated.
- White icon: Proximity Control Assist is activated, but a vehicle in front has not been detected.
- White icon and vehicle within the blue icon: Proximity Control Assist is activated and a vehicle in front has been detected.

If a vehicle ahead has been detected, the instrument cluster additionally displays its driving speed and the distance to the detected vehicle.

#### Note

The menu window **Assistance** in the Driving mode menu  (→ Page 160) also shows the vehicle speed of the detected vehicle and the distance to the detected vehicle.

### Activate and deactivate Proximity Control Assist

#### Functions and activation conditions

Proximity Control Assist controls the speed and assists you in automatically maintaining the distance from a vehicle detected in front. If there is no vehicle in front of you, Proximity Control Assist works like cruise control from a speed of 15 km/h.

If a vehicle is detected in front, it will function from a speed of 0 km/h.

#### Note

The maximum adjustable speed depends on the selected drive program, as with cruise control (→ Page 241).

If Proximity Control Assist detects a vehicle in front driving at a slower speed, your vehicle is slowed and the specified distance selected by you is maintained.



Proximity Control Assist brakes the vehicle with the continuous brake in the following situations:

- The vehicle exceeds the set speed, including the set speed tolerance, e.g. on downhill slopes.
- A slower vehicle in front has been detected.

When the continuous brake slows the vehicle, the indicator lamp  in the instrument cluster lights up.

Proximity Control Assist may also brake the vehicle using the service brake in order to maintain the specified distance.

If the vehicle in front is no longer detected, e.g. if it changes lane, your vehicle will accelerate up to the set speed.

Proximity Control Assist cannot be activated or is deactivated automatically in the following situations:

- if you are driving at under 15 km/h on roads with downhill or uphill gradients of over 10%.

- if you are driving at under 5 km/h and no vehicles are detected in front of you.
- if you shift the transmission into neutral for more than approximately five seconds.
- if you depress the brake pedal while Proximity Control Assist accelerates the vehicle.
- if you select the reverse gear.
- if the vehicle is stationary and you leave the driver's seat.
- if the vehicle is stationary and you open the driver's door.
- if an implement is detected that impairs the function of the distance sensor or the view of the multifunction camera.
- if there is a fault in the brake system/electronic management system.
- if the distance sensor initialisation is not yet complete.

If Proximity Control Assist is deactivated automatically, an acoustic signal sounds.

If you cannot switch on Proximity Control Assist, the instrument cluster shows the display message --, - km/h in grey.

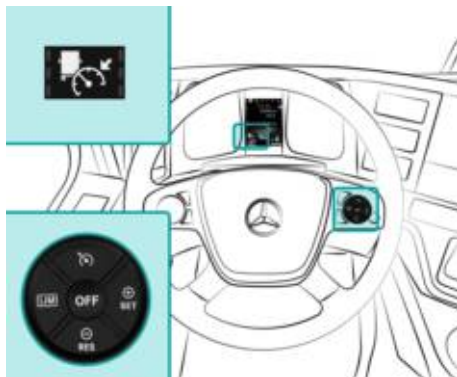
Proximity Control Assist remains activated in the following situations:

- if you brake using the continuous brake.
- if Proximity Control Assist decelerates the vehicle using the continuous brake or service brake and you simultaneously depress the brake pedal.

## Driving mode

### Driving systems

#### Select Proximity Control Assist



#### Proximity Control Assist

-  Select Proximity Control Assist/cruise control
-  Activate and adjust current speed/increase set speed
-  Activate and call up set speed/reduce set speed
-  Selecting limiter
-  Deactivate Proximity Control Assist

- ▶ Press the  button repeatedly until the instrument cluster displays the  symbol in grey.

If you switch from cruise control to Proximity Control Assist and it was previously on, the instrument cluster displays the  symbol in white. Proximity Control Assist is activated. The vehicle adapts its speed to that of the vehicle in front, but only up to the desired and set speed.

#### Activation while driving

At speeds below 15 km/h, you can only activate Proximity Control Assist if a vehicle in front has been detected.

- ▶ Drive at a speed greater than 15 km/h.
- ▶ Select Proximity Control Assist.
- ▶ Briefly press the  button.
  - ◁ Proximity Control Assist is activated and the current speed is set.

or

- ▶ Briefly press the  button.
  - ◁ Proximity Control Assist is activated and the last stored speed is set. The instrument cluster displays the  symbol and the set speed in white.

- ▶ Release the accelerator pedal.
  - ◁ The vehicle adapts its speed to that of the vehicle in front, but only up to the desired and set speed.

#### Activating when the vehicle is stationary

When the vehicle is stationary, you can only activate Proximity Control Assist if a vehicle in front has been detected.

- ▶ Apply the electronic parking brake or apply the service brake.
- ▶ Select Proximity Control Assist.
- ▶ Briefly press the  button.
  - ◁ Proximity Control Assist is activated and the last stored speed is set. The instrument cluster displays the  symbol and the set speed in white.
- ▶ Release the electronic parking brake or the service brake.
  - ◁ Proximity Control Assist prevents the vehicle from rolling away.

If you switch off the vehicle when it is stationary, the electronic parking brake is automatically set.

### Pulling away and stopping the vehicle

#### Moving off

The moving-off function of Proximity Control Assist provides assistance when driving in traffic jams. Your vehicle pulls away automatically after a standstill within two seconds if the vehicle in front drives on.

In order for the vehicle to pull away automatically, the following conditions must be fulfilled:

- The vehicle in front of you must drive on or already be more than 10 m away.
- The forward gear must be engaged.
- The continuous brake must be deactivated.
- The electronic parking brake and the service brake must be released.
- ▶ To move on, briefly depress the accelerator pedal.

or

- ▶ Press the button .
  - ◀ The vehicle pulls away and adapts its speed to that of the vehicle in front, but only up to the desired and set speed.

To move on in vehicles with a turbo retarder clutch, you must depress the accelerator pedal permanently in order to complete the moving-on procedure.

#### Stopping



**Danger**

#### Risk of accident if the driver's seat is vacated with Proximity Control Assist active

If the vehicle is only braked by Proximity Control Assist when you leave the driver's seat, it may roll away in the following situations:

- If there is a malfunction in the system or in the power supply
- If Proximity Control Assist is switched off, e.g. by a vehicle occupant or from outside the vehicle

- If the accelerator pedal is pressed, e.g. by a vehicle occupant
- If the button  is pressed, e.g. by a vehicle occupant.
- ▶ Before the driver leaves the driver's seat, always switch off Proximity Control Assist and secure the vehicle to prevent it from rolling away.

If Proximity Control Assist detects that the vehicle in front has stopped, it will brake your vehicle to a standstill. Depending on the specified distance set, your vehicle will come to a standstill at a sufficient distance behind the vehicle in front.

#### Increasing or reducing the speed

You can only change the speed setting while driving.

- ▶ **To adjust in 0.5 km/h increments:**  
Press  or  button repeatedly until the desired speed is shown in the instrument cluster.

## Driving mode

### Driving systems

or

► **To adjust in 5 km/h increments:**

Press and hold button  or  until the desired speed is displayed on the instrument cluster.

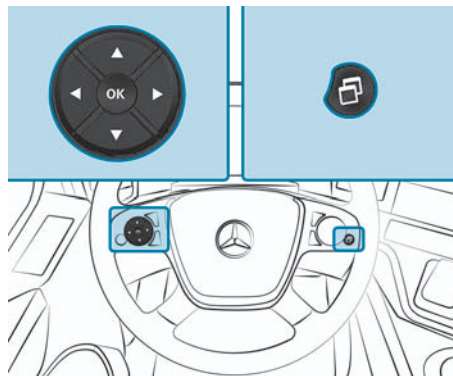
#### Note

By setting the speed tolerance, you define by how much the set speed may be exceeded (→ Page 281).

#### Setting a specified distance to the vehicle in front

The specified distance for Proximity Control Assist can be set to five levels. After a vehicle start, the average target distance is automatically set.

- Make sure that you maintain the minimum distance to the vehicle in front as required by law. Adjust the specified distance to the vehicle in front if necessary.



- Press the  button repeatedly until the **ACC distance** menu is displayed in the instrument cluster.
- Press  or  button to reduce or to increase the specified distance.
  - ◁ The bar display shows the specified distance you have selected.
- Press  button to exit the menu window.

or

- Wait for approximately three seconds.
  - ◁ The setting is stored automatically.

#### Overtaking

It is possible to exceed the set speed, e.g. when overtaking:

- Maintain a sufficient distance to the vehicle in front.
- Depress the accelerator pedal.
- Once the overtaking manoeuvre is finished, release the accelerator pedal again.
  - ◁ Proximity Control Assist adjusts the speed to the set speed.

#### Deactivating

The speed remains stored if you deactivate Proximity Control Assist.

- Press the .

or

- When Proximity Control Assist accelerates the vehicle, depress the brake pedal.
  - ◁ The instrument cluster shows the  symbol and the set speed in grey.

or

- Select the limiter with the  button.
- ◄ The instrument cluster shows the  symbol in grey.

or

- Using the  button, select the cruise control (→ Page 270).
- ◄ The instrument cluster displays the  symbol and the set speed in white. Cruise control is activated.

Observe the conditions that lead to automatic deactivation of Proximity Control Assist.

### PPC (Predictive Powertrain Control)

#### Notes on PPC (Predictive Powertrain Control)



**Danger**

#### **Risk of accident despite route-based speed adaptation**

Route-based speed adaptation may be faulty or temporarily unavailable in the following situations:

- if the driver does not follow the pre-terminated route
- if the map data is not up to date or unavailable
- in roadworks
- in poor weather and road conditions
- if the accelerator pedal is depressed
- if there are electronically displayed speed limits
- Adapt your speed to the traffic situation.

The driver is always responsible for choosing the right speed and observing other

road users. This applies in particular to junctions, roundabouts, and traffic lights, as route-based speed adaptation does not brake the vehicle to a standstill.

PPC is intended for use on motorways and trunk roads. Do not use PPC within towns and in heavy traffic.

### PPC

PPC uses topographical map data to optimise fuel consumption and adjust performance according to driving conditions.

PPC influences the gear selection and adjusts the speed in the cruise control (→ Page 269) or Proximity Control Assist (→ Page 272).

The following route events are taken into account by PPC:

- Speed adaptation facilitates better utilisation of momentum on downhill gradients.
- On uphill gradients, the power output is optimised and may be reduced before reaching the top of the hill.

## Driving mode

### Driving systems

You can activate and deactivate PPC in the Settings menu , Assistance menu window (→ Page 171).

#### PPC Interurban

PPC Interurban uses map data to react to route events. By reducing power output in good time prior to route events, coasting can be used to save fuel.

The following route events are taken into account by PPC Interurban:

- PPC sets the cruise control speed in advance to suit the speed limit ahead. The driver can subsequently adjust the cruise control speed.
- PPC Interurban uses data on bends, roundabouts, traffic signs and junction situations to calculate a suitable speed.

You can activate and deactivate consideration of these route events independently of each other in the instrument cluster via the Settings menu , Assistance menu window (→ Page 171).

PPC is active when the following conditions are met:

- PPC has been activated in the Settings menu.
- Cruise control or Proximity Control Assist is active.
- GPS signal is available.
- Map data is available.

PPC is restricted in the following situations:

- The transmission is in the manual drive program.
- You step on the accelerator or brake pedal.
- The continuous brake is active.
- Proximity Control Assist brakes the vehicle.
- The power take-off is engaged.
- Automatic speed adaptation is active.

The status of PPC is displayed in the instrument cluster as follows:

- Grey symbol : Cruise control is deactivated.

- White symbol  without PPC display: Cruise control is active but PPC is unavailable or deactivated.
- White symbol  with PPC display: PPC is activated and cruise control is active.
- Green symbol  with PPC display: PPC actively controls the speed and gear selection in cruise control or Proximity Control Assist.

#### System limits

Route-based speed adjustment does not take right-of-way regulations into account in every situation. The driver is responsible for complying with road traffic regulations and driving at a suitable speed.

In difficult conditions (e.g. unclear road conditions, narrow lanes, wet conditions, snow or ice) or when driving with a trailer, the speed selected by the system may not always be suitable to the situation. In these situations the driver must intervene accordingly.

If the gross vehicle weight is more than 80 t and power take-offs are operated

during the trip, this can result in a malfunction of PPC in certain situations. In this case, PPC must be deactivated.

### Setting PPC (Predictive Powertrain Control)

#### Activating/deactivating



- ▶ In the instrument cluster under the Settings menu , Assistance menu window, activate and deactivated the PPC (→ Page 171).

#### Setting speed tolerances and factors

- ▶ Press the button  on the multifunction steering wheel repeatedly until the input window **Cruise control** is displayed in the instrument cluster.
- ▶ Use the  and  steering-wheel buttons to change back and forth between the setting options.
- ▶ Use the  and  steering-wheel buttons to set the speed tolerances/speed factors.

#### Setting the upper speed tolerance

- ▶ Select menu item ① to set the upper speed tolerance.
  - ◁ The speed tolerance changes in 1 km/h increments from 2 km/h to 15 km/h.

The suggested value for the upper speed tolerance is at least 4 km/h. If the suggested value is not confirmed by the driver, the upper speed tolerance is set to the factory setting (2 km/h).

The higher you set the upper speed tolerance, the greater the savings in fuel.

If cruise control is activated and the set speed is 50 km/h or less, the upper speed tolerance is set to 2 km/h.

#### Setting momentum peaks

- ▶ To set momentum peaks, select menu item ②.
  - ◁ The speed tolerance changes in 1 km/h increments from 1 km/h to 4 km/h.

The suggested value for the momentum peak is at least 2 km/h. If the suggested value is not confirmed by the driver, the momentum peak is set to the factory setting (1 km/h).

The higher you set the momentum peak, the greater the savings in fuel.

If cruise control is activated and the set speed is 50 km/h or less, the momentum peak is set to 0 km/h.

#### Setting the lower speed tolerance

- ▶ Select menu item ③ to set the lower speed tolerance.
  - ◁ The speed tolerance changes in 1 km/h increments from -1 km/h

## Driving mode

### Driving systems

up to -10 km/h. Factory setting is -6 km/h.

The higher you set the lower speed tolerance, the greater the savings in fuel.

#### Setting the cornering speed factor

- ▶ Select the ④ menu item to set the cornering speed factor.
  - ◁ The speed factor changes in five levels. The factory setting is level three.

The higher the level set, the higher the vehicle speed when cornering.

#### Setting deceleration before a route event

- ▶ Select the ⑤ menu item to set the start of deceleration.
  - ◁ The start of deceleration changes in five levels. The factory setting is level three.

The higher the level is set, the earlier the vehicle starts deceleration before a route event.

#### Resetting the settings

- ▶ Select menu item ⑥ to reset all the settings to the factory settings.

#### Notes on personalisation

With the "Personalisation" function, depending on the driver card, the following settings are saved automatically in the vehicle:

- Selected drive program  
PPC system settings (Predictive Powertrain Control)

If the vehicle has been switched off for more than eight hours or the driver card has been changed, the settings are reset to the minimum values in some situations (see the following table).

This is most likely to happen if the settings selected by the driver have a negative impact on fuel consumption. If the driver has selected settings which are more economical than the minimum value for fuel consumption in the following table, the settings will be maintained.

#### Saved settings:

| Setting                   | Reset value for extended absence |
|---------------------------|----------------------------------|
| Selected drive program    | Aeconomy/Aeconomy+ <sup>1</sup>  |
| PPC Interurban on/off     | PPC Interurban on                |
| PPC Auto Set Speed on/off | PPC Auto Set Speed on            |
| Upper speed tolerance     | 4 km/h, if lower value is set    |
| Downhill speed tolerance  | 2 km/h, if lower value is set    |
| Lower speed tolerance     | 6 km/h, if lower value is set    |
| Cornering speed factor    | Level 3, if higher value is set  |
| Coast before route event  | Level 3, if lower value is set   |

<sup>1</sup> In the Fire and Fleet drive programs, the reset value is Fire or Fleet.

Note on the "Upper speed tolerance" and "Lowering speed tolerance" settings: If the value set by the driver deviates from the factory settings, the current setting value is displayed when the vehicle is started (pop-up) and can be confirmed by the driver.



If the driver does not confirm the value settings shown, the default values will be restored automatically.

### Frontguard Assist

#### Notes on Frontguard Assist

Frontguard Assist can inform the driver about pedestrians or cyclists standing or moving in front of the vehicle and warn the driver.



① Monitoring range (example)



② Display in instrument cluster (example)

#### Persons in the monitoring range – info

When detecting a pedestrian or cyclist within the sensors' monitoring range, the system informs the driver by activating the indicator lamp  in the instrument cluster.

When the vehicle is switched on, the display is active from standstill up to a speed of 15 km/h (forward travel).

#### Persons in the monitoring range – warning

If the system detects a pedestrian or cyclist within the sensors' monitoring range and classifies the situation as critical, it

warns the driver by activating the red indicator lamp  in the instrument cluster. An audible warning also sounds.

While the system issues an audible warning, the audio equipment installed ex works and the hands-free system are muted.

The warning is active when driving forwards from vehicle start-up to a vehicle speed of 15 km/h.

If the driver depresses the accelerator pedal beyond the pressure point (kick-down), the colour of the indicator lamp in the instrument cluster changes from red to yellow and the audible warning goes out.

The indicator lamp in the instrument cluster goes out in the following scenarios:

- The detected pedestrian or cyclist is no longer within the monitoring range of the sensors.
- The pedestrian or cyclist is no longer detected by the sensors.
- The distance to the detected pedestrian or cyclist is no longer evaluated as

## Driving mode

### Driving systems

critical by the system in conjunction with the vehicle speed.

#### System limits



#### Warning

##### **Risk of accident due to limited detection capability of Frontguard Assist**

Frontguard Assist cannot always clearly identify objects and complex traffic situations.

In these cases, Frontguard Assist may provide information without reason and/or not issue any warnings.

- ▶ Always carefully observe the traffic conditions and be ready to brake at all times.

The system may be impaired or may not function in the following situations in particular:

- if the sensors are dirty, covered with ice, or obscured, for example, due to snow or heavy spray
- if the radar sensors are impaired due to interference, for example, from

strong or disruptive radar reflections caused by crash barriers or other infrastructure

- If the windscreen around the camera is dirty, misted up or damaged
- If the windscreen around the camera is obscured, e.g. due to a defective windscreen wiper or a sticker

Frontguard Assist may not react correctly in the following situations in particular:

- to pedestrians or cyclists moving quickly into the sensors' monitoring range
- on bends with tight radii
- to pedestrians or cyclists who are obscured by other objects
- if the contour of a pedestrian does not stand out from the background
- if pedestrians or cyclists are no longer detected as such, e.g. due to special clothing or other objects
- where pedestrians or cyclists are in a tunnel

at very low vehicle speeds (e.g. when the vehicle crawls), the system must not issue a warning despite a critical situation.

#### **Automatically deactivating Frontguard Assist**

If Frontguard Assist is malfunctioning or has been automatically deactivated due to an implement being used, the indicator lamp  on the instrument cluster lights up. No information is then provided about objects in the monitoring range and no warning is issued by Frontguard Assist. In the event of a malfunction, have the system checked at a qualified specialist workshop.

#### **Activating/deactivating Frontguard Assist warning**

When you start the vehicle, Frontguard Assist's visual and acoustic warning is automatically activated.

### Note

The info display in the instrument cluster (indicator lamp ) cannot be switched off.

- ▶ **Switching off:** In the instrument cluster, under the **Settings** menu , menu window **Assistance**, switch off **Frontguard Assist**.
  - ◁ Frontguard Assist's visual and audible warning is switched off.
- ▶ **Switching on:** In the instrument cluster, under the **Settings** menu , menu window **Assistance**, switch on **Frontguard Assist**.
  - ◁ Frontguard Assist's visual and audible warning is switched on.

### Active Brake Assist 6/Active Brake Assist 6 Plus

#### Notes on Active Brake Assist

#### General notes

Active Brake Assist can have the following effects:

- Ideally avoid a collision with the vehicle in front.
- Reduce the danger of a collision with the vehicle in front or a stationary obstacle in the path of your vehicle.
- Reduce the consequences of a collision with the vehicle in front.
- Drivers are able to react to pedestrians and cyclists with partial braking and full-stop braking.

If Active Brake Assist detects the risk of a rear-end collision, a warning tone sounds and the instrument cluster shows the indicator lamp  for vehicles or  for pedestrians or cyclists.



- ① Display in the instrument cluster (example: pedestrian)

**Vehicles with Active Brake Assist 6:** If you do not react to the visual and audible warnings when a vehicle is detected and the danger persists, partial braking intervention will be initiated.

**Vehicles with Active Brake Assist 6 Plus:** When a vehicle is detected, the following system reactions take place depending on the vehicle speed:

- Driving speed up to 60 km/h: If a vehicle is detected, automatic partial braking can be initiated at the same time as the visual and audible warning.

## Driving mode

### Driving systems

- Driving speed over 60 km/h: If you do not react to the visual and audible warnings when a vehicle is detected and the danger persists, partial braking intervention will be initiated.

If a pedestrian/cyclist is detected, partial braking is initiated at the same time as the visual and audible warning.

If you do not react to the partial brake application and the danger persists, Active Brake Assist automatically initiates emergency braking.

#### System limits

Full system performance is not yet available for some time after having switched on the vehicle or after having moved off.

#### Vehicles with Active Brake

**Assist 6 Plus:** If the indicator lamp  in the instrument cluster lights up after 15 seconds of driving at a speed of at least 10 km/h, full system performance is also not yet available.

Active Brake Assist may be impaired or may not function in the following situations in particular:

- in snow, rain, fog or heavy spray
- if the carriageway is very narrow and winding
- if the radar sensors are impaired due to interference from other radar sources, such as strong radar reflections in car washes
- if there is glare, e.g. from oncoming traffic, direct sunlight, varying light conditions or reflections (e.g. if the carriageway is wet)
- if the windscreen in the area of the camera is dirty, obscured, or damaged, for example, due to a faulty windscreen wiper or a sticker
- at very low speeds (e.g. when the vehicle is creeping)

#### Note

Following delivery of the vehicle, over the course of a certain distance, the Active Brake Assist sensors adjust automatically. During this teach-in process, Active Brake Assist is not available or available only to a limited extent.

In some circumstances, particularly those listed below, Active Brake Assist does not react correctly:

- to pedestrians or vehicles if they move quickly into the sensor detection range
- on bends with tight radii
- if the load of the vehicle in front protrudes into the lane in which you are driving
- to pedestrians who are obscured by other objects
- to contours of a pedestrian, who does not stand out from the background
- if a pedestrian is no longer detected as such, for example, due to special clothing or other objects
- to pedestrians in a tunnel

The Active Brake Assist can only react to pedestrians up to a speed of 60 km/h.



### Danger

#### **Risk of accident due to Active Brake Assist's limited detection capabilities**

Active Brake Assist cannot always clearly identify objects and complex traffic situations.

In such cases, Active Brake Assist may:

- issue an unnecessary warning and brake the vehicle
- possibly not issue a warning or intervene

Active Brake Assist is not a substitute for you paying attention to your surroundings and does not relieve you of your responsibility pertaining to road traffic law, in particular in relation to maintaining a safe distance, your speed, and braking in good time.

- ▶ Always pay careful attention to the traffic situation.
- ▶ Be prepared to brake or swerve if necessary.



### Danger

#### **Risk of accident due to Active Brake Assist's detection limitations**

Active Brake Assist does not react:

- to oncoming vehicles
- to animals

Active Brake Assist is therefore unable to issue a warning or intervene in these situations.

- ▶ Always carefully observe the traffic conditions and be ready to brake at all times.



### Note

Active Brake Assist may also react to pedestrians or cyclists who are coming towards you or are moving at the edge of the road.

Active Brake Assist cannot override physical limits.

- ▶ Always adapt your driving style to the current road and weather conditions.

The following vehicles in particular may not be detected by Active Brake Assist:

- narrow vehicles
- motorcycles
- vehicles not travelling in line with your vehicle
- ▶ Please read the information on special driving situations that may lead to system limitations (→ Page 292).

Active Brake Assist may unexpectedly issue warnings or brake your vehicle in the following situations in particular:

- in car washes
- if there are stationary obstacles in a tunnel
- on ferries
- in loading areas
- at toll gates
- in workshops

Critical driving situations are described as:

- situations with an imminent collision with the vehicle in front
- situations with imminent collision with a pedestrian or cyclist

## Driving mode

### Driving systems

The following may lead to Active Brake Assist having no reaction in critical driving situations:

- Active Brake Assist has not recognised the danger of the situation.
- Active Brake Assist is deactivated.
- Active Brake Assist has failed.
- Active Brake Assist is suppressed.

#### Cancelling an Active Brake Assist brake application

Due to technical and physical system limits, Active Brake Assist may warn the driver visually and audibly, or may initiate a partial or emergency braking intervention although no critical driving situation applies.

You can suppress a warning tone and/or an emergency braking application initiated by Active Brake Assist as follows:

- by quickly depressing the accelerator pedal significantly beyond the current position or beyond the point of resistance (kick-down)
- by disengaging Active Brake Assist (if installed) (→ Page 289)

You can only suppress an emergency braking application initiated by Active Brake Assist as follows:

- by depressing the accelerator pedal beyond the point of resistance to the kick-down position (depressing the accelerator pedal beyond the point of resistance without reaching the kick-down position is not sufficient, as opposed to suppressing the warning tone or partially applying the brakes as described above)
- by disengaging Active Brake Assist (if installed) (→ Page 289)

Please note that all suppression measures described above suppress warning tones and partial braking applications initiated by the system, also in critical driving situations. Depressing the accelerator pedal beyond the point of resistance (kick-down) or deactivating Active Brake Assist (if installed) also suppresses an emergency braking application initiated by the system in critical driving situations. Only the visual warning remains in such cases.

If both the driving situation assessed as critical and the suppressive measure continue, a visual warning is issued and a warning tone sounds. The visual warning and brief warning tone are issued until the moment when the system would normally initiate the emergency braking application, which has, however, been suppressed due to the suppression measures. In this instance, Active Brake Assist does not initiate a partial or emergency braking application.

#### Notes on care

- Clean the distance sensor covers and the windscreen in the camera's field of view regularly (→ Page 406).

If the distance sensor cover or the windscreen in the camera's field of vision is dirty or icy, its functionality may be impaired.

### Deactivating and activating Active Brake Assist

Depending on the vehicle equipment, it is possible to deactivate Active Brake Assist manually.

When you start the vehicle, Active Brake Assist is automatically activated.

If there is a malfunction in a system associated with Active Brake Assist, Active Brake Assist is automatically deactivated and the  indicator lamp in the instrument cluster lights up.

When the cause of the malfunction has been rectified, Active Brake Assist switches back on automatically, and the indicator lamp  in the instrument cluster goes out.

- **Switching off:** In the instrument cluster, under the **Settings** menu , menu window **Assistance**, switch off **ActiveBrakeAssist 6**.
  - ◁ If Active Brake Assist has been deactivated, the indicator lamp  comes on in the instrument cluster.

#### Note

If the Active Brake Assist menu item is greyed out, Active Brake Assist cannot be deactivated in your vehicle.

#### Note

15 minutes after manual deactivation, Active Brake Assist is automatically reactivated and the indicator lamp  in the instrument cluster goes out.

#### Note

**Vehicles with Active Brake Assist 6:** If an implement is detected that impairs the function of the distance sensor or the view of the multifunction camera, the system is not automatically switched on again (depending on the implement used).

#### Note

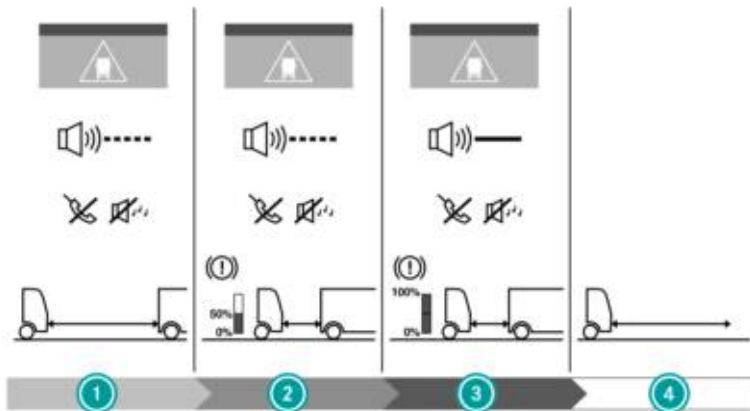
**Vehicles with Active Brake Assist 6 Plus:** If an implement is detected that impairs the function of the distance sensor or the view of the multifunction camera, the system is automatically switched off (depending on the implement used), and the indicator lamp  in the instrument cluster lights up.

- **Switching on:** In the instrument cluster, under the **Settings** menu , menu window **Assistance**, switch on **ActiveBrakeAssist 6**.
  - ◁ Once Active Brake Assist has been activated, the indicator lamp  in the instrument cluster will go out.

## Driving mode

### Driving systems

#### Collision warning and emergency braking

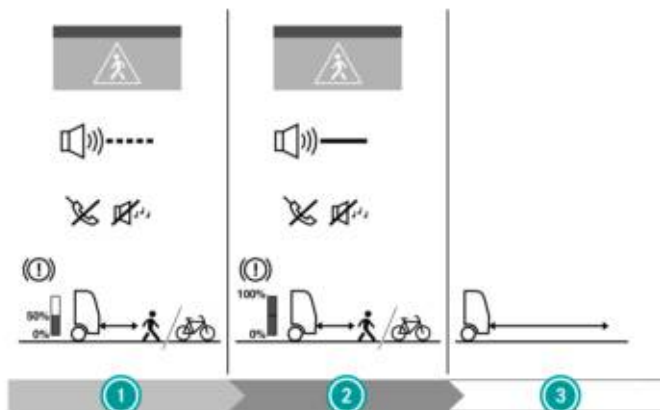


Reaction to a vehicle (example)

#### Collision warning and emergency braking

- ① Collision warning
- ② Partial braking
- ③ Emergency braking (maximum full-stop braking)
- ④ Emergency braking completed





Reaction to a pedestrian /cyclist (example)

### Collision warning and emergency braking

- ① Collision warning with simultaneous partial braking
- ② Emergency braking (maximum full-stop braking)
- ③ Emergency braking completed

If there is a risk of a collision with the vehicle in front and Active Brake Assist issues a warning, the audio device and hands-free system installed at the factory are automatically muted.

#### Collision warning

The indicator lamp  lights up in the instrument cluster when a vehicle, pedestrian , or cyclist is detected. An intermittent warning tone sounds.

#### Partial braking

The collision warning remains active. In addition, Active Brake Assist slows the vehicle with automatic partial braking.

## Driving mode

### Driving systems

#### Emergency braking

If you do not react to the collision warnings and partial brake application, Active Brake Assist automatically initiates emergency braking (maximum full-stop braking) within the system limitations.

In addition, the  or  indicator lamp lights up in the instrument cluster and a continuous warning tone sounds.

At speeds greater than 50 km/h, rapid flashing of the hazard warning lights (emergency braking flashing) is activated during braking to warn following traffic.

After emergency braking, the instrument cluster shows the grey display message  **Emergency braking finished** and the hazard warning light system is switched on automatically at the normal flashing frequency.

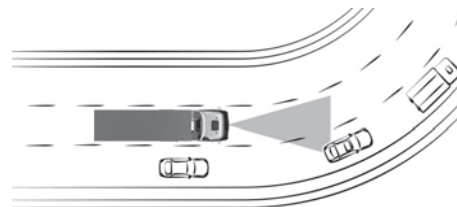
After emergency braking to a standstill, the vehicle is secured by the HOLD function to prevent it from rolling away.

If an emergency braking manoeuvre has been performed:

- ▶ Remove the vehicle from the danger area as soon as possible while paying attention to the traffic situation.
- ▶ Switch off the vehicle and use the parking brake to secure it against rolling away.
- ▶ Make sure that the vehicle is in proper working order and that the load is secured properly.

#### Information on specific driving situations

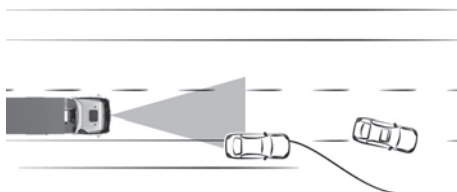
##### Cornering, entering and exiting bends



The ability of Active Brake Assist and the distance control assistant to detect vehicles on bends is limited:

- Active Brake Assist and the Proximity Control Assist may unexpectedly issue warnings or brake your vehicle.
- Active Brake Assist and the Proximity Control Assist cannot issue warnings/brake although there is a critical driving situation.
- The Proximity Control Assist may accelerate unexpectedly.

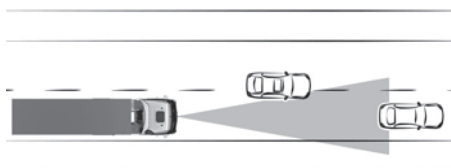
### Vehicles not travelling in line with your vehicle and stationary vehicles



The ability of Active Brake Assist and the distance control assistant to detect vehicles not travelling in line with your vehicle or stationary vehicles is limited:

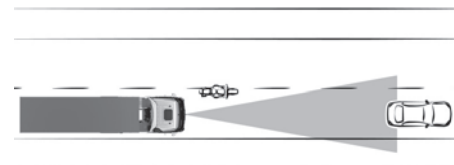
- Active Brake Assist and the Proximity Control Assist may unexpectedly issue warnings or brake your vehicle.
- Active Brake Assist and the Proximity Control Assist cannot issue warnings/brake although there is a critical driving situation.
- The Proximity Control Assist may accelerate unexpectedly.

### Other vehicles changing lane



The ability of Active Brake Assist and Proximity Control Assist to detect vehicles pulling into your lane is limited:

- Active Brake Assist and the Proximity Control Assist may unexpectedly issue warnings or brake your vehicle.
- Active Brake Assist and the Proximity Control Assist cannot issue warnings/brake although there is a critical driving situation.
- The Proximity Control Assist may accelerate unexpectedly.



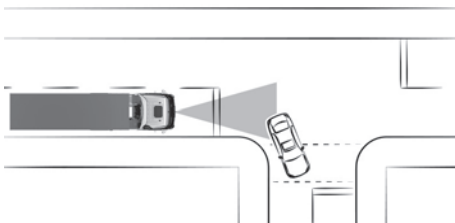
The ability of Active Brake Assist and the distance control assistant to detect vehicles pulling into your lane without maintaining a safe distance is limited. The system can only react to vehicles within the detection range of the sensors.

- Active Brake Assist and the Proximity Control Assist cannot issue warnings/brake although there is a critical driving situation.
- The Proximity Control Assist may accelerate unexpectedly.
- ▶ Brake the vehicle.
  - ◁ The distance to the vehicle in front is increased.

## Driving mode

### Driving systems

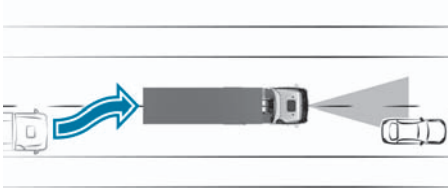
#### Vehicles turning off



The ability of Active Brake Assist and the Proximity Control Assist to detect vehicles turning off is limited:

- Active Brake Assist and the Proximity Control Assist may unexpectedly issue warnings or brake your vehicle.
- Active Brake Assist and the Proximity Control Assist cannot issue warnings/brake although there is a critical driving situation.
- The Proximity Control Assist may accelerate unexpectedly.

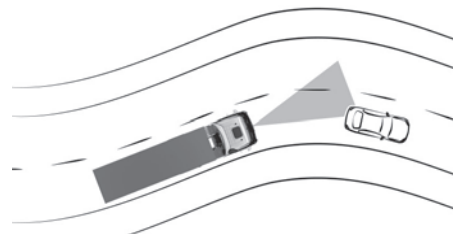
#### Overtaking



When you are overtaking, Active Brake Assist and the Proximity Control Assist may in the following cases unexpectedly issue warnings or brake your vehicle if you:

- drive too close to the vehicle in front
- you are still in the lane of the vehicle in front

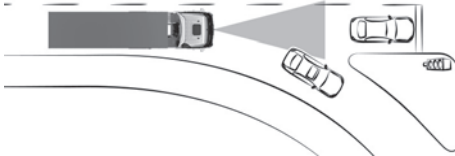
#### Winding stretches of road



On winding stretches of road, Active Brake Assist and the Proximity Control Assist cannot always detect which lane the vehicle in front is driving in:

- Active Brake Assist and the Proximity Control Assist may unexpectedly issue warnings or brake your vehicle.
- Active Brake Assist and the Proximity Control Assist cannot issue warnings/brake although there is a critical driving situation.
- The Proximity Control Assist may accelerate unexpectedly.

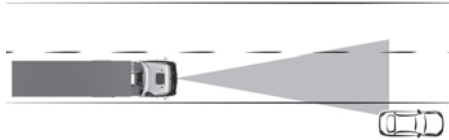
### Obstacles and stationary vehicles



Active Brake Assist and the Proximity Control Assist may be too late detecting obstacles or stationary vehicles in front of the detected vehicle:

- Active Brake Assist and the Proximity Control Assist may unexpectedly issue warnings or brake your vehicle.
- Active Brake Assist and the Proximity Control Assist cannot issue warnings/brake although there is a critical driving situation.
- The Proximity Control Assist may accelerate unexpectedly.

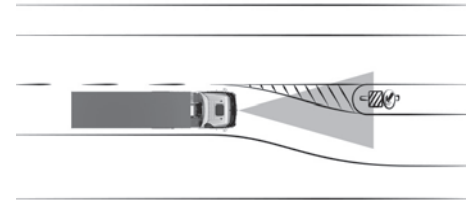
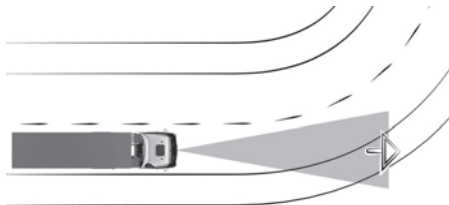
### Vehicles parked at the roadside



Active Brake Assist and the Proximity Control Assist may react to vehicles parked at the roadside:

- Active Brake Assist and the Proximity Control Assist may unexpectedly issue warnings or brake your vehicle.
- The Proximity Control Assist may accelerate unexpectedly.

### Stationary objects



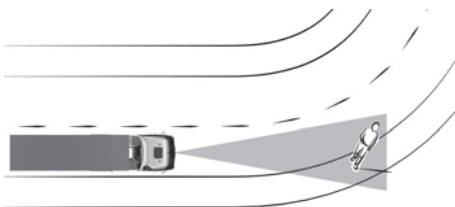
Active Brake Assist can also unexpectedly issue warnings and brake the vehicle if it detects stationary objects next to your lane. Examples of this are:

- Broken-down vehicles
- Road boundaries, e.g. roadside posts
- Signs
- Bridges
- Traffic islands
- Parked vehicles
- People

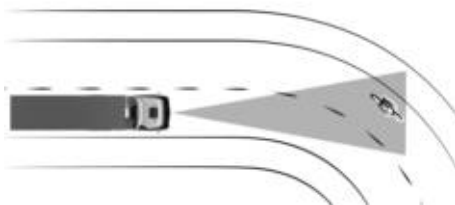
## Driving mode

### Driving systems

#### Pedestrians and cyclists



Active Brake Assist may also unexpectedly issue a warning or brake for people moving along the roadside on a bend.

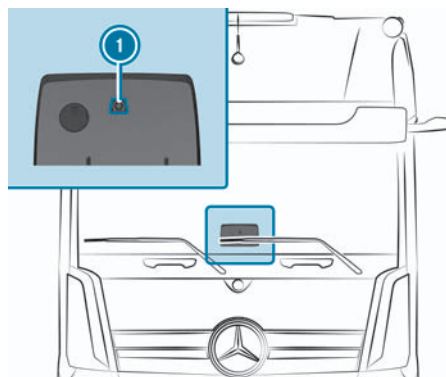


Active Brake Assist may also unexpectedly issue a warning or brake in the event of oncoming cyclists on a bend.

#### Traffic Sign Assist

##### Function of Traffic Sign Assist

Traffic Sign Assist is only an aid. Always adjust your speed to suit the traffic situation. The driver is responsible for complying with traffic regulations at all times.



Traffic Sign Assist detects traffic signs with a multifunction camera ①. It assists you by displaying detected speed limits and overtaking restrictions and warning signs in the instrument cluster.

Traffic Sign Assist uses the map data stored and can, in the following situations, update the display without having detected a traffic sign:

- When changing lanes, for example, when entering or exiting a motorway
- When the map indicates an updated maximum permissible speed

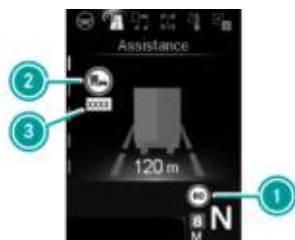
#### Note

In countries without map data, the function is restricted.

Beside the information in the map, legally applicable limit speeds of the respective country are taken into account.

Traffic signs with a restriction indicated by an additional sign (e.g., in wet conditions) are also detected by the camera. These will be taken into account in the display for the speed limit or displayed separately if they cannot be allocated accordingly.

### Display in instrument cluster



Display Traffic Sign Assistant (example)

### Displays

- ① Maximum permissible speed
- ② Alternative maximum permissible speed, overtaking restrictions, and warnings
- ③ Additional sign with restriction

The displays ② and ③ are only shown only in the driving mode  menu window [Speed](#) or [Assistance](#).

If more than two traffic signs are detected by the system, Traffic Sign Assist selects the two most relevant traffic signs for the display.

### Speed limits on slip roads



Speed limits detected in the area of an exit are displayed in the instrument cluster in the Driving mode  menu, [Speed](#) or [Assistance](#) menu window with an arrow as an additional sign. The additional symbol is displayed even if the actual traffic sign does not have an additional symbol.

### Warning when the maximum permissible speed is exceeded

The system can warn you if you unintentionally exceed the maximum permissible speed. To do this, the system issues a warning tone and the corresponding traffic sign in the instrument cluster flashes red.

In certain situations, a warning tone or a warning in the instrument cluster does not sound.

No warning tone is issued in the following cases:

- If the vehicle is slowed down by the driver
- When the vehicle speed is less than 20 km/h

In the following cases, no warning is issued in the instrument cluster:

- In the area of the tachograph control if there is no explicit speed limit
- PPC Interurban is active ( → Page 281)
- If the warning function has been switched off ( → Page 299)

### Warning when an overtaking manoeuvre is detected in a no-overtaking zone

The system can give you a visual warning if you start an overtaking manoeuvre in a no-overtaking zone. The corresponding traffic sign flashes red in the instrument cluster.

## Driving mode

### Driving systems

#### Acoustic information when the maximum permissible speed is changed

The system can inform you by means of an audible notification when a new maximum permissible speed is detected.

The function can be deactivated in the instrument cluster (→ Page 299).

#### Display of system statuses

In addition to the display of traffic signs in the instrument cluster, the system also informs you of restrictions on individual functions.



#### System states

- ① No applicable speed limit could be detected.
- ② The system has been switched off or is unavailable due to a malfunction.

- ③ The warning tone for when the maximum speed is exceeded is switched off.

#### Note

The display ③ is shown for ten seconds after the warning tone is switched off.

#### System limits

The system may be impaired or may not function in the following situations:

- If the traffic signs are hard to see, for example, due to dirt, obstruction, snow, or inadequate lighting.
- If the information in the digital road map is incorrect or not up to date
- When using a non-ISO compliant trailer
- If the signs are ambiguous, such as traffic signs in construction zones, adjacent lanes, and entrances and exits.
- If there are dynamic signs, e.g. LED displays.
- If there are signs which do not meet the official requirements.

- In poor visibility conditions, such as inadequate road illumination, rapidly changing shadow conditions, rain, snow, fog, or heavy spray.
- In case of glare, for example, from oncoming traffic, direct sunlight, or reflections.
- If the windscreen in the area of the camera is dirty, misted up or damaged.
- If the windscreen in the area of the camera is obscured, for example, due to a faulty windscreen wiper or a sticker.
- If there are no lane markings, or several unclear lane markings are present for one lane, for example, around roadworks.
- After a major change in load with the vehicle switched on. Restart the vehicle after a major change in load.

Instruction labels for vehicles transporting hazardous goods are not taken into account by the system.

Make sure that the windscreen is always kept clean and unobstructed in the area



of the camera (→ Page 406). Therefore, switch on the windscreen wiper to clean the windscreen, for example, or remove snow and ice from the windscreen.

### Activating/deactivating Traffic Sign Assist

- In the instrument cluster under the [Settings](#) menu , [Assistance](#) menu screen, scroll to [Traffic signs](#).
  - ◄ The following functions are available:
    - activating/deactivating Traffic Sign Assist.
    - activating/deactivating Traffic Sign Assist warnings.
    - Switch the audible information on or off when the maximum permissible speed changes.

### Note

If the system is unavailable due to a malfunction, the menu item is greyed out.

### Note

Once the vehicle has been started, Traffic Sign Assist's warning and display functions are automatically activated. The audible information when the maximum permissible speed is changed remains in the last selected setting.

### Note

Daimler Truck AG offers an annual map update to ensure that the system functions as best as possible. The driver is responsible for keeping the map up to date.

### Note

Information on which map version is installed in your vehicle can be found in the  [Settings](#) menu screen [Menu](#) under [Map version](#).

### Lane Keeping Assist

#### Notes on Lane Keeping Assist



**Danger**

#### **Risk of accident due to limited detection capability of Lane Keeping Assist**

Lane Keeping Assist cannot always clearly identify lane markings.

In these cases, Lane Keeping Assist may therefore issue a warning unjustifiably or may not issue a warning at all.

- Always pay particular attention to the traffic situation and keep within the lane, especially if Active Lane Keeping Assist alerts you.

## Driving mode

### Driving systems

The system may be impaired or may not function in the following situations:

- If visibility is poor, e.g. due to insufficient road illumination or due to snow, rain, fog or heavy spray
  - If there is glare, e.g. from oncoming traffic, direct sunlight or reflections (e.g. if the road surface is wet)
  - if the windscreen in the area of the camera is dirty, misted up or damaged
  - If the windscreen around the camera is obscured, e.g. due to a defective windscreen wiper or a sticker
  - If there are no lane markings, or there are several unclear lane markings for one lane, for example, in roadworks
  - if the lane markings are worn away, dark, or covered up, for example, by dirt or snow
  - If the distance to the vehicle in front is too small and the lane markings thus cannot, therefore, be detected
  - if the lane markings change quickly, e.g. lanes branch off, cross one another, or merge
  - if the carriageway is very narrow and winding
  - if there are highly variable shade conditions on the carriageway
  - when attachments, such as a snowplough, obstruct the view of the lane markings through the camera
  - after a major change in load with the vehicle switched on. Therefore, start the vehicle again after a significant change in load for Lane Keeping Assist to be available without any restrictions
- Keep the windscreen around the camera free of dirt, snow, or ice. Use the windscreen wipers or clean the windscreen manually if necessary. Please read the information in "Notes on cleaning the vehicle exterior" (→ Page 400) and "Cleaning sensors" (→ Page 406).

### Overview



Example: Lane Keeping Assist display

Lane markings are also displayed on the menu screen **Assistance** in the  **Driving mode** (→ Page 160) menu.

The lane markings in the status area and in the menu screen **Assistance** of the instrument cluster display the status of Lane Keeping Assist in colour:

- Black lane marking: Lane Keeping Assist is disengaged.
- Grey lane marking: Lane Keeping Assist is engaged but is not ready

to issue warnings on the side of the vehicle in question.

- White lane marking: Lane Keeping Assist is engaged and ready to issue warnings on the side of the vehicle in question.
- Red lane marking: Lane Keeping Assist is engaged and is issuing a warning on the side of the vehicle in question.

### Functions and activation conditions

Lane Keeping Assist monitors the area in front of your vehicle with a camera that is on the base of the windscreen. When Lane Keeping Assist is activated and it detects lane markings on the carriageway, it warns you that you may be leaving your lane unintentionally. Lane Keeping Assist does not automatically keep the vehicle in its lane.

The following conditions must be fulfilled so that Lane Keeping Assist is ready to issue warnings:

- You are driving above approximately 60 km/h.

- The lane markings must be shown in white in the instrument cluster.

When you drive over the lane marking unintentionally, the following warnings are issued:

- The relevant lane marking is shown in red in the instrument cluster.
- The volume of the audio equipment or hands-free system is reduced and a warning tone sounds from the speaker on the corresponding side of the vehicle.

If the vehicle is not fully within the lane markings after a warning has been issued, no further warnings are possible.

Lane Keeping Assist does not issue a warning in the following situations:

- You have switched on the turn signal indicator.
- You clearly and actively steer, brake or accelerate.
- When a driving safety system intervenes, e.g. Active Brake Assist or Stability Control Assist.

The warnings are then suppressed for a certain time period.

Lane Keeping Assist will warn you when changing lane if a turn signal indicator has been switched on for more than one minute.

### Deactivating/activating Lane Keeping Assist

Depending on how the vehicle is equipped, it is possible to deactivate Lane Keeping Assist manually.

When you start the vehicle, Lane Keeping Assist is automatically activated.

- **Switching off:** In the instrument cluster under the [Settings](#) menu , menu screen [Assistance](#), switch Lane Keeping Assist off.

- ◁ The indicator lamp  in the instrument cluster lights up when Lane Keeping Assist is deactivated.

If the Lane Keeping Assist menu item is greyed out, Lane Keeping

## Driving mode

### Driving systems

Assist cannot be deactivated in your vehicle.

- **Switching on:** In the instrument cluster under the **Settings** menu , menu screen **Assistance**, switch Lane Keeping Assist on.

- ◁ Once Lane Keeping Assist has been activated, the  indicator lamp in the instrument cluster will go out.

#### Attention Assist

##### Overview of Attention Assist

Depending on the vehicle equipment, one of the following versions of Attention Assist may be installed:

- Attention Assist (→ Page 302)
- Attention Assist 2 (→ Page 303)

#### Note

Information on activating/deactivating Attention Assist (→ Page 305).

#### Notes on Attention Assist

Attention Assist may be impaired or inoperative in the following situations:

- if there is poor visibility, e.g. due to insufficient road illumination or due to snow, rain, fog, or heavy spray
- if the windscreen in the area of the camera is dirty, misted up or damaged
- If the windscreen around the camera is obscured, e.g. due to a defective windscreen wiper or a sticker
- if there are often no lane markings, or multiple ambiguous lane markings for a single lane, such as in construction zones
- if the lane markings are worn away, dark, or covered up, for example, by dirt or snow
- when experiencing frequent glare, such as from oncoming traffic, direct sunlight, or reflections (e.g., on wet roads)
- on winding roads

- if the distance to the vehicle in front is too short so that the lane markings often cannot be detected
  - if attachments obstruct the camera's view of the lane markings
  - After a major change in load with the vehicle switched on: restart the vehicle after a major change in the load
- Make sure that the windscreen is always kept clean and unobstructed around the camera (→ Page 406). Therefore, for example, turn on the windshield wipers or remove snow and ice from the windshield.

#### Overview

Attention Assist helps you during long, monotonous journeys, e.g. on motorways and trunk roads. Attention Assist is active at speeds above approximately 60 km/h.

If Attention Assist has detected typical indications of fatigue or increasing lapses in concentration on the part of the driver, it suggests taking a break. A warning is shown by Attention Assist irrespective of

legally prescribed driving and rest periods or digital tachograph functions.

### Functions and activation conditions

Attention Assist assesses your level of fatigue or lapses in concentration by taking the following criteria into account:

- Personal driving style, for example, lane keeping, steering behaviour
- Driving conditions, for example, duration of the journey

Attention Assist is restricted and a warning does not occur or is delayed in the following situations:

- If you are predominantly driving at under 60 km/h
- If lane markings are not available or difficult to distinguish
- On winding roads

The following interventions occur if Attention Assist detects typical indicators of fatigue or increasing lapses in concentration on the part of the driver:

- A warning tone is issued.

- The instrument cluster shows the display message  and **Attention Assist: Take a break?**
- Lane Keeping Assist is reactivated automatically.
- ▶ Take breaks regularly and in good time during longer journeys.

If you fail to take a break, Attention Assist can only warn you again after at least 15 minutes. When you switch off the vehicle or the vehicle is stationary for some time, Attention Assist resets the detection sequence.

### Notes on "Attention Assist 2"



**Danger**

#### **Risk of injury from infrared radiation emitted by the camera**

This product uses a Risk Group 0 (RG0) infrared illumination system. If the housing is opened or damaged, infrared radiation can damage the retina.

- ▶ Do not open the housing.

- ▶ Always have maintenance and repair work carried out at a qualified specialist workshop.

This device is a Risk Group 0 (RG0) product in accordance with IEC 62471: 2006 (First Edition) & DIN EN 62471: 2008.

In vehicles with MirrorCam system, the driver camera is integrated into the MirrorCam display on the driver's side; in vehicles without MirrorCam system, the driver camera is located on the A-pillar on the driver's side.

The camera converts the image data directly into metadata. No image data are stored. The data are only processed in the vehicle itself and are not transmitted from the vehicle.

The camera records the following driver characteristics:

- Presence
- Head position
- Viewing direction
- Blink reflex
- Face

## Driving mode

### Driving systems

Attention Assist has two subfunctions:

- **Fatigue detection:** Attention Assist uses the driver camera to identify signs of fatigue and thus assists the driver on long and monotonous journeys, e.g. on motorways and major roads.
- **Distraction detection:** Attention Assist can use the driver camera to detect when the driver is distracted from the situation on the road.

Attention Assist is only an aid. It cannot always detect fatigue or inattentiveness in good time. The system is not a substitute for a well-rested and attentive driver. On longer journeys, drivers should take regular breaks promptly in order to ensure sufficient rest.

When you start the vehicle, Attention Assist is automatically activated.

Attention Assist may be impaired or inoperative in the following situations:

- When driving for less than approx. 15 minutes.

- In active driving situations, for example, when performing frequent lane changes.
- If the driver moves frequently.
- If the driver camera is covered or dirty, fogged up or scratched.
- In strong sunlight.
- If parts of the driver's face and/or eyes are covered (e.g. by glasses, hair, beard, jewellery or headgear).
- The driver is wearing infrared-impermeable glasses.
- Incorrect seat position or very small or very tall drivers.

If the view of the driver camera is impaired, the instrument cluster shows a display message, e.g. **Attention Assist: camera restricted Clear the field of vision or clean the lens.**

- Always keep the camera clean and the area in front of it clear. Observe the notes on cleaning the interior (→ Page 397).
- Note the display messages for Attention Assist on the instrument cluster.

#### Fatigue detection

This subfunction is available from a driving speed of approx. 30 km/h.

The following interventions occur if Attention Assist detects typical signs of fatigue on the part of the driver:

- A warning tone is issued.
- The instrument cluster shows the display message  and **Attention Assist: take a break?**

If you fail to take a break, Attention Assist can only warn you again after at least 15 minutes. When you switch off the vehicle or the vehicle is stationary for some time, Attention Assist resets the detection sequence.

A warning is shown by Attention Assist irrespective of legally prescribed driving and rest periods or digital tachograph functions.

#### Distraction detection

The subfunction can be initiated from a speed of approximately 20 km/h.

If Attention Assist detects that the driver is distracted from the situation on the road, the following system reactions occur:

- A warning tone is issued.
- The instrument cluster shows a display message, e.g.  **Attention Assist: focus on the road.**

### Deactivating and activating Attention Assist

Attention Assist is always activated after having started the vehicle.

- In the instrument cluster in the  **Settings menu**, **Assistance** menu screen, switch the **Attention Assist** or **Attention Assist 2** on and off (→ Page 171).

### Sideguard Assist 2/Active Sideguard Assist 2

#### Function of Sideguard Assist 2/Active Sideguard Assist 2

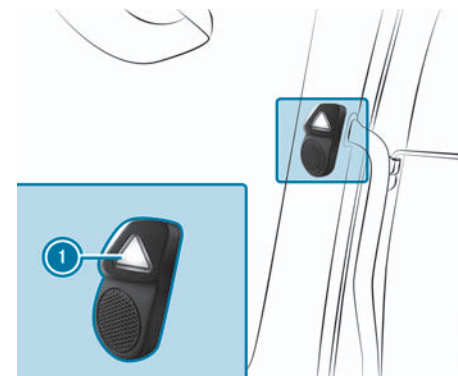
#### General notes

Sideguard Assist can warn of the risk of a side-on collision, especially when turning or changing lanes. It contains the functions of the legally prescribed turning assistant (UN ECE R151, Blind Spot Information System).

Active Sideguard Assist can also trigger automatic braking and bring the vehicle to a standstill if it detects a risk of collision when the vehicle is turning within the system limits. The following notes on Sideguard Assist also apply to Active Sideguard Assist. The additional functions of Active Sideguard Assist are described separately in the following sections.

If you are not familiar with the range of equipment in your vehicle, use the on-board computer to check which system is installed in your vehicle before starting to drive the truck.

It is shown by the word **Sideguard Assist** or **Active Sideguard** displayed on the instrument cluster in the  **Settings** menu on menu screen **Assistance**.



Warning display on the A-pillar on vehicles without MirrorCam system (example)

## Driving mode

### Driving systems



Warning display in vehicles with MirrorCam system (example)

The system monitors the area next to the towing vehicle and the trailer or semitrailer on both sides with two radar sensors each. The radar sensors are integrated into the wings and the corners of the front bumper. Information from the front radar and the multifunction camera is also processed.

The system supports you when turning off and changing lanes with the warning display  in the A-pillar  or in the MirrorCam display .

**Sideguard Assist Info:** The system detects a relevant object in the monitoring range. The warning display  on the corresponding side lights up.

**Sideguard Assist Warning:** The system detects an increased risk of collision with a relevant object in the monitoring range. The warning display  on the corresponding side lights up. A warning tone will also sound.

#### Note

Both “Sideguard Assist Information” and “Sideguard Assist Warning” display stages are referred to as warnings in the following, as they can transition directly into each other unless otherwise described.

When the vehicle is turning, Active Sideguard Assist can also react when turning within the reaction zone by automatically braking the vehicle to make it come to a standstill.

The system is not active when reversing.

#### Note

Trailers with an interface according to ISO 11992-2: Incorrectly set trailer information, such as length or number of axles, can lead to malfunctions relating to the trailer or semitrailer. In such cases, trailer monitoring may issue unnecessary warnings or no warnings at all.

If you identify a trailer or semitrailer malfunction, contact the trailer or semitrailer manufacturer.

#### Note

Trailers without an interface according to ISO 11992-2: After coupling a trailer or semitrailer, it is necessary to perform a number of cornering manoeuvres until the system has adjusted to the new trailer or semitrailer.



### **i** Note

You can find information on whether your trailer or semitrailer includes an interface ISO 11992-2 in the operating instructions provided by the trailer or semitrailer manufacturer.

### **i** Note

Trailer/semitrailer without electronic brake system (EBS): After hitching up/coupling up the trailer/semitrailer, switch off the vehicle and restart it. Otherwise, trailer monitoring may be impaired or may not function.

You can find information on whether your trailer or semitrailer includes EBS in the operating instructions provided by the trailer or semitrailer manufacturer.

### Setting of the traffic direction

The sensitivity with regard to a Sideguard Assist warning output and the reaction zone relevant for a braking of Active Sideguard Assist depends on the traffic direction set in the vehicle.

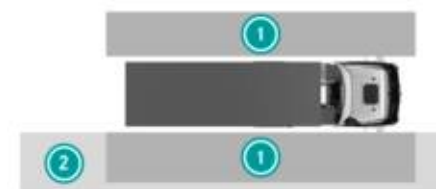
In countries in which traffic drives on the opposite side of the road to the country in which the vehicle is registered, it is therefore necessary to change the setting in the instrument cluster under the Settings menu , menu screen [Vehicle](#) ►► [DirectionTravel](#).

Incorrect setting of the traffic direction can lead to unauthorised system reactions.

### **i** Note

Vehicles with Sideguard Assist: The traffic direction setting option is not available for specific countries.

### Sideguard Assist warning range



Overview (example using a left-hand drive vehicle)

The length of the warning area ① depends on the vehicle speed, but it always covers at least the vehicle length detected by the system, including any trailer/semitrailer, if applicable.

The width of the warning range ① is equivalent to approx. one lane.

The extended information area ② results from the legal requirement in accordance with UN ECE R 151 and is always located on the front passenger side. The length of this information-only area ② depends on the vehicle speed and is a maximum of 37 m.

## Driving mode

### Driving systems

#### Note

Due to the size of the legal information area , a warning display  may also appear for traffic following behind.



Proximity monitoring zone (example)

From a vehicle speed of approx. 40 km/h, warnings of vehicles rapidly approaching from behind are also given on the basis of an approach monitoring zone .

#### **Relevant monitoring range for the brake application of Active Sideguard Assist (reaction zone)**

The length of the reaction zone which is relevant for braking is based on the length of the towing vehicle detected by the system.

The width of the reaction zone that is relevant to braking is determined dynamically according to the respective situation and is at most 2 m.

#### Note

The reaction zone [DirectionTravelLeft-hand traffic](#) is on the left side of the vehicle when the setting is selected and on the right side of the vehicle when the setting [Right-hand traffic](#) is selected.



Reaction zone (example for right-hand traffic setting)

#### **System limits**

Full system performance is not yet available for a few seconds after having switched on the vehicle or after having moved off.

As a result of the system characteristics, warnings may be issued in error when driving close to crash barriers or similar solid boundaries. In these situations, Active Sideguard Assist may initiate additional brake applications in error.

Due to the nature of the system, the warning may be interrupted when driving alongside long vehicles, e.g. lorries.

Due to system limitations, during longer journeys near uniform road structures, such as tunnel walls, sensor interference may occur. A corresponding display message will be shown in the instrument cluster (→ Page 556). If the fault no longer applies, the display message disappears and the system will be available again.

Depending on the situation and the trailer or semitrailer, the system may warn you too early or not at all.

- Ensure that the covers of the radar sensors are free from dirt, ice, or slush (→ Page 406).

If Sideguard Assist or Active Sideguard Assist is malfunctioning or has been automatically deactivated due to an implement being used, the  or  indicator lamp in the instrument cluster lights up. In this case, sufficient warnings are not issued regarding objects in the monitoring range, or no warning is issued at all, and Active Sideguard Assist does not initiate brake applications. In the event of a malfunction, have the system checked at a qualified specialist workshop.

The system may be impaired or may not function in the following situations in particular:

- in the case of dirty, icy, or covered sensors, for example, by snow or heavy spray
- in very wide lanes
- if the carriageway is very narrow and winding
- if the radar sensors are impaired due to interference, for example, from strong or unfavourable radar reflections caused by crash barriers or other infrastructure

- if the windscreen in the area of the camera is dirty, misted up or damaged
- if the windscreen in the area of the camera is obscured, for example, due to a faulty windscreen wiper or a sticker
- When manoeuvring: Sideguard Assist is not a manoeuvring aid.
- If the traffic direction is set incorrectly

The system may not fully identify the trailer in the following situations:

- Shortly after reversing
- Shortly after coupling or hitching up

In this case, the system may mistakenly issue a warning, or it may not issue a warning at all.

In the following cases in particular, have the function of the radar sensors checked at a qualified specialist workshop:

- After a severe impact
- After damage to the sensors or their surroundings

Otherwise, it can no longer be guaranteed that Sideguard Assist will operate correctly.

In some circumstances and in the following situations in particular, Sideguard Assist does not react correctly:

- to pedestrians or cyclists who are obscured by other objects
- To pedestrians or cyclists who suddenly change direction or speed
- To persons or vehicles moving very quickly within the detection range of the sensors
- To stationary objects or objects moving at the same speed as your own vehicle
- When turning into multiple lanes in the same general direction as vehicles in the adjacent lane
- during manoeuvres that involve pulling out

## Driving mode

### Driving systems



#### **Danger**

##### **Risk of accident due to limited detection capability of Sideguard Assist or Active Sideguard Assist**

The system cannot always clearly identify objects and complex traffic situations.

In these cases, the system may:

- issue an unnecessary warning
- not issue a warning

Active Sideguard Assist may also:

- break without due cause
- may not break at all
- ▶ Drive on carefully and be ready to brake, particularly if the system issues a warning.
- ▶ Always pay careful attention to the traffic situation, and maintain a safe distance at the side of the vehicle.

You can manually cancel an unjustified brake application by Active Sideguard Assist (→ Page 313).



#### **Danger**

##### **Risk of collision despite Active Sideguard Assist**

Active Sideguard Assist can brake your vehicle automatically, bringing it to a standstill, if it detects a risk of collision. This automatic brake application cannot always prevent a collision. If you do not also brake the vehicle yourself, a collision can occur.

- ▶ If there is a risk of collision, brake the vehicle yourself, and take evasive action if possible.
- ▶ Adapt your driving style to the weather conditions when turning.
- ▶ Do not perform function tests involving people, animals, or objects.

Active Sideguard Assist can only initiate a brake application if all the following conditions are met:

- You are driving in a speed range typical for the turning manoeuvre up to approx. 20 km/h.

- You are performing a significant steering movement in the direction of the set traffic side.
- The vehicle has travelled a distance of at least 5 m after reversing or since the last system intervention.
- The  warning display on the A-pillar or MirrorCam display lights up.
- A moving object or an object classified as movable is detected in the reaction zone relevant for the brake intervention.
- The direction of movement of your own vehicle and the object indicates an imminent collision.



#### **Note**

An object is classified as movable in the following cases:

If it has been seen moving by a sensor at an earlier time and then stops

If the multifunction camera detects a stationary pedestrian or cyclist

### **i** Note

The system will only react to oncoming traffic if the system detects a pedestrian or cyclist.

The Active Sideguard Assist can also react to objects moving along the roadside, such as when people are waiting at a traffic light.

A warning may not be issued despite the risk of collision for the following reasons in particular:

- The system has failed or there is a malfunction.
- The system has failed to detect the danger of the situation.
- If the traffic direction is set incorrectly.
- The system's audible warning system is switched off. The visual warning and information display remains active in this case.

Active Sideguard Assist does not brake without prior warning.

A brake application may not be initiated by Active Sideguard Assist despite previous warning and the applicable collision risk on the front passenger's side for the following reasons in particular:

- Active Sideguard Assist's active braking function and the audible warning are deactivated.
- There is a very low intrinsic speed, for example, when the vehicle is rolling.
- There is a malfunction in the brake system.

### Sideguard Assist displays in the instrument cluster

In addition to the display on the A-pillar and MirrorCam display, the warning display  is also shown in the Driving mode menu , Assistance menu screen.



① Warning display in menu screen Assistance

The indicator lamps in the status area of the instrument cluster inform you of the current status of the system.



Status area in the instrument cluster (example)

The following indicator lamps can be ② displayed in the status area:

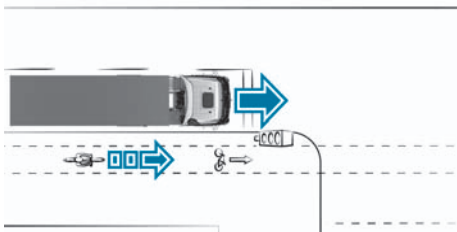
|                                                                                       |                                                                     |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------|
|  | Active Sideguard Assist's acoustic warning and additional automatic |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------|

## Driving mode

### Driving systems

|                                                                                   |                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                   | brake application have been deactivated (→ Page 313).                                                                                                                                     |
|  | The system is only available to a limited extent (e.g. the system is only available on one side due to the failure of a sensor or automatic deactivation due to the use of an implement). |
|  | The system is unavailable due to a malfunction or automatic deactivation due to the use of an implement.                                                                                  |

### Warning when turning



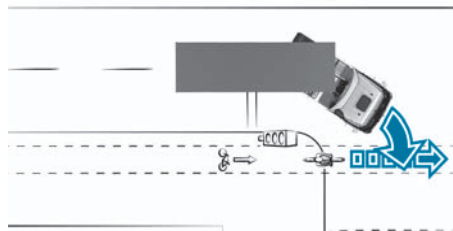
Example of turning right

The system warns of a moving object or an object classified as moving in the side monitoring zone up to a vehicle speed of approx. 40 km/h.

A moving object or an object classified as moving is located in the monitoring range.

The  warning display on the A-pillar or MirrorCam display lights up.

In addition, the corresponding warning indicator  in the menu screen **Assistance** of the instrument cluster lights up.



Example of turning right

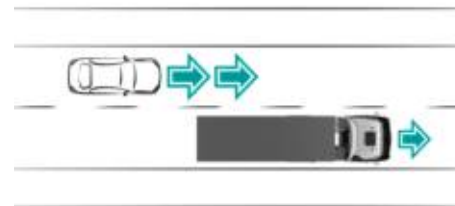
A moving object or an object classified as moving is located in the monitoring range. If you steer or indicate in the direction of turning, and the system detects an increased risk of collision, the warning display  in the A-pillar or in the MirrorCam Display flashes for approximately two seconds. A simultaneous warning tone sounds. The red warning light then lights up continuously while there is a risk of collision.

In addition, the warning display  in the instrument cluster menu screen **Assistance** lights up.

Additionally, Active Sideguard Assist can trigger a braking procedure following the red warning light and warning tone.

After Active Sideguard Assist has performed a full brake intervention bringing the vehicle to a standstill, the instrument cluster shows the display message  **Braking ended**.

### Warning for vehicles approaching from behind



Example

As of a vehicle speed of approx. 40 km/h, the system warns of vehicles approaching quickly from behind in the neighbouring lane.

An object approaching quickly from behind is located in the approach monitoring zone. The  warning display on the A-pillar or MirrorCam display lights up.

In addition, the corresponding warning indicator  in the menu screen **Assistance** of the instrument cluster lights up.

### Warning during lane change

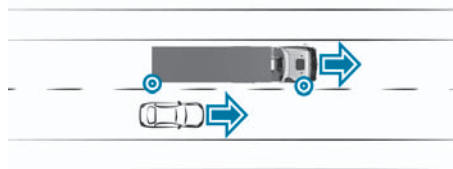


Example of overtaking manoeuvre

The system warns of moving objects or objects classified as moving in the neighbouring lane, regardless of the vehicle's own speed.

A moving object or an object classified as moving is located in the monitoring range. The  warning display on the A-pillar or MirrorCam display lights up.

In addition, the corresponding warning indicator  in the menu screen **Assistance** of the instrument cluster lights up.



Example of overtaking manoeuvre

There is a vehicle in the danger zone when changing lanes. If you indicate or steer in the direction of the object and the system identifies an increased risk of collision (e.g. in the event of a critical approach), the  warning display in the A-pillar or MirrorCam display flashes for approximately two seconds. A simultaneous warning tone sounds. The warning light then lights up continuously while there is a risk of collision.

In addition, the warning display  in the instrument cluster menu screen **Assistance** lights up.

### Note

If a warning of the same object is issued several times while the light is flashing, only the visual system reaction is repeated. The audible warning tone is then suppressed.

### Interrupting the brake application of Active Sideguard Assist 2

If Active Sideguard Assist initiates a brake application in a non-critical situation, you can interrupt it as follows:

- By quickly depressing the accelerator pedal significantly beyond the current position, or beyond the point of resistance (kick-down).

### Switching Sideguard Assist 2's warning tone and Active Sideguard Assist 2's additional brake application on and off

When you start the vehicle, the system is automatically activated.

If Sideguard Assist or Active Sideguard Assist is malfunctioning or has been auto-

## Driving mode

### Driving systems

matically deactivated due to an implement being used, the  or  indicator lamp in the instrument cluster lights up. In this case, sufficient warnings are not issued regarding objects in the monitoring range, or no warning is issued at all, and Active Sideguard Assist does not initiate brake applications. In the event of a malfunction, have the system checked at a qualified specialist workshop.

- ▶ **Deactivation:** In the instrument cluster, under the Settings menu , [Assistance](#) menu window, switch the [Sideguard Assist](#) or [Active Sideguard](#) off.
  - ◀ Active Sideguard Assist's warning tone and additional brake intervention are switched off. The indicator lamp  in the instrument cluster lights up.
- ▶ **Activation:** In the instrument cluster, under the Settings menu , [Assistance](#) menu window, switch the [Sideguard Assist](#) or [Active Sideguard](#) on.
  - ◀ Active Sideguard Assist's warning tone and additional brake

intervention are switched on. The indicator lamp  in the instrument cluster goes out.

#### Trailer Stability Assist

##### Trailer Stability Assist (TSA) function

The Trailer Stability Assist function prevents driving situations in which the tractor/trailer combination risks jackknifing due to an approaching trailer or semitrailer.

Driving situations of this kind may occur in the following cases, for example:

- when cornering in overrun mode
- when cornering on a slippery carriageway
- when the continuous brake is active

To prevent critical situations, Trailer Stability Assist stabilises the tractor/trailer combination by means of brief brake applications on the trailer or semitrailer.

A brake application by Trailer Stability Assist is indicated to the driver by the

flashing symbol  in the instrument cluster.

Trailer Stability Assist does not intervene when EcoRoll mode is activated.

If the temperature of the trailer brake is too high, Trailer Stability Assist is automatically deactivated.

If the system has been deactivated automatically, the indicator lamp of the button  flashes and the instrument cluster shows a corresponding display message.



### Activate/deactivate Trailer Stability Assist (TSA)



TSA button on the lever of the electronic parking brake (example)

- ▶ Press the button .
  - ◁ The function is switched on when the indicator lamp in the button is lit up. 

### Level control system

#### Notes on level control



#### **Danger**

#### **Risk of accident due to lowered or raised chassis**

The braking and handling characteristics may be greatly impaired if the chassis frame is modified. You might also exceed the permitted vehicle height.

- ▶ Set the driving level before you set off.



#### **Note**

#### **Damage to the vehicle due to driving in a lowered or raised drive position**

Driving outside of driving levels 1 and 2 can cause damage to the vehicle's suspension.

- ▶ Driving outside driving heights 1 and 2 is only permitted in manoeuvring mode.
- ▶ In driving mode, set the chassis to driving level.

Observe the applicable legal requirements for each individual country for the permissible vehicle height.

It is necessary to raise or lower the chassis to pick up or set down swap bodies or semitrailers. If you continue a journey after having changed the chassis height, it is necessary to lower or raise the chassis to driving level.

If the indicator lamp  in the instrument cluster lights up, the chassis is not at driving level or the level control is malfunctioning. Observe the additional information in the display message.

When loading or unloading the vehicle when it is switched off, refer to the information in the "Loading and unloading the vehicle when the vehicle is switched off" section (→ Page 320).

Vehicles with axle configurations 8x4/4 and 8x2/4 with air-sprung rear axle: When operating the vehicle without a vehicle body, make sure that the chassis is always fully raised. Otherwise, you could damage the air suspension bellows on the rear axle. Further information on

## Driving mode

### Level control system

the characteristics of possible add-on equipment can be found in the body/equipment mounting directives.

Vehicles equipped with "driving level lowered" and/or with low profile tyres: Avoid operating the vehicle with a lowered chassis. Driving with a lowered chassis increases wear and tear on the vehicle and reduces driving comfort.

Level control can be used when the vehicle is stationary or while driving at up to approx. 30 m/h.

Depending on the vehicle equipment, there are the following options for operation of the level control system:

- the operating unit on the driver's seat
- the on-board computer (→ Page 318)
- the external operating unit on the vehicle body
- the buttons on the instrument panel

#### Activating and deactivating the level control operating unit

The operating unit is attached at the side between the driver's seat and the door.



Example shown on a fully air-sprung vehicle

#### Level control system operating unit

- ① Pre-selection for raising or lowering the front axle
- ② Pre-selection for raising or lowering the entire vehicle
- ③ Pre-selection for setting the driving level
- ④ Pre-selection for raising or lowering the rear axle
- ⑤ Buttons

- ▶ To activate the operating unit, make a pre-selection for the front axle, rear axle, entire vehicle, or driving level
- ◀ To activate the operating unit, make a pre-selection for the front axle, rear axle, entire vehicle, or driving level
- ▼ To activate the operating unit, lower the chassis, set the driving level
- ▲ To activate the operating unit, raise the chassis, set the driving level
- ⊞ To activate the operating unit, end raising or lowering operation
- M1 M2 Short button press: Call up memory preset M1 or M2 for chassis height  
Long button press: Save memory preset M1 or M2 for chassis height

- ▶ Apply the parking brake.
- ▶ Switch on the vehicle.
  - ◀ The level control automatically adjusts the chassis frame to the previously stored height.
- ▶ If the reservoir pressure in the compressed-air system is too low, leave the vehicle switched on.
  - ◀ The compressed-air system is charged.

- ▶ Take the operating unit out of the holder.

### Activating the operating unit

- ▶ The exterior operating unit on the driver's seat: Press the , , , , or  button briefly.

or

- ▶ The external operating unit on the vehicle body: Press and hold the  button for approximately two seconds.

### Note

The external operating unit on the vehicle body can be activated and deactivated even if the key has been removed.

### Deactivating the operating unit

- ▶ The external operating unit on the vehicle body: Press and hold the  button for approximately two seconds.

or

- ▶ The external control panel on the vehicle body and on the driver's seat: Wait for approximately 60 seconds; do not press any buttons.

or

- ▶ Drive at a speed above approximately 30 km/h.
  - ◁ The operating unit is automatically deactivated.

### Raising or lowering the chassis with the operating unit



**Danger**

### Risk of entrapment from vehicle lowering

When lowering the vehicle, other people may become trapped if their limbs are between the vehicle body and the tyres or underneath the vehicle.

- ▶ Make sure no one is underneath the vehicle or in the immediate vicinity of the wheel arches when you lower the vehicle.

- ▶ Press the  or  button to select front axle, entire vehicle, or rear axle.
  - ◁ The LEDs for the selected pre-selection light up.
- ▶ Press the  button to lower the chassis frame or the  button to raise it.
  - ◁ If the chassis frame is not at driving level, the indicator lamp  in the instrument cluster will come on. The instrument cluster also shows a display message with  or  and **Set driving level..**
- ▶ Press the  button to interrupt/end the raising or lowering operation.

## Driving mode

### Level control system

#### Raising or lowering the chassis with the button on the instrument panel

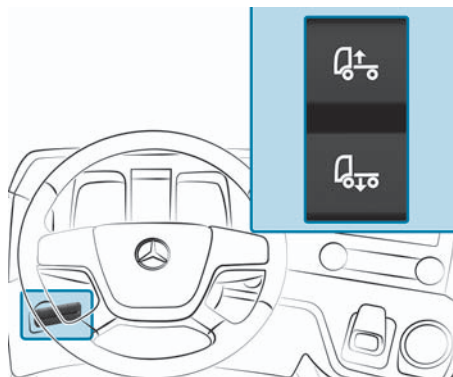


**Danger**

#### Risk of entrapment from vehicle lowering

When lowering the vehicle, other people may become trapped if their limbs are between the vehicle body and the tyres or underneath the vehicle.

- ▶ Make sure no one is underneath the vehicle or in the immediate vicinity of the wheel arches when you lower the vehicle.



- ▶ **Raising:** Press the  button above.
  - ◁ The chassis is raised as long as the button is pressed.
- ▶ **Lowering:** Press the lower section of the  button.
  - ◁ The chassis lowers as long as the button is pressed.

If the chassis is not at driving level, the indicator lamp  in the instrument cluster lights up and a yellow display message with  or  and **Set driving level** appears.

#### Raising or lowering the chassis with the on-board computer



**Danger**

#### Risk of entrapment from vehicle lowering

When lowering the vehicle, other people may become trapped if their limbs are between the vehicle body and the tyres or underneath the vehicle.

- ▶ Make sure no one is underneath the vehicle or in the immediate vicinity of the wheel arches when you lower the vehicle.

The menu window **Level control** in the on-board computer is available on vehicles with air suspension.

- ▶ Use the  or  button to scroll to Operation and maintenance .
- ▶ Use the  or  button to scroll to the menu window **Level control**.
- ▶ Press the button 
  - ◁ The instrument cluster displays the input window.



Example: level control input window

### Level control input window

- ① Pre-selection for raising or lowering the front axle
- ② Pre-selection for raising or lowering the entire vehicle
- ③ Pre-selection for setting the driving level
- ④ Preselection for raising or lowering the rear axle
- ⑤ Memory preset M1 or M2 for chassis height

### Raising or lowering the chassis

- ▶ Press the or button to select front axle ①, entire vehicle ② or rear axle ④.
- ▶ Press the button to lower the chassis frame or the button to raise it.

- ◁ The indicator lamp on the instrument cluster will come on.
- ▶ **To interrupt or end the raising or lowering operation:** Press the button .

### Setting the driving level

- ▶ Press the button or to select driving level preselection ③.
- ▶ Briefly press the or button.
  - ◁ The chassis will automatically be raised or lowered to the driving level.
  - ◁ When the chassis frame is at driving level, the indicator lamp in the instrument cluster will go out.

### Storing the chassis height

- ▶ Raise or lower the chassis to the desired height.
- ▶ Using the or button, select memory preset M1 or M2 for chassis height ⑤.

- ▶ Press and hold the button for approximately two seconds.
  - ◁ The current height of the chassis is stored under the corresponding memory preset M1 or M2.

### Calling up the chassis height

- ▶ Using the or button, select memory preset M1 or M2 for chassis height ⑤.
- ▶ Call up the selected memory preset with the button.
  - ◁ The chassis will be raised/lowered automatically to the stored height.

### Storing/opening the chassis height

#### Storing

- ▶ Raise/lower the chassis to the desired height.
- ▶ Press the button for memory preset M1 or M2 for approximately two seconds.

## Driving mode

### Level control system

- ◁ The current chassis height is stored under the corresponding **M1 M2** button.

#### Calling up

- ▶ Briefly press the **M1 M2** button for memory preset M1 or M2.
  - ◁ The chassis will be raised/lowered automatically to the stored height. The instrument cluster shows a display message with  or  and **Set driving level..**
- ▶ Press the  button to interrupt/end the raising or lowering operation.

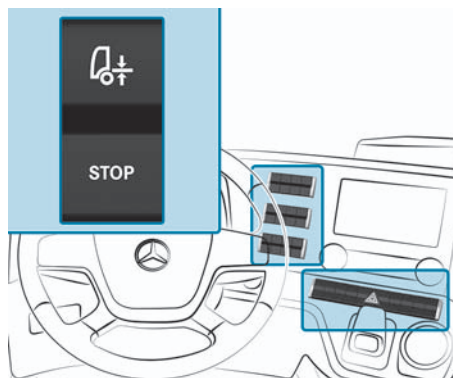
#### Setting the driving level

#### Using the operating unit

- ▶ Press the button  or  to select driving level pre-selection ③.
  - ◁ The LEDs for driving level pre-selection ③ go on.
- ▶ Briefly press the  or  button.

- ◁ The chassis will automatically be raised or lowered to the driving level. When the chassis frame is at driving level, the  indicator lamp in the instrument cluster will go out.
- ▶ Press the  button to interrupt/end the raising or lowering operation.

#### Using the button on the instrument panel



Example: STOP and driving level button

- ▶ Press the  button.
  - ◁ The chassis will automatically be raised or lowered to the driving

level. When the chassis frame is at driving level, the  indicator lamp in the instrument cluster will go out.

- ▶ Press the  button to interrupt/end the raising or lowering operation.

#### Loading and unloading the vehicle when the vehicle is switched off



#### Note

#### Damage to shock absorbers due to rebounding of the chassis

If swap bodies are removed, this may result in damage to shock absorbers due to the sudden rebounding of the chassis.

- ▶ Fully lower the chassis before removing swap bodies.

Store a constant chassis height for loading and unloading the vehicle.

- ▶ Vehicles with trailing axle: Lower the trailing axle (→ Page 325).
- ▶ If required, raise/lower the chassis to the desired height.

- ▶ Leave the vehicle switched on until the pressure regulator cuts out.
- ▶ Press and hold the  button on the operating unit.

or

- ▶ Press and hold the  button on the instrument panel.
- ▶ Switch off the vehicle.
- ▶ Vehicles with mechanical ignition lock: Remove the key from the ignition lock.
- ▶ Release the  button on the operating unit.

or

- ▶ Release the  button on the instrument panel.
  - ◁ If there is sufficient reservoir pressure in the compressed-air system, the height of the chassis is kept constant for approximately four to five hours.

### Special functions of the level control system

#### Notes



#### Note

#### Damage due to incorrect chassis height

If you start working mode before the chassis frame has been lowered completely, or if you raise the chassis frame to driving level before working mode has ended, the vehicle may be damaged.

- ▶ Select the driving level as required and wait until the chassis has reached the level that you have selected.

#### Forced lowering

When you engage a power take-off, the vehicle is completely lowered on all air-sprung axles. This increases the tipping stability of the vehicle.

### Residual air bellow pressure readjustment

Depending on the equipment, it is possible to readjust the residual air bellows pressure.

Vehicles with residual air bellows pressure readjustment: if residual air bellows pressure control is active, the air suspension pressure on each axle is constantly monitored and, if necessary, increased/decreased until it matches a parameterisable value.

Vehicles without residual air bellows pressure readjustment: The air suspension pressure on the front axle is reduced until it matches a parameterised value. The air suspension valves are closed when the set value is reached. On the rear axle, the vehicle is lowered completely on all air-sprung axles. The air suspension valves on the rear axle subsequently remain open.

## Driving mode

### Level control system

#### Automatic deactivation of the special functions using the button in the instrument panel

Special functions are deactivated in the following cases:

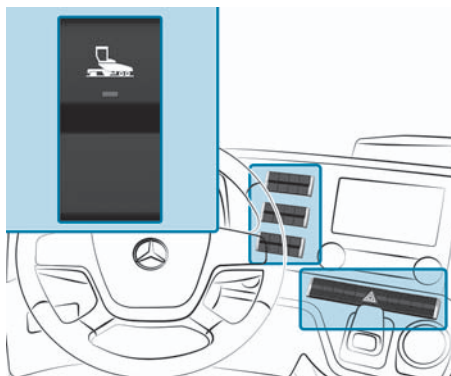
- The vehicle is switched off.
- The  button on the operating unit is pressed.
- The  button on the instrument panel is pressed.
- The  button on the instrument panel is pressed.

#### Note

If the vehicle is switched on after an automatic deactivation, the special functions remain deactivated. A special function must, if necessary, be reactivated manually. Observe the bodybuilder's operating instructions when doing this.

#### Using road paver mode

##### Activating using the button on the instrument panel



Example: road paver mode button

#### Note

Observe the notes on road paver mode (→ Page 329).

- ▶ Press the  button above.
  - ◁ The indicator lamp in the  button flashes and the function is preselected.

- ▶ Engage the power take-off (→ Page 388).
  - ◁ The instrument cluster displays  and a display message. The function is activated when the indicator lamp in the  button is lit.

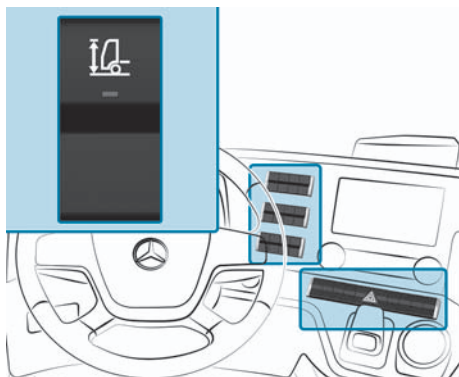
##### Deactivating using the button on the instrument panel

- ▶ Press the  button on the operating unit.
- or
- ▶ Press the  button on the instrument panel.
- or
- ▶ Increase vehicle speed to over 10 km/h.
- or
- ▶ Switch off the vehicle.
  - ◁ The display  in the instrument cluster and the indicator lamp in the button  go out.



Using raised driving level (vehicles for transportation of bulk cargo)

Using the button on the instrument panel



Raise the chassis while driving for improved ride comfort.

► **Raising the chassis frame to raised driving level:** Press the  button above.

- ◁ The indicator lamp in the  button and the  indicator lamp in the instrument cluster light up.

► **To lower the chassis frame to normal driving level:** Press the top  button again.

- ◁ The indicator lamp in the  button goes out.
- ◁ When the chassis is lowered to the normal driving level, the  indicator lamp in the instrument cluster goes out.

Using manoeuvring level

Using the button on the instrument panel



Raised driving level and manoeuvring level button (example)

► Stop the vehicle.

or

► Drive at walking pace.

► **Switching on manoeuvring level:**

Press the lower section of the raised driving level and manoeuvring level button.

- ◁ The indicator lamp of the button  and the indicator lamp  in the instrument cluster light up.
- ◁ The instrument cluster also displays the **Shunting level active** display message. The chassis lowers or rises to the manoeuvring level.

► **Deactivating manoeuvring level:**

Press the lower section of the button  again.

- ◁ The indicator lamp of the  button and the display message go out. The chassis lowers or rises to driving level.
- ◁ When the chassis is raised or lowered to the normal driving

## Driving mode

### Additional axles

level, the indicator lamp  in the instrument cluster goes out.

The instrument cluster shows a display message if the speed at manoeuvring level is too high.

Manoeuvring level is deactivated automatically in the following cases:

- The chassis is lowered or raised manually.
- Raised or normal driving level is set.
- The button  on the control panel or the button  on the instrument panel is pressed.

### Additional axles

#### Notes on starting-off aid



#### Note

#### Damage to tyres and axles due to prolonged use of the starting-off aid

The starting-off aid is only intended for short-term use if the vehicle's wheels are spinning on a slippery carriage-way. The axle load on the rear axle is increased when the starting-off aid is

switched on. Using the starting-off aid over an extended period of time may damage the rear axle and the wheels.

- Make sure that the starting-off aid is only switched on for a short time.

The starting-off aid can also be fitted with a limit speed or a time limit (reactivation lockout).

- If the starting-off aid has no time limit, make sure that the starting-off aid is only switched on for a short time.

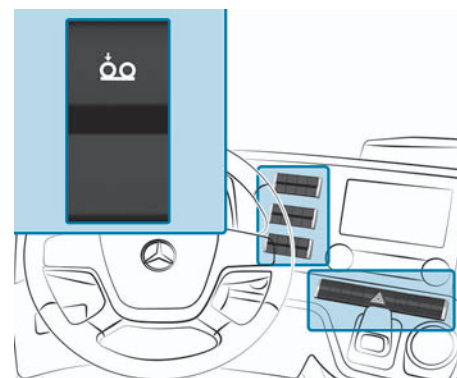
The starting-off aid with limit speed switches itself off automatically at a speed above 30 km/h. The starting-off aid can only be switched on again at a speed below 30 km/h.

The starting-off aid with reactivation lockout switches itself off automatically after 90 seconds. After 50 seconds, the starting-off aid with reactivation lockout can be switched on again.

The starting-off aid without reactivation lockout switches itself off automatically

after 120 seconds and can be switched on again immediately.

#### Switching starting-off aid on/off



- **Switching starting-off aid on:** Press the button .

- ◁ As long as the starting-off aid is switched on, the  indicator lamp in the status area of the instrument cluster lights up.

### Note

If the starting-off aid has no time limit, stop the starting-off aid manually after a short time.

- ▶ **Ending the starting-off aid manually:** Press the  button on the instrument panel.

or

- ▶ Press the  button on the operating unit of the level control (→ Page 316).
  - ◁ The  indicator lamp in the status area of the instrument cluster goes out.

### Raising/lowering the trailing axle

### Note

#### Reducing rolling resistance by raising the leading and trailing axle

Raising the leading and trailing axles reduces rolling resistance. This reduces tyre wear and fuel consumption.

- ▶ Raise the leading/trailing axle if it is not required.

### Note

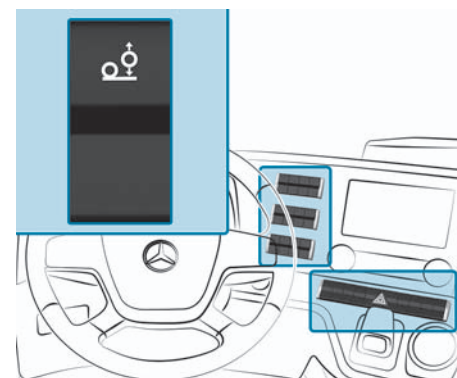
The leading/trailing axle is lowered shortly before the permissible axle load is reached. Observe the instructions in the "Axle and wheel loads" section (→ Page 252) and on the vehicle identification plate (→ Page 502).

In vehicles for large capacity transport, the trailing axle can only have its load reduce, it cannot be raised.

Vehicles with steered trailing axle: When the additional axle is raised, the wheels steer in a straight-ahead position. When the additional axle is lowered again, the wheels steer again.

- ▶ Start the vehicle.
- ▶ Wait until there is sufficient supply pressure in the compressed-air system.
- ▶ If the vehicle is empty or only partially laden, raise the leading/trailing axle before pulling away.

- ▶ Vehicles with a rear loading crane body: Before raising the leading/trailing axle, refer to the body manufacturer's operating instructions.
- ▶ When loading or unloading the vehicle, lower the leading/trailing axle.



- ▶ **Raising/lowering:** Press the button .
  - ◁ When the leading/trailing axle is being raised, the indicator lamp  (trailing axle) or  (leading axle) in the status area of the instrument cluster lights up.

## Driving mode

### Additional axles

Vehicles with four air-sprung axles: The trailing axle is lowered automatically when the parking brake is applied. This increases the braking effect. The indicator lamp  in the instrument cluster flashes for the short duration of the lowering.

If the trailing axle does not lower, the  indicator lamp flashes continuously when the vehicle has been switched on. Once the key has been removed from the ignition lock, the indicator lamp  flashes for another ten minutes and then goes out.

- If the trailing axle does not lower, use chocks to prevent the vehicle from rolling away and have it checked immediately at a qualified specialist workshop.

### Using steerable additional axle

#### Notes

#### Note

At outside temperatures below  $-30^{\circ}\text{C}$ , a low-temperature resistant steering oil must be used for the steerable additional axle. Otherwise, fault-free operation cannot be ensured.

Observe the notes on operating fluids (→ Page 511).

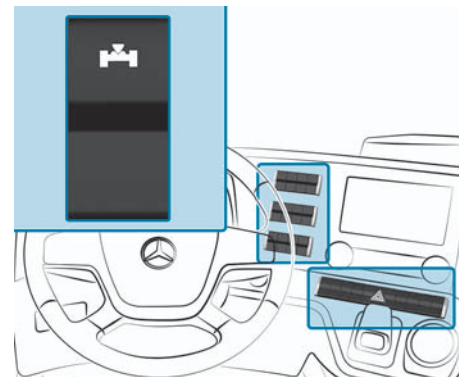
### To centre manually

#### Note

#### Damage to the tyres of vehicles with steerable additional axle

There is a risk of damaging the tyres if vehicles with steerable additional axles are manoeuvred on kerbs or pass through narrow passages.

- In such cases, centre the steering of the additional axle.



- Start the vehicle.
- Press the  button above.
  - ◁ The steering of the additional axle is centred. The wheels of the additional axle steer in a straight-ahead position. When the  indicator lamp lights up in the status area of the instrument cluster, the additional axle is centred.

### To release the steering function

- Press the top  button again.

- ◁ When the  indicator lamp in the status area of the instrument cluster goes out, the steering function of the additional axle is active. The additional axle co-steers again.

If the steerable additional axle is disturbed or no longer steers, the instrument cluster displays a corresponding display message and the  indicator lamp in the status area of the instrument cluster lights up.

When the  indicator lamp of the instrument cluster lights up grey in the status area of the on-board computer, the steering angle disparity between the fully locked front axle wheels and the steerable additional axle is too great. For example, the vehicle has been parked with its steering on full lock. The steerable additional axle does not co-steer.

- ▶ Turn the multifunction steering wheel to the left and right as far as it will go.
  - ◁ The steered additional axle is picked up when the steering wheel is turned. The additional

axle co-steers again. The  indicator lamp in the status area of the instrument cluster goes out.

or

- ▶ Pull away slowly.
  - ◁ The additional axle co-steers again. The  indicator lamp in the status area of the instrument cluster goes out.

### Driving tips

#### General driving tips



**Danger**

#### **Risk of accident when the vehicle is switched off while driving**

If during an emergency you switch off the vehicle while you are driving, safety-relevant functions will be restricted or no longer available.

This may affect the power steering system and the brake force boosting, for example.

You will then need to exert considerably more power when steering and braking, for example.

- ▶ For this reason alone, you should never switch off the vehicle while you are driving.



**Danger**

#### **Risk of accident on uphill or downhill slopes**

The parking brake may not be sufficient to secure the vehicle on uphill and downhill slopes.

A loaded vehicle or a vehicle with a trailer/semitrailer may roll away.

- ▶ In the check position, check whether the braking force of the parking brake alone is sufficient to hold the complete vehicle.
- ▶ Generally, secure the towing vehicle and trailer/semitrailer with the parking brake and, additionally, with chocks.

## Driving mode

### Driving tips

#### Using an underride guard



**Danger**

**Risk of fatal injuries due to underride guard being folded up while the vehicle is in motion**

A vehicle could become trapped underneath the chassis in the event of a rear-end collision.

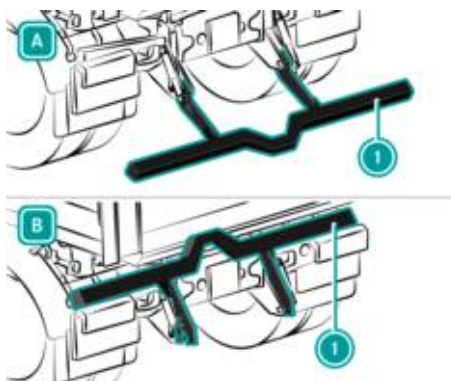
There is a risk of death for the occupants of the vehicle colliding from behind.

- Fold the underride guard down and lock it in place when driving on public roads.

If a higher angle of approach/departure is required during off-road driving:

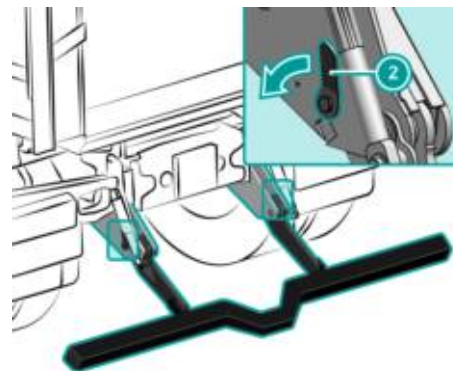
- Fold up the underride guard.

#### Folding underride guard – tipper vehicle with steel suspension



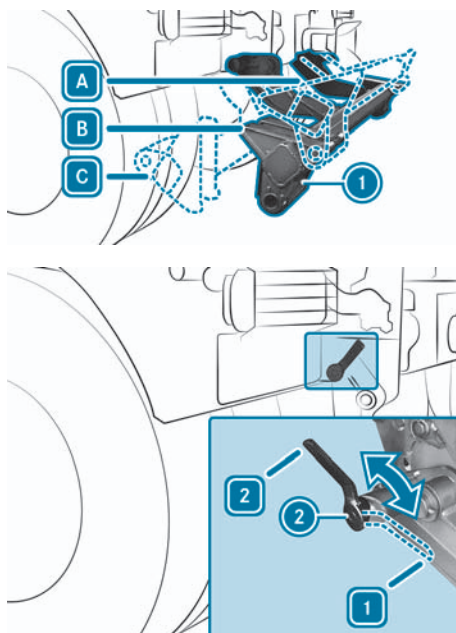
#### Underride guard

- A Road position
- B Off-road position/ road paver mode position



- **To fold up:** Push the left and right levers ② in the direction of the arrow and swing the underride guard ① upwards.
  - ◁ The underride guard ① swings up to the end stop with the support of the pneumatic springs and is held there magnetically.
- **To fold down:** Push the underride guard ① down with force to release it from the retaining magnets.
  - ◁ The underride guard swings down and the levers ② engage automatically.

### Folding underride guard – tipper vehicle with air suspension



Example: lever, left-hand side of the vehicle

### Underride guard

- A** Off-road position
- B** Road position

### **C** Road paver operation position

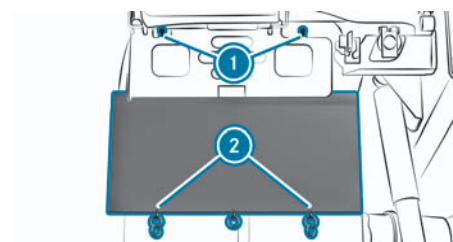
- ▶ Hold the underride guard **1** in place.
- ▶ Swing both levers **2** into position **2**.
  - ◁ The underride guard **1** will be released.
- ▶ Swing the underride guard **1** into the desired position and hold it in place.
- ▶ Swing both levers **2** into position **1** and release the underride guard **1**.
  - ◁ The underride guard **1** is locked.

### **i** Note

If you swing the underride guard **1** into the road paver mode position **C**, leave both levers **2** in position **2**.

### Road paver mode

#### Preparing road paver mode



Example: mud flap, left-hand side of vehicle

- ▶ Set the underride guard to the road paver mode position.
- ▶ Swing both mud flaps up over the licence plate holder.
- ▶ Attach the rings **2** on the mud flaps to the hooks **1** on the licence plate holder.

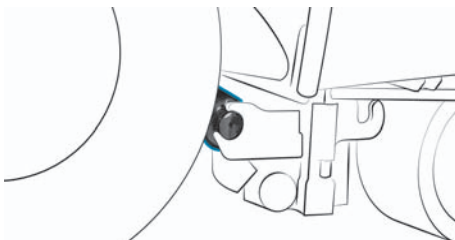


## Driving mode

### Driving tips

#### Notes on road paver mode

##### Tipper with steel suspension



Tipper with steel suspension in road paver mode (overrun mode)

- ▶ Do not use the parking brake when in overrun mode and only perform slight adaptive braking with the service brake.

##### Tipper with air suspension



**Danger**

#### Risk of entrapment between tyre and underride guard

If the underride guard is pushed against the tyre, persons in the space between the tyre and underride guard could become trapped.

- ▶ Make sure that nobody is in the space between the tyre and underride guard.

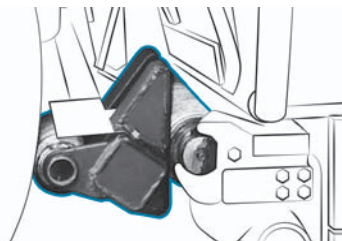


#### Note

##### Damage due to locked underride guard in road paver mode

In road paver mode, the underride guard must be able to swing freely to avoid damage to the vehicle frame and underride guard.

- ▶ Unlock the underride guard.



Tipper with air suspension in road paver mode (overrun mode)

In road paver mode, the road paver presses rollers on the underride guard against the tyres. This causes the vehicle

to be pushed forwards at the speed of the road finishing machine.

- ▶ Switch the level control to road paver mode (→ Page 322).

For most road pavers, the optimal road paver roller position is preset. The road paver rollers should touch the approach plate roughly in the centre.

- ▶ Do not use the parking brake when in overrun mode and only perform slight adaptive braking with the service brake.

The vehicle's level will be adjusted automatically. If the road paver rollers do not touch the centre of the approach plate, a different driving level can be set before power take-off is activated (→ Page 315).



### Off-road driving

#### Notes on driving off-road



**Danger**

#### **Risk of injury due to acceleration forces when driving off-road**

You could be thrown out of your seat, for example.

- ▶ Always fasten your seat belt, including when driving off-road.



**Danger**

#### **Risk of fire due to flammable material coming into contact with hot parts of the exhaust system**

Flammable material such as leaves, grass or twigs may ignite if they come into contact with hot parts of the exhaust system.

- ▶ When driving off-road or on unpaved surfaces, check the underside of the vehicle at regular intervals.
- ▶ In particular, remove any trapped parts of plants or other flammable material.

- ▶ If damage should occur, immediately inform a qualified workshop.



**Note**

#### **Damage to the differential gear caused by drive wheels spinning on one side**

The differential may be damaged by the different wheel speeds of the drive wheels.

- ▶ Plan ahead when engaging the differential locks.

When driving off-road, substances such as dirt, sand, mud and water, at times mixed with oil, may get into the brakes. This can lead to a reduced braking effect or to a total failure of the brakes, also due to increased wear. Braking characteristics can change depending on which material has got into the brakes. Clean the brakes after driving off-road. If you then notice reduced braking effect or hear grinding noises, have the brake system checked at a qualified workshop. Adjust your driving style to the changed braking characteristics.

Driving off-road demands special driving skills and concentration. Furthermore, the driver has a particular duty of care when driving off-road and before rejoining public roads again. Please make sure you read this section thoroughly before attempting to drive the vehicle off-road. Daimler Truck AG recommends that you practise driving off road over less demanding terrain. When driving on difficult terrain for the first time, ask an experienced off-road driver to accompany and advise you.

### Driving systems for driving off-road

The following driving systems and equipment help you to drive the vehicle off-road safely:

- Differential locks (→ Page 259)
- Transfer case (→ Page 262)

### Checklist before driving off-road

- ▶ Check the fuel and AdBlue® levels (→ Page 148) and top up if necessary (→ Page 352).

## Driving mode

### Driving tips

- ▶ **Engine:** Check the engine oil level (→ Page 170) and top up if necessary (→ Page 421). Before driving up or down extreme inclines or slopes, top up the engine oil to the maximum level.

#### Note

When driving up or down extreme inclines or slopes, the  symbol may appear on the instrument cluster. The engine operating safety is not put at risk if you have filled the engine oil to the maximum level before the journey.

- ▶ **Automatic transmission:** Check the oil level and top up (→ Page 422).

#### Note

Before driving up or down extreme inclines or slopes, top up the engine oil to the maximum level.

- ▶ **Vehicle tool kit:** Check that the jack is working (→ Page 436).
- ▶ Make sure that a wheel spanner, wooden underlay for the jack, a ro-

bust tow rope and a folding spade are carried in the vehicle.

- ▶ **Wheels and tyres:** Check the tyre tread depth (→ Page 485) and tyre pressure (→ Page 488).
- ▶ **Driver's seat:** Block the horizontal suspension.
- ▶ **Mud flaps:** Fold the mud flaps up and attach.
- ▶ **Folding underride guard:** Fold the underride guard to the off-road position (→ Page 328).

### Rules for driving off-road

#### Danger

#### Risk of injury to hands when driving over obstacles

If you drive over obstacles or drive into track grooves, the steering wheel may move abruptly of its own accord.

- ▶ Hold the steering wheel firmly with both hands at all times.
- ▶ Always hold the steering wheel such that your thumbs are on the outer side of the steering wheel rim.

- ▶ When driving over obstacles, be prepared to briefly use more force when steering, if necessary.

#### Danger

#### Risk of accident when the differential lock is engaged

When driving off-road or driving with an engaged differential lock in the automatic drive program, the electronic management system may perform unwanted gear changes.

The vehicle may, for example, roll backwards on slopes.

- ▶ Always drive carefully and be ready to brake.
- ▶ Switch to the manual drive program.

On uphill and downhill slopes, always follow the line of fall and avoid shifting gear. Drive up slopes without stopping until you are at the top of the hill. If your vehicle is unable to cope with the slope, stop the vehicle. Shift into reverse gear and allow the vehicle to slowly roll backwards.

Vehicles with automated manual transmission: When crawler mode is engaged, the vehicle automatically crawls forwards after the service brake has been released, and continues to roll at idle speed (→ Page 244).

Select the **offroad** shift program adapted for off-road driving. This enables you to initiate the gear selection process manually, according to the driving conditions, and to avoid interruptions in the tractive power.

Vehicles with level control: leave the chassis set to driving level (→ Page 320). Raise the chassis frame only when necessary and always for a short time only, e.g. to drive over a steep crest. When you raise the chassis, traction is impaired.

Also observe the following points:

- Securely stow away all loose objects.
- Securely fasten the load.
- Secure bulk material (e.g. sand or gravel) with wall extenders or covers to prevent it slipping.
- Secure add-on equipment and implements, such as tipper bodies or loading cranes, against inadvertent activation and movement. Observe the operating instructions given by the body and equipment manufacturer.
- Close the side windows.
- Disengage Stability Control Assist (→ Page 258).
- Engage the differential lock if the traction is insufficient (→ Page 259).
- Vehicles with automated manual transmission: Activate the rocking-free function to rock the vehicle free from a deep rut.
- always drive with a gear engaged and do not switch off the vehicle while the vehicle is moving.
- Drive slowly and smoothly. It may often be necessary to drive at walking pace.
- Make sure that the wheels remain in contact with the ground.
- Drive with extreme care across unknown terrain where you can only see

for a short distance. As a precaution, first get out of the vehicle and take a look at the route to be taken.

- Watch out for obstacles such as rocks, holes, tree stumps and ruts.
- If possible, always drive over obstacles with the wheels of one side of the vehicle. This means damage to the vehicle is avoided.

#### Driving on downhill slopes



#### **Danger**

#### **Risk of accident if the line of fall is not followed on slopes**

If you drive at a slant angle or turn on a slope, the vehicle may slide sideways, tip over or overturn.

- ▶ Always follow the line of fall when you are driving up a slope (in a straight line upwards or downwards) and do not turn.

## Driving mode

### Driving tips

#### Note

Do not shift the transmission to neutral on downhill slopes.

- ▶ When driving the vehicle up or down a slope if it begins to tip over, steer the vehicle into the line of fall immediately. Only drive over embankments and on slopes along the line of fall.
- ▶ Only brake once the vehicle is on the line of fall.
- ▶ Depress the brake pedal if the engine's braking effect is insufficient when driving downhill.

#### Preparing for fording

A vehicle's fording capability depends upon various factors, such as:

- the type of vehicle
- the frame height of the chassis
- the tyres

The fording depths listed below are only examples and are meant to provide an overview. They apply to slow fording at

a constant speed between 5 km/h and max. 10 km/h.

If in doubt, or in the case of special-purpose vehicles, consult an authorised Mercedes-Benz Trucks Service Centre before a possible fording.

Permissible fording depths for vehicles in road use without all-wheel drive:

- Road vehicles with a low vehicle frame and 315/60 R 22.5 tyres, up to maximum 200 mm
- Construction vehicles with 315/80 R 22.5 tyres from 300 mm up to maximum 500 mm
- Other road vehicles with 315/80 R 22.5 tyres up to maximum 300 mm
- Other road vehicles with oversized tyres, e.g. 12 R 24 or 14 R 20, up to maximum 600 mm

Permissible fording depths for fording with all-wheel drive vehicles:

- Without fording equipment, with 13 R 22.5 tyres, up to maximum 700 mm

- With fording equipment, up to maximum 1,200 mm

On vehicles with fording equipment, a plate with the details of the vehicle-specific permissible fording depth can be found on the driver's door or on the cockpit.

#### Note

Fording as described here applies exclusively to off-road and all-wheel-drive vehicles.

Observe the following points while preparing:

- Determine and observe the maximum permissible fording depth of the vehicle.
- Determine the water depth and the characteristics of the surface condition under the water. As a precaution, have a closer look on foot.
- Switch off the auxiliary heating (→ Page 143).
- wait for the auxiliary heating run-on phase to end

- Activate the regeneration lockout ( → Page 340).

### Driving through water

#### Fording



#### Note

#### Damage to vehicle parts due to bow wave created at the front of the vehicle

Driving too fast into water can cause vehicle parts to be damaged by the resulting bow wave created at the front of the vehicle.

- ▶ Drive slowly into bodies of water.
- ▶ Commence fording at walking pace in shallow water.
- ▶ Adapt your driving style to the environment.
- ▶ Drive through the water at a constant speed between 5 km/h and max. 10 km/h.
- ▶ Do not declutch, change gear or stop while driving.



#### Note

Pulling away in water is difficult due to the strong driving resistance and low traction.

- ▶ If necessary, plan ahead and engage the differential locks ( → Page 259).
- ▶ Ensure that no bow wave forms while driving.
- ▶ Do not switch off the vehicle when it is standing in water.
- ▶ If the vehicle cuts out while in the water, start it again immediately.

#### After fording

- ▶ If the terrain characteristics permit, dry the brakes with short braking manoeuvres.
- ▶ Drive on or leave the vehicle switched on for a few minutes.
  - ◁ The engine compartment is dried.
- ▶ Once you have returned to a paved surface, observe the checklist for after off-road driving ( → Page 335).

### Driving on sand

Loose sand is a particularly treacherous surface for off-road driving.

- ▶ Drive quickly to overcome rolling resistance.
- ▶ Drive in the tyre tracks of vehicles ahead.
- ▶ Pay attention to the vehicle's ground clearance in the case of deep grooves.

### Checklist after driving off-road



#### Note

#### Damage caused by foreign objects, e.g. stones, plant matter or twigs

Fuel lines, brake hoses, axle joints, drive shafts or other components on the vehicle can be damaged by trapped foreign objects.

- ▶ Remove trapped foreign objects immediately after driving off-road.
- ▶ Engage the ASR ( → Page 257) or Stability Control Assist ( → Page 258).

## Driving mode

### Driving tips

- ▶ Disengage the differential lock (→ Page 259).
- ▶ Disengage the regeneration lockout (→ Page 340).
- ▶ Vehicles with automated manual transmission: Select a drive program for on-road driving (→ Page 241).
- ▶ Test the brakes.
- ▶ Check the headlamps and tail lamps for damage.
- ▶ Check for damage to the tyres.
- ▶ Replace dented or damaged wheels.
- ▶ Replace missing valve caps and valve extensions.
- ▶ Check and adjust the tyre pressure (→ Page 488).
- ▶ Check the entire vehicle underside, brakes, steering, suspension and exhaust system for damage.
- ▶ Check the engine oil level.
- ▶ Move the folding underride guard to the on-road position (→ Page 328).
- ▶ Fold down the mud flaps.
- ▶ Observe the notes on cleaning after driving off-road or in roadworks.

#### Information on cleaning after driving off-road or in roadworks

Observe the notes on cleaning the exterior (→ Page 400) and notes on using a high-pressure cleaner (→ Page 399).

Foreign bodies that have become trapped can be expelled while the vehicle is in motion, e.g. stones caught in the tyre treads or between the wheels (twin tyres). This could cause other road users to be injured or vehicles to be damaged.

Each time after driving off-road or in roadworks, check the tyres for trapped foreign bodies and remove before driving on public roads. Dirt and mud on the tyres and on the roadway reduce grip, particularly if the roadway is wet. This may cause your vehicle to start to skid. For this reason, always clean your vehicle carefully after every off-road journey or trip in roadworks and before journeys on public roads.

Clean the following vehicle parts:

- Lighting system
- side windows and windscreen
- Outside mirrors

- Steps
- Entrances
- Grab handles
- Wheels and tyres
- wheel well and wing
- Steering
- Axles
- Brakes
- Spring elements
- Chassis
- Licence plate
- Engine
- Radiator
- Transmission
- Oil cooler (transmission)

Observe the following points after operation in mud, sand, water or after exposure to similar dirty conditions:

- clean the brake discs, brake pads, wheels and axle joints and check them for damage.
- Lubricate the axle joints.
- Lubricate the drive shaft.
- Test the brakes while paying attention to the road and traffic conditions.

### Economical and environmentally aware driving

#### Vehicle version

The following components affect fuel consumption:

- tyres, e.g. tyre pressure, tyre condition, tyre size
- body and cab version, e.g. open platform, box body, platform with cover
- drive train, major assemblies and the number of axles
- ratio of the assembly units, e.g. transmission and axle ratio
- ancillary units, e.g. air-conditioning system, auxiliary heating, power take-offs

#### Operating conditions

The following operating conditions affect fuel consumption:

- topography, e.g. driving on level routes or in mountainous terrain
- outside temperature and weather conditions

- operating conditions, e.g. operation on construction sites, long-distance or short-distance driving
- gross vehicle weight
- Regeneration of the diesel particulate filter

When the vehicle is in new condition, regeneration of the diesel particulate filter is carried out more frequently than at later stages in the vehicle's operating life, as a result of the running-in process.

#### Maintenance

Fuel consumption and major assembly wear depend on regular maintenance. Regular maintenance of the vehicle increases road safety and lowers fuel consumption. Observe the maintenance intervals. Always have maintenance work carried out at a qualified workshop.

#### Fuel type

Use of lower fuel grades and/or non-approved fuel additives will increase fuel consumption.

Ensure that you refuel with the appropriate fuel grade (→ Page 515).

#### Driving resistance

The main forms of driving resistance are ramp, roll and air resistance. Driving resistance changes depending on e.g. vehicle weight and vehicle speed. Remember that driving resistance increases with vehicle speed.

#### Note

Tyres:

In order to make optimum use of potential CO<sub>2</sub> and fuel savings, Daimler Truck AG recommends the use of energy-efficient tyres in compliance with all applicable legal regulations of the countries in which the vehicle is operated. An unnecessarily pronounced tyre tread increases rolling resistance.

## Driving mode

### Driving tips



#### Note

Trailers/semitrailers:

In order to make optimum use of potential CO<sub>2</sub> and fuel savings, Daimler Truck AG recommends using a trailer/semitrailer with optimised consumption.

#### Rolling resistance

Rolling resistance and therefore fuel consumption are affected by the following factors:

- tyre size and tyre type
- tyre pressure, e.g. correctly set tyre pressure reduces fuel consumption  
Check the tyre pressure at regular intervals (→ Page 488)
- tyre type, e.g. summer or winter tyres, single or twin tyres
- tyre tread and tyre width, e.g. thick tyre treads, such as those on winter tyres, increase fuel consumption
- load distribution, e.g. an even load distribution not only increases driving safety, but also tyre life

Observe the notes on permissible wheel and axle loads (→ Page 252) and the information on the vehicle identification plate (→ Page 502)

- road and weather conditions, e.g. wet or soft carriageway (snow or rain) increase fuel consumption

#### Aerodynamics

Air turbulence increases aerodynamic drag and therefore fuel consumption. Air turbulences particularly occur around additionally installed accessories, e.g. additional headlamps.



#### Note

The semitrailer must be adjusted so that the rear edge of the semitrailer is lower than its front edge to reduce fuel consumption and CO<sub>2</sub> emissions. It goes without saying that the semitrailer must always be set up so that the semitrailer truck configuration complies with any applicable legal regulations of the countries in which the vehicle is operated. Furthermore, when adjusting the semitrailer, any specifications of the re-

spective semitrailer manufacturer must be followed.

Set the wind deflector to the correct height of the body/semitrailer (→ Page 372).

With open loads, arrange the load so that there are no gaps.

Cover the load with a tarpaulin and securely lash down all tarpaulins on the tractor/trailer combination.

#### Fuel-efficient driving style



#### Note

##### Using the air-conditioning system increases the fuel consumption

Your fuel consumption will increase if the air-conditioning system or the automatic climate control is switched on.

- ▶ Only switch this function on if required.

The menu window [Eco-Support](#) in the Driving mode menu  shows information about your economical driving style



(→ Page 160). The on-board computer helps you to optimise your driving style and develop fuel-saving driving habits.

You can keep fuel consumption at low levels by adopting the following driving style:

- Leave PPC switched on (→ Page 281).
- Do not depress the accelerator when starting the vehicle.
- Avoid frequent cold starts.
- Do not warm up the vehicle while stationary.
- Switch off the vehicle in stationary traffic.
- Avoid frequent and heavy acceleration.
- Avoid heavy braking by adopting an anticipatory driving style.
- Drive in an even and smooth manner.
- Use the cruise control (→ Page 269) and Proximity Control Assist (→ Page 272) driving systems.
- Maintain an economical engine speed (green area of the rev counter) (→ Page 147).

- Avoid speed peaks.
- Avoid frequent speed changes, in particular at high speeds.
- Whenever possible, drive using the automatic drive program.
- Shift gears according to requirements.
- Avoid frequent gear changes.

### Notes on the diesel particulate filter

BlueTec® 6 vehicles are equipped with a diesel particulate filter.



**Danger**

### Risk of fire from hot exhaust system components

Flammable materials, such as leaves, grass or twigs, may ignite.

- ▶ Park the vehicle such that no flammable materials can come into contact with hot vehicle parts.
- ▶ In particular, do not park on dry grassland or harvested grain fields.



### Note

#### Damage due to hot exhaust gases

Very hot exhaust gases emerge from the tailpipe during automatic and manual regeneration.

- ▶ Keep a minimum distance of one metre away from other objects, such as parked vehicles.

Activate regeneration lockout if regeneration lasts longer than three hours during a journey (→ Page 340).

If too many particles accumulate in the diesel particulate filter, the  indicator lamp in the instrument cluster will come on. A display message prompts you to start manual regeneration (→ Page 341). Manual regeneration lasts about 30 minutes to 60 minutes.

## Driving mode

### Driving tips

#### Note

If you drive the vehicle predominantly over short distances or with low loads, the regeneration time may be considerably longer. This increases fuel consumption and can negatively affect the exhaust system functionality.

If you do not observe the display messages, the engine output may be reduced and it might be necessary to change the diesel particulate filter.

#### Filter change

#### Danger

##### **Risk of poisoning from soot particles**

Touching and breathing in soot particles is hazardous to health.

- Have the diesel particulate filter replaced at a qualified workshop.

#### Automatic regeneration

Automatic regeneration of the diesel particulate filter is performed when the green

indicator lamp  in the instrument cluster comes on.

Automatic regeneration is only performed while driving.

Automatic regeneration only starts when all operating conditions have been met, for example, sufficiently high engine oil and coolant temperature. If an operating condition is no longer fulfilled while regeneration is in process, the indicator lamp  will go out and the regeneration process will be aborted. Once all operating conditions are fulfilled again, the regeneration will start again automatically. Therefore, avoid making interruptions to your journey while the indicator lamp  is on.

#### Note

The engine noise and the idle speed may change during regeneration.

#### Activating and deactivating regeneration lockout of the diesel particulate filter

Switch on the regeneration lockout to avoid increased exhaust gas temperatures when regenerating the diesel particulate filter.

This is necessary in the following cases, for example:

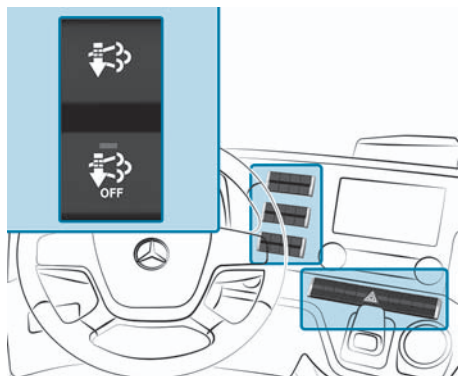
- When driving into a danger zone.
- When performing work with dry or flammable materials resulting in a heavy build-up of dirt on the vehicle.

Automatic and manual regeneration cannot start and a running regeneration is cancelled.

Activate regeneration lockout only for the duration of the hazard. When regeneration lockout is switched on, regeneration is disabled even if the vehicle is started again. In this case, the instrument cluster shows a grey display message  **Re-generation disabled**.

### Note

Regeneration can be disabled via the menu window **Vehicle** in the Settings menu  (→ Page 171). Regeneration lockout is only activated or deactivated using the **fire-sv** shift program or the  button on vehicles for transporting hazardous materials.

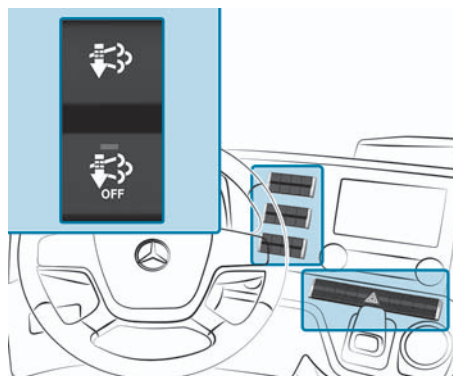


Vehicles with ADR classification or with the fire-sv shift program

- ▶ **Lock with button:** Press the  button on the instrument panel below.

- ◁ If the indicator lamp on the  button comes on, regeneration is disabled.

### Starting manual regeneration of the diesel particulate filter



Only vehicles with ADR classification or with the fire-sv shift program

Manual regeneration can only be started under the following conditions:

- If display messages have prompted to do so.
- When regeneration lockout is not switched on.

- If an automatic regeneration has already been triggered (the  indicator lamp is on).

### Note

Manual regeneration can be started via the menu window **Vehicle** in the Settings menu  (→ Page 171) menu. Manual regeneration is only started via the button  in vehicles for transporting hazardous materials or with the fire-sv shift program.

- ▶ Park the vehicle safely and leave it switched on. While doing so, maintain a distance of at least a metre from other vehicles, objects and all flammable materials.
- ▶ Apply the parking brake.
- ▶ Shift the transmission into neutral **N**.
- ▶ Take your foot off the accelerator pedal.
- ▶ Switch on **DPF Regeneration** using the **Vehicle** menu window in the Settings  menu (→ Page 171).

## Driving mode

### Driving tips

or

- ▶ Vehicles with ADR classification or fire-sv shift program: Press button  for about three seconds.
  - ◁ The  indicator lamp on the instrument cluster will come on.

Manual regeneration will only start when the following conditions have been met:

- The engine oil and coolant temperature is sufficiently high.
- The AdBlue® is not frozen.
- The system is functioning error-free.

#### Note

The engine speed is increased and the engine noise may change during regeneration.

When regeneration is complete, the  indicator lamp on the instrument cluster will go out and the engine speed will reduce to the idle speed.

Regeneration is cancelled automatically in the following cases:

- The multifunction lever is in position  or .
- The parking brake is released.
- The regeneration lockout is switched on.
- Power take-off is switched on.

After regeneration is cancelled, the engine speed will reduce to the idle speed.

#### Note

If at low outside temperatures, the on-board computer prompts you to perform manual regeneration, start regeneration before parking the vehicle. If the vehicle is parked without performing regeneration, manual regeneration can only be started after the vehicle warm-up phase.

If AdBlue® is frozen and/or the vehicle has been parked without regeneration, manual regeneration can only start after a thawing time of up to 60 minutes.

### Fuel consumption

Fuel consumption depends on the following factors:

- The vehicle version
- The operating conditions
- Maintenance
- The fuel type in use
- Driving resistance
- Your driving style

For these reasons, it is not possible to provide precise information on fuel consumption for each individual vehicle.

Information and notes on how to keep fuel consumption low can be found in the section on "Economic and environmentally aware driving" (→ Page 337).

#### Note

Average fuel consumption data is displayed by the on-board computer in the [Trip data](#) menu.  (→ Page 159)

### Oil consumption

For an engine that has been run in, oil consumption can amount to up to 0.2% of the actual fuel consumption.

The oil consumption may exceed this value if you operate your vehicle under arduous operating conditions or if the mileage is high.

### Limiting speed



**Danger**

#### Risk of the tractor/trailer combination swaying due to increased speed

You could lose control of the trailer/tractor combination.

The tractor/trailer combination may even tip over.

- ▶ Do not attempt to stretch the tractor/trailer combination by increasing the speed.
- ▶ Reduce the speed and do not counter-steer.
- ▶ Brake if necessary.

On vehicles with a speed limit, the maximum speed of the vehicle is limited according to national legal requirements, e.g. to approximately 90 km/h. The engine speed is automatically limited when the top speed is reached. Take this into account when overtaking.

### Reversing warning device

#### Notes on the reverse warning device



**Danger**

#### Risk of accident from persons or objects in the manoeuvring area

Other road users may not hear or may ignore the warning tone issued by the reverse warning device. There is a risk of accident!

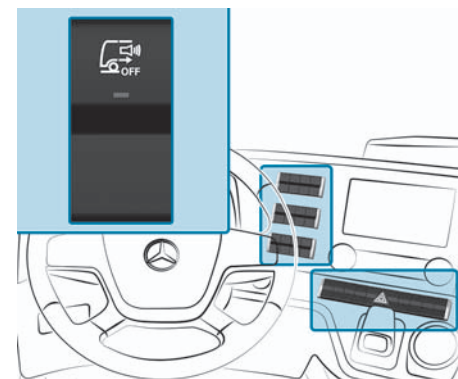
- ▶ Make sure that no persons or objects are within the manoeuvring range when manoeuvring.
- ▶ If necessary, a second person must assist you when manoeuvring.

The reversing warning system is designed to help you ensure the safety of other road users.

When using the reverse warning system described here, observe the legal requirements for the country where you currently are.

When you switch on the vehicle and engage reverse gear, the reverse warning device is activated and always set to loud.

#### Switch the reversing warning system on and off



## Driving mode

### Driving tips

- ▶ **To switch the reversing warning system on and off:** press and hold the  button for more than two seconds.
  - ◁ The reverse warning buzzer is deactivated regardless of whether reverse gear is engaged. Vehicles with automatic activation of the hazard warning light system: The hazard warning lights are switched on when the reverse gear is engaged.
- ▶ **Changing the volume of the reversing warning system:** Briefly press the  button.
  - ◁ The indicator lamp in the  button lights up if the reverse warning buzzer has been muted. If reverse gear has not been engaged, the muted setting remains active for around two minutes. After two minutes, the volume of the reverse warning buzzer will be unmuted.

### Using the reverse gear lock on waste collection vehicles

#### Waste collection vehicles only:

If the running boards in the rear area are subjected to a load, the vehicle speed is limited to a maximum of 30 km/h and the reverse gear lock is activated. The reverse gear lock prevents reverse gear being selected.

If the running boards in the rear area are loaded while reverse gear is engaged, a warning tone sounds and the vehicle switches off.

If the vehicle has been switched off by the reverse gear lock:

- ▶ Switch off the vehicle.
- ▶ Apply the parking brake.
- ▶ Shift the transmission to neutral.
- ▶ Restart the vehicle.

### Notes on the warning tone



#### Note

#### Damage to the engine due to disregarding the warning tone

If a warning tone sounds and a red display message shows the  symbol, the engine operating safety is jeopardised.

- ▶ Do not set the vehicle in motion, or park it up immediately, paying attention to the road and traffic conditions.

A warning tone will sound in the following cases:

- The driver's door is opened with the dipped beam switched on and the ignition lock in the radio position.
- The driver's door is opened with the side lights switched on and the vehicle switched off.
- The seat belt of the driver's seat is not fastened.
- The immobiliser is activated.

- The brake pedal is not depressed when the hill holder is activated and the vehicle is stationary.
- The vehicle is switched on and stationary for approximately nine minutes with a gear selected.
- Reverse gear is engaged.
- The key is removed from the ignition lock or the vehicle is switched off when the frequent-stop brake is activated and the parking brake is released.
- The maximum permissible engine speed is exceeded.
- The vehicle speed or engine speed is too high when making a gear change.
- The loading bay approach aid has detected that an obstacle is too close.
- The hazard warning light system is activated automatically, e.g. with maximum full-stop braking.
- When various driving systems issue warnings.

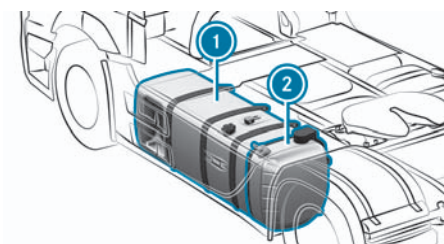
A warning tone sounds in addition to a display message in the instrument cluster in the following cases:

- The coolant level is too low or the maximum permissible coolant temperature of 112 °C is exceeded. This jeopardises the operating safety of the engine.
- There is a risk of overloading the clutch.
- Crawler mode has reached its operating limits and is automatically cancelled.
- The monitored fifth-wheel coupling is not engaged or the semitrailer is no longer detected.
- The tyre pressure monitoring system displays a tyre pressure loss warning.
- The vehicle is being driven faster than approximately 40 km/h with the manoeuvring level activated.
- The instrument cluster or the on-board computer is malfunctioning. Important operating information, maintenance information, or warning

and indicator lamps can no longer be displayed.

#### Refuelling

#### Fuel and AdBlue® tank



Exemplary representation

#### Fuel and AdBlue® tank

- ① Fuel tank
- ② AdBlue® tank

#### **i** Note

The positions of the fuel or AdBlue® tanks are dependent on the vehicle version.

## Driving mode

### Refuelling

#### Fuel

#### Notes on fuels



#### **Danger**

#### **Risk of poisoning/chemical burns from fuels**

Fuels are toxic and hazardous to health.

- ▶ Do not swallow fuel or let it come into contact with skin, eyes or clothing.
- ▶ Do not inhale fuel vapours.
- ▶ Keep children away from fuels.
- ▶ Keep doors and windows closed when refuelling.



#### **Danger**

#### **Risk of poisoning/chemical burns from fuels**

Fuels are toxic and hazardous to health.

If you or others come into contact with fuel, observe the following:

- ▶ Immediately rinse fuel off your skin with soap and water.

- ▶ If the fuel comes into contact with your eyes, immediately rinse them thoroughly with clean water. Seek medical attention immediately.
- ▶ Seek medical attention immediately if fuel has been ingested. Do not induce vomiting.
- ▶ Immediately change out of clothing which has come into contact with fuel.



#### **Danger**

#### **Risk of fire or explosion from fuel**

Fuels are highly flammable.

- ▶ Fire, naked flames, smoking and a formation of sparks must be avoided.
- ▶ Before refuelling, switch off the vehicle and, if present, the auxiliary heating.



#### **Danger**

#### **Risk of fire or explosion from fuel**

Fuels are highly flammable.

- ▶ Fire, naked flames, smoking and a formation of sparks must be avoided.
- ▶ Make sure that fuels do not come into contact with the hot exhaust system.
- ▶ Switch off the vehicle and the auxiliary heating before working on the fuel system.
- ▶ Always wear protective gloves.



#### **Danger**

#### **Risk of fire and explosion due to electrostatic charge**

Electrostatic charge may ignite fuel vapours.

- ▶ Before you open the fuel filler cap or take hold of the pump nozzle, touch the metallic vehicle body.
- ▶ To avoid a repeat build-up of electrostatic charge, do not get back



into the vehicle during the refuelling process.



### **Risk of fire from fuel mixture**

If you mix diesel fuel with petrol, the flash point of the fuel mixture is lower than that of pure diesel fuel.

- ▶ Do not refuel diesel engines with petrol.
- ▶ Do not mix petrol with diesel fuel.

### **BlueTec® 6 vehicles:**

- ▶ Only refuel with commercially available sulphur-free fuel that conforms to the latest version of European standards EN 590 or EN 16734 up to a max. sulphur content by weight of 0.001% (10 ppm).

The following fuel types are not permitted:

- Sulphurous fuel with a sulphur content over 0.001% by weight
- Marine diesel fuel
- Aviation turbine fuel
- Heating oils

- Biodiesel fuels in accordance with DIN EN 14214 (FAME (fatty acid methyl ester) and UCOME (used cooking oil methyl ester))

These fuel types cause irreversible damage to the engine and BlueTec® 6 exhaust gas after-treatment system and significantly reduce the expected service life.

### **BlueTec® 4 vehicles and BlueTec® 5 vehicles:**

Diesel fuel must comply with the latest version of European standard EN 590. This enables the engines to achieve both the specified performance and the emission levels legally prescribed by the Euro 4 or Euro 5 standards.

The use of fuels with a sulphur content over 0.005% by weight (50 ppm) reduces the life expectancy of the engine and exhaust system.

The following fuel types are not permitted:

- Sulphurous fuel with a sulphur content over 0.05% by weight

- Marine diesel fuel
- Aviation turbine fuel
- Heating oils
- Biodiesel fuel FAME (fatty acid methyl ester) > 7% vol. %
- Biodiesel fuel UCOME (Used Cooking Oil Methyl Ester)

### **Vehicles without BlueTec® exhaust gas aftertreatment**

- ▶ Only refuel with commercially available sulphur-free diesel fuel that conforms to the latest version of European standard EN 590 or a comparable national fuel standard.

This enables the engines to achieve both the specified performance and the emission levels legally prescribed by the Euro 3 standard.

The following fuel types are not permitted:

- OM 460: Sulphurous fuel with a sulphur content greater than 0.2% by weight (2000 ppm)

## Driving mode

### Refuelling

- OM 473: Sulphurous fuel with a sulphur content above 0.1% by weight (1000 ppm)
- Marine diesel fuel
- Aviation turbine fuel
- Heating oils
- Biodiesel fuel FAME (fatty acid methyl ester) > 7% vol. %
- Biodiesel fuel UCOME (Used Cooking Oil Methyl Ester)



#### Note

##### Damage to the engine due to incorrect fuel

The use of incorrect fuel may damage the engine and the fuel system. Even small amounts of petrol may damage the engine and the fuel system.

- ▶ Do not refuel with petrol.
- ▶ If you have refuelled with incorrect fuel, consult a qualified workshop.
- ▶ Have the fuel tank and fuel lines drained completely.



#### Note

##### Damage due to the mixing of fuel additives

If fuel additives are added to the diesel fuel or FAME fatty acid methyl ester, this may lead to malfunctions, catalytic converter damage and/or engine damage.

- ▶ Do not mix fuel additives.



#### Note

##### Malfunctions in the fuel supply due to contaminated fuel

Impurities may enter the fuel system from drums or canisters when refuelling. This can cause malfunctions in the fuel supply and in the fuel system.

- ▶ Before refuelling, filter the fuel if it is taken from drums or canisters.



#### Note

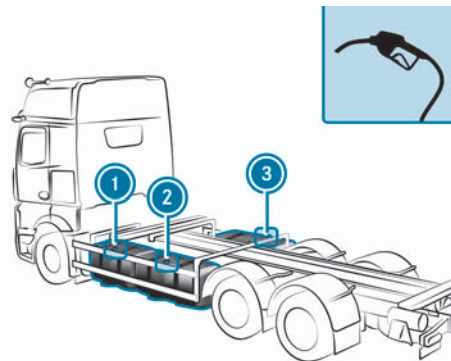
##### Environmental damage due to the improper handling of fuel

The improper handling of fuels presents hazards to people and the environment.

- ▶ Do not allow fuels to enter the sewage system, surface water, groundwater or the soil.

You can find further information on fuel in the section "Operating fluids" (→ Page 515).

### Filling order



On vehicles with an additional fuel tank, you must observe the filling order. If the filling order is not adhered to, the fuel display and the range in the instrument cluster will not be displayed correctly.

- ▶ First, fill up the fuel tank ① (main tank) on the left-hand side of the vehicle, directly behind the cab.
- ▶ When the main tank has been completely filled, then fill up the additional fuel tank ② on the left-hand side of the vehicle.

- ▶ Only when all tanks on the left-hand side of the vehicle have been completely filled, fill the additional fuel tank ③ on the right-hand side of the vehicle.

If the main tank has run dry, the instrument cluster will show a corresponding display message **Fully refuel the main tank first**.

### Refuelling the vehicle



#### Note

#### Damage to the flap in the filler neck caused by a pump nozzle for a passenger vehicle

If a pump nozzle for a passenger vehicle is used, the flap in the filler neck can be damaged. If the pump nozzle for a passenger vehicle is inserted too deeply into the filler neck, a lug may catch on the flap in the filler neck.

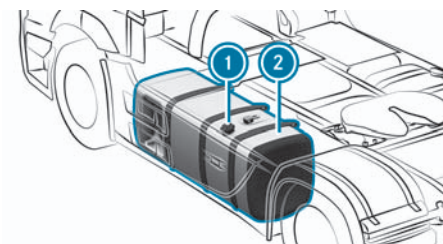
- ▶ Use dedicated truck pump nozzles for refuelling.
- ▶ If a pump nozzle for a passenger vehicle must be used: Insert the

nozzle only so far into the filler neck so that it hooks onto the rim of the filler neck with one of its lugs.

- ▶ If the passenger vehicle pump nozzle is caught, loosen it by turning or tilting the pump nozzle.

### Requirements

- Vehicle is switched off.
- The parking brake is applied.
- The auxiliary heating is switched off (→ Page 143).
- Vehicles with mechanical ignition lock: The key is removed from the ignition lock.



Example: Fuel tank

- ▶ Observe filling sequence (→ Page 349).

## Driving mode

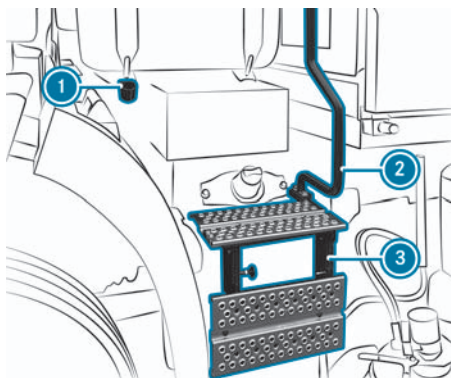
### Refuelling

- ▶ If necessary, swing the side trim outwards (→ Page 380).
- ▶ Clean fuel filler cap ① to prevent dirt from penetrating the fuel when unscrewing fuel filler cap ①.
- ▶ Unlock filler cap ① on fuel tank ② with the mechanical key.
- ▶ Observe the fuel grade (→ Page 515).
- ▶ Completely insert the pump nozzle into the tank filler neck, hook in place and refuel.
- ▶ Replace fuel filler cap ① on fuel tank ② and tighten.
- ▶ Lock the fuel filler cap ① with the mechanical key.
- ▶ If necessary, swing back the side trim and lock it properly (→ Page 380).

#### **i** Note

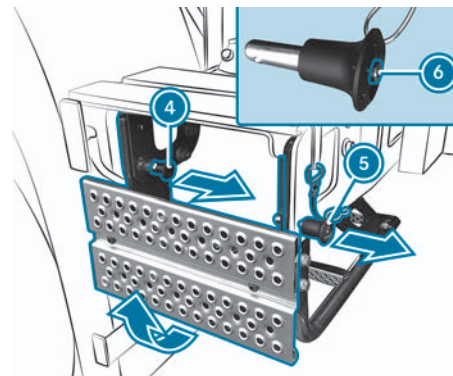
Regularly check the primary fuel filter with heated water separator for condensation (→ Page 445).

#### Using the folding ladder (Arocs street sweeper)



#### Folding ladder

- ① Holder for nozzle
- ② Grab handle
- ③ Folding ladder



#### Folding ladder lock

- ④ Lock
- ⑤ Removable lock
- ⑥ Lock button

To refuel the vehicle, use the folding ladder ③ and the grab handle ②. Only use the folding ladder ③ when it is fully unfolded and both locks are engaged.

- ▶ Press the locking button ⑥ of the detachable lock ⑤ and pull out the lock.
- ▶ Pull the lock ④ out of the catch and hold it.

- ▶ Fold out the ladder in the direction of the arrow.
- ▶ When the ladder is folded out, engage the lock ④ in the catch.
- ▶ Press the detachable lock ⑤ into the catch and engage it.

### Folding up and locking

- ▶ Press the locking button ⑥ of the detachable lock ⑤ and pull out the lock.
- ▶ Pull the lock ④ out of the catch and hold it.
- ▶ Fold up the ladder.
- ▶ Engage the lock ④ in the catch.
- ▶ Press the detachable lock ⑤ into the catch and engage it.

### AdBlue®

#### Notes on AdBlue®



#### Note

#### Damage to the BlueTec® exhaust gas aftertreatment system

The BlueTec® exhaust gas aftertreatment can be damaged by diesel fuel, additives or impurities in AdBlue® as well as by diluting AdBlue®.

To prevent damage:

- ▶ Ensure that diesel fuel does not penetrate the AdBlue® tank.
- ▶ Always close the AdBlue® tank correctly.
- ▶ Do not mix additives with AdBlue®.
- ▶ Do not dilute AdBlue®.
- ▶ Only use AdBlue® in accordance with DIN 70070/ISO 22241.



#### Note

#### Paintwork damage caused by AdBlue®

If AdBlue® comes into contact with painted or aluminium surfaces when refuelling, these surfaces may be attacked.

- ▶ Immediately rinse the affected surfaces with plenty of water.



#### Note

#### Damage caused by overfilling the AdBlue® tank

If the AdBlue® tank is overfilled, it may be damaged at very low temperatures.

- ▶ Do not overfill the AdBlue® tank.



#### Note

#### Contamination from crystallised AdBlue® residues

AdBlue® residues crystallise after some time and can form a slippery surface. Depending on the extent and location of the contamination, it may impair safe footing, e.g. on steps.

## Driving mode

### Refuelling

- ▶ Immediately rinse surfaces covered in AdBlue® during refilling with water and remove the AdBlue® residue.
- ▶ AdBlue® can also be removed with a damp cloth and cold water.
- ▶ If the AdBlue® has already crystallised, use a sponge and cold water to clean it up.

When you open the AdBlue® tank, small amounts of ammonia vapour may escape.

Ammonia vapours have a pungent smell and are particularly irritating to the following body parts:

- Skin
- Mucous membranes
- Eyes

The vapours may cause a burning sensation in the eyes, nose and throat as well as irritation of the throat and watering eyes.

Do not inhale any escaping ammonia vapours. Only fill the AdBlue® tank in well-ventilated areas.

Prevent AdBlue® from coming into contact with your skin, eyes or clothing and do not swallow it. Keep AdBlue® away from children.

If you do come into contact with AdBlue®, observe the following:

- Wash AdBlue® off skin immediately with soap and water.
- If you get AdBlue® in your eyes, rinse them immediately and thoroughly with clean water. Seek medical attention immediately.
- If you swallowed AdBlue®, rinse your mouth immediately with water and drink plenty of water. Seek medical attention immediately.
- Immediately change clothes that have been soiled by AdBlue®.

AdBlue® is not topped up during maintenance work. Therefore, top up the tank regularly during vehicle operation or, at the latest, after the first corresponding display message in the instrument cluster.

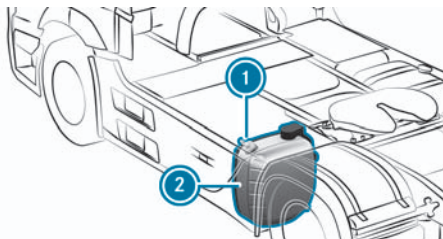
You will find further information on AdBlue® in the "Operating fluids" section (→ Page 519).

### Top up AdBlue®

#### Requirements

- Vehicle is switched off.
- The parking brake is applied.
- The auxiliary heating is switched off (→ Page 143).
- Vehicles with mechanical ignition lock: The key is removed from the ignition lock.

### Before refilling AdBlue®



Exemplary representation

#### AdBlue® tank

- ① Lid (blue)
- ② AdBlue® tank

If the AdBlue® tank ② still contains sufficient AdBlue®, a pressure compensation may arise when unscrewing the cap ①. This may cause AdBlue® to leak. Therefore, unscrew cap ① of the AdBlue® tank ② carefully. If AdBlue® spills out, immediately wash the affected area with plenty of water. A special filler neck prevents the AdBlue® tank ② from being filled with diesel fuel by mistake.

### **i** Note

Depending on the vehicle equipment, the cap of the AdBlue® tank can be locked for security reasons.

- ▶ If necessary, swing the side trim outwards (→ Page 380).
- ▶ Clean cap ① to prevent dirt from penetrating the AdBlue® when unscrewing the cap ①.
- ▶ If applicable: Unlock cap ① with the separate key.
- ▶ Slowly turn cap ① anti-clockwise and remove.

### Top up AdBlue®

### **i** Note

Always refill to at least 10% of the AdBlue® tank capacity. Topping up with smaller amounts could result in malfunctions.

- ▶ Completely insert the pump nozzle into the tank filler neck, hook in place and refuel.

◁ The pump nozzle switches off automatically.

- ▶ Put on the cap ① and screw it on.
- ▶ If applicable: Lock cap ① with the separate key.
- ▶ If necessary, swing back the side trim and lock it properly (→ Page 380).

### **i** Note

For refill containers, ensure that there is a way to make a drip-free connection to the vehicle filler neck.

### Trailers/semitrailers

#### Notes on the trailer and fifth-wheel coupling

The trailer and fifth-wheel coupling is one of the vehicle components with particular importance for road safety. Please comply with every detail of the manufacturer's operating, care and maintenance instructions.

If you fit a trailer coupling, observe the body/equipment mounting directives.

## Driving mode

### Trailers/semitrailers

If your semitrailer truck is equipped with a coupling ramp or coupling aid, the inclination slope specified in ISO° 1726 cannot be guaranteed for all fifth-wheel leads. Note that the clearance between the semitrailer truck and the semitrailer may be restricted, and you must adapt your driving style accordingly. Always remove the mudguard centre parts before coupling up.



#### Note

**Damage to the towing vehicle or the trailer or semitrailer due to falling below the minimum front axle load or due to incorrect coupling up**

To avoid damage:

- ▶ Couple up a trailer or semitrailer only to a suitable trailer or fifth-wheel coupling.
- ▶ Ensure that there is sufficient clearance between the trailer and semitrailer and towing vehicle.
- ▶ If you drive the vehicle unladen, only couple up an unladen trailer.

- ▶ Do not exceed the permissible axle loads.
- ▶ Comply with the minimum front axle loads for the towing vehicle described below in order to ensure sufficient steerability of the towing vehicle.

#### Minimum front axle loads for towing vehicle

Comply with the following minimum front axle loads for the towing vehicle:

| Towing vehicle                                                                | Front axle load |
|-------------------------------------------------------------------------------|-----------------|
| 3-axle vehicles                                                               | 25 %            |
| 2-axle vehicles<br>(trailer lighter or equal in weight to the towing vehicle) | 30 %            |
| 2-axle vehicles<br>(trailer heavier than the towing vehicle)                  | 35 %            |



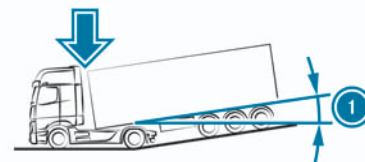
#### Note

In vehicles with air suspension and axle load displays, the current axle loads can be called up on the on-board computer (→ Page 165).

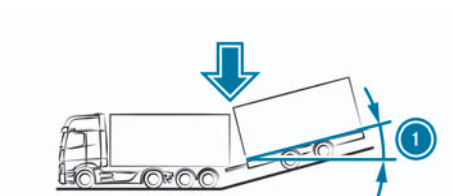
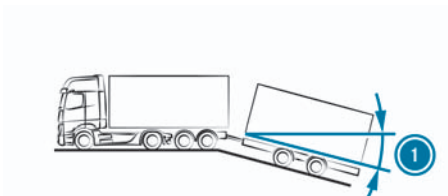
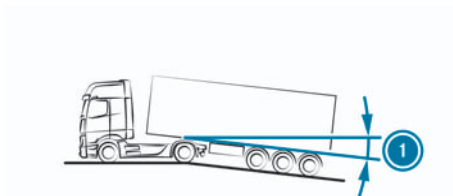
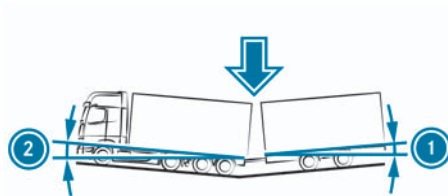
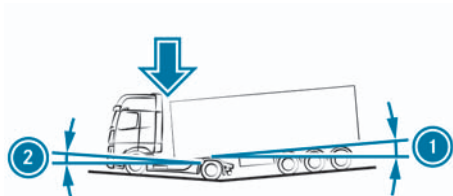
If you drive with more than two trailers or semitrailers, you must deactivate Stability Control Assist. Otherwise, malfunctions or faults can occur as a result.

Activating and deactivating Stability Control Assist (→ Page 258).

#### Articulation angles







When you are driving over depressions or elevations, please be aware that the articulation angle at the front ② or rear ① will change.

### **i** Note

If the tractor/trailer combination jack-knifes, the clearance between the towing vehicle and the trailer/semitrailer will be reduced.

Articulation angles depend on the specific towing vehicle and trailer or semitrailer. They are affected by the following parameters:

- Wheelbase
- Body height
- Overhang
- Distance from the towing vehicle to the trailer or semitrailer

### Swivel angle



**Risk of accident if the swivel angle is exceeded**

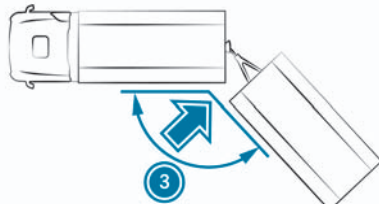
Cables, compressed air lines, and hydraulic lines can rip off during extreme cornering. The trailer hitch and the drawbar may get damaged too.

## Driving mode

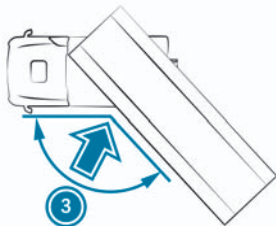
### Trailers/semitrailers

This may cause you to lose control of the vehicle or the trailer.

- Always pay attention to the swivel angle of the tractor/trailer combination when cornering.



Towing vehicle and centre-axle trailer (example)



Towing vehicle and semitrailer (example)

Pay attention to the swivel angle ③ during tight cornering.

The swivel angle is dependent on the coupling system on the towing vehicle and trailer or semitrailer.

#### Coupling and uncoupling

##### Notes on coupling up

##### Note on tractor/trailer synchronisation (vehicles without EBS)



##### Note

##### Increased brake pad wear without tractor/trailer synchronisation

When a trailer or semitrailer is coupled up for the first time, tractor/trailer synchronisation should be carried out. Otherwise, increased brake pad wear may occur.

- Have tractor/trailer synchronisation carried out at a qualified specialist workshop.

### Use of trailers/semitrailers without EBS



##### Note

After hitching up a trailer/semitrailer without EBS, switch off the vehicle and restart it. Otherwise, the trailer monitoring function of Sideguard Assist/Active Sideguard Assist may be impaired or may not function (→ Page 305).

#### Notes on the fifth-wheel coupling



##### Danger

##### Risk of accident due to too much play between the fifth-wheel kingpin and the coupling plate

The semitrailer may break away from the coupling plate.

You could lose the semitrailer as a result.

- Follow the instructions of the fifth-wheel coupling manufacturer.



### Danger

#### Risk of accident due to damaged or unlocked fifth-wheel coupling

You could lose the semitrailer.

- ▶ Always ensure that the fifth-wheel coupling is undamaged and has been locked after coupling up.

Ensure this even if the following conditions have been met:

- the vehicle is equipped with a monitored fifth-wheel coupling.
- The green indicator lamp  in the status area of the instrument cluster lights up.



### Note

#### Damage to the fifth-wheel kingpin or the monitored fifth-wheel coupling

The display message  **Check semitrailer coupling: open if needed.** is shown in the instrument cluster during coupling.

- ▶ Check the locking mechanism on the monitored fifth-wheel coupling.



### Note

#### Damage to the fifth-wheel kingpin sensor

Observe the wear limits in the manufacturer's operating instructions for the wear ring, locking hook, and fifth-wheel kingpin. The wear should not drop below the wear limits. Otherwise, the fifth-wheel kingpin sensor may be damaged.

- ▶ If a red display message is shown multiple times in the instrument cluster with a coupled semitrailer and the vehicle switched on: Check the wear limits on the semitrailer and on the monitored fifth-wheel coupling.

The monitored fifth-wheel coupling has sensors that perform the following functions during the coupling/uncoupling process or once the vehicle has been switched on:

- monitoring of the semitrailer, the fifth-wheel kingpin, and the clasp
- showing the status of the locking mechanism of the monitored

fifth-wheel coupling on the instrument cluster

If malfunctions or errors occur during coupling/uncoupling, the instrument cluster will show a red display message (→ Page 532).

#### Indicator lamps in the instrument cluster and their meaning

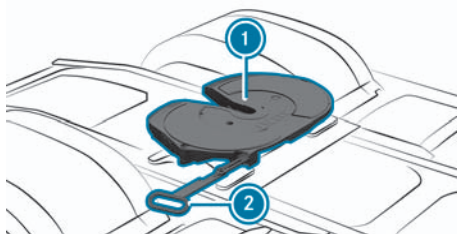
| Lamp                                                                                | Meaning                                                                                                                              |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|  | The semitrailer is not coupled up. The monitored fifth-wheel coupling is not engaged.                                                |
|  | The semitrailer is not correctly coupled up. The monitored fifth-wheel coupling is engaged; however, no semitrailer can be detected. |
|  | The semitrailer is correctly coupled up. Check that the monitored fifth-wheel coupling is in good condition and engaged correctly.   |
|  | The sensor on the fifth-wheel coupling is faulty. Observe the further notes in the display messages.                                 |

## Driving mode

### Trailers/semitrailers

#### Coupling up the tractor/semitrailer combination

##### Before attaching



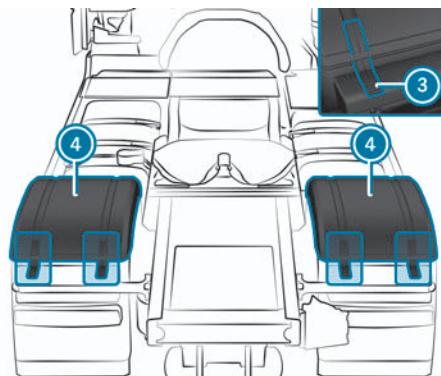
For vehicles with a monitored fifth-wheel coupling, the instructions on the fifth-wheel coupling and uncoupling procedures in the manufacturer's Operating Instructions must be observed.

- ▶ Use chocks to secure the semitrailer against rolling away.
- ▶ Open the fifth-wheel coupling (1) with the lever (2); see the manufacturer's operating instructions.
- ▶ Semitrailer tractor with air suspension: Raise or lower the chassis frame (→ Page 317) so that the semitrailer

plate is 50 mm lower than the fifth-wheel coupling (1).

- ▶ Vehicles with steel suspension: Use the landing gear to adjust the semitrailer height such that the semitrailer plate is 50 mm lower than the fifth-wheel coupling (1).

#### Removing the mudguard centre parts



Only remove the mudguard centre parts (4) in the following cases:

- If the semitrailer makes the use of the mudguard centre parts (4) impossible.

- If the semitrailer's body covers the wheels.

When using the mudguard centre parts (4), observe the legal requirements for the country you are currently in.

- ▶ Release the rubber retainers (3) of the mudguard centre parts (4) on the left and right-hand sides of the vehicle.
- ▶ Remove the mudguard centre parts (4).

#### Coupling for vehicles with a monitored fifth-wheel coupling:

- ▶ Drive slowly under the semitrailer plate.
- ▶ Raise the vehicle level or lower the semitrailer until the instrument cluster shows the display message  **Coupling level reached**.
- ▶ Reverse slowly until the fifth-wheel coupling (1) locks.
  - ◁ The  indicator lamp on the instrument cluster lights up.

- ▶ If the instrument cluster shows display message  **Driving level below coupling level** while reversing: Correct the semitrailer level again until the instrument cluster shows the  **Coupling level reached** display message.

### Coupling up vehicles without a monitored fifth-wheel coupling

- ▶ Reverse slowly until the fifth-wheel coupling  locks.

### After coupling up

- ▶ Stop the vehicle and apply the parking brake.
- ▶ Secure fifth-wheel coupling  against unauthorised operation and check the locking mechanism (see the manufacturer's Operating Instructions).
- ▶ Retract the landing gear fully; see the manufacturer's operating instructions.
- ▶ Connect the cables and compressed-air lines (→ Page 361).

### Coupling a trailer

#### Prior to coupling up



**Danger**

#### Risk of accident due to longitudinal play of the trailer coupling

If there is too much longitudinal play at the trailer coupling, you may lose the trailer.

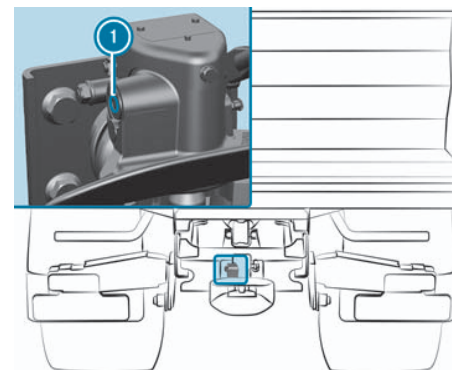
- ▶ Check whether there is longitudinal play at the trailer coupling on a daily basis.
- ▶ To do this, forcefully move the connecting rod body of the trailer coupling forwards and backwards.
- ▶ Have any longitudinal play rectified as soon as possible at a qualified specialist workshop.

The longitudinal play of the trailer coupling cannot be checked on the coupling jaw.

### Note

The version of the trailer hitch operating lever depends on the equipment.

Please comply with the manufacturer's operating instructions when operating the trailer hitch.



- ▶ Apply the parking brake and release the service brake on the trailer; see the manufacturer's operating instructions.
- ▶ Use chocks to secure the trailer's rear wheels against rolling away. The

## Driving mode

### Trailers/semitrailers

unbraked front axle of the trailer must still be able to turn.

- ▶ Set the drawbar to the height of the trailer coupling; see the manufacturer's operating instructions.
- ▶ **Coupling up:** Back up slowly until the trailer coupling locks.

#### After coupling up

- ▶ Ensure that check pin  of the trailer coupling is completely retracted. See the manufacturer's operating instructions.
- ▶ Connect the cables and compressed-air lines (→ Page 361).

#### Detaching semitrailers and uncoupling trailers



#### Note

#### Damage to the chassis on vehicles with air suspension

Vehicles with air suspension may spring out suddenly after unhitching the semitrailer.

This can lead to damage to the vehicle chassis and semitrailer.

- ▶ Before uncoupling, lower vehicles with air suspension until there is a gap between the semitrailer plate and the fifth-wheel coupling.
- ▶ Park the vehicle on a firm and level surface.
- ▶ Apply the parking brake.
- ▶ Use chocks to secure the trailer or semitrailer against rolling away.
- ▶ Extend the landing gear on the semitrailer; see the manufacturer's operating instructions.
- ▶ Set the trailer's tow bar support to the height of the trailer coupling; see the manufacturer's operating instructions.
- ▶ Remove the cables and compressed-air lines (→ Page 363).
- ▶ Open the trailer or fifth-wheel coupling; see the manufacturer's operating instructions.
- ▶ Vehicles with a trailer: Drive forwards slowly.

- ▶ Vehicles with semitrailer: Drive forward a little until the fifth-wheel kingpin is free.
- ▶ Semitrailer tractor with air suspension: Lower chassis (→ Page 317) until there is a gap between the semitrailer plate and the fifth-wheel coupling.
- ▶ Drive forwards fully.
- ▶ Fit the mudguard centre parts.

#### Cables and compressed-air lines

#### Notes on cables and compressed-air lines



#### Danger

#### Risk of falling when connecting/disconnecting the compressed-air lines without climbing aids

If you climb onto or down from the vehicle in order to connect/disconnect the cables and compressed-air lines, you could:

- slip and/or fall.

- You can damage component parts, e.g. the battery cover, and fall as a result.
- You may burn yourself on hot components.
- ▶ Always use nonslip and stable climbing aids, e.g. a suitable ladder.



### Danger

#### Risk of burning due to the cover of the silencer being hot

The cover of the silencer can get very hot when driving.

- ▶ Never step on the cover of the silencer.

Be careful not to overload when operating additional consumers on your trailer or semitrailer. If you fit several reversing lamps on the trailer/semitrailer, for example, the reversing lamps may fail as a result of overloading.

### Connecting cables and compressed-air lines



#### Note

#### Damage to cables and compressed-air lines due to insufficient clearance

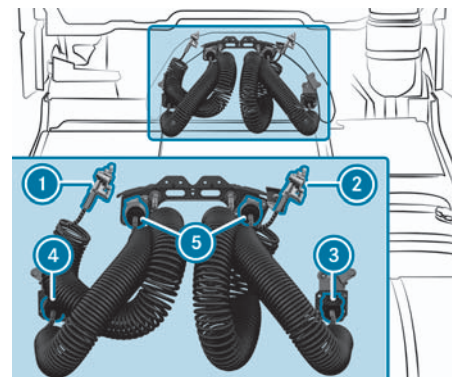
If cables and compressed-air lines do not have sufficient play when cornering, damage may occur. The cables and compressed-air lines may be under tension, may kink, or may rub against other components.

- ▶ Keep the cables and compressed-air lines such that they yield slightly in response to all movements without tensioning, kinking, or rubbing e.g. when cornering.

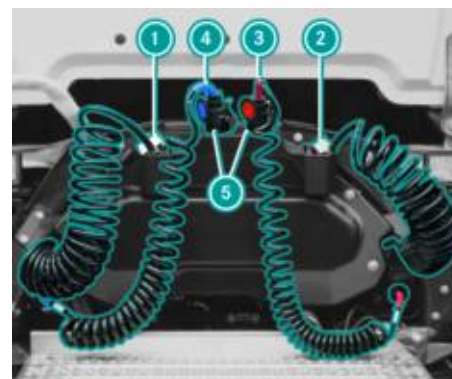


#### Note

Double coupling head with hexagon (without lever): To open the double coupling head, press the hexagon downwards with a size 16 ring or open-ended spanner and hold it there. After connecting or disconnecting the compressed-air lines, swivel the ring spanner upwards.



Semitrailer tractor (example)

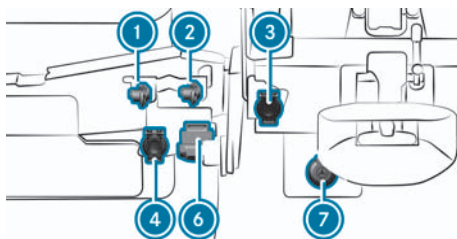


Semitrailer truck with ProCabin (example)

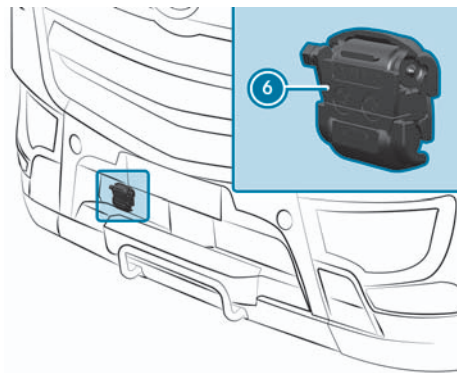


## Driving mode

### Trailers/semitrailers



Platform truck (example)



- ▶ With dual coupling head: Push down and hold the lever on the dual coupling head (6).
- ▶ With dual coupling head: Connect the compressed-air lines.

- ▶ With dual coupling head: Swivel the lever on the dual coupling head (6) upwards and release.
- ▶ Without dual coupling head: Connect the brake line coupling head (yellow) (1).
- ▶ Without dual coupling head: Connect the supply line coupling head (red) (2).

#### **i** Note

The shut-off valves in the coupling heads open automatically when the connection is made.

- ▶ Trailers with adjustable brake force regulator: Adjust the brake-pressure regulator on the trailer after connecting the compressed-air lines (see the trailer operating instructions).
- ▶ Semitrailer truck: Connect the 24 V (15 pin) power supply plug (4) to the trailer.
- ▶ Platform vehicle: Connect the trailer power supply to the 24 V (15 pin) socket (4).

#### **i** Note

On trailers with a 12 V power supply: Use the 12 V (13 pin) trailer socket (7).

#### **i** Note

Turn signal indicator monitoring is also active when using LED tail lamps. A system failure is indicated by the lamps flashing at double the frequency or by a display message in the driver information system.

- ▶ Semitrailer truck: Connect the ABS/BS (5/7-pin) connecting cable plug (3) to the trailer.
- ▶ Platform vehicle: Connect the connecting cables of the trailer to the ABS/BS (5/7 pin) socket (3).
- ▶ Semitrailer truck: If the semitrailer truck is used with a semitrailer without ABS, insert the plug of the connecting cable into the blank socket (5).
- ▶ Check the lighting systems, turn signal lamps, and brake lights on the



vehicle and on the trailer/semitrailer for correct function and cleanliness.

- ▶ Check the operation of the indicator lamps for the towing vehicle and trailer/semitrailer turn signal lamps in the instrument cluster.
- ▶ After pulling away, check that the brake system on the trailer/semitrailer is functioning correctly, paying attention to the road and traffic conditions.

### Disconnecting cables and compressed-air lines



**Danger**

#### **Danger of accident due to incorrect removal of the coupling heads**

If you remove the coupling heads in the wrong order, the trailer/semitrailer brake will be released and the trailer/semitrailer may roll away.

- ▶ Observe the correct sequence when removing the coupling heads.



**Note**

#### **Malfunction due to dirty coupling heads**

If the covers of the coupling heads are not closed after the compressed-air lines are disconnected, the coupling heads may become dirty. This may cause the compressed-air system to malfunction.

- ▶ After the compressed-air lines are disconnected, ensure that the covers are closed.



**Note**

#### **Damage to the electrical system**

If the cables are not inserted into the empty sockets after they are disconnected, water may enter the wiring harness. This may damage the electrical system.

- ▶ After the cables have been disconnected, insert the plugs into the empty sockets.



**Note**

Double coupling head with hexagon (without lever): To open the double coupling head, press the hexagon downwards with a size 16 ring or open-ended spanner and hold it there. After connecting or disconnecting the compressed-air lines, swivel the ring spanner upwards.

- ▶ Apply the parking brake of the towing vehicle.
- ▶ Apply the trailer/semitrailer parking brake. Observe the manufacturer's operating instructions.
- ▶ With dual coupling head: Push down and hold the lever on the dual coupling head ⑥.
- ▶ With dual coupling head: Remove the compressed-air lines.
- ▶ With dual coupling head: Swivel the lever on the dual coupling head ⑥ upwards and release.
- ▶ Without dual coupling head: Disconnect the reservoir line coupling head (red) ②.

## Driving mode

### Trailers/semitrailers

- ◁ The brakes of the trailer/semitrailer are applied automatically.
- ▶ Without dual coupling head: Disconnect the brake line coupling head (yellow) ①.
- ▶ Semitrailer truck: Disconnect the 24 V (15-pin) plug ④ from the trailer.
- ▶ Platform vehicle: Disconnect the power supply of the towing vehicle trailer at the 24°V (15 °pin) socket ④.

#### Note

On trailers with a 12°V power supply: Disconnect the power supply of the towing vehicle trailer from the 12°V (13°pin) socket ⑦.

- ▶ Semitrailer truck: Disconnect the ABS/BS (5/7-pin) plug ③ from the trailer.
- ▶ Platform vehicle: Disconnect the connecting cable of the towing vehicle trailer from the ABS/BS (5/7 pin) socket ③.

- ▶ Semitrailer truck: If the semitrailer tractor is driven without a ⑤ semitrailer, plug the connecting cable into the empty sockets.
- ▶ Check the operation and cleanliness of the lighting system as well as that of the turn signals and brake lights.

#### Semitrailer tractor hydraulic system

##### Notes and control elements of the semitrailer truck hydraulic system

#### Danger

##### Risk of burns from hot hydraulic fluid

The hydraulic system is highly pressurised and the hydraulic fluid may be hot. Hydraulic fluid may spray out under high pressure.

- ▶ Always have work on the hydraulic system carried out at a qualified specialist workshop.

#### Danger

##### Risk of accident with the tipper body raised while driving

If you pull away with the tipper body raised, the vehicle could become caught on buildings, bridges or trees.

- ▶ Before you pull away, always make sure that the tipper body is lowered and secured correctly.

#### Note

##### Damage to the hydraulic system of the tractor/semitrailer combination

Hydraulic fluids of different grades are rarely compatible even if their common base oil does mean that they are miscible. Blending always has an effect on the properties, characteristics and reactions of the hydraulic fluid.

Blending different fluids could result in damage to the hydraulic system of the tractor/semitrailer combination.

- ▶ The fluid in the trailer's hydraulic system must match the fluid in the

tractor/semitrailer combination's hydraulic system.



### Note

#### Damage to the semitrailer tractor hydraulic system and/or the trailer hydraulic system

Notes on operating the tractor/semitrailer combination hydraulic system:

- The operating pressure of the hydraulic system of the tractor/semitrailer combination must not exceed the maximum permitted operating pressure of the trailer hydraulic system.
- The hydraulic lines of the tipper semitrailer must be connected.
- The low-speed splitter box must be selected.

Otherwise, the hydraulic system of the tractor/semitrailer combination and/or trailer could be damaged.

- Observe the notes on operating the tractor/semitrailer combination hydraulic system.

When using the tractor/semitrailer combination's hydraulic system, only operate tipper semitrailers with a one or two line system. Their hydraulic system is operated with a master valve in the cab. The operating pressure of the tractor/semitrailer combination's hydraulic system can be switched between 170 bar (low pressure) and 250 bar (high pressure).

The hydraulic line connections have screw couplings of either 1 inch or DN 20.

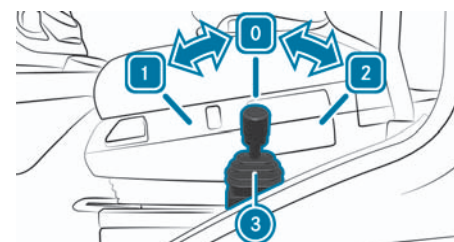
The tractor/semitrailer combination's hydraulic system is filled at the factory with a hydraulic fluid from H-LP (HLP-D 22) ( → Page 370).

Before operating a tipper semitrailer, observe the following information:

- The operating pressure of the hydraulic system of the tractor/semitrailer combination does not exceed the maximum permitted operating pressure of the trailer hydraulic system.
- The hydraulic connections of both hydraulic systems are compatible.

- The trailer hydraulic system's hydraulic fluid matches that of the hydraulic system of the tractor/semitrailer combination.

### Controls

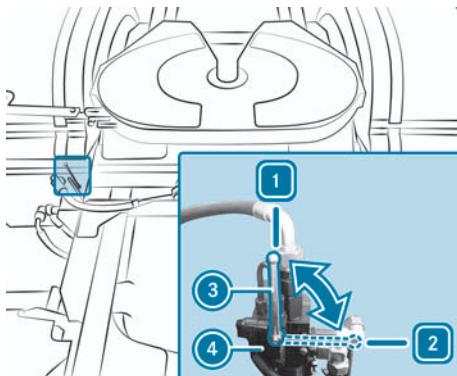


#### Tipper body operating lever

- 1** Lower tipper body
- 0** STOP – stop the tipping or lowering movement
- 2** Raise tipper body
- 3** Operating lever with pull ring

## Driving mode

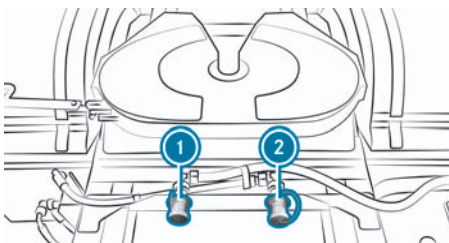
### Trailers/semitrailers



#### Tipper valve operating lever

- 1 Operating position, low pressure (LP) 170 bar
- 2 Operating position, high pressure (HP) 250 bar
- 3 Operating lever
- 4 Tipper valve

#### Connecting/disconnecting hydraulic lines



Keep the hydraulic lines such that they can manage all movements when cornering etc. without tensioning, buckling or rubbing. Before connecting the hydraulic lines, make sure that their threaded couplings are compatible with the sockets on the towing vehicle. Do not use any tools when connecting the hydraulic lines and do not climb on any part of the vehicle.

Before coupling and decoupling the hydraulic lines, the tractor/semitrailer combination's hydraulic system must be depressurised and the trailer's tipper body should be fully lowered. The tractor/semitrailer combination's hydraulic system is only depressurised if the operating lever in the cab is in the centre position

(STOP) and the power take-off is disengaged. A few drops of hydraulic fluid may escape when separating the hydraulic connections. Observe the national work safety and accident prevention regulations as well as the environmental protection regulations.

If the tipper semitrailer is fitted with a two-line system, connect the pressure line to connection 2 and the return line to connection 1. If the return line is not coupled or coupled incorrectly, it can result in damage to the tipper semitrailer's hydraulic system.

If the tipper semitrailer is fitted with a one-line system, connect the hydraulic line to connection 2 on your vehicle. Connection 1 for the return line remains free in this case.

#### Connecting

- Make sure that the trailer hydraulic system's operating pressure matches that of the tractor/semitrailer combination's hydraulic system. Select the high or low pressure setting on

the changeover unit for the operating pressure (→ Page 360).

- ▶ Ensure that the operating lever in the cab is in the centre position (STOP) (→ Page 360).
- ▶ Ensure that power take-off for the hydraulic pump is disengaged (→ Page 388).
- ▶ Loosen dust caps from the connections on the vehicle and from the hydraulic lines.
- ▶ Connect the hydraulic lines to the sockets and tighten them hand-tight.
- ▶ Run a function check after connecting the hydraulic lines.

### Disconnecting

- ▶ Ensure that the operating lever in the cab is in the centre position (STOP) (→ Page 360).
- ▶ Ensure that power take-off for the hydraulic pump is disengaged (→ Page 388).
- ▶ Place a cloth or a suitable receptacle under each connection to take up the drops of hydraulic fluid.

- ▶ Loosen and disconnect the hydraulic lines on the connections.
- ▶ Fasten the dust caps on the connections on the vehicle and the hydraulic lines.
- ▶ Correctly dispose of collected hydraulic fluid.

### Operating the hydraulic system

#### Tipping

- ▶ Engage the power take-off for the hydraulic pump (→ Page 388).
  - ◁ The chassis is lowered automatically. This increases tipping stability. The display shows the  symbol for chassis below driving level.
- ▶ Ensure that the low-speed splitter group is selected.
- ▶ Pull up and hold the pull ring on the control lever in the cab (→ Page 364).
- ▶ Gently pull the control lever back. To stop the tipping movement, move the control lever into the centre position (STOP). The further back you pull the

control lever, the faster the tipping speed of the tipper body.

- ◁ The indicator lamp  lights up in the display if the tipper body is raised.

or

- ▶ Pull the pull ring upwards and the control lever in the cab back to the end position.
  - ◁ The control lever is engaged. The tipper body will stop tipping automatically once the control lever reaches the end position. The indicator lamp  lights up in the display if the tipper body is raised.
- ▶ To stop the tipping movement, pull the pull ring upwards and move the control lever in the cab to the centre position (STOP).

### Lower tipper body

- ▶ When the control lever in the cab is engaged in the end position, pull the pull ring upwards and move the con-

## Driving mode

### Trailers/semitrailers

trol lever in the cab into the centre position (STOP).

- ▶ Gently push the control lever forwards. To stop the lowering movement, move the control lever into the centre position (STOP).
  - ◁ The further forward you push the control lever, the faster the speed of the tipper body lowering movement. When the tipper body is fully lowered, the indicator lamp  goes out in the display.
- ▶ Move the control lever in the cab into the centre position (STOP).
- ▶ Deactivate the power take-off (→ Page 388).
- ▶ Raise the chassis to driving level (→ Page 317).

### Maintaining and caring for the hydraulic system

#### Cleaning

Observe the following notes:

- Cleaning the exterior (→ Page 400)

- High-pressure cleaning  
(→ Page 399)

When cleaning the vehicle exterior, ensure that you never aim the water jet directly at the breather filter cap of the hydraulic fluid reservoir.

#### Visual inspection



#### Note

##### Service life of hydraulic hoses

Hydraulic hoses are marked with an expiration date (six years after date of manufacture).

- ▶ Make sure that hydraulic hoses are replaced by a qualified specialist workshop at the end of this operating time at the latest, even if there is no visible external damage.

Check the components of the tractor/semitrailer combination's hydraulic system, and in particular the hydraulic lines, on a weekly basis for leaks, external damage and operating lifespan. Have defective and leaking components repaired im-

mediately at a qualified specialist workshop.

### Checking the hydraulic fluid level and topping up hydraulic fluid



#### Note

##### Environmental damage caused by spilled oil during refilling

Spilled oil that enters the ground causes damage to the environment.

- ▶ When refilling, make sure that no oil is spilled.



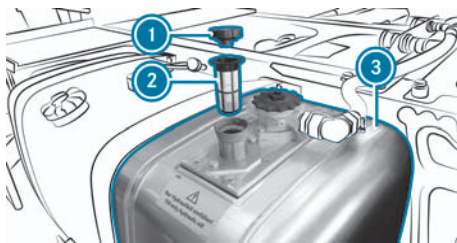
#### Note

##### Damage to the hydraulic system

If you top up too much hydraulic fluid, the expansion chamber in the hydraulic fluid reservoir is decreased. This can damage the hydraulic system.

- ▶ Never top up too much hydraulic fluid.
- ▶ Have excess hydraulic fluid siphoned off.
- ▶ Only use hydraulic fluids that have been tested and approved for the

tractor/semitrailer combination's hydraulic system in accordance with the Mercedes-Benz Trucks Specifications for Operating Fluids. Using other hydraulic fluids or mixing other hydraulic fluids can damage the hydraulic system of the tractor/semitrailer combination.

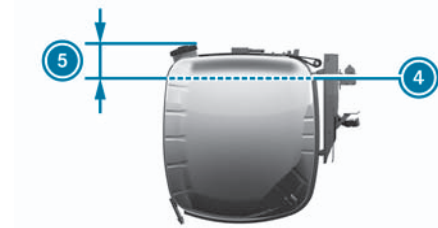


The hydraulic fluid reservoir (3) is either a single tank on the right-hand side of the vehicle or combined with the fuel tank on the left-hand side of the vehicle as a combination tank.

Check the hydraulic fluid level every day and only when the vehicle is horizontal and stationary.

- ▶ Ensure that the operating lever in the cab is in the centre position (STOP).
- ▶ Ensure that power take-off for the hydraulic pump is disengaged (→ Page 388).
  - ◁ Only then is the hydraulic system of the tractor/semitrailer combination depressurised.
- ▶ Remove cap with integrated breather filter (1).
- ▶ Unscrew and remove filter screen (2).
- ▶ Measure the gap between the hydraulic fluid surface level and the upper edge of the filler neck and determine the quantity of fluid used.

### Combination tank with fuel tank on the left-hand side of the vehicle



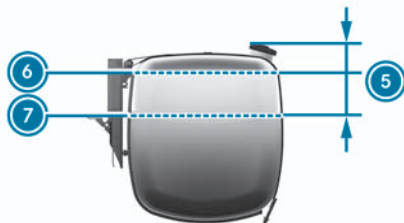
### Hydraulic combination tank

- (4) Max. fill level  
140 l for 128 l effective fluid quantity (usable volume)
- (5) Distance  
Approx. 2.3 l effective fluid loss for every 10 mm the surface level lowers

## Driving mode

### Trailers/semitrailers

#### Single tank on the right-hand side of the vehicle



#### Hydraulic single tank

- ⑥ Max. fill level  
226 l for 198 l effective fluid quantity (usable volume)
- ⑤ Distance  
101 mm
- ⑦ Fill level  
156 l for 128 l effective fluid quantity (usable volume)
- ⑤ Distance  
258 mm

Approximately 4.5 l effective fluid loss for every 10-mm the surface level lowers

- If necessary, top up with an authorised hydraulic fluid through filter screen ②. Before topping up, screw

the filter screen into the filler neck and then check the hydraulic fluid level again.

- Screw filter screen ② into the filler neck.
- Place cap with integrated breather filter ① on the filler neck and fasten tightly.

#### Replacing the hydraulic fluid reservoir cap

Replace the hydraulic fluid reservoir cap every year. In more dusty conditions you must change the cap with integrated breather filter even more regularly.

#### Parking up the vehicle

In addition to the special measures of the Mercedes-Benz Trucks Specifications for Operating Fluids, a change of hydraulic fluid must be carried out. After a non-operational time of more than 24 months, a change of hydraulic fluid must be carried out before restarting operation.

#### Operating data of the hydraulic system

##### Hydraulic fluid quality

The tractor/semitrailer combination's hydraulic system is filled at the factory with all-season hydraulic fluid from Group H-LP (HLP-D 22).

Only use approved hydraulic oil in accordance with the Mercedes-Benz Trucks Specifications for Operating Fluids (→ Page 511).

##### Hydraulic fluid reservoir

#### Combination tank with fuel tank on the left-hand side of the vehicle

| Tank                                             | Volume |
|--------------------------------------------------|--------|
| Maximum tank content                             | 140 ℓ  |
| Maximum effective fluid quantity (usable volume) | 128 ℓ  |
| Non-usable dead volume                           | 12 ℓ   |



### Single tank on the right-hand side of the vehicle

| Tank                                                            | Volume |
|-----------------------------------------------------------------|--------|
| Maximum tank content                                            | 226 ℓ  |
| Maximum effective fluid quantity (usable volume)                | 198 ℓ  |
| Tank content for 128 l effective fluid quantity (usable volume) | 156 ℓ  |
| Non-usable dead volume                                          | 28 ℓ   |



#### Note

The hydraulic fluid reservoir single tank is filled with 156 l of hydraulic fluid at the factory.

### Operating pressure and fluid output

| Operating mode                                                                                           | Pressure/delivery rate |
|----------------------------------------------------------------------------------------------------------|------------------------|
| High pressure operation                                                                                  | 250 bar                |
| Low pressure operation                                                                                   | 170 bar                |
| <b>Average fluid output</b><br>At an engine speed of 1000 rpm and sufficient quantity of effective fluid | 120 ℓ/min              |
| <b>Max. permitted engine speed</b>                                                                       | 1100 rpm               |

| Operating mode                                                                                                                         | Pressure/delivery rate |
|----------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Maximum speed with low-range splitter box. Selecting the high-range splitter box is not permitted and can damage the hydraulic system. |                        |

### Hydraulic connections

The hydraulic line connections have screw couplings of either 1 inch or DN 20.

### Activating ramp approach aid



#### Danger

#### Risk of accident from persons or objects in the manoeuvring area of the ramp approach aid

The ramp approach aid cannot detect people or moving obstacles.

There is therefore still a risk of accident despite the ramp approach aid being activated.

- Make sure that no persons or objects are within manoeuvring range when manoeuvring.

#### ► To activate: Reversing.

- ◁ If the trailer or semitrailer is equipped with ramp approach aid, the instrument cluster automatically displays the function when reversing.
- ◁ Depending on the ramp approach aid, the distance from the trailer or semitrailer to the detected obstacle is also displayed, e.g. 2.30 m.
- ◁ If the distance to the detected obstacle is less than approximately 1.80 m, the trailer/semitrailer symbol lights up red in the instrument cluster.
- ◁ If the distance to the detected obstacle is less than approximately 0.70 m, a warning tone sounds.

## Driving mode

### Wind deflector

#### Wind deflector

#### Adjusting the wind deflector



**Danger**

#### **Risk of injury due to unsafe surface when adjusting the wind deflector**

There are no working surfaces fitted on the vehicle for adjusting the wind deflector.

- ▶ Use firm, non-slip working surfaces, such as a ladder.
- ▶ Do not stand on the roof.



**Danger**

#### **Risk of becoming trapped when adjusting the wind deflector**

You could become trapped when you are adjusting the wind deflector.

- ▶ Therefore, make sure that there is adequate clearance when you adjust the wind deflector.
- ▶ Do not place parts of your body between the wind deflector and the cab.

- ▶ Have a second person help you.

Daimler Truck°AG recommends that you have the wind deflector adjusted at a qualified specialist workshop.

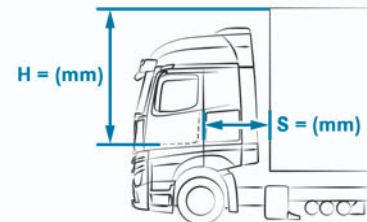
When adjusting the wind deflector, make sure that you:

- Do not exceed the permissible vehicle height (for international transport 4 m).
- Observe the maximum headroom clearance of underpasses.
- Observe the legal requirements for the country in which you are currently driving.



**Note**

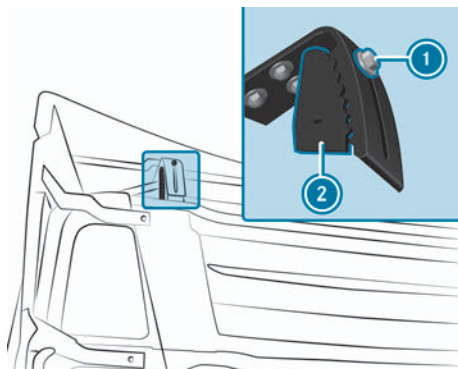
When measuring the clearances, park the vehicle on a level surface. If in doubt, always select a higher setting of the wind deflector.



Exemplary representation

- ▶ Measure the distance **S** between the rear door jamb and the body.
- ▶ Measure the height difference **H** between the door entry and the body.

### Adjust the wind deflector for S, M and L cabs

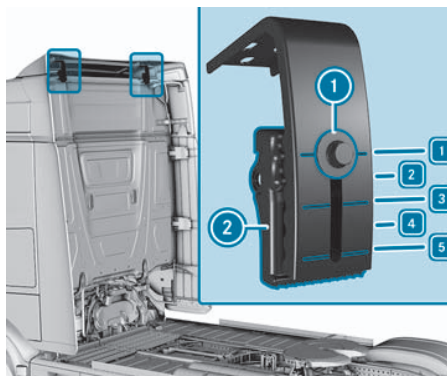


L cab (example)

- Determine which diagram corresponds to your vehicle (→ Page 373).
- Use the height difference **H** in the diagram to determine adjustment detent **A**.
- Unscrew screws ① on the adjustment rails on both sides of the vehicle.
- Using the measured adjustment detent **A**, adjust the adjustment rails on holder ②.

- Screw in screws ①.

### Adjust the wind deflector for ProCab-in



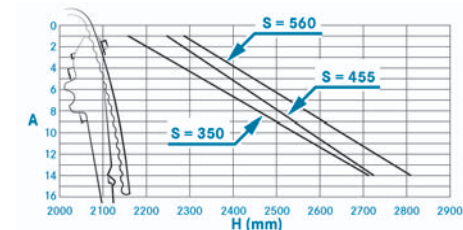
Actros L with ProCabin (example)

- Determine the correct adjustment notch ① - ⑤ using the height difference **H** and the distance **S** given in table (→ Page 378).
- Unscrew screws ① on the adjustment rails on both sides of the vehicle.
- Use the determined adjustment notch to adjust the adjustment rails on holder ②.

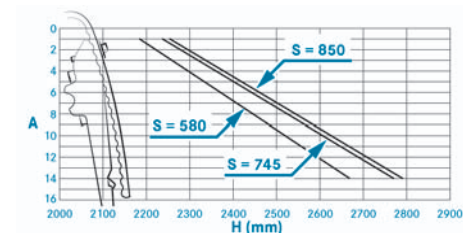
- Screw in screws ①.

### Wind deflector diagrams

#### S cab ClassicSpace 420 platform vehicle



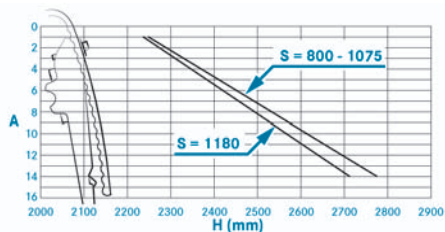
#### M cab ClassicSpace 420 platform vehicle



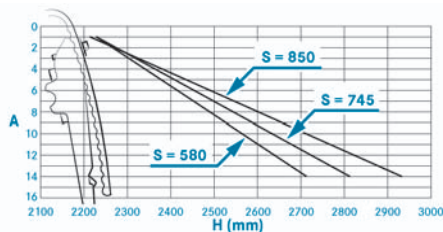
## Driving mode

### Wind deflector

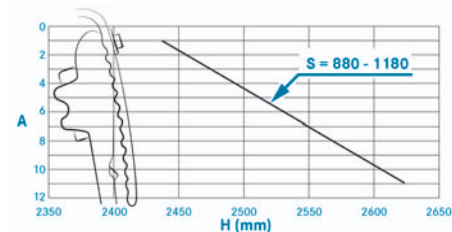
**L cab ClassicSpace 420 platform vehicle**



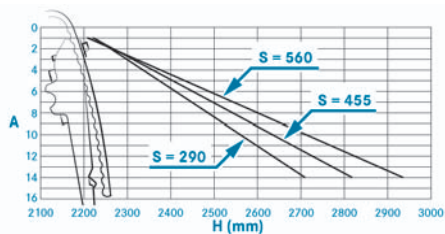
**M cab ClassicSpace 600 platform vehicle**



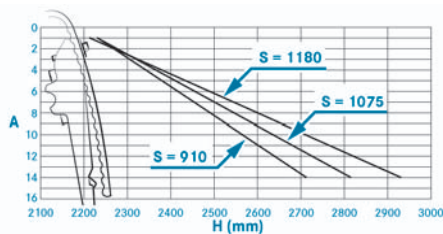
**L cab StreamSpace 420 platform vehicle**



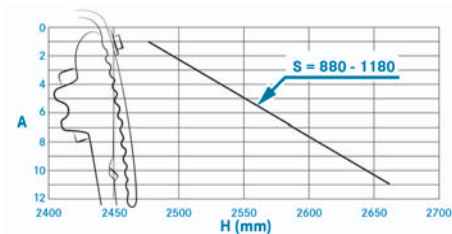
**S cab ClassicSpace 600 platform vehicle**



**L cab ClassicSpace 600 platform vehicle**



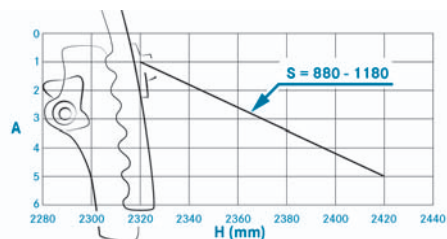
**L cab StreamSpace 600 platform vehicle**



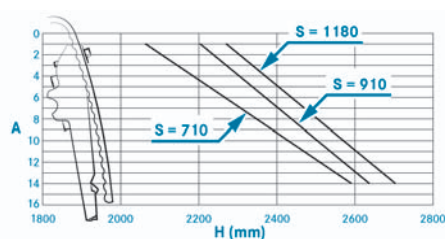
## Driving mode

Wind deflector

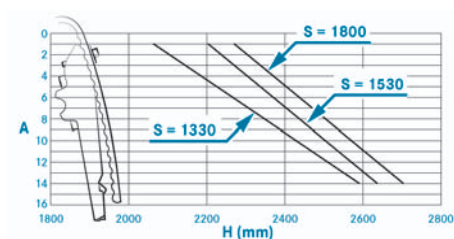
**L cab Stream + BigSpace 765 platform vehicle**



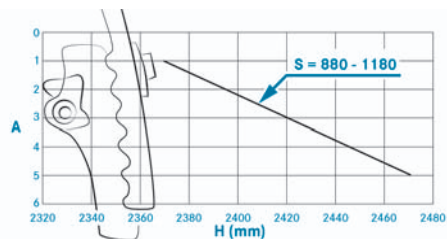
**S cab ClassicSpace 420 semitrailer truck**



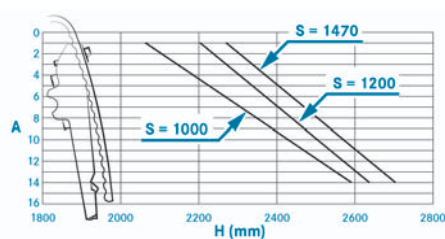
**L cab ClassicSpace 420 semitrailer truck**



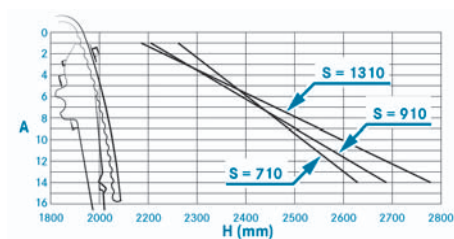
**L cab Stream, Big + GigaSpace 765 LowDeck semitrailer tractor**



**M cab ClassicSpace 420 semitrailer truck**



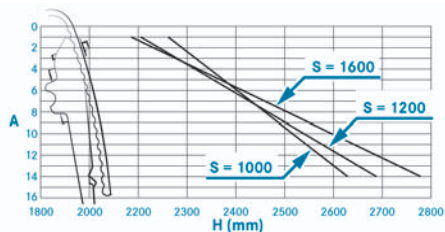
**S cab ClassicSpace 600 semitrailer truck**



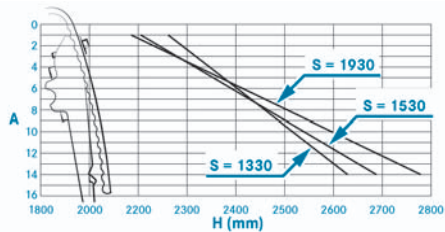
## Driving mode

### Wind deflector

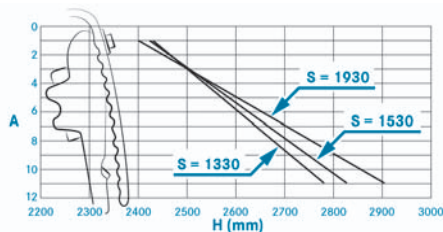
**M cab ClassicSpace 600 semitrailer truck**



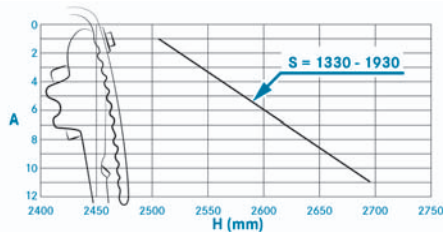
**L cab ClassicSpace 600 semitrailer truck**



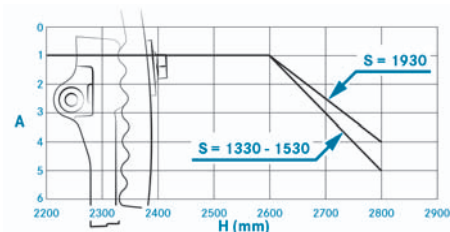
**L cab StreamSpace 420 semitrailer truck**



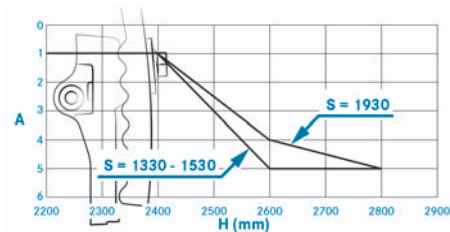
**L cab StreamSpace 600 semitrailer truck, width 2.3 m**



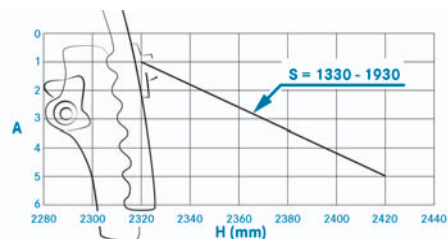
**L cab StreamSpace 600 semitrailer truck, width 2.5 m**



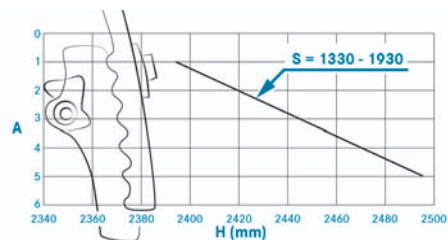
**L cab BigSpace 600, semitrailer truck, width 2.5 m**



# L cab Stream + BigSpace 765 semitrailer tractor



# L cab Stream, Big + GigaSpace 765 LowLiner semitrailer tractor



## Driving mode

### Wind deflector

Adjustment values for ProCabin wind deflector

#### ProCabin semitrailer truck

| ProCabin |                    | S=1360 | S=1560 | S=1960 |
|----------|--------------------|--------|--------|--------|
| Stream   | H=2160             | 1      | 1      | 1      |
|          | H=2260             | 2      | 2      | 2      |
|          | H=2360             | 3      | 3      | 2      |
|          | H=2460             | 4      | 4      | 4      |
|          | H=2560             | 5      | 5      | 5      |
| Big      | H=2160             | 1      | 1      | 1      |
|          | H=2260             | 3      | 3      | 2      |
|          | H=2360             | 4      | 4      | 2      |
|          | H=2460             | 5      | 5      | 4      |
|          | H=2560             | 5      | 5      | 5      |
| Giga     | Cannot be adjusted |        |        |        |



## ProCabin platform vehicle

| ProCabin |                    | S=942 | S=1142 | S=1542 |
|----------|--------------------|-------|--------|--------|
| Stream   | H=2113             | 1     | 1      | 1      |
|          | H=2213             | 1     | 1      | 1      |
|          | H=2313             | 1     | 1      | 1      |
|          | H=2413             | 2     | 2      | 1      |
|          | H=2513             | 3     | 2      | 1      |
| Big      | H=2113             | 1     | 1      | 1      |
|          | H=2213             | 1     | 1      | 1      |
|          | H=2313             | 1     | 1      | 1      |
|          | H=2413             | 2     | 2      | 1      |
|          | H=2513             | 3     | 2      | 1      |
| Giga     | Cannot be adjusted |       |        |        |

## Driving mode

### Winter operation

#### Winter operation

#### Winter driving

#### Preparing for a journey (winter operation)

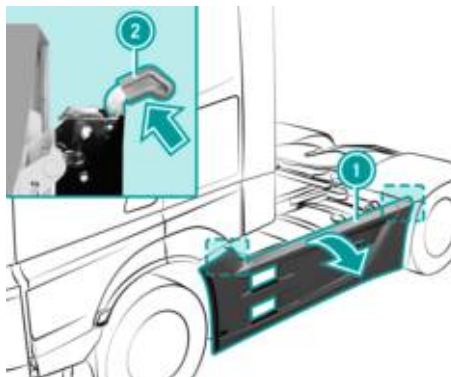


#### Note

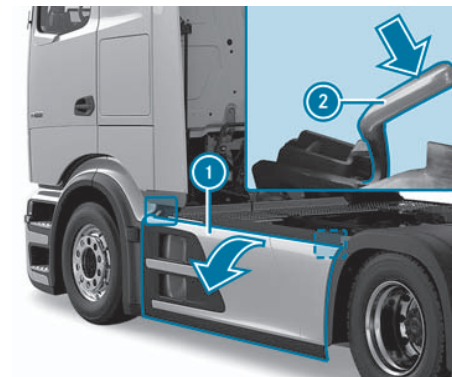
#### Engine damage due to incorrect SAE classification (viscosity) of the engine oil

If the SAE classification (viscosity) of the engine oil used is not suitable for persistently low temperatures of below  $-20^{\circ}\text{C}$ , this may damage the engine. The temperature readings of the SAE classification are always based on fresh oil. Engine oil ages while driving due to soot and fuel residue. This impairs the characteristics of the engine oil, particularly at low outside temperatures.

- At outside temperatures of below  $-20^{\circ}\text{C}$ , use engine oils of SAE classification 5W-30 or 0W-30.
- Use oils suitable for use throughout the year.



Actros L semitrailer tractor (example)



Actros L semitrailer tractor with ProCabin (example)

Remove snow and accumulations of ice on both sides of the vehicle between the side trim and the chassis.

- To release, push or pull the levers ② on the front and rear of the locks in the direction of the arrow.
- Swing side trim ① outwards.
- If necessary, detach the snap hooks of the check straps.

### Note

Keep the locks free of dirt and replace the lubricant on the locks from time to time.

- ▶ Remove snow and ice from between side trim  and the chassis.
- ▶ If necessary, attach the snap hooks of the check straps.
- ▶ Swing side trim  back and push the pins on the brackets of side trim  into the locks as far as they will go.
  - ◁ The locks must engage audibly and levers  must spring back to their original position.
- ▶ Pull on side trim  near the locks to check that these are engaged correctly.

Before the start of the cold season make sure:

- The coolant contains sufficient anti-freeze protection (→ Page 514).
- The fuel used is suitable for winter use (→ Page 515).

- If single grade engine oil is used, the oil is changed in good time (→ Page 511).
- The windscreen washer system contains sufficient antifreeze (→ Page 417).
- Suitable winter tyres are fitted.
- Snow chains are carried in the vehicle.

### Note

In wintry conditions, the law may require that winter tyres be fitted on the wheels of the drive axle. Find out which winter tyres are suitable for the intended use. Observe the legal requirements for the country you are currently in.

### Notes on driving in winter

#### Danger

#### **Risk of explosion due to liquid or gaseous starting substances**

Liquid or gaseous starting aids immediately react with fuel vapour and are highly flammable.

- ▶ Do not use liquid or gaseous starting aids to start the vehicle.



### Note

#### **Damage to the differential gear due to spinning drive wheels**

For vehicles without ASR (acceleration skid control system), changing from a slippery to a high-grip road surface with the drive wheels spinning at the same time may cause damage to the differential gear.

- ▶ Avoid spinning the drive wheels.

Please observe the following instructions on driving in winter:

- in snow, slush and on icy roads, fit snow chains to the drive wheels in good time.
- adapt your driving style to the wintry road conditions.
- If traction problems occur when driving with snow chains, disengage ASR (→ Page 256) or Stability Control Assist (→ Page 257).

## Driving mode

### Winter operation

#### Snow chains

##### Notes on snow chains



#### **Danger**

##### **Risk of accident due to tearing snow chains**

If you drive too quickly with snow chains, they may tear and injure other persons and damage the vehicle.

- Comply with the maximum permissible speed for operating the vehicle with snow chains.



#### **Note**

##### **Damage to the vehicle from snow chains**

To avoid vehicle damage:

- Only use snow chains that are approved and recommended for Mercedes-Benz trucks. Contact a qualified specialist workshop if you have any questions.



#### **Note**

##### **Damage to the differential gear from snow chains**

To avoid damage, Daimler Truck AG recommends:

- Fitting snow chains on all drive wheels. For vehicles with a permanent all-wheel drive, if snow chains are not fitted on all drive wheels, the inter-axle lock must be activated.

The law may require that snow chains be removed again as soon as possible once the roadway is clear of snow. The vehicle's driving and braking characteristics will be adversely affected if you drive on roadways that are clear of snow with snow chains fitted to the vehicle.

The maximum permissible speed with snow chains fitted to the vehicle is 50 km/h.

When using the snow chains described here, observe the legal requirements for the country you are currently in.

Do not use twin chains on vehicles with roll control. Only fit snow chains on the exterior wheels.

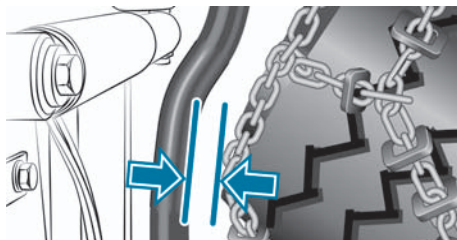
##### **Vehicles with electric power steering:**

If you change the mechanical axle stops when using snow chains, for example, have the electric power steering recalibrated by a qualified workshop.

##### **Vehicles with ASR/Stability Control**

**Assist:** If, when driving, traction problems arise while snow chains are being used, disengage ASR (→ Page 256) or Stability Control Assist (→ Page 257).

### Checking the wheel clearance



#### Note

#### Damage to the steering linkage from snow chains

If the distance between the snow chain and the steering linkage is less than 25 mm, the snow chain may damage the steering linkage.

- ▶ If this occurs, remove the snow chains again.
- ▶ Have the steering geometry checked at a qualified specialist workshop.

- ▶ Apply the parking brake.
- ▶ Fit the snow chains in accordance with the fitting instructions of the chain manufacturer.

- ▶ Start the vehicle.
- ▶ Turn the steering wheel towards the co-driver side to the stop.



#### Note

With the steering on full lock, there must be a distance of at least 25 mm between the snow chain and the drag link.

### Low temperature package

#### Information regarding the cold-start limits

Without special equipment, your vehicle is capable of starting at temperatures of as low as -20°C. When fitted with special equipment and given cold-resistant operating fluids, your vehicle can be started at temperatures down to -32°C.



#### Note

At temperatures lower than the stated cold-start limits, engine starting may be impaired despite taking the appropriate measures.

### Overview of special equipment of the cold climate package

The following special equipment improves the starting capability of your vehicle at low outside temperatures:

- Fuel preheating
- Coolant preheater
- Heated electronic air processing unit
- Auxiliary heating

### Low-temperature operating fluids

Have the vehicle converted to low-temperature operating fluids at a qualified specialist workshop.

## Driving mode

### Winter operation

#### Note

The recommended maintenance intervals are shorter if the vehicle is mainly operated at low temperatures.

#### Before attempting a cold start

#### Note

##### **Damage to the batteries due to rapid charging**

At very low temperatures, the battery fluid of discharged batteries may freeze.

- ▶ Carry out rapid charging on cold batteries. Otherwise, the batteries may be damaged.

Special measures must be taken before a cold start if the vehicle has been exposed to extremely low temperatures.

- ▶ Charge discharged batteries before starting.

#### Note

The capacity of the batteries is adversely affected by increasingly cold temperatures.

- ▶ Thaw frozen batteries before charging them.

#### Starting the vehicle at low temperatures

#### Note

##### **Damage to the batteries during a cold start**

Attempting to start the engine when a battery is cold or not fully charged can result in damage to the batteries.

- ▶ If the battery voltage is too low when the vehicle is switched on or the  symbol appears in a display message, do not start the vehicle.

#### Note

##### **Damage to the engine due to the oil pressure being too low**

If a warning tone sounds and the symbol  appears in a red display message, the operational safety of the engine is at risk.

- ▶ Do not set the vehicle in motion, or park it up immediately, paying attention to the road and traffic conditions.
- ▶ Switch off all electrical consumers, e.g. the radio and the blower.
- ▶ For vehicles with auxiliary heating (auxiliary heating for the cab and the engine), at outside temperatures below -20 °C: Preheat the engine with the auxiliary heating before starting (→ Page 142).
- ▶ At outside temperatures below -30 °C and on vehicles with a coolant preheater: Preheat the engine with the coolant preheater for at least 90 minutes (→ Page 142).
- ▶ Switch on the vehicle.

- ▶ Pay attention to the outside temperature shown on the display (→ Page 149) and signs that the on-board electrical system voltage is low, e.g. a weak lighting system.
- ▶ Shift the transmission to neutral.
- ▶ Deactivate the power take-off (→ Page 388).
- ▶ Start the vehicle.

### If the vehicle does not start:

#### Note

The starting procedure is automatically interrupted for vehicles with the following engine:

Engine OM 936: after approximately 60 seconds

Engine OM 470, OM 471 and OM 473: after approximately 40 seconds

- ▶ Switch off the vehicle.
- ▶ Repeat the starting procedure after approximately one minute.
- ▶ After three starting procedures, take a break of about three minutes.

- ▶ If the supply pressure in the brake system (→ Page 170) has dropped below 6 bar, fill up the compressed-air system (→ Page 472). This will ensure that the clutch is disengaged when you start the vehicle in vehicles with a manual transmission.

### Driving in low temperatures

Observe the following at outside temperatures below -20 °C:

- Check the supply pressure in the brake system before you set off (→ Page 170). Set off only when the supply pressure is sufficient.
- Before you pull away, check that the power steering is functioning correctly by turning the multifunction steering wheel repeatedly to full left and full right lock.

The hydraulic operation of the steering may be impaired in outside temperatures below -25 °C.

- Change gear early and avoid high engine speeds.

- Avoid high loads at the start of your journey.
- Avoid short engine running times.
- Allow the vehicle to warm up for around 20 minutes, then increase the load.
- For technical reasons, the engine brake is only available from an oil temperature of 15 °C at level 1. The full engine braking effect is only available across the entire engine speed range from an oil temperature of 60 °C.
- The battery can only be charged at a certain rate per hour, regardless of the power output of the alternator. The rate of charge is significantly reduced by low outside temperatures. As a result, it can take significantly longer to charge the battery in winter.

### Parking in low temperatures

If you park the vehicle in outside temperatures below -30 °C, it may not be able to start even with the cold climate package. Daimler Truck AG recommends that you

## Driving mode

### Winter operation

do not park the vehicle outdoors in outside temperatures below  $-30^{\circ}\text{C}$ .

If you do park the vehicle in the open air in very low temperatures, special measures are necessary:

- ▶ If required, back up the vehicle's lighting system using external lighting, e.g. a warning lamp.
- ▶ Check the fuel level on the fuel display (→ Page 170).
- ▶ If the fuel level is in the reserve area, top up the fuel tank (→ Page 346).

#### Note

If the vehicle is stationary for an extended period of time with a fuel level that is too low, you may have to depressurise the fuel system (→ Page 445).

Observe further instructions and information concerning the batteries.



### Power take-off

#### Power take-off function



**Danger**

#### **Risk of accident due to the vehicle roll-starting unintentionally**

If you use the engine run-on function, the vehicle may roll-start unintentionally if crawler mode is activated and the start-off gear is engaged.

- ▶ Shift the transmission to neutral.
- ▶ Apply the parking brake.



**Danger**

#### **Risk of accident on uphill or downhill slopes**

The parking brake may not be sufficient to secure the vehicle on uphill and downhill slopes.

A loaded vehicle or a vehicle with a trailer/semitrailer may roll away.

- ▶ In the check position, check whether the braking force of the parking

brake alone is sufficient to hold the complete vehicle.

- ▶ Generally, secure the towing vehicle and trailer/semitrailer with the parking brake and, additionally, with chocks.



**Note**

#### **Vehicles with clutch pedal: Damage to the power take-off**

Switching the power take-off on or off too soon after disengaging the clutch may damage the power take-off.

- ▶ Wait ten seconds after disengaging the clutch. Only then switch the power take-off on or off.

Observe the information on operating safety (→ Page 5).

When you engage a power take-off, the vehicle is completely lowered on all air-sprung axles. This increases the tipping stability of the vehicle.

With the power take-off, you can drive auxiliary assemblies, for example, hydraulic pumps. Depending on the conditions

of use, you must operate the engine and power take-off at a certain engine speed (working speed).

Power take-offs with rpm limitation: when the power take-off is engaged, you cannot exceed the programmed working speed.

The engagement status of the power take-off is displayed on the instrument cluster:

- Power take-off disengaged
- Power take-off engaged

#### **Vehicles with a power take-off on the engine:**

The power take-off on the engine cannot be selected. The auxiliary assembly is directly connected to the engine and is permanently driven. The working speed and body-dependent functions are controlled and selected by engaging the constant-rpm control (→ Page 390).

#### **Vehicles with transmission-driven power take-off:**

When the power take-off is engaged, you can select all pulling-away gears or reverse gear when stationary. Changes of direction are only permitted in the selected gear. You must not change

## Working mode

### Power take-off

gears while driving. On vehicles with an automated manual transmission, the transmission automatically shifts to the manual drive program **M** (→ Page 241) when the power take-off is engaged.

**Vehicles with an engine-driven take-off (NMV), without a clutch actuator (code N4Y or N4Z):** Pulling away is not possible with the power take-off engaged. You cannot operate the power take-off while driving.

**Vehicles with an engine-driven power take-off (NMV), with clutch actuator (code N4X or N4W):** When the power take-off is engaged, you can select all pulling-away gears or reverse gear when stationary. You can select all gears while driving.

If you have to leave the cab to operate the power take-off, you can use the ignition lock's engine run-on function. The engine then continues to run and you can lock the doors of the cab with the key (→ Page 213).

#### **Note**

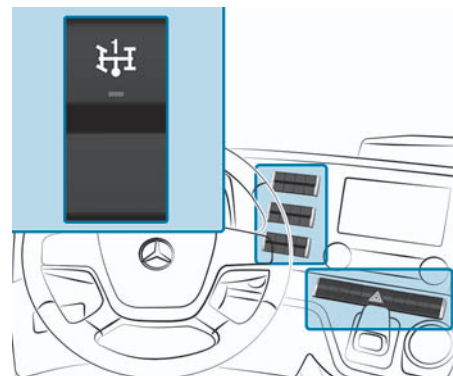
The engine speed is increased and the engine noise may change during regeneration.

#### **Note**

If you have to leave the cab to operate the power take-off, observe the notes on the diesel particulate filter (→ Page 339).

### Activating/deactivating the power take-off

#### Activate power take-off



Example of PTO 1

#### Power take-off switch



Transmission power take-off 1



Transmission power take-off 2



Engine-driven power take-off 3 (NMV)

The power take-off must be load-free when it is activated/deactivated. Observe the body/equipment mounting directive.

Observe the activation/deactivation order when using the engine-driven power take-off (NMV).

Failing to observe the activation/deactivation sequence when using a transmission- or engine-driven power take-off (NMV) can lead to functional impairments. This includes longer activation/deactivation times or a failure to engage/disengage power take-offs.

The required power of the power take-offs must not exceed the maximum engine output at the respective operating point.

- ▶ Stop the vehicle.
- ▶ Apply the parking brake.
- ▶ Shift the transmission to neutral.
- ▶ Leave the engine running at idle speed.
- ▶ Vehicles with manual transmission: Depress and hold down the clutch pedal.
- ▶ **To switch on (code N4Y/N4Z):** First switch on the transmission power take-off and then the NMV.

- ▶ **To switch on (code N4W/N4X):** First switch on the NMV and then the transmission power take-off.
- ▶ Press the  switch at top.
  - ◀ If the power take-off is engaged, the instrument cluster displays the engagement status . The indicator lamp in the  switch lights up.
- ▶ Vehicles with manual transmission: Release the clutch pedal when the instrument cluster shows the power take-off is engaged.

When the parking brake is released, the display message  and **Engage parking brake.** will appear in the instrument cluster. If  flashes in the instrument cluster, the electronic management system does not recognise the vehicle's current operating state.

- ▶ Check whether all activation conditions are fulfilled.
- ▶ Activate the power take-off again.
- ▶ If  flashes again in the instrument cluster, visit a qualified workshop.



### Note

Automatic regeneration results in high engine speeds at the transmission-driven power take-off. If the power take-off application is not designed for increased engine speed, wait for automatic regeneration and reactivate the power take-off.

### Deactivate power take-off

- ▶ Observe the power take-off activation/deactivation order as instructed.
- ▶ Leave the engine running at idle speed.
- ▶ Vehicles with manual transmission: Depress and hold down the clutch pedal.
- ▶ **To switch off (code N4Y/N4Z):** First switch off the transmission power take-off followed by the NMV.
- ▶ **To switch off (code N4W/N4X):** First switch off the transmission power take-off followed by the NMV.
- ▶ Press the bottom section of the  switch.

## Working mode

### Power take-off

- ◁ When the power take-off is disengaged, the instrument cluster displays  and the indicator lamp in the power take-off switch  goes out.
- ▶ Vehicles with manual transmission: Release the clutch pedal when the instrument cluster no longer shows the power take-off.

### Preselecting working speed

#### Vehicles with automated manual transmission

You can preselect the working speed using the multifunction lever.

- ▶ Turn the direction of travel selector switch to position .
- ◁ The display shows **N1** or **N2** depending on the previously selected splitter box.
- ▶ **To preselect a high working speed:** Pull the multifunction lever up briefly.
  - ◁ The fast splitter box is selected and the display shows **N2**.

- ▶ **To preselect a low working speed:** Push the multifunction lever down briefly.

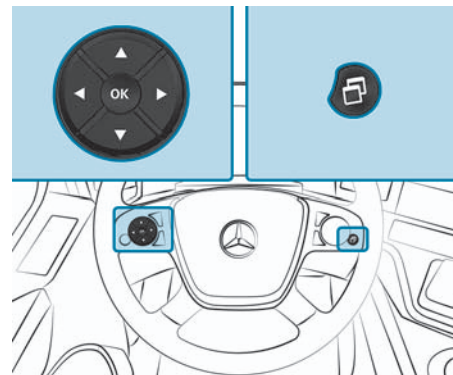
- ◁ The slow splitter box is selected and the display shows **N1**.

#### Vehicles with manual transmission

You can preselect the working speed using the splitter switch.

- ▶ **To preselect a high working speed:** Pull the splitter switch up.
  - ◁ The fast splitter box is selected.
- ▶ **To preselect a low working speed:** Push the splitter switch downwards.
  - ◁ The slow splitter box is selected.

### Setting the idle/working speed



After the vehicle is started, the idle speed is regulated automatically depending on the coolant temperature.

If auxiliary assemblies such as hydraulic pumps are operated, the engine must be running at a certain speed (working speed). The engine idling speed/working speed can be set via the on-board computer.

### Speed setting range

| Engine | Adjustable engine idle speed |
|--------|------------------------------|
| OM 470 | approx. 500–800 rpm          |

| Engine | Adjustable engine idle speed |
|--------|------------------------------|
| OM 471 |                              |
| OM 473 |                              |
| OM 936 | approx. 600–800 rpm          |
| OM 460 | approx. 560–800 rpm          |

The rpm range can differ for special bodies.

- ▶ Engage the power take-off (→ Page 388).

### Switching on the engine speed setting and setting the engine speed

- ▶ Press the  button on the multifunction steering wheel repeatedly until the input window **Rotational speed** is displayed on the instrument cluster.
- ▶ Press the  or  button to increase or reduce the engine speed in increments by about 20 rpm.
- ▶ Press the  button to exit the input window.

or

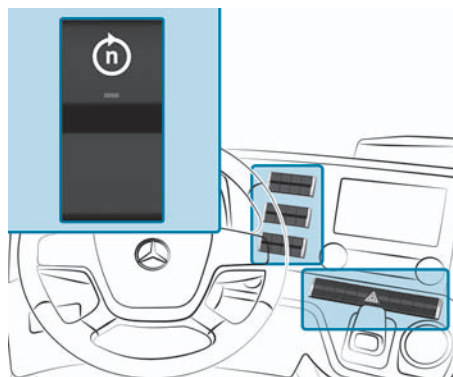
- ▶ Wait for approximately three seconds. The setting is stored automatically.

### Switching off the engine speed setting

- ▶ Press the  button repeatedly until the **Rotational speed** input window is displayed on the instrument cluster.
- ▶ Press the button .

From a speed of about 20 km/h, the engine speed setting is automatically reset.

### Constant-rpm control



When the constant rpm control is switched on, the electronic management system regulates the programmed

working speed of the power take-off independently of the load.

### Note

Regeneration is suppressed in working speed mode. Switch off the constant rpm control after the power take-off has finished operating. Otherwise regeneration cannot take place. In vehicles with a power take-off on the engine, other body-dependent functions can be activated in addition to keeping the constant-rpm control.

- ▶ Engage the transmission-driven or engine-driven power take-off (→ Page 388).
- ▶ **To switch on:** Press the  switch at top.
  - ◁ The indicator lamp in the switch lights up.
- ▶ **Switching off:** Press the  switch at the bottom.
  - ◁ The indicator lamp in the switch goes out.

## Working mode

### Power take-off

Switch emergency operation mode of the engine-driven power take-off (NMV) on/off

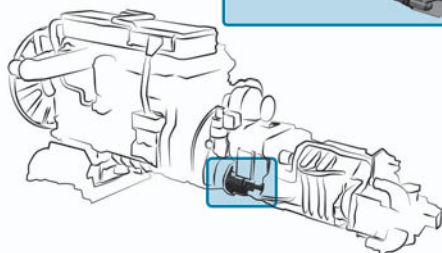
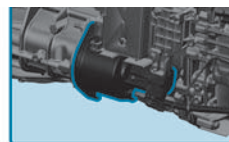
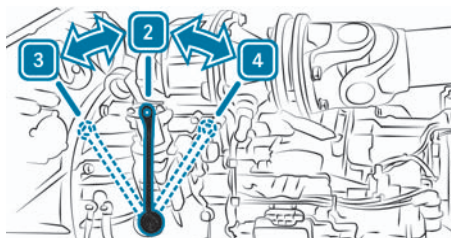
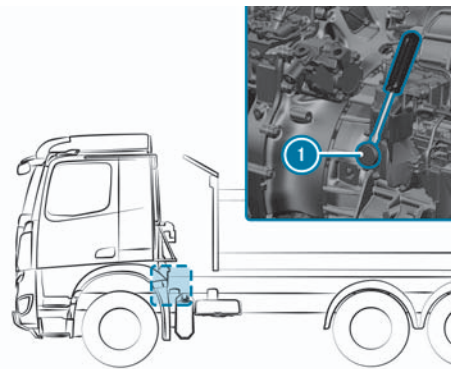


**Danger**

#### Risk of injury by turning output shaft

With the engine running, the output shaft of the engine-driven power take-off is able to turn.

- ▶ Carry out emergency engagement of the engine-driven power take-off only with the vehicle stationary, the parking brake applied and the engine switched off.



Clutch actuator in vehicles with power take-off (code N4W/N4X)

If the engine-driven power take-off (NM-V) fails, a rigid connection of the power transmission in the power take-off can be established or disconnected. When deactivating manually, ensure that the power

take-off is load-free (e.g. set pumps to zero delivery).

#### **i** Note

The adapter for the emergency gear-shift during engine-driven power take-off (NMV) can be found in the vehicle document wallet.

Vehicles with power take-off (code N4W/N4X) can be identified by the external clutch actuator. If there is a cover plate in this position, then the vehicle is equipped with the power take-off (code N4Y/N4Z).

- ▶ Observe the power sequencing when using the engine-driven power take-off (NMV) (→ Page 388).

#### Engaging power take-off manually

- ▶ Apply the parking brake.
- ▶ Shift the transmission to neutral.
- ▶ Switch off the vehicle.
- ▶ Take the wrench, screwdriver and hammer out of the vehicle tool kit.
- ▶ Take the adapter out of the vehicle document wallet.

- ▶ Remove the cover cap ❶ with a screwdriver and a hammer.
- ▶ Place the adapter on the shaft with the wrench in position ❷.
- ▶ Turn the wrench to position ❹.
- ▶ Remove the wrench and the adapter.
- ▶ Attach the cover cap ❶.
- ▶ Start the vehicle.
- ▶ Press the power take-off switch  at the top.
  - ◁ If the power take-off is engaged, the instrument cluster displays the engagement status  of the power take-off. Indicator lamp in switch  lights up.

### Deactivating the power take-off manually

- ▶ Switch on the vehicle.
- ▶ Apply the parking brake.
- ▶ Shift the transmission to neutral.
- ▶ Press the power take-off switch  at the bottom.
- ▶ Switch off the vehicle.
- ▶ Take the adapter out of the vehicle document wallet.

- ▶ Take the wrench, screwdriver and hammer out of the vehicle tool kit.
- ▶ Remove the cover cap ❶ with a screwdriver and a hammer.
- ▶ Place the adapter on the shaft with the wrench in position ❷.
- ▶ **Power take-off (code N4Y/N4Z):** Turn the wrench to position ❸.

or

- ▶ **Power take-off (code N4W/N4X):** If the power take-off was previously activated automatically using the switch, turn the wrench to position ❹.

or

- ▶ **Power take-off (code N4W/N4X):** If the power take-off was previously activated manually, turn the wrench to position ❸.
- ▶ Remove the wrench and the adapter.
- ▶ Attach the cover cap ❶.
- ▶ Start the vehicle.
  - ◁ If the power take-off is disengaged, the instrument cluster displays the engagement status

 of the power take-off. The indicator lamp in switch  goes off.

### Tipper mode

#### How tipper mode works

To activate the tipper body and other functions, controls for pneumatic master and actuating valves can be fitted on the door side next to the driver's seat. If so, the door trim is adapted to provide adequate space. The control knob and pull switch can also be fitted in multiple ways and in different combinations, depending on the function.

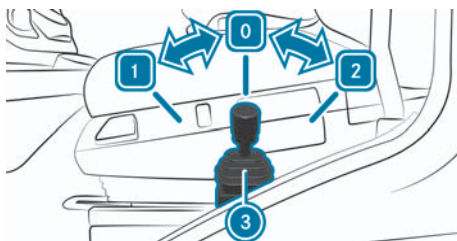
The following functions are examples and are displayed on a sticker next to the controls in the cab's doorway. For the actual function selected, observe the tipper or body manufacturer's operating instructions.



## Working mode

### Tipper mode

#### Sensor valve for tipper control

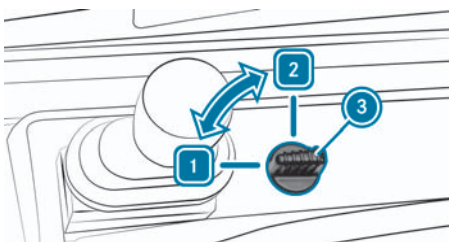


#### Tipper body operating lever

- 1 Lower tipper body
- 0 STOP – stop the tipping or lowering movement
- 2 Raise tipper body
- 3 Operating lever with pull ring

The operating lever 3 will engage in position 2. To move the operating lever in or out of position 2, pull the pull ring on the operating lever.

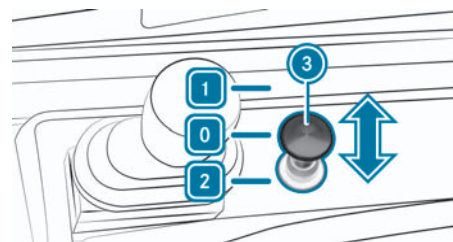
#### Actuating valves for switching or activating



#### Switching trailer operation

- 1 Activate tipper body on towing vehicle
  - 2 Activate tipper body on trailer
- #### Switching crane operation
- 1 Tipper function
  - 2 Crane function
- #### Activating rear wall claw-type lock
- 1 Unlock claw-type locks
  - 2 Lock claw-type locks
  - 3 Control knob

#### Actuating valve for on-board computer



#### On-board computer

- 1 Open dropside
- 0 STOP – stop movement
- 2 Close dropside
- 3 Pull switch



### Retracting/extending the tipper

#### Before tipping



**Danger**

#### Risk of accident if the exterior lighting is covered by the side board

If you open the rear side board, the rear exterior lighting is covered.

This could delay other road users in recognising the vehicle as an obstacle.

- Secure the rear area of the vehicle according to the national requirements, e.g. using a warning triangle.



**Danger**

#### Risk of burns caused by a hot exhaust system

The vehicle exhaust system can become very hot.

- Use only the steps and grab handles provided for this purpose.
- Never climb over the exhaust system to reach from the cab to the add-on equipment.

- When working on add-on equipment near the exhaust system, always keep a sufficient safe distance and wear protective gloves.

- Observe the notes under "Using steps" (→ Page 402).



**Note**

#### Damage to the chassis by lifting the front wheels

If a container is picked up or set down, the front wheels may lift.

- Only couple up or pick up swap-body platforms or containers if the vehicle has been started.



**Note**

#### Damage to the vehicle due to excessive axle loads

If the maximum permissible axle load is exceeded platform-type swap bodies or containers are tilted, rolled or deposited, the vehicle may be damaged.

The tyres, chassis frame and axle may be damaged.

- Do not exceed the maximum permissible axle load specified in the body/equipment mounting directives.

You must complete the connection between the subframe and the chassis in the crane area. This can be done with either a crane mounting or another adequate mounting. Comply with the body/equipment mounting directives. Tipper operation is not permitted if you do not complete the connection. Observe the safety regulations and the separate operating instructions of the tipper manufacturer.

When the dumper pump (power take-off) is engaged, you can select any pulling away gear or reverse gear while stationary. Changes of direction are only permitted in the selected gear. Do not change gears while driving. In vehicles with automated manual transmission, the transmission will change automatically when the tipper pump is switched to the manual drive program **[M]**.

## Working mode

### Tipper mode

Unless otherwise stated in the tipper manufacturer's operating instructions, ensure that the low-speed splitter box has been selected.

- ▶ Park the vehicle on a firm and level surface.
- ▶ Apply the parking brake.
- ▶ Check and secure the pins on the tipper body; see the tipper manufacturer's separate operating instructions. The tipper body must be secured with the pins on the side to which the load is to be tipped. The pins have different shapes to prevent confusion or diagonal insertion.
- ▶ Start the vehicle.
- ▶ Switch on the tipper pump (power take-off) ( → Page 388).
  - ◁ The chassis is lowered automatically. The display shows the  symbol for chassis below driving level.
- ▶ Open the side or ensure that the side unlocks and opens in the case of automatic release/locking mechanisms. See the separate operating

instructions from the tipper manufacturer.

### Tipping

- ▶ Make sure that nobody is in the tipping area.
- ▶ Observe the tipper manufacturer's operating instructions.

### After tipping

- ▶ Close the side or ensure that the side closes and locks in the case of automatic release/locking mechanisms. See the separate operating instructions from the tipper manufacturer.
- ▶ Switch off the tipper pump (power take-off) ( → Page 388).
- ▶ Raise the chassis to driving level ( → Page 320).
  - ◁ The  symbol for chassis below driving level will disappear from the display.

### Notes on cleaning the interior

#### Notes on cleaning the interior



**Danger**

#### **Risk of injury due to plastic parts coming loose after using solvent-based care products**

The surfaces in the cockpit may become porous. Plastic parts may come loose when the airbag is deployed.

- ▶ Do not use solvent-based care products or cleaning agents to clean the cockpit.



**Danger**

#### **Risk of injury or fatal injuries from bleached seat belts**

Bleaching or dyeing seat belts can severely weaken them.

This can, for example, cause seat belts to tear or fail in an accident.

- ▶ Never bleach or dye seat belts.



**Note**

#### **Environmental pollution due to disposal in an environmentally irresponsible manner**

Incorrectly disposing of cleaning and care products can cause considerable damage to the environment.

- ▶ Dispose of cleaning and care products in an environmentally responsible manner.



**Note**

Daimler Truck AG recommends that you only use care products that have been approved for Mercedes-Benz trucks.

These care products are available from an authorised Mercedes-Benz Trucks Service Centre.

Observe the following points when wet cleaning the vehicle interior:

- Never use a high-pressure cleaner.
- Make sure that no fluids can enter or remain in gaps and cavities.

- Ensure that there is sufficient ventilation when cleaning.
- Ensure that the vehicle interior completely dries following cleaning.

#### Seat belts

- Clean with lukewarm and soapy water.
- Do not use chemical cleaning agents.
- Do not dry seat belts by heating them to over 80 °C or exposing them to direct sunlight.

#### Cold foam mattress cover

- Wash at a maximum temperature of 30 °C.

#### Displays

- Switch off the display and let it cool down.
- Clean the surface carefully with a cotton or microfibre cloth and a display care product (TFT-LCD) recommended for Mercedes-Benz trucks.
- Do not use any other cleaning products.

## Cleaning and care

### Notes on cleaning the interior

#### Plastic trims

- Clean with a damp microfibre cloth.
- In case it is very dirty: Use cleaning agents that have been recommended for Mercedes-Benz trucks.
- Do not use solvent-based care products and cleaning agents.
- Do not attach stickers, films or similar materials.
- Do not bring into contact with cosmetics, insect repellents or sun creams.

#### Trim elements

- Clean with a microfibre cloth.
- In case it is very dirty: Use cleaning agents that have been recommended for Mercedes-Benz trucks.
- Do not use solvent-based cleaning agents, polishes or waxes.

#### Genuine leather seat covers

- Clean with a damp cloth and then wipe with a dry cloth.
- Leather care: Use leather care agents that have been recommended for

leather upholstery for Mercedes-Benz Trucks.

- Do not allow the leather to become too damp.
- Do not use the microfibre cloth.
- Do not clean the seat cushions and backrests using steam cleaners or cleaning fluids.

#### Imitation leather seat covers

- Clean with a damp cloth and 1% soapy water.
- Do not use the microfibre cloth.
- Do not clean the seat cushions and backrests using steam cleaners or cleaning fluids.

#### Cloth seat covers

- Clean with a damp microfibre cloth and 1% soap solution and allow to dry.
- Do not clean the seat cushions and backrests using steam cleaners or cleaning fluids.

#### Steering wheel and gearshift lever

- Clean with a damp cloth and mild soapy water.
- Wipe over again with a dry cloth.
- Do not use solvent-based cleaning and care products.
- Do not allow fluids with sticky ingredients to come into contact with the steering wheel or the steering wheel buttons.

For leather upholstery:

- Use leather care agents that have been recommended for leather upholstery for Mercedes-Benz Trucks.
- Do not use the microfibre cloth.

#### Notes on the use of a high-pressure cleaner



**Danger**

#### **Risk of accident when using high-pressure cleaners with round-spray nozzles (dirt grinders)**

The water jet can cause injuries and non-visible damage to the vehicle.

Damaged components may fail unexpectedly.

- ▶ Do not use a high-pressure cleaner with round-spray nozzles.
- ▶ Have damaged tyres or suspension components replaced as soon as possible.



**Note**

#### **Damage due to the use of a high-pressure cleaner in the vehicle interior**

The volume of water generated under pressure by the high-pressure cleaner and the associated spray may cause significant damage to the vehicle.

- ▶ Do not use a high-pressure cleaner in the vehicle interior under any circumstances.



**Note**

#### **Component damage due to the use of a high-pressure cleaner**

The following vehicle components can be damaged through direct application of a high-pressure cleaner:

Door gaps, air suspension bellows, brake hoses, balancing weights, electrical components, electrical connectors, and seals.

- ▶ Do not point the water jet at these components.

When using high-pressure cleaning, keep a minimum distance of 50 cm between the atomiser nozzle and the vehicle parts and use clean, warm water up to 50 °C.

Set the water pressure on the high-pressure cleaner to a maximum of 50 bar.

Keep the water jet moving constantly while cleaning.

#### Notes on the use of automatic car washes



**Note**

#### **Damage when using an automatic car wash**

If, when using an automatic car wash, the outside mirrors/camera arms are folded out or the windscreen wipers are activated, they may be damaged.

Before using an automatic car wash:

- ▶ Deactivate the windscreen wipers.
- ▶ Vehicles with external mirrors: Fold in the outside mirrors.
- ▶ Vehicles with folding MirrorCam camera arm: Fold in the camera arms.

Make sure that the outside mirrors or camera arms of the MirrorCam system are fully folded out again when you leave the automatic car wash.

If the vehicle is very dirty, wash off excess dirt before cleaning the vehicle in an automatic car wash.

## Cleaning and care

### Notes on cleaning the exterior

#### Note

After using an automatic car wash, wipe off the wax from the windscreen and the wiper rubbers. This will prevent smearing and reduce wiper noises caused by residue on the windscreen.

### Notes on cleaning the exterior

#### Danger

##### **Risk of an accident due to reduced braking effect after washing the vehicle**

The braking effect of the brakes is reduced after washing the vehicle.

- After the vehicle has been washed, brake carefully while paying attention to the traffic conditions until the braking effect has been fully restored.

#### Danger

##### **Risk of fire due to flammable materials or loaded goods coming into contact with the exhaust system**

Flammable materials or flammable cargo may ignite on hot parts of the exhaust gas aftertreatment system.

- Before every journey, check whether flammable materials or loaded goods have accumulated around and/or on parts of the exhaust gas aftertreatment system and use suitable tools (e.g. compressed air) to remove them.

#### Note

##### **Environmental pollution due to disposal in an environmentally irresponsible manner**

Incorrectly disposing of cleaning and care products can cause considerable damage to the environment.

- Dispose of cleaning and care products in an environmentally responsible manner.

#### Note

##### **Environmental damage due to improper cleaning of the vehicle exterior**

If you clean the vehicle exterior in a washing bay that is not intended for this purpose, this may environmentally harmful operating fluids and cleaning agents into the environment.

- Find a suitable washing bay for cleaning the vehicle exterior.

#### Note

Daimler Truck AG recommends that you only use care products that have been approved for Mercedes-Benz trucks.

These care products are available from an authorised Mercedes-Benz Trucks Service Centre.

If you are cleaning higher parts of the vehicle, follow the instructions for the steps and grab handles (→ Page 402).

If you use a high-pressure cleaner to clean the vehicle, also observe the

"Notes on using a high-pressure cleaner"  
(→ Page 399).

### Paintwork



#### Note

#### Paintwork damage caused by very stubborn or aggressive dirt and debris

For example, the following types of dirt and debris may cause lasting damage to the paintwork:

- Insect residues
- Bird excrement
- Flash rust
- Tree resins
- Oils and greases
- Fuels
- Tar splashes
- Road salt residues

► These types of dirt or debris must be removed as soon as possible.

### Vehicles with chassis protection seal for Mercedes-Benz trucks

Remove corrosion-inducing substances with water after every use.

Check the anti-corrosion protection before and after snow-clearing operations and improve it if necessary.

To prevent damage to the chassis protection seal for Mercedes-Benz trucks, observe the following instructions when cleaning the vehicle:

- Do not use a high-pressure cleaner.
- use a maximum water pressure of 3 bar for cleaning.
- clean the vehicle using water no hotter than 40°C.
- Use a neutral cleaner in the mixing ratio specified by the manufacturer and do not use alkaline or acidic products.
- Do not use any petrol-based substances, rape seed oil, petrol, diesel or other solvents.

### Radiator surface



#### Note

#### Engine overheating due to damaged or dirty radiator fins

If the radiator fins are deformed or dirty, this may result in reduced engine cooling. The engine may overheat.

► Observe the instructions for external cleaning.

Only direct the compressed air, steam, or water jet perpendicular to the radiator surface. Ensure that the radiator fins are not damaged during cleaning.

Have loss of coolant or damage checked at a qualified workshop.

## Cleaning and care

### Using steps

#### BlueTec® exhaust gas after-treatment system



##### Note

#### Damage to the BlueTec® exhaust gas after-treatment system due to improper cleaning

Cleaning the system while it is warm or spraying water directly into the exhaust pipe may damage the BlueTec® exhaust gas after-treatment system.

- ▶ Only clean the system when it is cold.
- ▶ Do not direct the water jet into the exhaust pipe.

#### Light-alloy wheels



##### Note

#### Corrosion of the wheel nuts due to the use of incorrect cleaning agents

Using acidic or alkaline cleaning agents to clean light-alloy wheels may cause corrosion to the wheel nuts or the safety springs of the balance weights.

- ▶ Use cleaning agents that have been recommended for Mercedes-Benz trucks.

Clean the light-alloy wheels regularly.

#### Exterior lighting



##### Note

#### Damage to the exterior lighting due to improper cleaning

Using unsuitable cleaning agents and cleaning cloths may scratch or damage the plastic covers of the exterior lighting.

- ▶ Do not use corrosive or solvent-based cleaning agents.
- ▶ Clean the plastic covers with a soft brush and a neutral cleaning agent.

#### Using steps



##### Danger

#### Risk of injury from unlocked steps

When the step is folded down, it may swing to the side when climbing into or down from the vehicle. This may cause you to slip and/or fall from the step.

- ▶ Always lock the folded-down step before entering the vehicle.



##### Danger

#### Risk of injury if unsuitable climbing tools are used

If you use openings in the bodywork or attachments as steps, you may slip and/or fall.

You may also damage the vehicle and fall as a result.

- ▶ Always use nonslip and stable climbing aids, e.g. a suitable ladder.





### Danger

#### Risk of burns caused by a hot exhaust system

The vehicle exhaust system can become very hot.

- Use only the steps and grab handles provided for this purpose.
- Never climb over the exhaust system to reach from the cab to the add-on equipment.
- When working on add-on equipment near the exhaust system, always keep a sufficient safe distance and wear protective gloves.



### Note

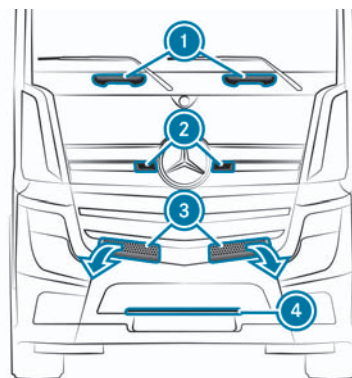
#### Damage due to driving with the step folded down

If you drive with the step folded down when driving off road, for example, it may touch the carriageway and become damaged.

- Fold up the front step before starting a journey and lock it if necessary.

- Steps and grab handles from dirt and debris (e.g. mud, clay, snow, ice).
  - ◄ This will improve the safety of your footing.

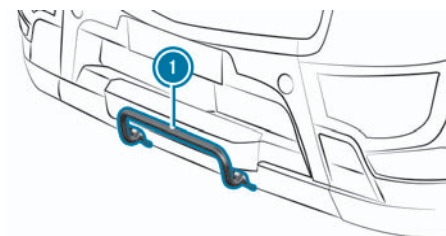
#### Steps, front (example: Actros L-cab)



Steps and grab handles

- Swivel the folding steps ③ forwards.
- When cleaning the vehicle, use steps ④ and ③ grab handles ①.
- To access grab handles ① more easily and safely, use handle recesses ②.

#### Small folding step, front



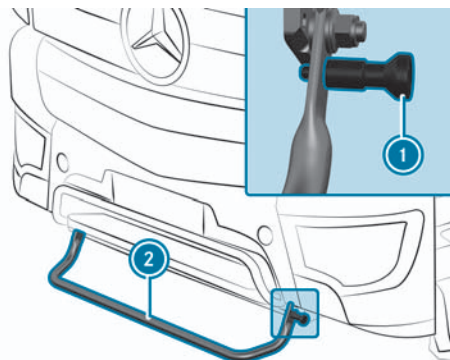
Small folding step, front (example)

- **To fold down:** Swing step ① down as far as it will go.
- **To fold up:** Swivel step ① upwards until it engages.

## Cleaning and care

### Using steps

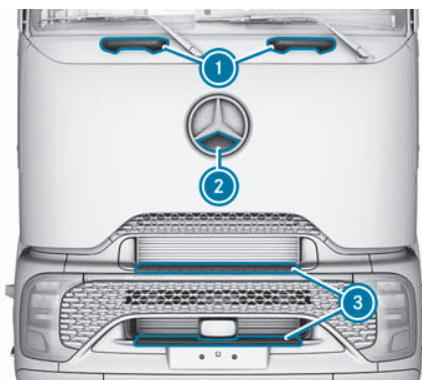
#### Large folding step, front



Large folding step, front (example)

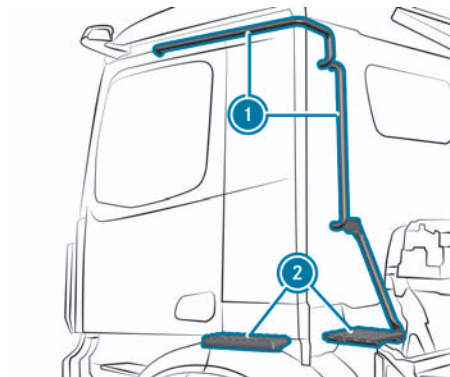
- **To fold down:** Push step ② slightly upwards, pull retainer ① and swivel step ② downwards as far as it will go.
- **To fold up:** Pull retainer ① and swivel step ② upwards until it engages.
- Make sure that the retainer ① has engaged on both sides.

#### Steps, front (example: Actros ProCab-in)



- Use the steps ③ and grab handles ① when cleaning the vehicle.
- To access grab handles ① more easily and safely, use handle recess ②.

#### Side steps



Steps and grab handle (example: tipper vehicle)

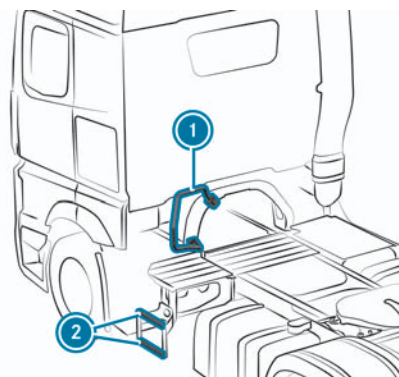


Steps and grab handle (example: Arocs with upright exhaust system)

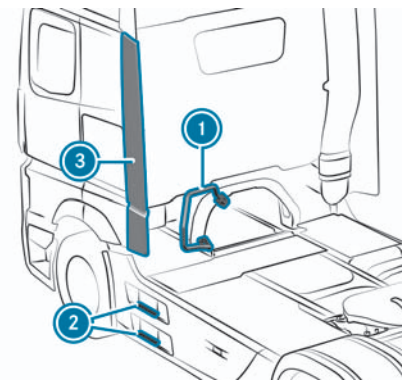
To enter safely from the side:

- Use grab handle ① and steps ②.

#### Steps on semitrailer trucks (example: Actros with L-cab)



Steps and grab handle (example: Actros semitrailer truck without side trim)



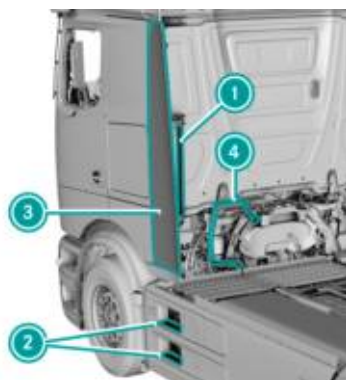
Steps and grab handle (example: Actros semitrailer truck with side trim)

- Vehicles with side deflector ③: Swivel the side deflector ③ inwards.
- Use the steps ② and grab handle ① when cleaning the vehicle.

## Cleaning and care

### Cleaning the sensors

#### Steps on semitrailer trucks (example: Actros with ProCabin)



Steps and grab handles (example)

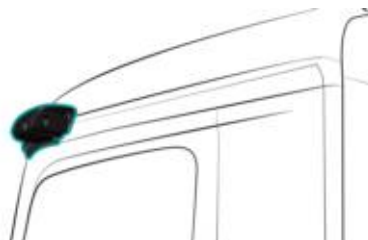
- ▶ Close the stowage compartment flap and pull the lower edge of the side deflector ③.
  - ◁ The side deflector ③ swivels forwards.
- ▶ Use the steps ② and grab handles ① when ④ cleaning the vehicle.

#### Cleaning the sensors

If you need to clean elevated areas of the vehicle:

- ▶ Use the steps and grab handles on the vehicle (→ Page 402) or no-slip and stable climbing aids.

#### Cleaning the MirrorCam system camera



Camera housing (example: left-hand side of the vehicle)

Keep the camera lenses clean and free of snow or ice. Wet stubborn dirt on the camera lenses with water. Then clean the camera lenses using commercially available glass cleaner and a damp cloth.

Do not clean the camera lenses using a dry cloth.

Accumulated snow and ice are removed by the camera heating when the MirrorCam system is activated.

- ▶ Regularly clean the camera of the MirrorCam system to prevent malfunctions.

#### Clean the windscreen in the area of the rain/light sensor and multifunction camera



**Danger**

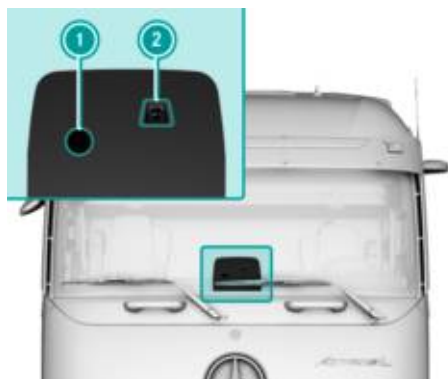
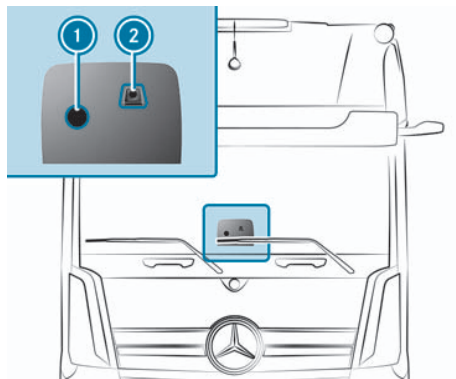
#### Risk of becoming trapped if the windscreen is being cleaned while the windscreen wipers are activated

If the windscreen wipers begin to move while you are cleaning the windscreen or wiper blades, you could become trapped.

- ▶ Always switch off the windscreen wipers and the vehicle before cleaning the windscreen or wiper blades.

## Cleaning and care

### Cleaning the sensors



- Regularly clean the windscreen in the area of rain and light sensor ① and camera ② to prevent malfunctions.

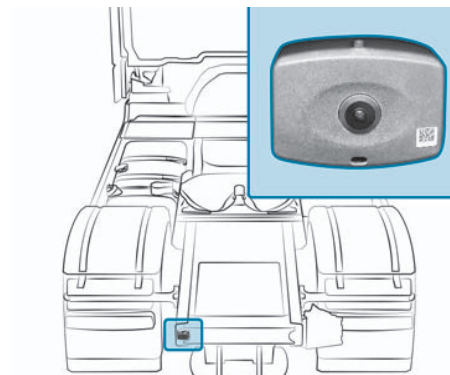
#### **i** Note

If the windscreen is damaged in the area of the rain and light sensor and the camera, the functionality of various driving assistance/driving safety systems and the rain and light sensor may be impaired. Have the windscreen replaced at a qualified specialist workshop.

#### **i** Note

Note that it is only permissible to replace the windscreen with a windscreen approved by Daimler Truck AG.

### Cleaning the reversing camera



Reversing camera (example)

#### **i** Note

The position of the reversing camera may vary depending on the body and chassis frame.

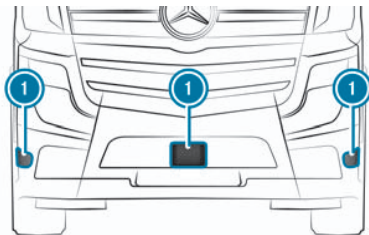
Keep the camera lenses clean and free of snow or ice. Wet stubborn dirt on the camera lenses with water. Then clean the camera lenses using commercially available glass cleaner and a damp cloth. Do not clean the camera lenses using a dry cloth.

## Cleaning and care

### Notes on washing the engine

- To prevent malfunctions, regularly clean the reversing camera.

### Cleaning the distance sensors



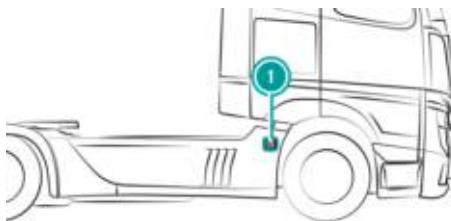
Distance sensors (example)

- To prevent malfunctions, regularly clean the distance sensors ①.

### Note

If the distance sensors are dirty, the  Assistance systems malfunction Distance sensor viewing area blocked display message appears in the instrument cluster.

### Cleaning the Sideguard Assist/Active Sideguard Assist sensor



Sideguard Assist/Active Sideguard Assist sensor (example)

- Clean the ① sensor regularly with water, shampoo and a soft cloth to prevent malfunctions.

### Notes on washing the engine



### Note

#### Damage and malfunctions caused by washing the engine

To avoid damage to or malfunctions of the engine:

- When using high-pressure or steam cleaners, do not point the water jet directly at electrical components and the ends of electric cables.

- ▶ Make sure that no water enters the intake, vent and ventilation openings.
- ▶ Use preservative agents in the engine after having washed the engine.
- ▶ Protect the belt drive from preservative agents.

Only use wax preservative agents for engines in accordance with the Mercedes-Benz Trucks Specifications for operating fluids (→ Page 511).

Observe the "Notes on using a high-pressure cleaner" (→ Page 399).

#### Mercedes-Benz Trucks Service

##### Information about Service/maintenance work



**Danger**

##### **Risk of accident due to malfunctions or system failure**

If you do not have the prescribed service/maintenance work or any required repairs carried out, this may result in malfunctions or system failures.

- Always have the prescribed service and maintenance work, as well any required repairs, carried out at a qualified specialist workshop.

Always refer to the service and maintenance display of the maintenance system as well as the notes on the maintenance system.

Have the prescribed service and maintenance work, as well as additional maintenance work, carried out within the remaining time period or the remaining mileage.

Additional maintenance work that is not load-dependent and that is not calculated

by the maintenance system is carried out at set time intervals.

Have the prescribed service and maintenance work, as well any additional maintenance work, carried out and documented in a timely manner and according to the specifications of Daimler Truck AG. Otherwise, it can lead to loss of warranty entitlements after a report has been presented by the manufacturer.

Work relevant to safety or on safety-relevant systems must be carried out at a qualified specialist workshop.

Daimler Truck AG is continually working to improve and further develop its vehicles and therefore reserves the right to make modifications to the scope of service and maintenance work.



**Note**

You can always obtain up-to-date information concerning the maintenance of your vehicle at any time from a qualified specialist workshop, e.g. a Mercedes-Benz Trucks Service Centre. This could include, for example, an

overview of the service or maintenance work, or potentially any additional work.

##### **Notes on special service requirements**

For certain components, special service requirements may be necessary, e.g. after a running-in period.

Service and maintenance work will need to be performed more often or in addition if the vehicle is operated under arduous operating conditions or increased loads.



**Note**

You can obtain up-to-date information concerning the particular service requirements and service intervals of your vehicle at any time from a qualified specialist workshop. Daimler Truck AG recommends that you use a Mercedes-Benz Trucks Service Centre for this purpose.



### 24h breakdown assistance

#### For Korea only

For thorough, complete aftercare and customer satisfaction, Daimler Trucks Korea Ltd offers 24h breakdown assistance. Please inform us of any suggestions or about any inconveniences with the after-sales service, including 24h breakdown assistance. We will do everything in our power to improve these services.

Free service hotline: **080-001-1886**

### Notes about engine oil change and oil filter replacement

The display informs you when an engine oil change and oil filter replacement is due.

If the engine oil and oil filter have not been replaced as part of engine maintenance within the previous two years, carry out the engine oil change and oil filter replacement as part of time-based maintenance.

### The interval for replacing the engine oil and oil filter is dependent on the following factors:

- Engine oil grade
  - Engine load
  - Fuel grade
- The change interval will be reduced when operating the vehicle with fatty acid methyl ester. Always observe the notes on operating fluids in these operating instructions. Make sure that your vehicle is permitted for operation with fatty acid methyl ester.

### Notes on the oil change intervals for the major assemblies

Daimler Truck AG recommends using oil of the same quality grade as that used at the factory.

If the oil quality grade differs from that used at the factory, the oil change interval changes for the assembly in question.

Depending on the vehicle, you can set the oil quality grade in the maintenance system. Proceed as follows:

- If the major assembly in question is displayed in the maintenance system: Set deviating oil quality level in maintenance system.
- If the major assembly in question is not displayed in the maintenance system: Have the deviating oil quality level set in the maintenance system at a qualified specialist workshop.

Observe the notes on operating fluids in particular.

### Digital maintenance documentation

#### Maintenance Documentation

Service and maintenance work that has been performed is confirmed in our central database. You can obtain a printout of the maintenance documentation.

Your vehicle's service data is thus thoroughly documented and can no longer be lost. Every authorised Service Partner can provide you with information on your

## Maintenance

### Notes on the maintenance system

vehicle's current service data. This means that you can be assisted as quickly as possible, regardless of your location.

#### Vehicles without digital maintenance documentation

The maintenance booklet confirms that all service and maintenance work has been carried out at a qualified specialist workshop.

#### Notes on the maintenance system



**Danger**

#### Risk of accident due to malfunctions or system failure

If you do not have the prescribed service/maintenance work or any required repairs carried out, this may result in malfunctions or system failures.

- ▶ Always have the prescribed service and maintenance work, as well any required repairs, carried out at a qualified specialist workshop.



**Note**

#### Environmental pollution due to disposal in an environmentally irresponsible manner

If you have to do some maintenance work yourself for operating reasons, follow environmental protection requirements while you do so. When disposing of operating fluids, e.g. engine oil, you must comply with the legal requirements. This also applies to all parts, e.g. filters, that have been in contact with operating fluids.

- ▶ Dispose of empty containers, cleaning cloths, and care products in an environmentally responsible manner.
- ▶ Observe the instructions for care products.
- ▶ Do not leave the engine running for longer than necessary while the vehicle is stationary.

The maintenance system calculates maintenance due dates for the vehicle and its

major assemblies based on the vehicle's operating conditions.

You must secure the vehicle on jack stands of sufficient load capacity if work is being carried out underneath the vehicle.

When working on the vehicle, comply with all safety regulations, such as the operating instructions, regulations concerning hazardous materials, environmental protection measures, as well as work safety and accident prevention regulations.

Do not clean the filter elements of the air filter. Otherwise, the liability for material defects will be invalidated and you may damage the engine. Replace the air filter inserts.

You can view the coming maintenance due dates calculated for the vehicle and its major assemblies in the on-board computer (→ Page 165).

The display message for the maintenance due dates appears in the instrument cluster for the first time 14 days before they are due.

## **i** Note

A qualified workshop can program the first message to appear between 0 to 30 days before the due date.

If you switch on the vehicle and a service appointment is imminent or due, the service appointment will appear in a grey display message (→ Page 525).

If you miss a service appointment, the service appointment will appear in a yellow display message (→ Page 525).

The maintenance system automatically notifies you of service appointments. Examples of this are:

-  **Air filter, 12/08/2024, 3000 km**  
Maintenance dates are displayed for the first time 14 days before they are due.
-  **Air filter, Maintenance due**  
The maintenance date is due.
-  **Air filter, Maintenance due immediately**

The maintenance due date has been exceeded.

## Open/close maintenance flap

The fans for the capacitor are under the maintenance flap on vehicles with an electric stationary air-conditioning system.



**Danger**

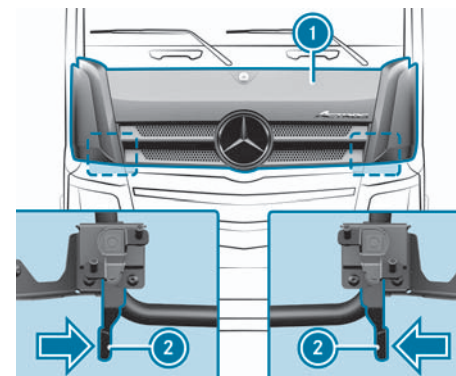
### Risk of injury due to moving parts

The fans on the capacitor run when the stationary air conditioning system is being operated. You may continue to run or start unexpectedly even when the engine is switched on.

If the maintenance flap needs to be opened:

- ▶ Remove jewellery and watches.
- ▶ Never reach into the rotation area of the fans.
- ▶ Keep items of clothing and hair away from the fans.

## Open/close maintenance flap



The release levers are below the lateral panelling above the headlamps.

- ▶ **To release:** Press release levers ② on the left and right one after the other in the direction of the arrow.
- ▶ **To open:** Swing the maintenance flap ① upwards.
- ▶ **To close:** Swing maintenance flap ① downwards until it engages audibly.

## Maintenance

### Overview of maintenance points under the maintenance flap



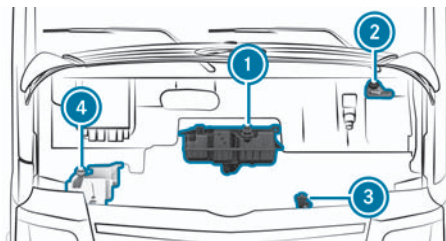
- **To unlock:** Pull the release levers on the lower edge of the left and right maintenance flap downwards one after the other.
- **To open:** Swing the maintenance flap ① upwards.

#### Note

The maintenance flap can be opened in two stages. When the first stage is reached, you can increase the opening angle by swivelling the maintenance flap farther upwards.

- **To close:** Swing maintenance flap ① downwards until it engages audibly.

### Overview of maintenance points under the maintenance flap



#### Maintenance points

- ① Coolant expansion reservoir with turquoise cap (→ Page 414)
- ② Hydraulic clutch operation system with green cap (→ Page 416)
- ③ Engine oil filler neck with black cap (→ Page 421)
- ④ Washer fluid reservoir with black cap (→ Page 417)



#### Maintenance points

- ① Coolant expansion reservoir with turquoise cap (→ Page 414)
- ② Engine oil filler neck with black cap (→ Page 421)
- ③ Washer fluid reservoir with black cap (→ Page 417)

### Check the coolant level



**Danger**

#### Risk of scalding from hot coolant

You may be scalded if you open the cap.

- Allow the engine to cool down before you open the cap.
- When opening the cap, wear protective gloves and safety goggles.

- Open the cap slowly to release pressure.



### Note

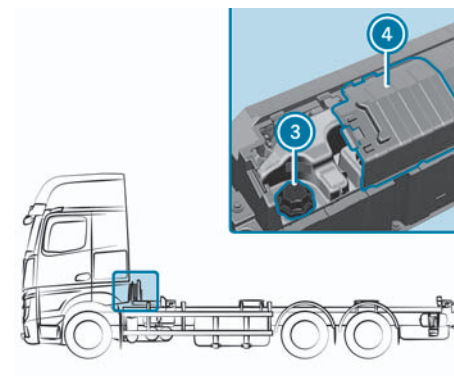
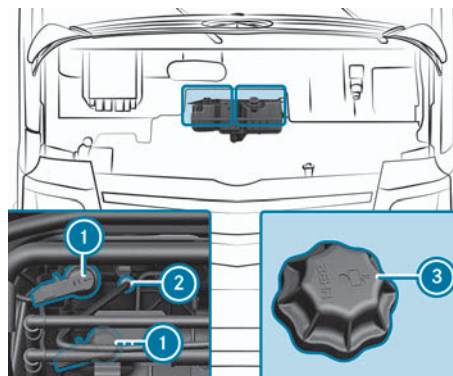
#### Engine damage as a result of the coolant level being too low

Engine damage may occur if the vehicle is operated with a coolant level that is too low.

- Check the coolant level regularly and top up the coolant if necessary.

### Requirements

- The vehicle is parked on a level surface.
- The parking brake is applied.
- The vehicle is switched off.



The coolant expansion reservoir may be located below the maintenance flap or on the rear of the cab.

Vehicles with a retarder are equipped with a coolant pressure regulator. The coolant pressure regulator regulates and monitors the system pressure in the engine cooling system.

If the yellow display message **Coolant pressure regulation faulty** appears on the instrument cluster, check that the electrical connector ① and hose connection ② are secure. The hose fitting ② and turquoise cap ③ must be leak-free. If you

### Checking hydraulic fluid level of the clutch operation system

are unable to find any leaks, have the engine cooling system checked at a qualified workshop.

If the coolant level in the coolant expansion reservoir is too low, the following display messages may be shown:

-  (→ Page 525)
-  (→ Page 525)

The coolant expansion reservoir can only be opened at a coolant temperature of under 50°C. The coolant level can only be checked correctly when the coolant temperature is between 0°C and 25°C.

If the engine cooling system has to be refilled, contact a qualified workshop.

- ▶ Check the coolant temperature on the on-board computer (→ Page 170).
- ▶ Observe the notes on operating fluids (→ Page 511) and coolants (→ Page 514).
- ▶ Vehicles with a coolant expansion reservoir below the maintenance flap: Open the maintenance flap (→ Page 413).

- ▶ Vehicles with a coolant expansion reservoir behind the cab: Screw on cover .

#### Note

On vehicles with coolant expansion reservoir behind the cab, make sure your footing is secure when refilling the coolant.

- ▶ Slowly turn turquoise cap  anti-clockwise to release the overpressure.
- ▶ Continue turning turquoise cap  and remove it.
- ▶ Check the coolant level. The coolant in the coolant expansion reservoir must reach to the edge of the filler neck.
- ▶ If necessary, refill with a coolant approved for Mercedes-Benz trucks.
- ▶ Put on the turquoise cap  and tighten it as far as it will go.
- ▶ Vehicles with a coolant expansion reservoir below the maintenance flap: Close the maintenance flap.

- ▶ Vehicles with a coolant expansion reservoir behind the cab: Slide cover  shut.

### Checking hydraulic fluid level of the clutch operation system



#### Note

#### Damage to the clutch operation system due to filling with incorrect hydraulic fluids

To prevent damage:

- ▶ Do not refill with hydraulic fluid of a different quality grade or brake fluid.



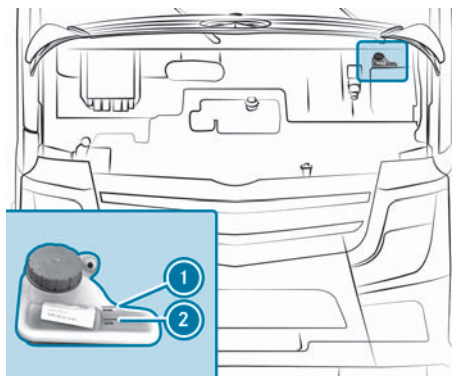
#### Note

#### Damage to the clutch operation system due to excessively low fluid level

The hydraulic system may be leaking if the fluid level in the hydraulic clutch operation system expansion reservoir is below the minimum mark.

- ▶ Have the hydraulic system checked at a qualified workshop.

## Topping up the windscreen washer system



The hydraulic fluid for the clutch operation system must meet the specifications in the Mercedes-Benz Trucks Specifications for Operating Fluids.

It is not necessary to renew the hydraulic fluid in the hydraulic clutch operation system.

- ▶ Open the maintenance flap (→ Page 413).
- ▶ Check the fluid level at the expansion reservoir. The fluid level must be between the max. ① and min. ② markings.
- ▶ Close the maintenance flap.

### Topping up the windscreen washer system



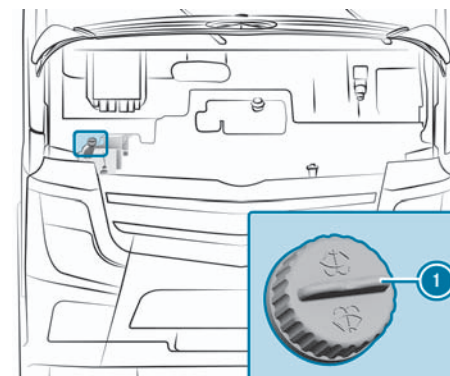
**Danger**

#### Risk of fire and injury from windscreen washer concentrate

Windscreen washer concentrate is highly flammable. It could ignite if it comes into contact with hot engine component parts or the exhaust system.

- ▶ Make sure that windscreen washer concentrate is not spilled next to the filler opening.

### Topping up the washer fluid



Depending on the vehicle version, the washer fluid reservoir for the windscreen washer system and the headlamp cleaning system can hold approx. 10 l or 15 l.

If the washer fluid level in the washer fluid reservoir is too low, the instrument cluster will display a grey message with the  symbol.

Add a concentrated windscreen washer concentrate to the washing water all year round in accordance with Mercedes-Benz Trucks Specifications for Operating Fluids.



## Maintenance

### Cleaning the cyclone dust pre-separator

Adapt the mixing ratio to the outside temperature.

At temperatures above freezing, add a windscreen washer concentrate for the summer to prevent smearing. If there is a risk of frost, use a windscreen washer concentrate for winter to prevent the washer fluid from freezing on the windscreen.

- Observe the notes on operating fluids ( → Page 511).
- Pre-mix the washer fluid to the correct mixing ratio in a container.
- Open the maintenance flap ( → Page 413).
- Unscrew and remove cap ❶ from the washer fluid reservoir.
- Top up the washer fluid reservoir .
- Replace cap ❶ and screw it on.
- Close the maintenance flap.

#### Cleaning the cyclone dust pre-separator



##### Note

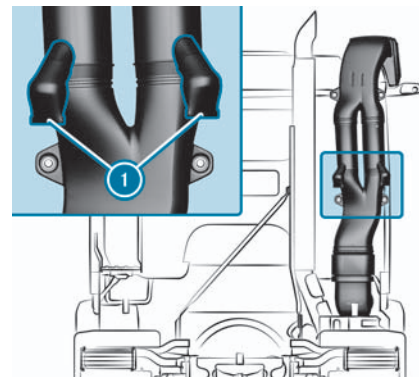
##### Damage to the air filter due to tapping, blowing or washing out

Tapping, blowing or washing out the filter medium may lead to structural changes and damage. In this case, the required separation efficiency of the filter element can no longer be guaranteed.

Increased wear and shortened service life of the engine is to be expected.

the liability for material defects is invalidated.

- Do not clean the filter elements of the air filter.
- Replace the filter elements of the air filter.



The cyclone dust pre-separator is integrated in the inlet duct and extends the service life of the air filter. When operating with a high dust load, empty the discharge valves ❶ at least once a week or daily if necessary. Have damaged discharge valves ❶ replaced by a qualified specialist workshop.

- Stop the vehicle.
- Apply the parking brake.
- Switch off the vehicle.
- Place a container under the discharge valves ❶.



## Cleaning the coarse filter for heating and climate control

- ▶ Press the discharge valves ① together.

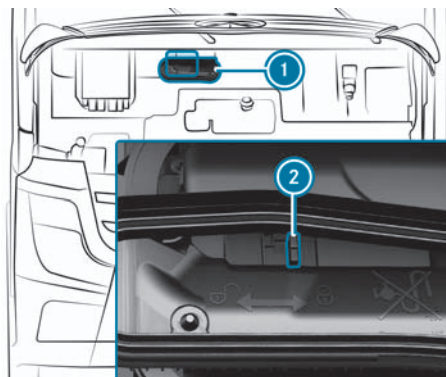
### Cleaning the coarse filter for heating and climate control

A combination or pollen filter is marked with the letter "C" or "P" on the top and must not be cleaned. They must be replaced.

A coarse filter is clearly marked with the letter "B" on the top and may only be tapped out or blown out.

When you are using compressed air to blow out the filter, keep a minimum distance of 20 cm between the compressed air nozzle and the filter. Tap or blow out the coarse filter carefully and only opposite to the airflow direction indicated. The airflow direction is marked with arrows on the top of the coarse filter.

Careless or incorrect cleaning can damage the coarse filter.



- ▶ Open the maintenance flap (→ Page 413).
- ▶ Slide catch ② on air intake duct ① in direction .
- ▶ Remove air intake duct ①.
- ▶ Pull the coarse filter out of the duct.
- ▶ Tap out or blow out the coarse filter.
- ▶ Push the coarse filter into the duct. Pay attention to the airflow direction indicated by arrows on the upper side. The arrows must point downwards.
- ▶ Fit air intake duct ①.

- ▶ Slide catch ② on air intake duct ① in direction .

### Replacing the wiper blades



#### **Danger**

#### **Risk of injury due to unsuitable climbing aid**

When you use the steps and grab handles at the front of the vehicle, you may slip and/or fall.

- ▶ Always use nonslip and stable climbing aids, e.g. a suitable ladder.



#### **Danger**

#### **Risk of becoming trapped if the windscreen wipers are switched on while wiper blades are being replaced**

If the windscreen wipers begin to move while you are changing the wiper blades, you can be trapped by the wiper arm.

- ▶ Always switch off the windscreen wipers and the vehicle before replacing the wiper blades.

## Maintenance

### Replacing the wiper blades



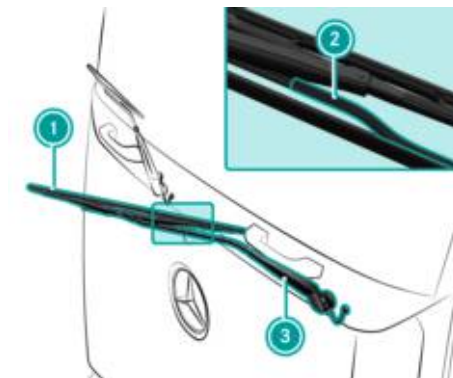
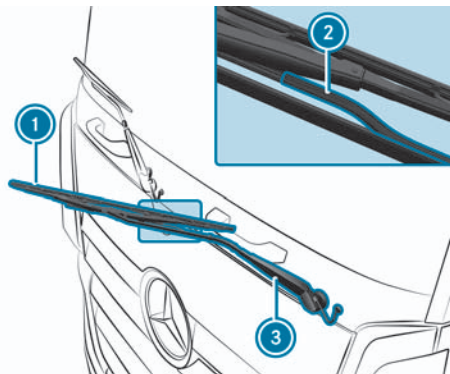
#### Note

#### Damage to the maintenance flap or windscreen by the wiper arm

To prevent damage:

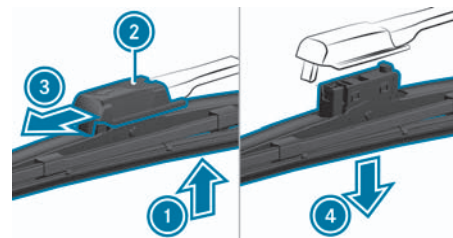
- ▶ If a wiper arm is folded forwards, do not open the maintenance flap.
- ▶ Do not fold the wiper arms against the windscreen without the wiper blades attached.

#### Removing the wiper blades



Wiper blades are wear parts. Replace the wiper blades at least once a year. Otherwise, the windscreen will not be wiped properly.

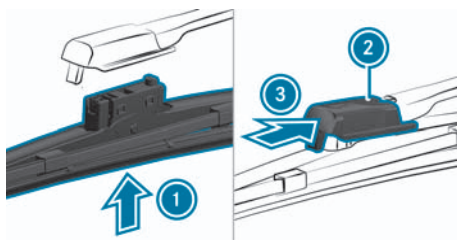
- ▶ Fold wiper blade ① and wiper arm ③ away from the windscreen.
- ▶ Remove hose ② from the pipe jet.



- ▶ Push the wiper blade in the direction of arrow ① onto the wiper arm as far as it will go.
- ▶ Slide catch ② in the direction of arrow ③ until it engages in the removal position.
- ▶ Remove the wiper blade from the wiper arm in the direction of arrow ④.

## Checking the engine oil and topping up

### Fitting the wiper blades



- ▶ Insert the new wiper blade into the wiper arm in the direction of arrow ①.
- ▶ Slide catch ② in the direction of arrow ③ until it engages in the locking position.
- ▶ Make sure that the wiper blade is seated correctly.
- ▶ Attach the hose to the pipe jet.
- ▶ Fold the wiper arms back onto the windscreen.

### Checking the engine oil and topping up

#### Checking the oil level

- ▶ Check the engine oil level on the on-board computer (→ Page 170).
- ▶ Only use oils that are approved for the vehicle and meet the specified SAE classifications (→ Page 511).

#### Topping up the engine oil

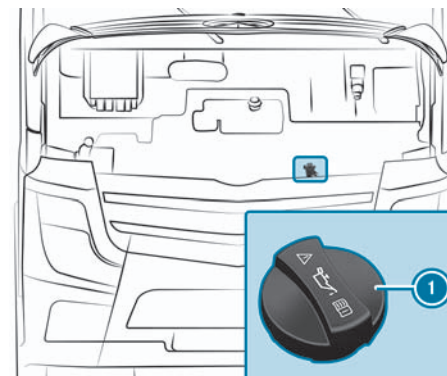


#### Note

#### Damage caused by topping up too much engine oil

Excess engine oil can damage the engine or catalytic converter.

- ▶ Have excess engine oil removed at a qualified workshop.



Only refill the oil filling capacity displayed on the instrument cluster when the  symbol appears in the menu window.

- ▶ Park the vehicle on a level surface.
- ▶ Apply the parking brake.
- ▶ Switch off the vehicle.
- ▶ Open the maintenance flap (→ Page 413).
- ▶ Unscrew and remove the cap ①.
- ▶ Top up the oil filling capacity displayed on the instrument cluster.
- ▶ Put on the cap ① and screw it closed.
- ▶ Close the maintenance flap.

## Maintenance

### Automatic transmission oil level

#### Automatic transmission oil level

#### Checking oil level of the automatic transmission



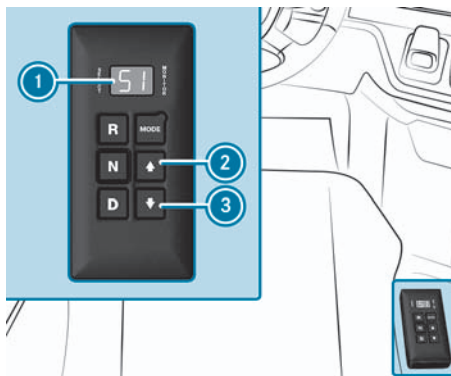
#### Note

#### Risk of damage to the transmission due to excessive transmission oil temperature

If the  indicator lamp flashes or lights up while the vehicle is in motion, the temperature of the transmission oil or the coolant is too high. This may be caused by the transmission oil level being too high or too low. If the transmission oil temperature is increased from time to time, there is a risk of damage to the transmission.

- ▶ Check the oil level of the automatic transmission as soon as possible after the  indicator lamp flashes or lights up.

Check the oil level only when the automatic transmission is at normal operating temperature.



- ▶ Park the vehicle on a level surface.
- ▶ Apply the parking brake.
- ▶ Shift the automatic transmission to neutral position.
- ▶ Start the vehicle and leave it running at idle speed.
- ▶ Press the  and  buttons simultaneously.
- ▶ Press the button .
  - ◁ The oil level measurement will start. During oil level measurement, the display  will show the codes from oL 08 to oL 01 in sequence.

- ▶ Wait for approximately two minutes.
  - ◁ After the waiting time, the display  will automatically show a code for the oil level or a fault code.

#### Ending oil level measurement

- ▶ Press any gear button.
  - ◁ The oil level measurement is finished. The display  once again shows the shift position on the left and the selected gear on the right.
- ▶ Top up the transmission oil if necessary.

#### Overview of transmission oil level fault codes

#### Codes for the oil level:

| Code  | Meaning                                       |
|-------|-----------------------------------------------|
| oL oK | The oil level in the transmission is OK.      |
| oL Lo | The oil level in the transmission is too low. |

## Notes on the major assemblies

| Code  | Meaning                                                                                                                                      |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------|
|       | The subsequently displayed number indicates the transmission oil quantity that must be refilled, for example:<br><b>01</b> = 1 l             |
| oL HI | The oil level in the transmission is too high.                                                                                               |
|       | The subsequently displayed number indicates the transmission oil quantity that must be drained or extracted, for example:<br><b>01</b> = 1 l |

### Possible fault codes during oil level measurement:

| Code  | Meaning                                                    | Remedy                                                |
|-------|------------------------------------------------------------|-------------------------------------------------------|
| oL EL | The engine speed is too low.                               | Leave the engine running at idle speed.               |
| oL EH | The engine speed is too high.                              | Leave the engine running at idle speed.               |
| oL SN | The automatic transmission is not in the neutral position. | Shift the automatic transmission to neutral position. |
| oL TL | The oil temperature is too low.                            | Leave the engine running until the transmission oil   |

| Code  | Meaning                                    | Remedy                                                                                                          |
|-------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|       |                                            | reaches operating temperature.                                                                                  |
| oL TH | The oil temperature is too high.           | Switch off the vehicle until the oil temperature in the transmission has dropped to operating temperature.      |
| oL SH | The vehicle is rolling.                    | Stop the vehicle. Apply the parking brake.                                                                      |
| oL FL | The sensor for the oil level is defective. | Check the oil level using the oil dipstick.<br>Have the malfunction checked at a qualified specialist workshop. |

### Notes on the major assemblies



#### Note

#### Pollution of the environment due to irresponsible disposal of operating fluids

Incorrectly disposing of operating fluids can cause considerable damage to the environment.

- Dispose of operating fluids in an environmentally responsible manner.

Operating fluids include:

- Fuels
- Additives for exhaust gas after-treatment, e.g. AdBlue®
- Lubricants
- Coolant
- Air conditioning system refrigerants

Regularly check the major assemblies for leak tightness. If you notice loss of fluids, e.g. oil spots where the vehicle is parked, have the cause rectified immediately by a qualified specialist workshop.

## Maintenance

### Checking the anti-corrosion protection

#### Checking the anti-corrosion protection



#### Note

#### Damage to the anti-corrosion protection due to salt residue

Road salt is aggressive. Salt residue may damage the anti-corrosion protection.

- ▶ Wash the vehicle more frequently in winter to remove road salt residues.

The vehicle may be equipped with a chassis protection seal for Mercedes-Benz Trucks. The chassis protection seal for Mercedes-Benz Trucks is a transparent anti-corrosion protection wax with excellent protective properties.

All Mercedes-Benz Trucks cabs come treated with a cavity preservative.

- ▶ Regularly check the vehicle for corrosion damage, particularly the compressed-air and hydraulic lines and electrical contact points (earth contacts).

- ▶ Have any damage to the factory-fitted, anti-corrosion protection repaired at a qualified specialist workshop.
- ▶ Vehicles without chassis protection seal for Mercedes-Benz trucks: As a precaution, spray the underside of the vehicle with a wax preservation agent for underbodies according to the Mercedes-Benz Trucks Specifications for operating fluids (→ Page 511).

#### Battery

#### Notes on the battery



#### Danger

#### Danger of chemical burns from battery acid

Battery acid is caustic.

- ▶ Avoid contact with the skin, eyes, or clothing.
- ▶ Do not inhale battery gases.
- ▶ When carrying out maintenance work on the battery, wear acid-resistant protective clothing, par-

ticularly safety glasses, protective gloves, and aprons.

- ▶ Do not lean over a battery.
- ▶ Keep children away from the battery.
- ▶ In case of contact with battery acid, immediately rinse the affected area thoroughly with plenty of clear water and seek medical assistance promptly.
- ▶ If you get battery acid in your eyes, as soon as possible rinse them thoroughly with plenty of clean water. Seek medical attention as soon as possible.



#### Note

#### Damage to the on-board electrical system batteries caused by receiving current directly

Connecting consumers directly to the battery poles causes the battery sensors to make an incorrect determination. This causes uncontrolled battery discharge, and both on-board electrical system batteries may be discharged.

- ▶ Do not connect consumers directly to the battery terminals.



### Note

#### Environmental damage due to improper disposal of batteries



Batteries contain pollutants. It is illegal to dispose of them with the household rubbish.



- ▶ Dispose of batteries in an environmentally responsible manner. Take discharged batteries to a qualified specialist workshop or to a collection point for used batteries.

#### Observe the safety instructions and protective measures when handling the battery:



Risk of explosion. Explosive oxyhydrogen gas is produced when batteries are being charged. Only charge batteries in a well-ventilated area.

|                                                                                   |                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Risk of explosion. Avoid creating sparks! Avoid fire, open flames, and do not smoke when handling the battery.                                                                                                    |
|  | Battery acid is caustic. Wear acid-resistant protective gloves! Splashes of acid on skin or clothing should be neutralised as soon as possible using soapy water or acid neutraliser and then rinsed with water.  |
|  | Wear eye protection. When mixing water and acid, the liquid may splash into your eyes. Rinse out any acid that splashes into eyes as soon as possible using clean water and seek medical attention without delay! |
|  | Keep out of the reach of children. Children are not able to evaluate the risk involved in handling batteries and acid.                                                                                            |
|  | Always observe the safety instructions, protective measures and procedures specified in these operating instructions when handling the on-board electrical system battery.                                        |

For safety reasons, Daimler Truck AG recommends that you only use batteries that have been approved for your vehicle by Daimler Truck AG.

Observe the following points regarding battery capacity and performance:

- Battery capacity is limited and the operating time depends on the number of electrical consumers that are switched on and the duration used.
  - The given rated capacity of the battery may be higher than the actual battery capacity. The battery capacity depends on the following factors:
    - the age of the battery
    - the outside temperature
    - The engine speed
  - Regardless of the power of the alternator, the battery can only be charged a certain amount per hour. The rate of charge is significantly reduced by low outside temperatures. As a result, it can take significantly longer to charge the battery in winter.
  - If the battery is used intensively when the vehicle is stationary, e.g. when spending the night in the vehicle, the battery may need to be recharged after a few days.
- Example:

## Maintenance

### Battery

If the refrigerator box consumes approximately 1 A per hour and remains switched on over a weekend, this results in an overall consumption of approximately 60 Ah.

- Ideally, recharge the batteries regularly with an external charger, at least once per month.
- To ensure the vehicle's starting ability, observe the notes and instructions in the following display messages:
  - **Energy-saving mode active**
  - **Bat. charge level too low Start engine**

If energy-saving mode is active, certain consumers, such as the cool box, are switched off (→ Page 543). As a result, perishable goods may no longer be sufficiently cooled.

Observe the following notes to minimise power consumption:

- Devices such as coffee makers, microwave ovens and kettles have an extremely high electrical consumption

for their usually brief length of time in use.

- Ideally, also charge mobile phones and notebooks whilst driving.
- If devices such as TVs, receivers or voltage converters are not being used, disconnect them from the on-board electrical system.

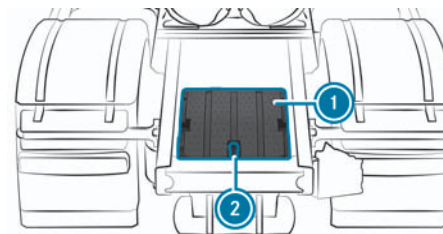
If you park up your vehicle for longer than three weeks, observe the notes on parking up the vehicle (→ Page 434).

When storing batteries, comply with all safety regulations, such as operating instructions, regulations concerning hazardous materials, environmental protection measures, as well as work safety and accident prevention regulations.

Observe the notes on care and maintenance of the battery (→ Page 430).

### Removing and fitting batteries

#### Battery box

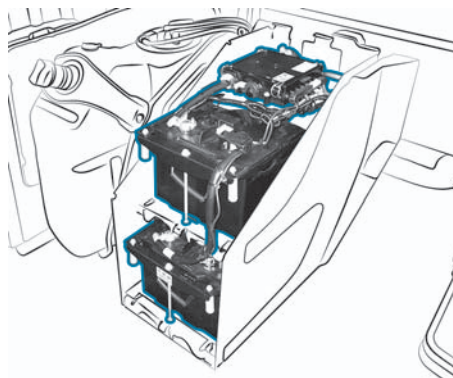
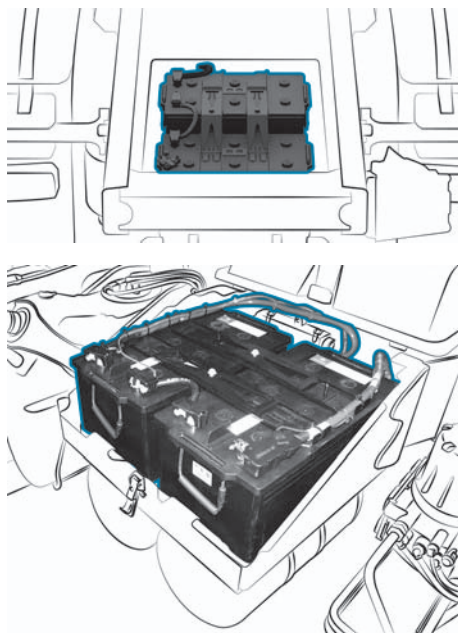


- ▶ **To remove:** Open catch ② and remove battery box cover ① upwards.
- ▶ **To fit:** Replace battery box cover ①, hook in catch ② and close.

#### Arrangement of the batteries

The location of the batteries may vary depending on the vehicle version. The batteries may be fitted one beside the other or one on top of the other in the rear area between the longitudinal members of the chassis frame or on the side on the chassis.





### Disconnecting and reconnecting the batteries



**Danger**

#### Risk of explosion due to the ignition of hydrogen gas

If there is a short circuit or sparks are created, there is a danger of hydrogen gas igniting when you charge the battery.

- ▶ Ensure that the POSITIVE terminal of a connected battery does not come into contact with vehicle parts.

- ▶ Do not place metal objects or tools on a battery.
- ▶ When connecting and disconnecting the battery, always observe the sequence of battery terminals described.
- ▶ When jump starting, always take care to connect only battery terminals of identical polarity.
- ▶ During starting assistance, observe the sequence described for connecting and disconnecting the jump leads.
- ▶ Do not connect or disconnect the battery terminals with the engine running.



### Note

#### Damage to the battery sensor due to a loose negative pole

For vehicles with a battery sensor, the negative terminal is part of the battery sensor. If the negative terminal is not correctly secured to the battery's negative pole, contact is not ensured. This

## Maintenance

### Battery

may damage the battery sensor or battery pole.

- ▶ Tighten the negative terminal of the battery sensor with a tightening torque of  $7 \pm 1$  Nm.

Observe the safety instructions on handling batteries.

Before disconnecting and reconnecting the batteries:

- ▶ Semitrailer truck with batteries in the rear area: Uncouple the semitrailer (→ Page 360).
- ▶ Switch off the vehicle.
- ▶ Switch off all electrical consumers.
- ▶ Remove the battery box cover.
- ▶ **Disconnecting:** Disconnect the negative terminal first, and then disconnect the positive terminal.
- ▶ **Connecting:** Reconnect the positive terminal first, and then reconnect the negative terminal. Do not interchange the battery clamps.
- ▶ Replace battery box cover.

Carry out the following tasks after an interruption to the power supply or after reconnecting the batteries:

- ▶ Reset the side window (→ Page 58) and the sliding sunroof (→ Page 59).
- ▶ Set the local time in the tachograph.
- ▶ Set the switch-on time for the auxiliary heating system (→ Page 144).

#### Removing and fitting batteries (one above the other)

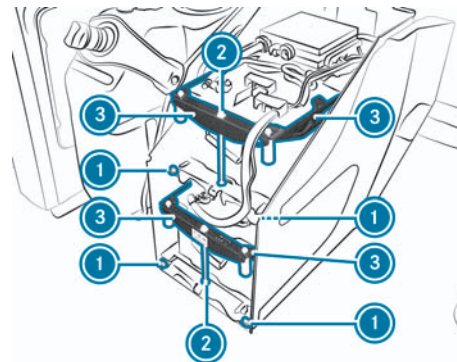


##### Note

#### Damage to the battery carrier due to excessively high tightening torque

If you tighten the screws of the battery carrier with excessively high tightening torque, the screw connections may be damaged.

- ▶ Tighten the screws of the battery carrier with a tightening torque of 12 Nm. Do not use an impact wrench.



#### Removal

- ▶ Remove the battery box cover.
- ▶ Disconnect the negative terminal first, and then disconnect the positive terminal.
- ▶ Detach connecting cable between the batteries.
- ▶ Remove screws ① from the upper battery carrier.
- ▶ Pull out the upper battery carrier.
- ▶ Remove screw ② from the upper securing frame ③.
- ▶ Remove the securing frame ③.

- ▶ Pull out the upper battery and the upper battery carrier.
- ▶ Remove the screws ① from the lower battery carrier.
- ▶ Pull out the lower battery carrier.
- ▶ Remove screw ② from the lower securing frame ③.
- ▶ Remove the lower securing frame ③.
- ▶ Remove the lower battery and the lower battery carrier.

### Installing

- ▶ Insert the lower battery carrier.
- ▶ Place the battery onto the lower battery carrier.
- ▶ Position the lower securing frame ③ and screw in screw ②.
- ▶ Push in the lower battery carrier.
- ▶ Screw screws ① into the lower battery carrier.
- ▶ Insert the upper battery carrier.
- ▶ Place the battery onto the upper battery carrier.
- ▶ Position the upper securing frame ③ and screw in screw ②.
- ▶ Push in the upper battery carrier.

- ▶ Screw screws ① into the upper battery carrier.
- ▶ Reconnect connecting cable between the batteries.
- ▶ Reconnect the positive terminal first, and then reconnect the negative terminal.
- ▶ Replace battery box cover.

### Removing and installing batteries (one beside the other)

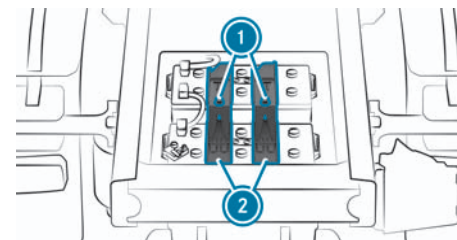


#### Note

#### Damage to the battery carrier due to excessively high tightening torque

If you tighten the screws of the battery carrier with excessively high tightening torque, the screw connections may be damaged.

- ▶ Tighten the screws of the battery carrier with a tightening torque of 20 Nm. Do not use an impact wrench.



### Removal

- ▶ Remove the battery box cover.
- ▶ Disconnect the negative terminal first, and then disconnect the positive terminal.
- ▶ Detach connecting cable between the batteries.
- ▶ Remove screws ① from brackets ②.
- ▶ Remove both brackets ②.
- ▶ Remove the batteries.

### Installing

- ▶ Insert the batteries.
- ▶ Insert both brackets ②.
- ▶ Screw screws ① into brackets ②.
- ▶ Reconnect connecting cable between the batteries.

## Maintenance

### Battery

- ▶ Reconnect the positive terminal first, and then reconnect the negative terminal.
- ▶ Replace battery box cover.

#### Information on maintenance and care of the battery

#### Parking the vehicle for an extended time period/vehicle downtimes and storage



#### Note

#### Battery discharging due to quiescent current consumers

If the vehicle is idle for lengthy periods, the battery can be discharged by quiescent current consumers. This can damage the battery.

- ▶ For idle times of over a week, disconnect the negative terminal on the battery.



#### Note

#### Damage to the battery due to excessively low voltage

If the battery voltage falls below 12.1 V, the battery will be damaged and must be replaced.

- ▶ For idle times of over a month, remove the batteries.
- ▶ Dry the batteries and store them at temperatures between 0 °C and 30 °C.
- ▶ Keep the battery voltage constant at 12.6 V.

Charge the battery when the no-load voltage is less than 12.6°V. This ensures that the vehicle can always be started.

If you park up your vehicle for longer than three weeks, observe the notes on parking up the vehicle (→ Page 434).

When storing batteries, comply with all safety regulations, such as operating instructions, regulations concerning hazardous materials, environmental protection

measures, as well as work safety and accident prevention regulations.

#### Battery replacement and operating life



#### Note

#### Damage to the on-board electrical system batteries caused by receiving current directly

Connecting consumers directly to the battery poles causes the battery sensors to make an incorrect determination. This causes uncontrolled battery discharge, and both on-board electrical system batteries may be discharged.

- ▶ Do not connect consumers directly to the battery terminals.

Avoid the battery becoming fully discharged. This can significantly reduce the operating life of the battery.

Long battery service life can be achieved by keeping the batteries adequately charged.

Daimler Truck AG recommends the following when replacing the batteries:

- Always replace both batteries.
- Use the same type of battery.  
If you use another type of battery, have the battery type set with a diagnostic device by a qualified workshop.
- Use batteries of the same age.  
Do not combine old and new batteries.

If the vehicle is equipped with an AGM battery (fleece battery), observe the following notes:

- The batteries are maintenance-free.
- They do not need topping up with distilled water.

### Battery care



#### Note

#### Battery discharge due to leakage currents

Dirty battery terminals and battery surfaces cause leakage currents. This can lead to the battery discharging.

- Keep the battery terminals and battery surfaces clean and dry.



#### Note

#### Damage to the battery housing due to improper cleaning

If you use cleaning agents that contain fuel, they will attack the battery housing.

- Do not use cleaning agents that contain fuel.



#### Note

#### Damage to the battery due to self-discharge

If dirt penetrates the battery cell, the self-discharge rate of the battery is increased and the battery can be damaged.

- Only clean the battery with the cell caps screwed in.

Observe the following points on battery care:

- Lightly grease the undersides of the battery terminals with acid-resistant grease.
- Only use commercially-available cleaning agents to clean the battery housing.

### Activating transport mode

#### Activate/deactivate

Transport mode includes a deactivation function for various electrical consumers when the vehicle is switched off, which protects the batteries from discharging when vehicles are parked up for longer periods of time.

In transport mode, all functions which are also deactivated in energy-saving mode are deactivated.

Additionally, the following functions are deactivated in transport mode:

- the work lamps
- the cargo liftgate

## Maintenance

### Battery

- charging management for the alternator
- the dipped beam (when the vehicle has not been started)
- the vehicle (after 15 minutes if no diagnostic device is connected)
- ▶ Press the hazard warning lights switch, the headlamp flasher, and turn signal indicator simultaneously for at least three seconds within three seconds of switching the vehicle on.
- ▶ **To activate:** Move the turn signal indicator down.
- ▶ **To deactivate:** Move the turn signal indicator up.

Active transport mode will be shown as a display message when the vehicle is switched on again.

#### Note

The use of transport mode is stored in the vehicle along with the kilometre reading and the time of activation/deactivation.

### Checking and charging the battery

#### Checking the battery charge level

If the vehicle is used predominantly for driving short distances or is parked up for a longer period of time, check the battery charge level more often.

- ▶ Disconnect the batteries.
- ▶ Measure the no-load voltage of the battery.
- ▶ If the no-load voltage of the battery is over 12.6 V, reconnect the battery.
- ▶ If the no-load voltage of the battery is under 12.6 V, charge the battery separately.

### Charging the battery



**Danger**

#### **Risk of explosion when the battery is frozen**

A discharged battery can freeze at temperatures near the freezing point.

If you then provide starting assistance or charge the battery, battery gas may escape.

- ▶ Always thaw a frozen battery before charging it or providing starting assistance.

If the warning and indicator lamps do not light up in the instrument cluster at temperatures around or below freezing, it is highly probable that the discharged battery has frozen. In this case, do not jump start or charge the battery.

The service life of a battery that has been thawed may be dramatically shortened.

The starting characteristics may be impaired, especially at low temperatures.

Have a thawed battery checked at a qualified workshop.

Use a commercially available charger to charge the battery. Make sure that the charging voltage is correct. Do not charge new batteries with rapid charging. With used batteries, the charging current with rapid charging must not exceed 75% of the battery capacity. Otherwise, the battery will be damaged.

For new batteries, the charging current must not exceed 10 % of the battery capacity.

city. A higher charging current can damage the battery.

Charge the batteries at an ambient temperature over 0°C. The optimum ambient temperature is between 10 °C and 25 °C.

- ▶ Remove the batteries.
- ▶ Unscrew the battery cell caps.
- ▶ Check the battery fluid level.
- ▶ Charge the batteries separately.
- ▶ Connect and switch on the charger. See the charger's operating instructions.
- ▶ When the batteries are charged: Switch off the charger and screw the cell caps onto the batteries.
- ▶ Fit the batteries.

### Note

After charging/replacing the batteries, the battery charge level calculated may not be correct. It takes approximately three days while the vehicle is in operation for the teach-in process to be completed. The following display messages are

only correct once the teach-in process has been completed:

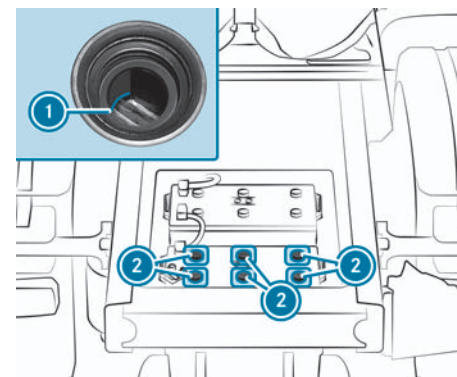
Energy-saving mode active

Bat. charge level too low Start engine

### Checking the battery fluid level

Tap water reduces the electrical power of the batteries. Only top up with distilled or de-ionised water.

Do not use a metal funnel when topping up. The metal funnel could cause a short circuit and the batteries may be damaged.



Batteries in the chassis, one beside the other (example: semitrailer truck)

Observe the safety instructions on handling batteries.

- ▶ Check the battery fluid level regularly, as required by the vehicle operating conditions, and at least once a year.
- ▶ Remove the battery box cover.
- ▶ Vehicles with batteries fitted one above the other: Remove the batteries.
- ▶ Unscrew the cell caps .
- ▶ Check the battery fluid level. The battery fluid must reach marker bar  in each battery cell.

## Maintenance

### Notes on parking up the vehicle

- ▶ Top up with distilled/de-ionised water.
- ▶ Refit the cell caps ②.
- ▶ Vehicles with batteries fitted one above the other: Fit the batteries.
- ▶ Replace battery box cover.

### Notes on parking up the vehicle

When parking up the vehicle, special measures according to the Mercedes-Benz Trucks Specifications for Operating Fluids need to be taken.

You can obtain further information in the notes on operating fluids (→ Page 511) or from an authorised Mercedes-Benz Trucks Service Centre.



### Function of telediagnosics

The Mercedes-Benz Trucks Service 24h responder can call up detailed technical information on your vehicle using telediagnosics. This allows Mercedes-Benz Trucks Service 24h to identify the malfunction and quickly provide you with assistance.

Telediagnosics is possible if you use an activated Truck Data Center in conjunction with the Uptime Fleetboard service or have a Mercedes-Benz Uptime service contract.

The following data is transmitted to Mercedes-Benz Trucks Service 24h:

- Data necessary for vehicle identification (e.g. vehicle identification number/VIN)
- Control unit diagnostic data (e.g. fault memory)
- current vehicle location data
- current total distance

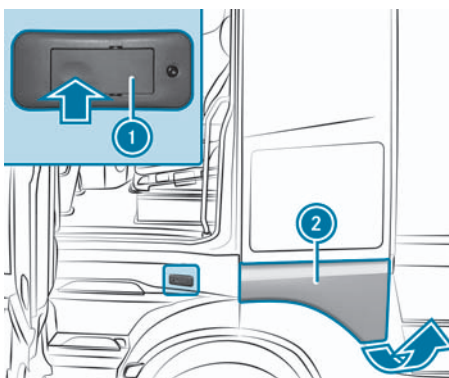
No data related to the driver, the route, or the load are transmitted.

### Note

If you perform telediagnosics and do not notify Mercedes-Benz Trucks Service 24h, the data will be deleted after 72 hours.

### Vehicle tool kits

#### Opening/closing the tool kit compartment



The tool kit compartment is at the side of the cab above the wheel arch and only accessible from the outside.

### Opening the tool kit compartment

- ▶ Press the release catch  on the outside in the recess.
  - ◁ The outside flap  opens until stopped by the safety hook.
- ▶ Press the release catch  again on the outside in the recess.
  - ◁ The outside flap  is fully unlocked. The tool kit compartment lighting comes on automatically.
- ▶ Swing the outside flap  up fully using the handle recess on the right.
  - ◁ The prop engages.

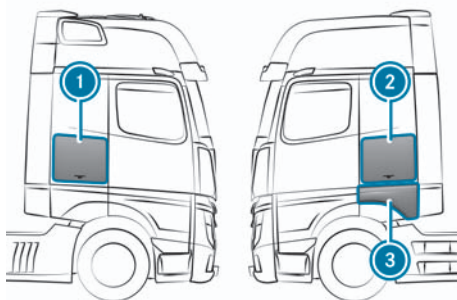
### Closing the tool kit compartment

- ▶ Raise the outside flap  a little using the handle recess on the right.
- ▶ Push the prop upwards.
- ▶ Swing the outside flap  down using the handle recess on the right until you hear it engage in the lock.
  - ◁ The tool kit compartment lighting goes out automatically.

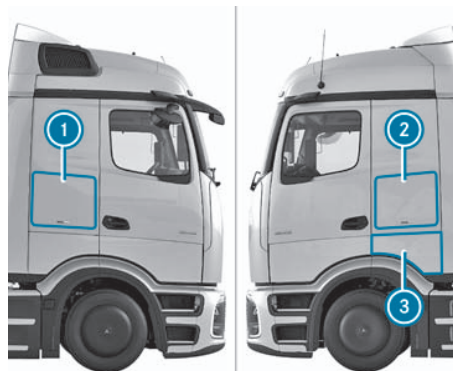
## Breakdown assistance

### Vehicle tool kits

#### Overview of vehicle tool kits and emergency equipment



Stowage compartments and tool compartment in L-cab



Stowage compartments and tool compartment in ProCabin cab

The vehicle tool kit and emergency equipment are divided into three packages:

#### Vehicle tool kit and emergency equipment

| A                                                                                                                                                                                     | B                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Spare bulbs</li> <li>Tyre pressure gauge</li> <li>Tyre inflator hose</li> <li>Support block</li> <li>Second hazard warning triangle</li> </ul> | <ul style="list-style-type: none"> <li>Towing eye</li> <li>Spare wheel spacer</li> <li>Vehicle tool kit</li> <li>Hand crank</li> <li>Lamp with 10 m cable</li> <li>Assembly lever</li> </ul> |

| A | B                                                                          |
|---|----------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>Pump lever</li> <li>Jack</li> </ul> |

Package **C** contains only the 6 kg fire extinguisher and is located in stowage compartment ③.

#### Distribution of the vehicle tool kit and emergency equipment for L-cabs and M-cabs

| Cab                                                          | Com-part-ment ① | Com-part-ment ② | Com-part-ment ③ |
|--------------------------------------------------------------|-----------------|-----------------|-----------------|
| L-cab with tool kit compartment                              | A/B             |                 | C               |
| L-cab with tool kit compartment and SoloStar Concept         |                 | A/B             | C               |
| L-cab without tool kit compartment and with SoloStar Concept |                 | A/B/C           |                 |
| L-cab without tool kit compartment                           | A/B/C           |                 |                 |
| M-cab                                                        | A/C             | B               |                 |
| ProCabin cab                                                 | A               | B               | C               |

Vehicles with ADR classification: The fire extinguisher is located in the stowage compartment ② on the driver's side. Open stowage compartment (→ Page 130).

Vehicles with ADR classification and ProCabin: The fire extinguisher is located in the stowage compartment ③ on the driver's side. Open stowage compartment (→ Page 130).

In vehicles with two fire extinguishers, the second fire extinguisher may be in the following storage locations, depending on the vehicle version:

- in the stowage compartment ① on the front passenger's side
- in the tool kit compartment ③ (→ Page 435).
- in a protective box on the exterior of the rear panel on the driver's side

In the L-cab as car carrier with lowered bottom bunk or seat/bunk combination, the fire extinguisher and jack are behind the driver's seat. You are responsible for stowing the tools yourself.

In the S-cab, the jack is on the B-pillar behind the passenger, and the vehicle tool kit is behind the driver's seat. For all vehicles except those on the French market, the fire extinguisher is on the engine tunnel on the rear panel. For vehicles on the French market, the fire extinguisher is on the A pillar on the passenger side. You are responsible for stowing the tools yourself.

The following emergency equipment is in the stowage space in the driver's door:

- First-aid kit
- Hazard warning triangle
- Warning beacon
- Reflective safety jacket

### Using the jack, pump lever and chock

#### Jack

#### Note

Depending on the vehicle's equipment, the jack has a maximum weight of 15.9 kg.

The maximum load capacity of the jack can be found on the sticker affixed to the jack.

In the event of a fault, please contact a qualified specialist workshop.

#### Maintaining the jack

- ▶ **After use:** Clean all moving parts and grease them again.
- ▶ **Every six months:** Fully extend and retract the reciprocating piston.

## Breakdown assistance

### Vehicle tool kits

#### Pump lever (two-part)

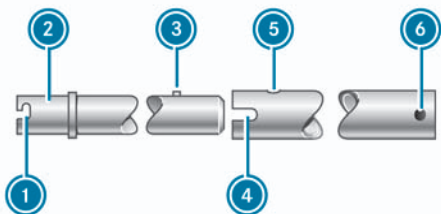


**Danger**

#### Risk of injury due to incorrect assembly of pump lever

During pumping, the lever can slide out of the guide.

- ▶ Make sure that the safety pin of the pump lever is engaged in the specified bore.



#### Pump lever

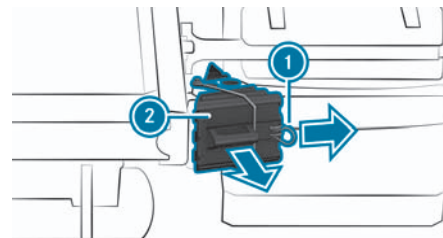
- ① Recess (jack)
- ② Jacking point (wheel spanner/cab tilting pump)
- ③ Locking pin

- ④ Recess (for operating the spare wheel winch and jack)
- ⑤ Hole for locking pin
- ⑥ Clamping sleeve for inserting the hand crank (spare wheel winch)

Use the pump lever to operate the following devices:

- Jack
  - Wheel spanner
  - Spare wheel winch
  - Cab tilting pump
- ▶ **To assemble the pump lever:** Align and insert locking pin ③ into hole ⑤ of both pump lever parts.
- ◀ Locking pin ③ will engage in hole ⑤.
- ▶ **To disassemble the pump lever:** Push locking pin ③ and pull apart the pump lever.

#### Removing the chock



The storage location of the chocks may vary depending on the vehicle version and equipment.

- ▶ Pull the elastic strap over retainer ①.
- ▶ Press retainer ① in the direction of the arrow and hold it there.
- ▶ Pull out wheel chock ②.
- ▶ Release retainer ①.

#### Inserting the chock

- ▶ Press retainer ① in the direction of the arrow and hold it there.
- ▶ Insert wheel chock ② into the bracket.
- ▶ Release retainer ①.

- ▶ Pull the elastic strap over and beyond retainer ① and onto wheel chock ②.

## Cab

### Tilting the cab

#### Before tilting the cab



#### **Danger**

#### **Risk of injury when tilting the cab**

The cab may abruptly fall into the end position.

There is a risk of injury to persons in the area where the cab is tilted!

- ▶ Only tilt the cab if there is nobody in the tilting area.
- ▶ Do not go under the cab area when the cab is being tilted.



#### **Danger**

#### **Risk of injury due to moving parts**

Components in the engine compartment can continue to run or start unexpectedly even when the vehicle is switched off.

Observe the following before working in the engine compartment:

- ▶ Switch off the vehicle.
- ▶ Never touch the danger zones surrounding moving component parts, e.g. the rotation area of the fan.
- ▶ Remove jewellery and watches.
- ▶ Keep items of clothing and hair away from moving parts.



Perform the following before tilting:

- ▶ For safety reasons, keep the area in front of the cab clear.
- ▶ Apply the parking brake.
- ▶ Shift the transmission to neutral.
- ▶ For air-sprung cabs: allow the engine to continue running until the compressed-air system is filled to

the maximum and the compressor switches off.

- ▶ Switch off the vehicle.
- ▶ When starting the vehicle after tipping, switch on the vehicle but do not start it.
- ▶ Switch off the auxiliary heating (→ Page 142).
- ▶ Switch off the refrigerator box (→ Page 130).



#### **Note**

Comply with the separate operating instructions for the refrigerator box. Do not switch the refrigerator box on again for ten minutes after tilting back the cab.

- ▶ Remove loose objects from the cab.
- ▶ Close the interior stowage compartments and the exterior tool kit compartment (→ Page 130).
- ▶ Close the doors.

## Breakdown assistance

### Cab

#### Note

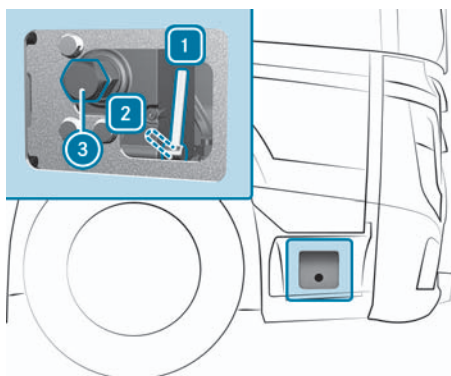
If you need to open a door when the cab is tilted, do so carefully and slowly until the door is fully open.

- ▶ Make sure the coupling pin of the front coupling jaw is secure and that the coupling jaw is covered (→ Page 478).
- ▶ Use chocks to protect the vehicle against rolling away.

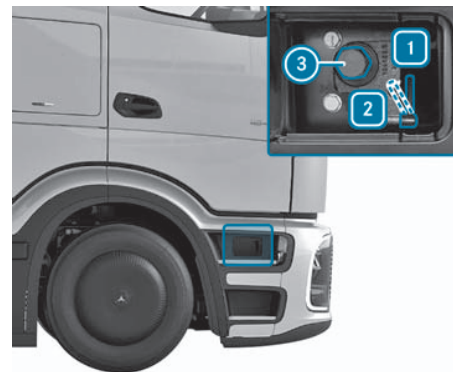
Vehicles with ERA -GLONASS: If the system is active when the cab is tilted, an automatic emergency call may result.

Prior to tilting, activate the ERA-GLONASS system's service mode. Information about activating the service mode can be found in the "ERA-GLONASS supplementary instructions".

#### Tilting the cab forwards (mechanical-hydraulic cab tilt system)



Cab tilt pump, L cab



Cab tilt pump, ProCabin

#### Mechanical-hydraulic cab tilt pump

- 1 Drive position
- 2 Tilting position
- 3 Hexagon nut

Do not step on the engine when the cab is tilted.

- ▶ Read the notes before tilting the cab.
- ▶ Open the maintenance flap (→ Page 413).
- ▶ **Vehicles with L cab:** Swivel the flap on the right-hand side of the entrance upwards.

- ▶ **Vehicles with ProCabin:** Swivel the flap on the right-hand side of the entrance to the rear.
- ▶ Swivel the valve lever on the tilting pump to the **2** tilting position.
- ▶ Fit the pump lever to the hexagon nut **3** on the tilting pump using the wheel spanner (vehicle tool kit).
- ▶ Move the pump lever up and down on the tilting pump until the cab tilts to the forward end position.
  - ◁ The cab will be unlocked automatically.
- ▶ If there is noticeable resistance when you operate the pump lever, check that the tilting position **2** has been set correctly on valve lever on the tilting pump.
- ▶ If there is no noticeable resistance when you operate the pump lever, have the tilting hydraulics checked at a qualified specialist workshop.

### Tilting the cab back into the drive position (mechanical-hydraulic cab tilt system)



**Danger**

#### Risk of accident and injury if the cab is not locked while the vehicle is in motion

When the vehicle decelerates, the following risks, in particular, may arise:

- The cab may tilt forward.
- You may lose control of the vehicle.
- Persons in the cab could be thrown forwards.
- Persons or objects in the range of movement could be hit.

Ensure the following before every journey:

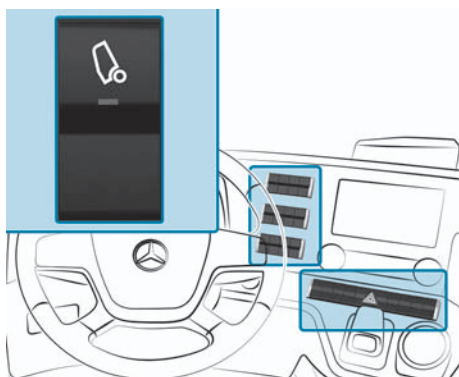
- ▶ The cab is locked.
- ▶ The cab is engaged in the drive position and the valve lever is in the drive position.
- ▶ The indicator lamp goes out when the vehicle is started.

- ▶ Swivel the valve lever on the tilting pump to the drive position **1**.
- ▶ Fit the pump lever to the hexagon nut **3** on the tilting pump using the wheel spanner.
- ▶ Move the pump lever up and down on the tilting pump until the cab is tilted back into the rear end position.
  - ◁ The catch will engage audibly and the cab will lock automatically.
- ▶ Close the maintenance flap.
- ▶ Swivel the flap to the right of the entrance down until you hear it engage.
- ▶ Check whether the indicator lamp  in the instrument cluster goes out after you start the vehicle.
- ▶ If the indicator lamp  does not go out, repeat the process and tilt the cab back again.

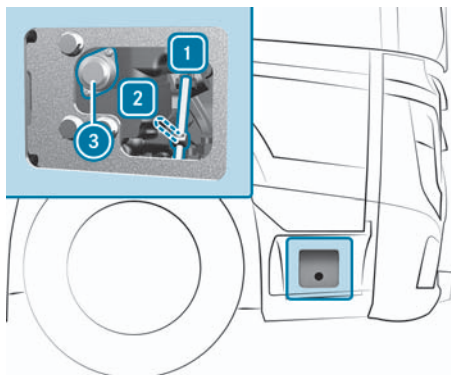
## Breakdown assistance

### Cab

#### Tilting the cab forwards (electro-hydraulic cab tilt system)



- ▶ Read the notes before tilting the cab.
- ▶ Open the maintenance flap (→ Page 413).
- ▶ Press the button .
  - ◁ The indicator lamp on the button  lights up. The cab tilting pump will be switched on.



Cab tilt pump, L cab



Cab tilt pump, ProCabin

#### Electro-hydraulic cab tilting pump

-  Valve lever in drive position
-  Valve lever in tilting position
-  Button

Do not step on the engine when the cab is tilted.

- ▶ **Vehicles with L cab:** Swivel the flap on the right-hand side of the entrance upwards.
- ▶ **Vehicles with ProCabin:** Swivel the flap on the right-hand side of the entrance to the rear.



- ▶ Check the direction of rotation of the valve lever on the instruction sticker in the entrance.
- ▶ Swivel the valve lever on the cab tilting pump into the tilting position .
- ▶ Press and hold the  button until the cab has tilted into the forward end position.
  - ◁ The cab has reached the front end position once the noise of the pump becomes louder.

### Tilting the cab back into the drive position (electro-hydraulic cab tilt system)



**Danger**

### Risk of accident and injury if the cab is not locked while the vehicle is in motion

When the vehicle decelerates, the following risks, in particular, may arise:

- The cab may tilt forward.
- You may lose control of the vehicle.

- Persons in the cab could be thrown forwards.

- Persons or objects in the range of movement could be hit.

Ensure the following before every journey:

- ▶ The cab is locked.
- ▶ The cab is engaged in the drive position and the valve lever is in the drive position.
- ▶ The indicator lamp goes out when the vehicle is started.

- ▶ Swivel the valve lever on the cab tilting pump into the drive position .
- ▶ Press and hold the  button until the cab is tilted back into the rear end position.
  - ◁ The cab will lock automatically.
- ▶ Swivel the flap to the right of the entrance down until you hear it engage.
- ▶ In the cab, press the lower section of the  button.
  - ◁ The indicator lamp on the button  will go out.

- ▶ Check whether the indicator lamp  on the instrument cluster goes out after you start the vehicle.
- ▶ If the indicator lamp  does not go out, repeat the process and tilt the cab back again.

### Problems when tilting the cab

#### Mechanical-hydraulic cab tilt system

#### Unable to tilt cab

Possible causes:

- The valve lever of the mechanical-hydraulic cab tilting pump is in the "Drive position" valve lever position.
- The tilting hydraulics are leaking or have failed.
- ▶ Turn the valve lever on the mechanical-hydraulic cab tilting pump to the "Tilting" valve lever position ( → Page 439).
- ▶ Have the tilting hydraulics repaired at a qualified specialist workshop.

#### Electro-hydraulic cab tilt system

##### The cab cannot be tilted.

Possible causes:

- The cab tilt system is not switched on.
- The fuse for the cab tilting pump has blown.
- The tilting hydraulics are leaking or have failed.
- ▶ Press button  (→ Page 439) .
  - ◁ The indicator lamp on the button  will light up.
- ▶ Replace the fuse for the cab tilting pump in module A1 on the main fuse carrier (→ Page 465).
- ▶ Have the tilting hydraulics repaired at a qualified specialist workshop.

#### Engine

##### Starting or switching off the vehicle with the cab tilted



**Danger**

##### Risk of injury due to moving parts

Components in the engine compartment can continue to run or start unexpectedly even when the vehicle is switched off.

Observe the following before working in the engine compartment:

- ▶ Switch off the vehicle.
- ▶ Never touch the danger zones surrounding moving component parts, e.g. the rotation area of the fan.
- ▶ Remove jewellery and watches.
- ▶ Keep items of clothing and hair away from moving parts.



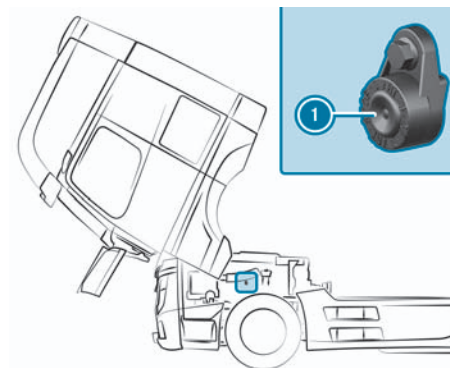
**Danger**

##### Risk of burns from hot components in the engine compartment

Certain parts of the engine compartment may be very hot.

- ▶ Allow the engine to cool down and only touch the components described in the following.

When working on public roads, observe the road and traffic conditions and secure the area where the vehicle is parked.



- ▶ Tilt the cab forward (→ Page 439).

### Start the vehicle

- ▶ Press the external engine start/stop button ❶ until the vehicle starts.

### Starting the vehicle and increasing the engine speed

- ▶ Keep the external engine start/stop button ❶ pressed until the vehicle starts and the desired engine speed has been reached.
  - ◁ After approximately three seconds, the engine speed increases. After external engine start/stop button ❶ has been released, the engine will continue to run at the speed currently set.

The engine speed can be increased up to the limiting speed.

### Switching off the vehicle

- ▶ Press the external engine start/stop button ❶ again.
- ▶ Tilt the cab back into the drive position.

### Draining and bleeding the fuel system



**Danger**

#### Risk of explosion due to an explosive mixture of gas

An explosive mixture of gas may escape from the battery during the charging process and when providing starting assistance.

- ▶ Avoid fire, naked flames, sparks, and smoking.
- ▶ Ensure sufficient ventilation.
- ▶ Do not lean over a battery.



**Note**

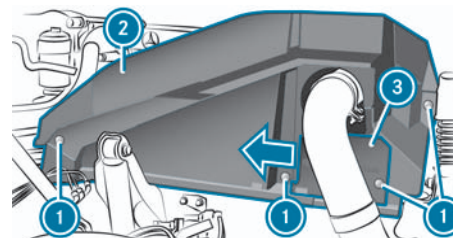
#### Damage to the starter due to an excessive number of starting procedures

If you overload the starter with too many starting procedures, it may be damaged.

- ▶ Do not bleed the fuel system with multiple starting procedures.

### Bleeding the fuel system without the fuel prefilter (OM 460)

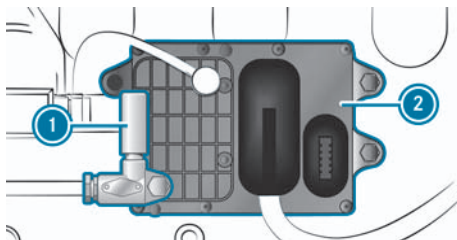
- ▶ Apply the parking brake.
- ▶ Switch on the vehicle.
- ▶ Shift the transmission to neutral.
- ▶ Tilt the cab forward (→ Page 439).
- ▶ Unscrew the fuel tank fuel filler cap.



- ▶ Unscrew the fasteners ❶.
- ▶ Slide the cap ❸ to one side and remove the cover ❷.

## Breakdown assistance

### Engine



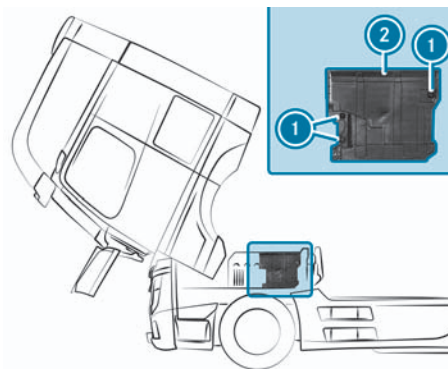
If fuel pressure has been established at the main filter with the hand pump ①, the vehicle must be started within about five seconds. Otherwise the fuel pressure drops and the process must be repeated.

- ▶ Keep pressing the hand pump ① at the control unit ② (about 100 times) until the overflow valve audibly opens.
- ▶ Within about five seconds, press the external engine start/stop (→ Page 444) and start the vehicle.
- ▶ If the vehicle starts up: Leave the engine running at a higher engine speed.
- ▶ If the vehicle does not start: Repeat the procedure.
- ▶ Fit the cover.

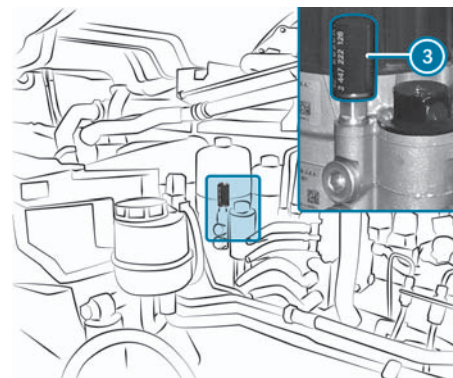
- ▶ Tilt the cab back into the drive position (→ Page 439).
- ▶ Screw on the fuel tank fuel filler cap.

#### Bleeding the fuel system without the fuel prefilter (OM 470/471/473)

- ▶ Apply the parking brake.
- ▶ Switch on the vehicle.
- ▶ Shift the transmission to neutral.
- ▶ Tilt the cab forward (→ Page 439).
- ▶ Unscrew the fuel tank fuel filler cap.



- ▶ Unscrew screws ①.
- ▶ Remove the cover ②.



If fuel pressure has been established at the main filter with the hand pump ③, the vehicle must be started within about five seconds. Otherwise the fuel pressure drops and the process must be repeated.

- ▶ Press the handle of the hand pump ③ on the main filter until a noticeable resistance can be felt.
- ▶ Within about five seconds, press the external engine start/stop (→ Page 444) and start the vehicle.
- ▶ If the vehicle starts up: Leave the engine running at a higher engine speed.

- ▶ If the vehicle does not start: Repeat the procedure.
- ▶ Fit the cover ②.
- ▶ Tilt the cab back into the drive position (→ Page 439).
- ▶ Screw on the fuel tank fuel filler cap.

#### Bleeding the fuel system without the fuel prefilter (OM 936)

- ▶ Start the vehicle but do not depress the accelerator pedal while doing so.

#### **i** Note

The starting procedure will be automatically interrupted after about 60 seconds.

- ▶ If the vehicle starts, depress the accelerator pedal several times.
  - ◁ The fuel system bleeds completely.
- ▶ If the vehicle does not start, repeat the procedure.

#### Bleeding the fuel system with the fuel prefilter

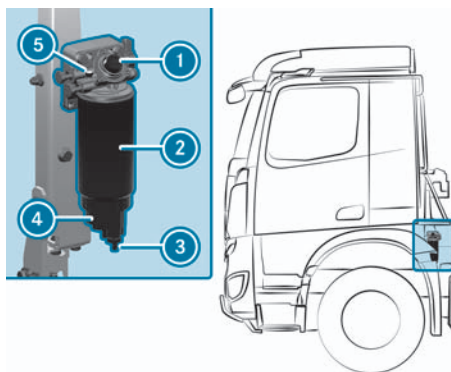


#### Note

#### Environmental pollution due to disposal in an environmentally irresponsible manner

To prevent damage:

- ▶ Dispose of the water/fuel mixture in an environmentally responsible manner.



Fuel prefilter (example)

#### Draining the fuel prefilter (with hand pump)

If water has separated in the inspection glass ④, drain the fuel prefilter ② before bleeding.

Regularly drain the fuel prefilter ②.

- ▶ Place a collecting pan under the drain screw ③.
- ▶ Unscrew the drain screw ③.
- ▶ Operate hand pump ① and collect the water/fuel mixture.
- ▶ Close the drain screw ③.

#### Bleeding the fuel prefilter (with hand pump)

- ▶ Unscrew the fuel tank fuel filler cap.
- ▶ Place a collecting pan underneath the fuel prefilter ②.
- ▶ Unscrew the bleed screw ⑤.
- ▶ Press the hand pump ① repeatedly until the fuel comes out free of bubbles at the bleed screw ⑤.
- ▶ Tighten the bleed screw ⑤.

## Breakdown assistance

### Engine

#### Note

If there was no fuel in the fuel tank, press the hand pump  again until a noticeable resistance can be felt. For vehicles with the OM 460/470/471/473 engine, also bleed at the main filter with the hand pump.

- ▶ Screw on the fuel tank fuel filler cap.
- ▶ Start the vehicle but do not depress the accelerator pedal while doing so.

#### Note

The starting procedure is automatically interrupted for the following vehicles:

OM 936 engine after about 60 seconds

OM 470/471/473 engines after about 40 seconds

- ▶ For vehicles with the OM 460 engine, the starting procedure must be interrupted after 20 seconds and, if necessary, repeated after approximately one minute. After three starting pro-

cedures, take a break of about three minutes.

- ▶ If the vehicle starts, depress the accelerator pedal several times.
  - ◁ The fuel system bleeds completely.
- ▶ Vehicles with OM°936: If the vehicle does not start, repeat the procedure.

#### **Draining the fuel filter with water separator on the engine (OM 470/471/473)**



#### **Danger**

#### **Risk of fire or explosion from fuel**

Fuels are highly flammable.

- ▶ Fire, naked flames, smoking and a formation of sparks must be avoided.
- ▶ Switch off the vehicle and the stationary heater before working on the fuel system.
- ▶ Always wear protective gloves.



#### **Note**

#### **Engine damage due to delayed drainage of the fuel filter**

If the amount of water in the fuel is too high, it can lead to engine damage. When the water separator is full, the instrument cluster shows a corresponding display message.

- ▶ Drain the fuel filter immediately.

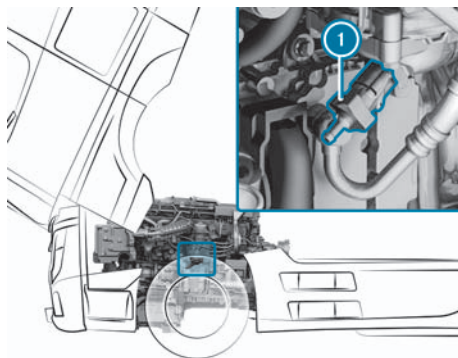


#### **Note**

#### **Environmental pollution due to disposal in an environmentally irresponsible manner**

To prevent damage:

- ▶ Dispose of the water/fuel mixture in an environmentally responsible manner.



### **i** Note

Have this maintenance work carried out at a qualified workshop.

- ▶ Park the vehicle in a safe location and secure it against rolling away.
- ▶ Switch off the auxiliary heating.
- ▶ Switch off the vehicle.
- ▶ Tilt the cab forward (→ Page 439).
- ▶ Unscrew the fuel tank fuel filler cap.
- ▶ Place a suitable collecting pan under the drain screw ①.

- ▶ Open drain screw ① until the water/fuel mixture flows out of drain hose.
- ▶ Drain off the water/fuel mixture until pure fuel escapes (approx. 0.5 litre).
- ▶ Close the drain screw ①.
- ▶ Before starting the vehicle, bleed the fuel system.
- ▶ Screw on the fuel tank fuel filler cap.
- ▶ Dispose of the collected water/fuel mixture in an environmentally friendly manner, e.g. at a qualified specialist workshop.

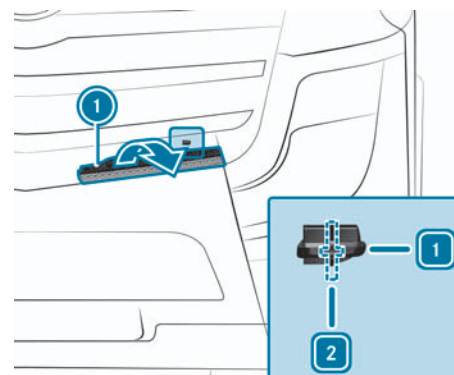
### Locking the air regulation system

The air regulation system controls the air supply to the radiator. When the fins are open, a lot of air flows through the radiator and the coolant is cooled to the maximum. When the fins are closed, less of air flows through the radiator and the coolant heats up faster.

If the air regulation system is malfunctioning and this is not due to foreign bodies/dirt, you will have to manually open and lock the affected air regulation system.

Open the upper and lower air regulation system and lock them before continuing to drive. Have the air regulation system repaired at a qualified specialist workshop as quickly as possible.

### Upper air regulation system



Actros example illustration

### Upper air regulation system

- ① Step
- 1 Unlocked
- 2 Locked

- ▶ **Opening and locking:** Stop the vehicle and apply the parking brake.

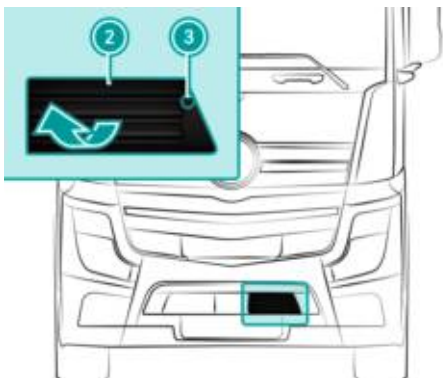


## Breakdown assistance

### Engine

- ▶ Switch off the vehicle.
- ▶ Fold the step ① next to the left-hand headlamp down.
- ▶ To open the fins of the upper air regulation system, carefully fold one of the middle fins down.
- ▶ Turn the lock of the upper air regulation system clockwise to position ②.

#### Lower air regulation system



- ▶ **Opening and locking:** To open the fins ② of the lower air regulation system, carefully fold one of the middle fins up.

- ▶ Turn the locking screw ③ using the torx key (vehicle tool kit) by approximately ¼ turn. The locking lever is unscrewed and locks the lower air regulation system.

#### Note

Turn the locking screw ¼ turn on both sides of the lower air regulation system.

#### Rectifying problems starting the engine

##### Unable to start vehicle at low outside temperatures

Possible cause:

- The flow characteristics of the diesel fuel are insufficient due to paraffin separation.
- ▶ Warm the entire fuel system, e.g. by parking the vehicle in a heated area.
- ▶ If the problem persists, have the cause rectified at a qualified specialist workshop.

#### The vehicle does not start

Possible causes:

- The cargo liftgate is switched on. A grey display message appears on the instrument cluster with the symbols  and **Starter inhibitor active**.
- There is a malfunction in the engine electronics.
- The vehicle was parked in gear, e.g. the supply pressure in the transmission/clutch circuit was exhausted by operating the battery disconnect switch. For safety reasons, starting the vehicle is prevented when a gear is engaged.
- ▶ Switch off the cargo liftgate, see the separate operating instructions.
- ▶ Switch off the vehicle before the next starting attempt.
- ▶ Fill up the compressed-air system using an external source of compressed air.
  - ◁ The transmission control can reopen the coupling and shift



the transmission into neutral position.

- Repeat the starting attempt.

### Flat tyre

#### Preparing for a wheel change



**Danger**

#### **Risk of injury through incorrect positioning of the jack**

If you do not position the jack correctly at the appropriate jacking point of the vehicle, the jack could tip with the vehicle raised.

- Only position the jack at the appropriate jacking point on the vehicle. The base of the jack must be positioned vertically under the jacking point of the vehicle.



**Danger**

#### **Risk of injury due to the vehicle tipping over**

On uphill and downhill slopes, the jack may tip over with the vehicle raised.

- Never change wheels on uphill or downhill slopes.
- Consult a qualified specialist workshop.



**Danger**

#### **Risk of injury due to the jack tipping over**

If you park a vehicle with air suspension, the air suspension can remain active for up to an hour, even if the vehicle is switched off. If you then raise the vehicle using the jack, the air suspension will attempt to even out the vehicle level.

The jack can tip over.

- Switch the vehicle off before raising the vehicle.



**Danger**

#### **Risk of injury due to the use of a mount when changing a wheel**

If, when changing the outer wheel on twin tyres, you use a mount for driving with the inner wheel, the inner wheel will be under load. It will then not be possible to correctly press and tighten the wheel against its contact surface.

As a result, you can lose a wheel while driving.

- Always use the jack when changing a wheel.



**Danger**

#### **Risk of accident due to losing a wheel**

Oiled, greased, or damaged wheel nut or wheel bolt threads and conical spring washers can cause the wheel nuts to come loose.

- Never oil or grease the threads or conical spring washers.
- If a thread or conical spring washer is damaged, consult a qualified

## Breakdown assistance

### Flat tyre

specialist workshop as soon as possible.

- ▶ Have damaged wheel nuts, wheel bolts and conical spring washers replaced.
- ▶ Do not continue driving.



#### **Danger**

#### **Risk of injury when loosening a wheel**

If you loosen a wheel which sits on the wheel bolts under tension, it may drop down or tip over.

- ▶ Only remove the last three wheel nuts after making sure that the wheel sits on the wheel bolts without tension.



#### **Note**

#### **Damage to the chassis caused by raising the vehicle incorrectly**

For vehicles with a loading crane or cargo liftgate, do not raise the vehicle with the hydraulic support device. Otherwise, the chassis could be damaged.

- ▶ Use the jack to raise the vehicle.

Observe the following when changing a wheel on the vehicle:

- Only use wheel nuts that are approved for the vehicle.
- The wheel nuts for steel and light-alloy wheels are different.
- The wheel nuts for light-alloy wheels on the front and rear axles are different.
- Wheels with a tyre pressure sensor are furnished with a red ring.

Observe the following notes when raising the vehicle:

- Make sure that the maximum load capacity for the jack is not exceeded. The maximum load capacity of the jack is stated on the adhesive label affixed to the jack.
- The jack is designed only to raise the vehicle for a short time, e.g. while a wheel is being changed. It is not suitable for raising the vehicle in order to perform work under the vehicle.
- Only position the jack at the appropriate jacking point on the vehicle. Make sure that the jack is correctly positioned on the jacking point before raising the vehicle.
- The jack support point may differ on special bodies. Observe the body manufacturer's operating instructions.
- Secure the vehicle before raising it to prevent it from rolling away, for example, by applying the parking brake and/or using chocks. Do not release the parking brake while the vehicle is raised.
- The surface on which the jack is standing must be firm and level. The jack must be placed on an underlay if the ground surface is not firm.
- Make sure that the distance between the underside of the wheel and the ground does not exceed 30 mm. The vehicle could otherwise slip off the jack or tip over.
- Do not change a wheel on an uphill or downhill slope. The vehicle could otherwise slip off the jack.
- Do not place your hands or feet under the raised vehicle.

- Do not lie under the raised vehicle.
- Make sure that nobody is in the vehicle when it is raised.
- Do not start the vehicle when it is raised, and avoid otherwise jolting or shaking it. The vehicle could otherwise slip off the jack.
- ▶ Park the vehicle on a firm and level surface.
- ▶ Apply the parking brake.
- ▶ Use chocks to protect the vehicle against rolling away.

### **i** Note

For further information on tyre pressure, see the "Wheels and tyres" section (→ Page 488).

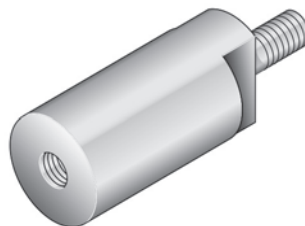
### Spare wheel

Always use spacers to secure wheels of the following sizes to the spare wheel holder:

- 355/50 R 22.5
- 365/50 R 22.5
- 375/50 R 22.5

- 385/55 R 22.5
- 385/65 R 22.5

Otherwise, the wheel or the spare wheel holder could be damaged.

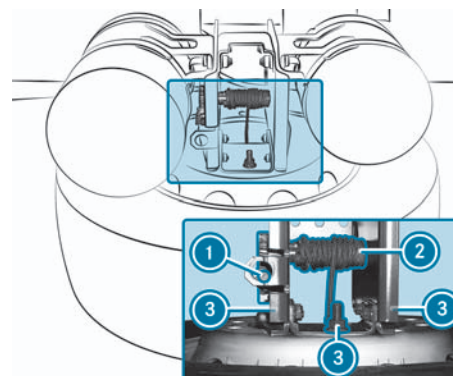


Spacer (from the vehicle tool kit)

Before securing the wheel to the spare wheel holder:

- ▶ Guide the retaining plate with the fastening bolts through the centre of the wheel rim.
- ▶ From the other side of the wheel, screw the three spacers from the vehicle tool kit onto the fastening bolts.

### Removing the spare wheel



Example: spare wheel holder on the chassis

- ▶ If necessary, remove the side trim or side underride guard.
- ▶ Assemble the hand crank and the pump lever (vehicle tool kit) (→ Page 437).
- ▶ Fit the pump lever and the hand crank on spare wheel winch ①. Make sure that the clamping sleeve on spare wheel winch ① engages in the recesses on the pump lever.
- ▶ Turn spare wheel winch ① until cable ② is taut.

## Breakdown assistance

### Flat tyre

- ▶ Unscrew nuts ③ from the fastening bolts.
- ▶ Lower the spare wheel using spare wheel winch ① and completely unwind cable ②.
- ▶ Pull the spare wheel out to the side or to the rear.
- ▶ Remove the retaining plate with the fastening bolts through the centre of the wheel rim.

Spray nuts ③ regularly with rust-penetrating oil and remove rust and dirt.

#### Temporary spare wheel holder



Example

#### **i** Note

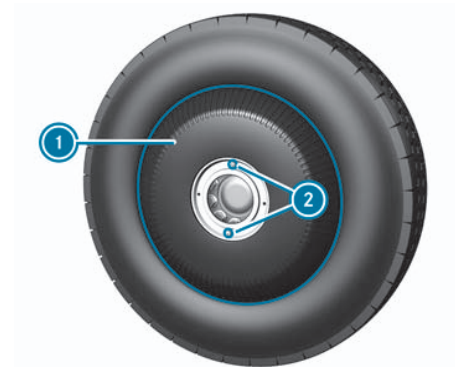
Note that the distance covered with the temporary spare wheel holder ① must not exceed 2500 km.

#### Removing/installing the wheel trim

##### Removing the wheel trim

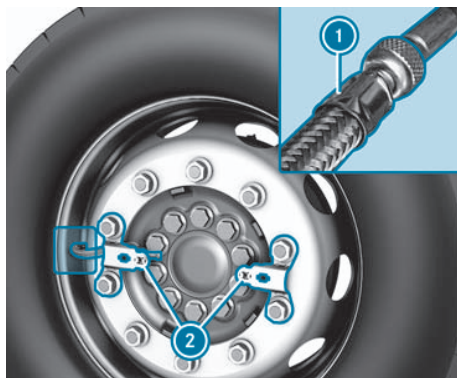


- ▶ Unscrew screws ②.
- ▶ Use a suitable tool to carefully unclip the centre cover ① from the recess ③ in the wheel rim.



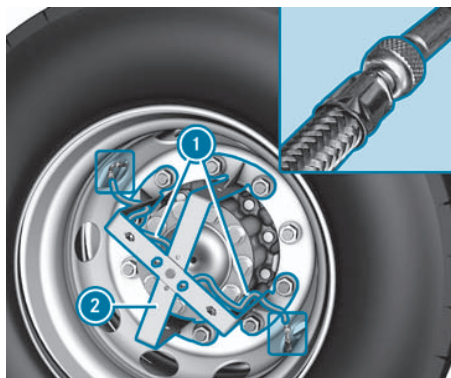
Wheel trim, single tyres

- ▶ Remove the screws ② and remove the wheel trim ①.



Retaining bridges, single tyres

- Disconnect the valve extension ① at the connection to the valve.



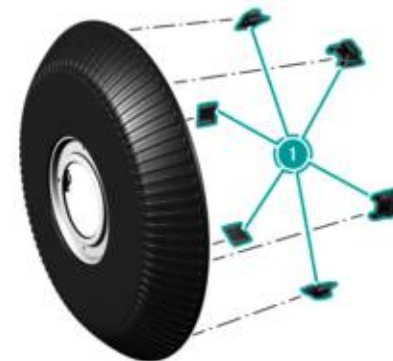
Retaining bridge, twin tyres

- Disconnect the valve extensions ① at the connections to the valves of the inner and outer wheel.
- Unscrew the wheel nuts that secure the respective retaining bridge ②.
- Remove the corresponding retaining bracket ② together with the valve extensions ①.

#### Installing the wheel trim

- Position the corresponding retaining bracket ② on the wheel studs and fasten with the wheel nuts, observing the tightening torque (→ Page 522).

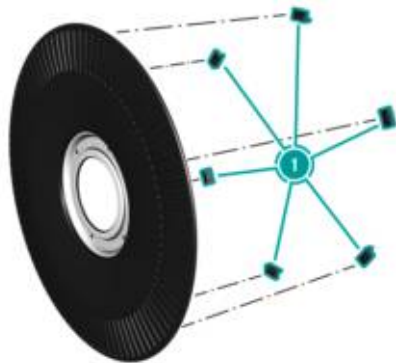
- Screw the corresponding valve extension ① onto the connections to the valves and tighten.



Support clamps of the wheel trim for single tyres

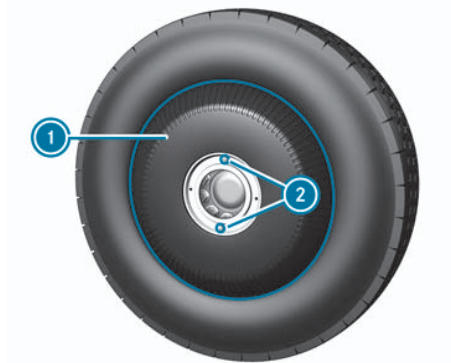
## Breakdown assistance

### Flat tyre



Support clamps of the wheel trim for twin tyres

- Before attaching the wheel trim, check that the support clamps ① are secure and complete.



Example of wheel trim for single tyres

- Align the wheel trim ① with the mounting holes and fasten with the screws ②.



- Align the centre cover ① with the mounting holes and press until it audibly clicks into place.
- Fasten the centre cover ① with the screws ②.

### Changing a wheel

#### Positioning the jack

- **Flat tyre, left:** Turn the steering wheel to the left as far it will go.

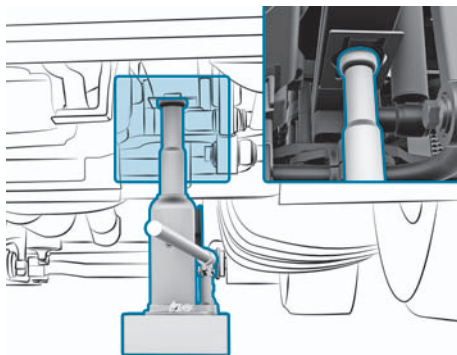
or

- **Flat tyre, right:** Turn the steering wheel to the right as far it will go.

#### **i** Note

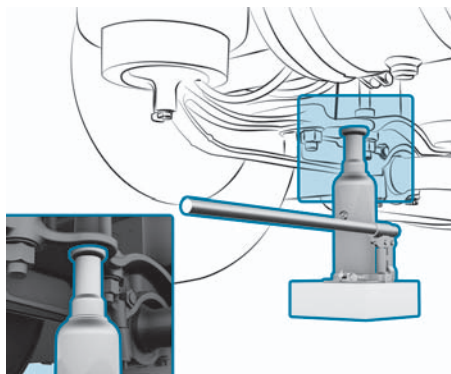
Only use the support block from the vehicle tool kit as a jack support.

#### Steel-sprung front axle



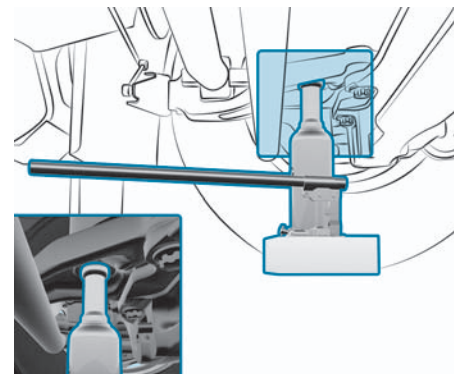
- Position the jack under the jack support point beneath the spring seat directly in front of the front axle.

#### Air-sprung front axle



- Position the jack beneath the jack support point on the air suspension support directly in front of the front axle.

#### All-wheel drive front axle



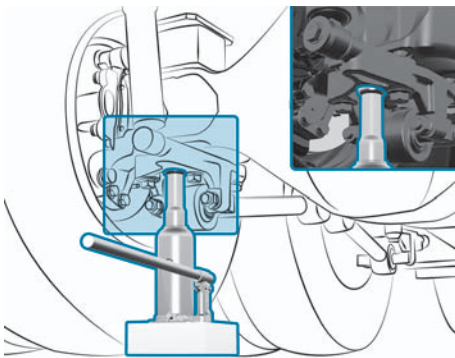
- Position the jack under the jack support point beneath the front axle.



## Breakdown assistance

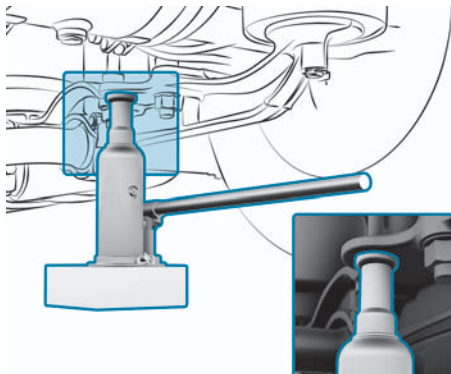
### Flat tyre

#### Steel-sprung rear axle



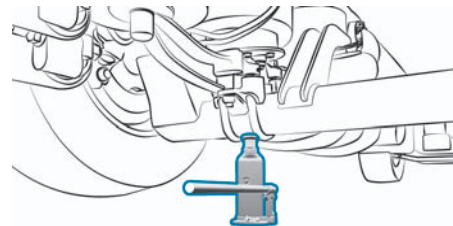
- Position the jack under the jack support point on the axle tube.

#### Air-sprung rear axle



- Position the jack under the jack support point on the air suspension support.

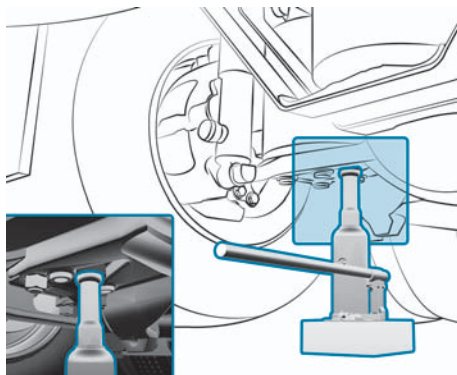
#### Air-sprung leading axle



- Position the jack under the axle tube, between the mounting brackets.

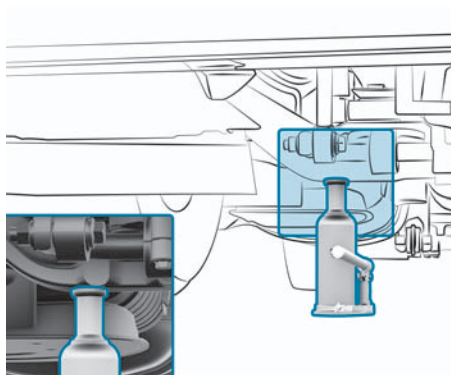


#### Air-sprung trailing axle



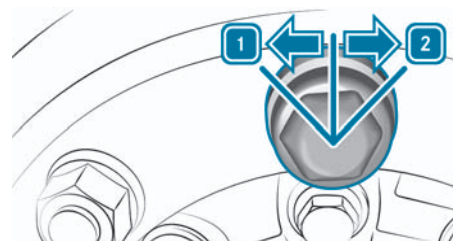
- Position the jack under the jack support point on the air suspension support.

#### Steered trailing axle



- Position the jack so that the jack plunger is centrally located under the axle carrier.

#### Removing a wheel

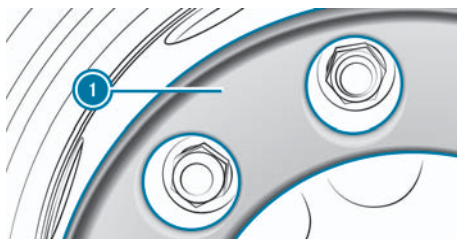


#### Wheel nuts

- 1 Loosen
- 2 Tighten

- **Vehicles with wheel trims:** Remove the wheel trim (→ Page 454).
- Using the wheel spanner, loosen the wheel nut covers **1** and remove them.

### Flat tyre



- ▶ Unscrew the wheel nuts that secure wheel nut cover ❶.
- ▶ Remove wheel nut cover ❶.
- ▶ Remove the remaining wheel nuts.
- ▶ Remove the wheel.
- ▶ Vehicles with twin tyres: Unscrew the wheel nuts of the inner wheel on the connecting flange and remove the connecting flange.
- ▶ Vehicles with twin tyres: Remove inner wheel.

### Fitting a wheel

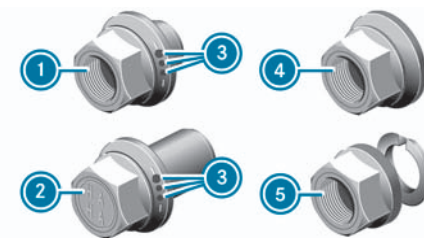


#### Note

#### Damage to the wheel nuts or wheel bolts due to the use of an impact wrench

If you use an impact wrench to tighten the wheel nuts or wheel bolts, you may damage them.

- ▶ Do not use an impact wrench to tighten the wheel nuts or wheel bolts.



### Wheel nuts

- ❶ For single tyres with light-alloy wheels
- ❷ For twin tyres with light-alloy wheels
- ❸ Wheel nut identification for light-alloy wheels

- ❹ With pressure plate (hub centring) for steel wheels
- ❺ With conical spring washer for steel wheels

### Before fitting a wheel

- ▶ Remove any rust and dirt from the contact areas of the wheel hub, disc wheel and wheel nuts.
- ▶ Lightly oil the friction contact surfaces between the pressure plate and the wheel nut.

### Fitting a steel wheel

- ▶ **Vehicles with single tyres:** Fit the wheel in place and screw on two to three wheel nuts.
- ▶ **Vehicles with wheel trims:** Fit the retaining bridges (→ Page 454).
- ▶ Screw on the remaining wheel nuts with the wheel nut cover.
- ▶ **Vehicles with twin tyres:** Fit both the wheels and screw on two or three wheel nuts.
- ▶ **Vehicles with wheel trims:** Fit the retaining bridge (→ Page 454).
- ▶ Screw on the remaining wheel nuts.

- ▶ Tighten the wheel nuts in a crosswise pattern, observing the tightening torque while doing so (→ Page 522).
- ▶ Fit the wheel nut covers, observing the tightening torque while doing so (→ Page 522).
- ▶ Check the tyre pressure (→ Page 488).
- ▶ **Vehicles with wheel trims:** Fit the wheel trim (→ Page 454).
- ▶ The wheel nuts must be retightened after driving 50 km.

#### Fitting a light-alloy wheel



Assembly sleeve for vehicles with light alloy wheels

- ▶ **Vehicles with single tyres:** Fit the assembly sleeve (vehicle tool kit) on the wheel bolt before positioning the wheel.
- ▶ Fit the wheel in place and screw on two to three wheel nuts.
- ▶ **Vehicles with wheel trims:** Fit the retaining bridges (→ Page 454).
- ▶ Pull off the mounting sleeve.
- ▶ Screw on the remaining wheel nuts with the wheel nut cover (if present).
- ▶ **Vehicles with twin tyres:** Fit the assembly sleeve (vehicle tool kit) on the wheel bolt before positioning the wheels.
- ▶ Fit both the wheels and screw on two or three wheel nuts.
- ▶ **Vehicles with wheel trims:** Fit the retaining bridge (→ Page 454).
- ▶ Pull off the mounting sleeve.
- ▶ Screw on the remaining wheel nuts.
- ▶ Tighten the wheel nuts in a crosswise pattern, observing the tightening torque while doing so (→ Page 522).
- ▶ Fit the wheel nut cover caps (if present), observing the tightening torque while doing so (→ Page 522).
- ▶ Check the tyre pressure (→ Page 488).
- ▶ **Vehicles with wheel trims:** Fit the wheel trim (→ Page 454).
- ▶ The wheel nuts must be retightened after driving 50 km.

#### Fitting twin tyres 14.00 R 20

- ▶ Before fitting the inner tyre, check that all of the conical spring washers are seated properly on the wheel studs. The round side of the conical spring washers must face the outside.
- ▶ Fit the inner wheel.
- ▶ Check the wheel centring. The wheel studs must be located in the centres of the bores in the disk wheels.
- ▶ Fit the connecting flange in place and screw on two to three wheel nuts with conical spring washers.
- ▶ Check that the flange is properly centred. The wheel studs must be in the centre of the bores in the connecting flange.
- ▶ Screw on the remaining wheel nuts with the conical spring washers.

## Breakdown assistance

### Flat tyre

- ▶ Tighten the wheel nuts in a crosswise pattern, observing the tightening torque while doing so (→ Page 522).
- ▶ Fit the outer wheel and screw on two or three wheel nuts with conical spring washers.
- ▶ Check the wheel centring. The wheel studs must be located in the centres of the bores in the disk wheels.
- ▶ **Vehicles with wheel trims:** Fit the retaining bridge (→ Page 454).
- ▶ Screw on the remaining wheel nuts with the conical spring washers.
- ▶ Tighten the wheel nuts in a crosswise pattern, observing the tightening torque while doing so (→ Page 522).
- ▶ Check the tyre pressure (→ Page 488).
- ▶ **Vehicles with wheel trims:** Fit the wheel trim (→ Page 454).
- ▶ Retighten the wheel nuts on the inner wheel after driving 50 km and the wheel nuts of the outer wheel after driving a further 50 km.

### Retightening the wheel nuts



**Danger**

#### Risk of accident due to incorrect tightening torque

The wheels may come loose if the wheel bolts or wheel nuts are not tightened to the prescribed torque.

- ▶ Ensure that the wheel bolts or wheel nuts are tightened to the prescribed tightening torque.
- ▶ If necessary, consult a qualified specialist workshop and do not move the vehicle.
- ▶ Observe the instructions and safety instructions on "Changing a wheel in the event of a flat tyre" (→ Page 451).
- ▶ Observe the wheel nut tightening torques (→ Page 522).
- ▶ Have all wheels retightened after driving 50 km.
- ▶ When using new or newly-painted wheel rims, have the tightening torque of the wheel nuts checked

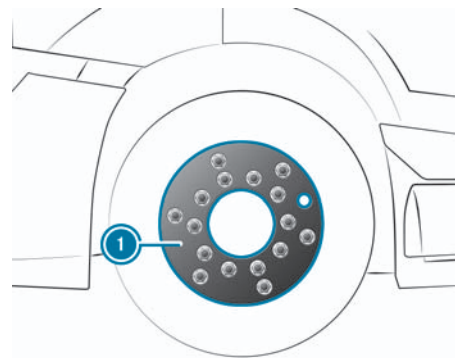
again after driving approximately 1000 to 5000 km.

- ▶ Retighten the wheel nuts in a crosswise pattern.

On light-alloy wheels, the wheel nuts are not flush with the wheel studs when tightened.

### Removing and fitting a Trilex® wheel

#### Removing a Trilex® wheel



- ▶ Unscrew the wheel nuts that secure wheel nut cover ①.
- ▶ Remove wheel nut cover ①.

- ▶ Remove the remaining wheel nuts.
- ▶ Remove the wheel.

### Fitting a Trilex® wheel

Before you fit the wheel, remove any rust and dirt from the contact areas on the following parts:

- wheel hub
  - disc wheel
  - Wheel nuts
- ▶ Place the wheel in position.
  - ▶ Screw on two opposing wheel nuts.
  - ▶ Screw on the remaining wheel nuts with the wheel nut cover ❶.
  - ▶ Tighten the wheel nuts in a clock-wise pattern and in several stages, observing the tightening torque while doing so (→ Page 522).
  - ▶ The wheel nuts must be retightened after 10 km and again after a further 50 km.

### Removing and fitting a Trilex® rim with tyre

#### Removing a Trilex® rim with tyre



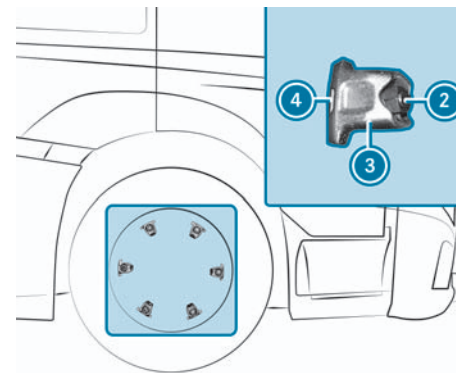
**Danger**

#### Risk of injury due to tensioned clamping plates

The clamping plates on the Trilex® rims are highly tensioned.

If you remove the nuts completely, the clamping plates may suddenly pop out of the rim.

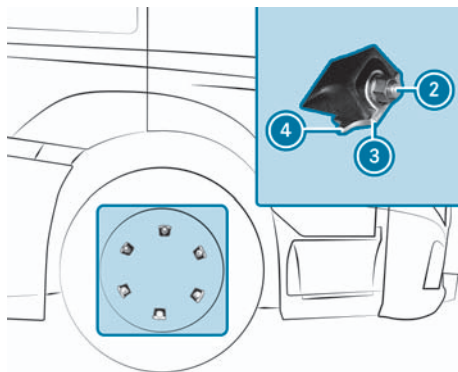
- ▶ Once all the clamping plates are no longer under tension, unscrew and remove the nuts on the clamping plates.
- ▶ Unscrew the wheel nuts that secure wheel nut cover ❶.
- ▶ Remove wheel nut cover ❶.



Example: single tyres

## Breakdown assistance

### Flat tyre



Example: twin tyres

- ▶ Loosen nuts ② on the clamping plates ③.
- ▶ Position the assembly lever (from the vehicle tool kit) on recess ④ and release clamping plates ③ with a sharp pull.
- ▶ Once all the clamping plates have been loosened, remove nuts ② on clamping plates ③.
- ▶ Remove clamping plates ③.
- ▶ Remove the Trilex® rim with tyre.

#### Fitting a Trilex® rim with tyre



#### **Danger**

#### **Risk of fire and accident due to abraded tyre valves**

Tyre valves in contact with the wheel spider can be abraded, resulting in a loss of tyre pressure.

This can

- damage or destroy the tyres.
  - cause tyres to overheat and catch fire.
  - jeopardise road and traffic safety.
- ▶ Guide the tyre valve or valve extension through the centre of the valve recess.



#### **Note**

#### **Damage to the wheel due to imbalance**

Tightening the nuts of the clamping plates in a crosswise pattern would stress the rim and cause the wheel to become imbalanced.

- ▶ Tighten the nuts clockwise.

- ▶ Tighten the nuts to the specified torque in several stages.

Before you fit the wheel, remove any rust and dirt from the contact areas on the following parts:

- spoke heads
  - disc wheel
  - nuts
  - clamping plates
- ▶ Vehicles with single tyres: Position the Trilex® rim with tyres on the wheel spider.
  - ▶ Vehicles with twin tyres: Position the inner Trilex® rim with tyres on the wheel spider.
  - ▶ Vehicles with twin tyres: Position the spacer ring so that the valve on the inner Trilex® rim fits in the recess.
  - ▶ Vehicles with twin tyres: Position the outer Trilex® rim with tyres so that the valve is opposite the valve on the inner Trilex® rim.
  - ▶ Position clamping plates ③ on the bolts.

- ▶ Tighten nuts ② slightly and make sure that the rim is not under tension.
- ▶ Tighten nuts ② on clamping plates ③ in a clockwise direction in several stages, observing the tightening torque whilst doing so (→ Page 522).
- ▶ Vehicles with single tyres: Screw wheel nut cover ① to the wheel using the appropriate wheel nuts.
- ▶ Vehicles with single tyres: Tighten the wheel nuts in a clockwise pattern and in several stages, observing the tightening torque while doing so (→ Page 522).
- ▶ Retighten the wheel nuts and nuts ② on the clamping plates ③ after 10 km and again after a further 100 km.

### Electrical fuses

#### Remove the main fuse carrier cover

#### Notes



**Danger**

#### Risk of accident and injury caused by overloaded lines

If you manipulate or bypass a faulty fuse or if you replace it with a fuse with a higher amperage, the electric lines may be overloaded.

This may result in a fire.

- ▶ Always replace faulty fuses with the specified new fuses having the correct amperage.

Individual electric circuits are protected by safety fuses or automatic circuit breakers.

Blown fuses or defective automatic circuit breakers must be replaced with equivalent fuses with the fuse ratings recommended in the fuse assignment diagram. Fuses with the same fuse rating are the same colour.

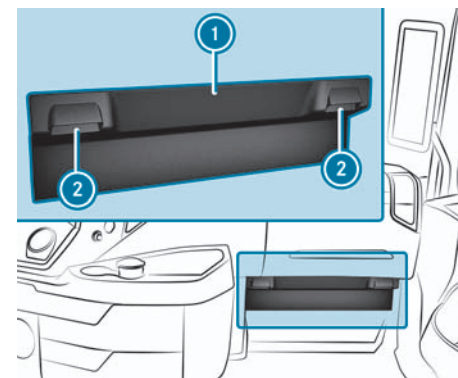
You can obtain further information from an authorised Mercedes-Benz Trucks Service Centre.

The fuse assignment diagram is on the inside of the main fuse carrier cover.

If the newly inserted fuse also blows, have the cause traced and rectified at a qualified specialist workshop.

- ▶ If an electric circuit fails, switch off the consumer and the vehicle.

#### Remove the main fuse carrier cover



- ▶ Open fasteners ② and remove the cover ①.

## Breakdown assistance

### Electrical fuses

#### Remove the control unit from the main fuse carrier

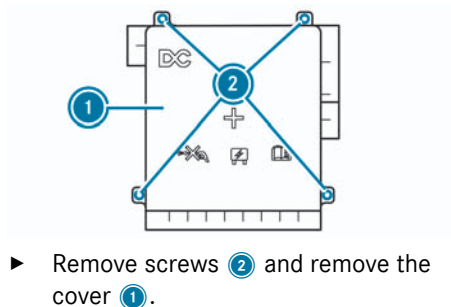
To access the main fuse carrier, the ASAM control unit must first be unscrewed and folded to the side.



- ▶ Unscrew screw ①.
- ▶ Detach the control unit from hinges ② and fold to the side.
  - ◁ The main fuse carrier is now accessible.

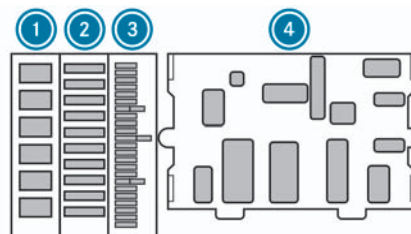
#### Open the fuse box in the cab

Other fuses are located on the side of the fuse box behind the cab.



- ▶ Remove screws ② and remove the cover ①.

#### Fuse assignment diagram



#### Main fuse carrier

- ① Relays in module°A32
- ② Relays in module°A31
- ③ Fuses in module°A3
- ④ Fuses, relays, and diodes in the PDM cabin module

#### Relays in module A32

| No. | Symbol | Consumer                                               |
|-----|--------|--------------------------------------------------------|
| K1  |        | Windscreen heater                                      |
| K2  |        | Windscreen heater                                      |
| K3  |        | Pre-installation, additional headlight                 |
| K4  |        | Load relief relay, differential lock and transfer case |
| K5  |        | CB radio with ERA-GLONASS                              |
| K6  |        | Unassigned                                             |

#### Relays in module A31

| No. | Symbol | Consumer                                             |
|-----|--------|------------------------------------------------------|
| K1  |        | Work lamps                                           |
| K2  |        | Transfer case oil cooling system                     |
| K3  |        | 12 V radio, terminal 15R TCC touch with sound system |
| K4  |        | Yellow position lamp (middle of the roof)            |
| K5  |        | 12 V radio, terminal 58                              |
|     |        | TCC touch with ERA-GLONASS                           |



| No. | Symbol                                                                            | Consumer                                                                     |
|-----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| K6  |  | Hydraulic auxiliary drive (HAD) control unit, terminal 15, load relief relay |
|     |  | Cargo liftgate                                                               |
| K7  |  | Hydraulic auxiliary drive (HAD) fan                                          |
|     |  | Cargo liftgate                                                               |
| K8  |  | Pre-installation, additional headlight                                       |
| K9  |  | LubeTronic 5Point                                                            |
| K10 |  | Headlamp cleaning system                                                     |

### Fuses in module A3

| No. | Symbol                                                                              | Consumer                           | Fuse rating |
|-----|-------------------------------------------------------------------------------------|------------------------------------|-------------|
| F1  |    | Work lamps (E23/X155/X200)         | 10 A        |
| F2  |    | Rotating beacon (S6)               | 10 A        |
| F3  |    | 24 V sockets (X136/X168/X199/X220) | 15 A        |
| F4  |    | 24 V sockets (X136/X168/X199/X220) | 15 A        |
| F5  |   | Socket for torch (X149)            | 10 A        |
|     |  | Illuminated Mercedes star (S44)    | 10 A        |

| No. | Symbol                                                                            | Consumer                                           | Fuse rating |
|-----|-----------------------------------------------------------------------------------|----------------------------------------------------|-------------|
| F6  |  | 24-V CB radio (A68)                                | 5 A         |
|     |                                                                                   | 12-V CB radio (A68) pre-installation               | 5 A         |
| F7  |  | Cab-width windscreen heater 2.3 m                  | 25 A        |
|     |                                                                                   | Cab-width windscreen heater 2.5 m                  | 30 A        |
| F8  |  | MEILLER pre-installation                           | 10 A        |
| F9  |  | Hydraulic auxiliary drive (HAD) control unit (A83) | 10 A        |
| F10 |  | Hydraulic auxiliary drive (HAD) fan (M25)          | 15 A        |
| F11 |  | 12 V TCC Touch (A9)                                | 15 A        |
|     |  | 12 V radio (A9) pre-installation                   | 10 A        |
|     |  | 12 V wireless smartphone connection (A185)         | 10 A        |
| F12 |  | 12 V multimedia box (X246)                         | 10 A        |
|     |                                                                                   | 12 V Android Blackbox (A158)                       | 10 A        |

| No. | Symbol                                                                               | Consumer                                                  | Fuse rating |
|-----|--------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------|
| F13 |   | 12 V instrument cluster display + head unit (A153/A154)   | 10 A        |
| F14 |   | 12 V side radar                                           | 10 A        |
|     |   | 12 V stationary air-conditioning system controller (A147) | 10 A        |
| F15 |   | ADR England pre-installation (X193/X194)                  | 5 A         |
| F16 |   | Transfer case oil cooling (M24)                           | 10 A        |
| F17 |   | Cab-width windscreen heater 2.3 m                         | 25 A        |
|     |                                                                                      | Cab-width windscreen heater 2.5 m                         | 30 A        |
| F18 |   | Non-MB body electrical system (S39/S40)                   | 20 A        |
|     |   | Semitrailer trailing axle (S87)                           | 20 A        |
| F19 |   | Video switch (A163)                                       | 10 A        |
| F20 |  | Headlamp cleaning system (M16/M17)                        | 15 A        |
| F21 |                                                                                      | Unassigned                                                |             |
| F22 |                                                                                      | Unassigned                                                |             |

## Breakdown assistance

### Electrical fuses

| No. | Sym-<br>bol | Consumer   | Fuse<br>rating |
|-----|-------------|------------|----------------|
| F23 |             | Unassigned |                |

#### Fuses in the PDM cabin module

| No. | Sym-<br>bol                                                                         | Consumer                                              | Fuse<br>rating |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------|----------------|
| F1  |    | Exhaust gas aftertreatment                            | 10 A           |
|     |    | Battery disconnect switch (A33)                       | 10 A           |
| F2  |    | ABS trailer power socket, 7-pin (X103), 5-pin (X103a) | 10 A           |
|     |    | Cargo liftgate                                        | 10 A           |
| F3  |                                                                                     | Unassigned                                            |                |
| F4  |                                                                                     | Unassigned                                            |                |
| F5  |    | Transmission control (TCM) - (A5)                     | 10 A           |
|     |    | Engine management (A4), (OM460) - (A4a)               | 10 A           |
| F6  |    | Turbo retarder clutch (A69)                           | 10 A           |
|     |    | Drive control (A3)                                    | 10 A           |
|     |  | Hydraulically driven axle (HAD)/CAN adapter box       | 10 A           |

| No. | Sym-<br>bol                                                                         | Consumer                                     | Fuse<br>rating |
|-----|-------------------------------------------------------------------------------------|----------------------------------------------|----------------|
| F7  |    | Common telematics platform (A150)            | 10 A           |
|     |    | Tachograph (P1)                              | 10 A           |
|     |    | Roller sunblind                              | 10 A           |
| F8  |    | Instrument cluster (A1)                      | 5 A            |
|     |    | Performance-related heavy vehicle fee (LSVA) | 5 A            |
|     |    | Winter service                               | 5 A            |
|     |    | Position marker lamps                        | 5 A            |
|     |    | Airbag                                       | 5 A            |
|     |    | Brake system (A10b)                          | 5 A            |
|     |    | Toll Collect                                 | 5 A            |
|     |    | Control and operating device heating (A12)   | 5 A            |
|     |    | Meiller tipper radio control (A82)           | 5 A            |
|     |  | ERA-GLONASS                                  | 5 A            |
| F9  |  | Stowage compartment lighting                 | 10 A           |
|     |  | Roof stowage compartment lighting            | 10 A           |
|     |  | Bunk lighting                                | 10 A           |

| No. | Sym-<br>bol                                                                           | Consumer                                                      | Fuse<br>rating |
|-----|---------------------------------------------------------------------------------------|---------------------------------------------------------------|----------------|
|     |    | Remote voltage converter T1/terminal 15R for 12 V relay radio | 10 A           |
|     |    | Refrigerator box                                              | 10 A           |
| F10 |                                                                                       | Unassigned                                                    |                |
| F11 |    | Fuel filter heating, engine (R17)                             | 15 A           |
| F12 |                                                                                       | Unassigned                                                    |                |
| F13 |    | Retarder (A11)                                                | 20 A           |
| F14 |                                                                                       | Unassigned                                                    |                |
| F15 |    | Transmission control (TCM) - (A5)                             | 15 A           |
| F16 |    | Body manufacturer, terminal 30                                |                |
| F17 |    | Body manufacturer, terminal D+                                |                |
| F18 |    | Radiator shutters (A54)                                       | 10 A           |
|     |    | Front radar sensor (A15a)                                     | 10 A           |
|     |   | Front radar sensor (A15a)                                     | 10 A           |
|     |  | Front radar sensor (A15a)                                     | 10 A           |

| No. | Sym-<br>bol                                                                        | Consumer                                                                      | Fuse<br>rating |
|-----|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------|
|     |   | Front radar sensor (A15b)                                                     | 10 A           |
| F19 |   | Fuel filter heating frame (R11)                                               | 15 A           |
| F20 |   | Turbo retarder clutch (A69)                                                   | 20 A           |
| F21 |   | Performance-related fee for retrofitting heavy vehicle (LSVA)                 | 20 A           |
|     |   | Pre-installation performance-related heavy vehicle fee (LSVA) (via interface) | 20 A           |
|     |   | Trailer socket, 15-pin (X102)                                                 | 20 A           |
|     |   | Trailer socket 13 (15)-pin (X102a)                                            | 20 A           |
|     |   | Trailer socket, 15-pin add. (X222)                                            | 20 A           |
|     |   | Trailer socket 13 (15)-pin add. (X222a)                                       | 20 A           |
|     |   | Trailer voltage converter                                                     | 20 A           |
| F22 |   | Electronic air processing unit (A18)                                          | 15 A           |
| F23 |  | Cab tilt pump                                                                 | 5 A            |

| No. | Sym-<br>bol                                                                         | Consumer                                                        | Fuse<br>rating |
|-----|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|----------------|
|     |    | Subwoofer (B94)                                                 | 5 A            |
| F24 |    | Voltage converter (T3)                                          | 15 A           |
| F25 |    | Voltage converter (T2)                                          | 15 A           |
| F26 |    | Sliding sunroof motor (M12)                                     | 15 A           |
|     |    | Sliding sunroof motor (M12)                                     | 20 A           |
|     |    | Auxiliary heating, CAN adapter box                              | 20 A           |
| F27 |    | 12/24 Vsockets                                                  | 15 A           |
| F28 |    | Drive control CPC3 (A3), CPC5 (A3a)                             | 20 A           |
| F29 |    | Brake system (EBS) - (A10b)                                     | 20 A           |
| F30 |    | Toll Collect                                                    | 10 A           |
|     |    | Performance-related fee for retrofitting heavy vehicle (LSVA)   | 10 A           |
|     |    | ATA (anti-theft alarm system) (A6)                              | 10 A           |
|     |    | Tachograph (P1)                                                 | 10 A           |
| F31 |  | Common telematics platform (A150), Fleet management system, BAT | 10 A           |

| No. | Sym-<br>bol                                                                          | Consumer                               | Fuse<br>rating |
|-----|--------------------------------------------------------------------------------------|----------------------------------------|----------------|
|     |   | Tyre pressure monitoring system, BAT   | 10 A           |
|     |   | Video radar decision unit, BAT         | 10 A           |
| F32 |   | Display mirror, driver's side (A159)   | 5 A            |
|     |   | Smart Tacho                            | 5 A            |
|     |   | ERA-GLONASS                            | 5 A            |
| F33 |                                                                                      | Unassigned                             |                |
| F34 |   | Diagnostics connection                 | 10 A           |
| F35 |   | Instrument cluster (A1)                | 10 A           |
|     |   | Heating (A12b)/ heating (A12)          | 10 A           |
|     |   | Amplification relay                    | 10 A           |
| F36 |   | Steering-wheel buttons (A19) or (A19a) | 10 A           |
|     |   | Parking brake lever (A157)             | 10 A           |
| F37 |                                                                                      | Unassigned                             |                |
| F38 |  | Transmission control (TCM) - (A5)      | 15 A           |

## Breakdown assistance

### Electrical fuses

| No. | Symbol                                                                              | Consumer                                      | Fuse rating |
|-----|-------------------------------------------------------------------------------------|-----------------------------------------------|-------------|
| F39 |    | Signal acquisition module (A7), energy supply | 20 A        |
| F40 |    | Radio/navigation (A9)                         | 15 A        |
| F41 |                                                                                     | Unassigned                                    |             |
| F42 |    | Driver's door module (A16)                    | 20 A        |
| F43 |    | Front passenger's door module (A17)           | 20 A        |
|     |                                                                                     | Unassigned                                    |             |
| F44 |    | Electrical immobiliser control unit (A156)    | 5 A         |
| F45 |    | Smart Tacho                                   | 5 A         |
| F46 |    | Driver's seat heating                         | 15 A        |
|     |    | Front passenger's seat heating                | 15 A        |
| F47 |    | Cigarette lighter                             | 5 A         |
|     |    | Socket                                        | 15 A        |
| F48 |                                                                                     | Central gateway (A2)                          | 5 A         |
|     |  | Steering wheel angle sensor (B66)             | 5 A         |
|     |  | Mirror display, co-driver's side (A160)       | 5 A         |

| No. | Symbol                                                                              | Consumer                                        | Fuse rating |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------|-------------|
| F49 |    | Integrated Predictive Powertrain Control (IPPC) | 5 A         |
|     |    | Roller sunblind                                 | 5 A         |
| F50 |    | Brake system (A10b)                             | 10 A        |
| F51 |    | Retarder (A11)                                  | 10 A        |
|     |    | Integrated Predictive Powertrain Control (IPPC) | 10 A        |
| F52 |    | LubeTronic                                      | 10 A        |
|     |    | Pre-installation, trailer coupling (Q9A)        | 10 A        |
| F53 |    | Video switch A163, terminal 15                  | 10 A        |
|     |    | Pre-installation, reversing camera              | 10 A        |
|     |    | Video radar decision unit                       | 10 A        |
|     |                                                                                     | Unassigned                                      |             |
| F54 |    | Voltage converter T1                            | 15 A        |
| F55 |    | Extension module cabin (XMC) (A22)              | 25 A        |
| F56 |  | Blower motor                                    | 25 A        |
| F57 |  | Power socket (X171)                             | 25 A        |

| No. | Symbol                                                                              | Consumer                                            | Fuse rating |
|-----|-------------------------------------------------------------------------------------|-----------------------------------------------------|-------------|
| F58 |  | Non-MB body electrical system (S38)                 | 20 A        |
| F59 |  | Signal acquisition module (A7), energy supply 2 BAT | 40 A        |
| F60 |  | Signal acquisition module (A7), energy supply 1 BAT | 60 A        |

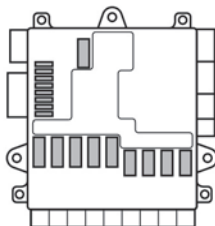
### Relays in the PDM cabin module

| No. | Symbol                                                                              | Consumer                               |
|-----|-------------------------------------------------------------------------------------|----------------------------------------|
| K1  |  | Terminal 15 relay                      |
| K2  |  | Terminal D+ relay                      |
| K3  |  | Trailer brake light                    |
| K4  |  | Energy-saving mode 2 – bi-stable relay |
| K5  |  | Terminal 15R relay                     |
| K6  |  | Terminal 15 relay                      |
| K7  |  | Terminal 15 relay                      |
| K8  |  | Energy-saving mode 1 – bi-stable relay |

### Diodes in the PDM cabin module

| No. | Symbol                                                                            | Consumer       |
|-----|-----------------------------------------------------------------------------------|----------------|
| D1  |  | Signal horn    |
| D2  |  | Cargo liftgate |
| D3  |                                                                                   | Unassigned     |
| D4  |                                                                                   | Unassigned     |

### Fuses in the PDM chassis module (fuse box in the cab)



### Plug fuses

| No. | Symbol | Consumer                                    | Fuse rating |
|-----|--------|---------------------------------------------|-------------|
| F1  |        | Electronic air processing unit (EAPU)       | 15 A        |
| F2  |        | Electric stationary air-conditioning system | 25 A        |

| No. | Symbol | Consumer                                    | Fuse rating |
|-----|--------|---------------------------------------------|-------------|
| F3  |        | Electric stationary air-conditioning system | 25 A        |
| F4  |        | Electric stationary air-conditioning system | 25 A        |
| F5  |        | ALAC                                        | 25 A        |
|     |        | Level/roll control (CLCS) (A26)             | 25 A        |
| F6  |        | Additional steering axle (ASA) (A34)        | 25 A        |
| F7  |        | Trailer ABS                                 | 25 A        |
| F8  |        | Trailer (X102) (X102a)                      | 25 A        |
|     |        | Additional trailer socket (X222a) (X222)    |             |
|     |        | 12-V trailer voltage converter (A132)       |             |

### Screw-in fuses

| No. | Symbol | Consumer                                    | Fuse rating |
|-----|--------|---------------------------------------------|-------------|
| X1  |        | PDM cabin (A8)                              | 150 A       |
| X2  |        | Electric stationary air-conditioning system | 40 A        |
| X3  |        | Exhaust gas aftertreatment                  | 40 A        |
| X4  |        | PDM cabin (A8)                              | 40 A        |

| No. | Symbol | Consumer                            | Fuse rating |
|-----|--------|-------------------------------------|-------------|
| X5  |        | Pre-installation, kitchenette or EE | 80 A        |
| X6  |        | RPS                                 | 40 A        |
|     |        | APS                                 | 40 A        |
| X6a |        | APS 3                               | 40 A        |
| X7  |        | Cab tilt pump                       | 40 A        |
| X8  |        | Unassigned                          |             |
| X9  |        | Unassigned                          |             |
| X10 |        | Unassigned                          |             |
| X11 |        | Unassigned                          |             |
| X12 |        | Bodybuilder                         | 300 A       |
| X13 |        | PDM cabin (A8)                      | 150 A       |
| X14 |        | Battery with sensor                 |             |

### Checking safety fuses and the automatic circuit breaker

#### Checking and replacing a safety fuse

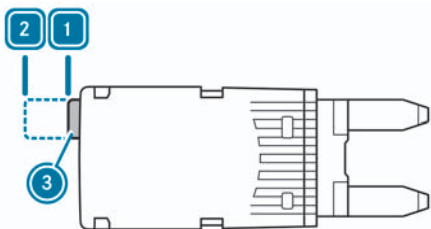
- Pull the fuse out of the module using the pliers and carry out a visual inspection.

## Breakdown assistance

### Information on the compressed-air system

- ▶ If the fuse wire has melted, replace the blown fuse with a spare fuse.
- ▶ Switch the consumers on and check that they are functioning correctly.
- ▶ If the safety fuse blows again, have the electrical system checked at a qualified workshop.
- ▶ Switch the consumers on and check that they are functioning correctly.
- ▶ If the automatic circuit-breaker is tripped again, have the electrical system checked at a qualified specialist workshop.

#### Check and switch on an automatic circuit breaker



If an automatic circuit breaker is tripped, pin ③ moves to the OFF position ②.

- ▶ Pull the automatic circuit-breaker out of the module.
- ▶ Press pin ③ to ON position ①.
- ▶ Insert the automatic circuit breaker again.

#### Information on the compressed-air system



##### Note

#### Damage to the compressed-air system due to contaminated and humid air

The compressed air does not pass through the compressed-air dryer if the compressed-air system is filled via the following connections:

- connection 28 on the electronic air processing unit
- the connections on the brake value sensor beneath the maintenance flap

If the supply pressure of the external compressed-air source is below 11 bar,

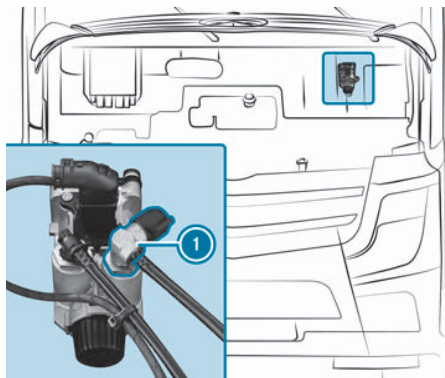
it cannot be guaranteed that all the pressure circuits will be filled.

Only fill pressure circuits with max. 12.5 bar.

Supply pressure that is too high, or contaminated and humid air from the external compressed-air source, can damage components of the compressed-air system.

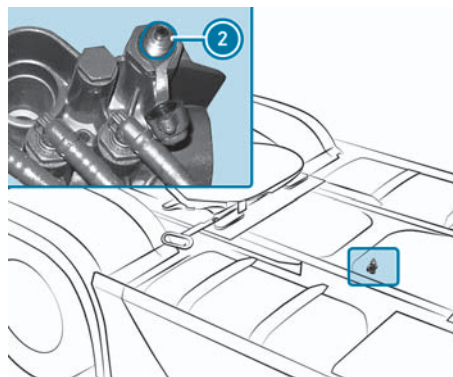
- ▶ Fill the compressed-air system using a pressure between 11 bar and 12.5 bar.
- ▶ Fill the compressed-air system with clean and dry air.

System-dependent supply pressures can be found in the "Technical data" section (→ Page 521).



Fill the compressed-air system via front filler connections ① on the brake value sensor when the vehicle is switched off.

This does not fill the pressure circuit of the air suspension.



If the compressed air system is filled via connection 28 ② on the electronic air treatment unit, the pressure circuit for the air suspension is also filled.

**Vehicles with ProCabin:**



Connection 28 ② is connected to the electronic air processing unit and is located under the cover on the driver's side. To open the cover, swing it upwards.

#### **i Note**

If the compressed-air system is filled via connection 28 ②, the pressure circuit of the air suspension is also filled.

## Breakdown assistance

### Jump-starting, tow-starting and towing away

#### Note

The electronic air treatment unit contains the following components in a single unit.

Components of the electronic air treatment unit:

- Pressure regulator
- Compressed-air dryer
- Multicircuit protection valve
- Pressure limiting valve
- Control unit
- Electronic parking brake

Check the following points before towing away:

- The spring brake actuators of the parking brake are released (→ Page 482).  
If the compressed-air supply is insufficient, release the spring-loaded brake cylinders manually (→ Page 482).
- Check whether workshop mode of the electronic parking brake is activated (→ Page 228).

#### Jump-starting, tow-starting and towing away

##### Performing a jump start

#### Danger

##### **Risk of explosion when the battery is frozen**

A discharged battery can freeze at temperatures near the freezing point.

If you then provide starting assistance or charge the battery, battery gas may escape.

- ▶ Always thaw a frozen battery before charging it or providing starting assistance.

If the warning and indicator lamps do not light up in the instrument cluster at temperatures around or below freezing, it is highly probable that the discharged battery has frozen. In this case, do not provide starting assistance or charge the battery.

The service life of a battery that has been thawed may be dramatically shortened.

The starting characteristics may be impaired, especially at low temperatures.

#### Danger

##### **Danger of chemical burns from battery acid**

Battery acid is caustic.

- ▶ Avoid contact with the skin, eyes, or clothing.
- ▶ Do not inhale battery gases.
- ▶ When carrying out maintenance work on the battery, wear acid-resistant protective clothing, particularly safety glasses, protective gloves, and aprons.
- ▶ Do not lean over a battery.
- ▶ Keep children away from the battery.
- ▶ In case of contact with battery acid, immediately rinse the affected area thoroughly with plenty of clear water and seek medical assistance promptly.
- ▶ If you get battery acid in your eyes, as soon as possible rinse them thoroughly with plenty of clean water.



### Jump-starting, tow-starting and towing away

Seek medical attention as soon as possible.



#### **Danger**

#### **Risk of explosion due to an explosive mixture of gas**

An explosive mixture of gas may escape from the battery during the charging process and when providing starting assistance.

- ▶ Avoid fire, naked flames, sparks, and smoking.
- ▶ Ensure sufficient ventilation.
- ▶ Do not lean over a battery.



#### **Note**

#### **Damage to the battery or electronic components due to improper jump starting**

To prevent damage:

- ▶ Do not use a rapid battery charger for jump starting.
- ▶ When using a portable charger (batteries with a mains adapter), remove the mains plug before jump starting.

- ▶ Only accept starting assistance from vehicles with a 24 V system.
- ▶ Use jump leads protected from reverse polarity with a cable cross section of 35 - 50 mm<sup>2</sup> and insulated terminal clamps.
- ▶ Empty batteries can freeze if the outside temperature falls below -10°C. In this case, do not start the vehicle. First, thaw out the battery.
- ▶ Do not connect the negative terminal clamp of the jump lead to the chassis. Vehicle parts may otherwise be damaged.

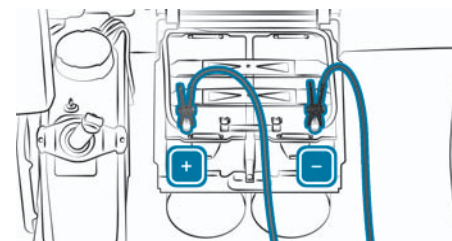
#### **Requirements**

- Make sure that the vehicles are not touching.
- The parking brake is applied.
- All electrical consumers are switched off.
- The vehicle is switched off.

Observe the safety instructions and protective measures when handling the battery (→ Page 424).

After starting assistance, have the batteries checked at a qualified workshop.

#### **Vehicles without a jump-start connection point**



#### **Connecting the jump lead**

- ▶ Remove the battery box cover (→ Page 426).
- ▶ First connect the positive terminal clamp of the jump lead to the positive terminal of the other vehicle's battery and then to the positive terminal  of the starter battery.
- ▶ First connect the negative terminal clamp of the jump lead to the negative terminal of the other vehicle's battery and then to the negative terminal  of the starter battery.

## Breakdown assistance

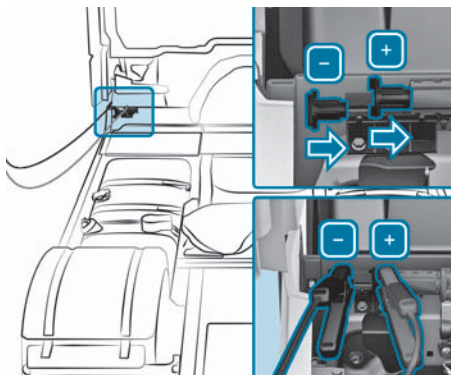
### Jump-starting, tow-starting and towing away

- ▶ Leave the engine of the assisting vehicle running at an elevated engine speed.
- ▶ Start the vehicle and leave it running at idle speed.

#### Disconnecting the jump lead

- ▶ First disconnect the negative terminal clamps of the jump lead from the negative terminals.
- ▶ Disconnect the positive terminal clamps of the jump lead from the positive terminals.

#### Vehicles with a jump-start connection point



#### Connecting the jump lead

- ▶ First connect the positive terminal clamp of the jump lead to the positive terminal of the other vehicle's battery.
- ▶ Slide back the red protective cap with the other positive terminal clamp of the jump lead and connect the positive terminal clamp to the **+** positive terminal.

- ▶ First connect the negative terminal clamp of the jump lead to the negative terminal of the other vehicle's battery.
- ▶ Slide back the black protective cap with the other negative terminal clamp of the jump lead and connect the negative terminal clamp to the **-** negative terminal.
- ▶ Leave the engine of the assisting vehicle running at an elevated engine speed.
- ▶ Start the vehicle and leave it running at idle speed.

#### Disconnecting the jump lead

- ▶ First disconnect the negative terminal clamps of the jump lead from the negative terminals.
  - ◁ The black protective cap of the jump-start connection point springs back into its original position.
- ▶ Disconnect the positive terminal clamps of the jump lead from the positive terminals.

### Jump-starting, tow-starting and towing away

- ◁ The red protective cap of the jump-start connection point springs back into its original position.

#### Notes on tow-starting/towing away



**Danger**

#### **Risk of accident if the Active Brake Assist is activated when towed away, or when the vehicle is used as a utility vehicle**

If, for example, the Active Brake Assist is activated while you are using your vehicle as a utility vehicle or you are towing, the vehicle may brake automatically.

The wheels may lose their grip.

- ▶ Deactivate the Active Brake Assist in this or similar situations if possible.



**Danger**

#### **Risk of accident due to lack of compressed-air supply**

If the engine is not running, the power steering system and the compressed-air supply will not work. They need considerably more power for steering. In the event of pressure loss, the spring-loaded brake cylinder of the parking brake may activate and therefore brake the vehicle in an uncontrolled manner.

This could cause you to lose control of the vehicle.

- ▶ Always use a tow bar.
- ▶ Always ensure that compressed air is supplied, e.g. using an external source of compressed air.



**Danger**

#### **Risk of accident when towing away with the vehicle switched on**

When towing away with the front axle raised and the vehicle switched on, the ASR may brake the wheels of the rear axle in an uncontrolled manner.

The vehicle may break free.

- ▶ Switch off the vehicle before towing with the front axle raised.



**Note**

#### **Damage to the vehicle due to incorrect towing**

If the vehicle is not switched on during towing, the transmission, brakes and air suspension may be damaged.

- ▶ Remove the drive shafts before towing.
- ▶ Charge the compressed-air system or release the spring-loaded brake cylinder manually.
- ▶ While towing the vehicle away, constantly monitor the driving level.



**Note**

#### **Damage to implements and bodies when towing away**

Attachments and bodies can affect the vehicle height and width.

## Breakdown assistance

### Jump-starting, tow-starting and towing away

If the vehicle is being transported on a low loader, the permitted vehicle height may be exceeded.

- Pay attention to the headroom of structures, e.g. of bridges.
- Fold in the wind deflectors when towing away with the rear axle raised.

Specialist knowledge beyond the scope of these operating instructions is required for tow-starting and towing the vehicle away. Only have your vehicle tow-started or towed away by a professional towing and recovery company.

Only in exceptional cases, e.g. when leaving danger zones, should the vehicle be tow-started or towed away with the propeller shaft installed.

Only tow the vehicle with raised front axles.

Before towing the vehicle away, check whether workshop mode of the parking brake is activated (→ Page 228).

Vehicles with power steering: Only tow-start the vehicle if the vehicle is

switched on and the warning lamp  is not on in the instrument cluster. Tow-start the vehicle on a straight stretch of road.

#### Note

Information on towing away and recovering can be found on the Internet at:

<https://www.mercedes-benz-trucks.com/>

You can obtain further information from an authorised Mercedes-Benz Trucks Service Centre.

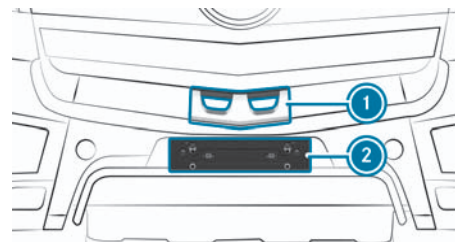
#### Manoeuvring and tow-starting/towing away

If the vehicle is being transported on a low loader, the permitted vehicle height may be exceeded. Pay attention to the headroom of structures, e.g. of bridges.

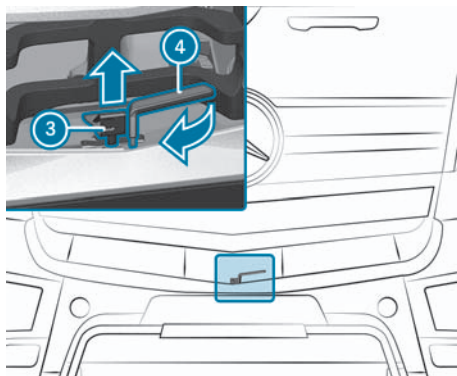
- Before towing, activate the workshop mode of the parking brake (→ Page 228).

- If necessary, charge the compressed-air system using an external source of compressed air (→ Page 472).
- If there is insufficient reservoir pressure to release the parking brake, release the spring-loaded brake cylinders manually (→ Page 482).
- Before towing away, agree on a clear signal with the towing vehicle driver. Adapt your driving style to the more difficult conditions.

#### Coupling jaw



### Jump-starting, tow-starting and towing away



Use the front coupling jaw for manoeuvring, tow-starting and towing away.

The coupling pin is prevented from rotating (e.g. when towing with a steel cable) by a safety spring (3) secured with a retaining pin.

- ▶ Vehicles with a large angle of approach: Fold out the folding step.
- ▶ Remove the coupling pin cover (1) forwards.
- ▶ Grasp the licence plate holder (2) at the sides and swivel it downwards.

- ▶ Using your thumb, push the safety spring (3) with retaining pin upwards to release the coupling pin (4).
- ▶ Turn the coupling pin (4) 90° clockwise and pull it out upwards.
- ▶ Attach the tow bar.
- ▶ Insert the coupling pin (4) downwards through the tow bar eyelet and turn it 90° anti-clockwise back to its original position.
  - ◀ The retaining pin engages audibly.
- ▶ Position the coupling pin cover (1) and clip it in place.

#### Front towing eyes



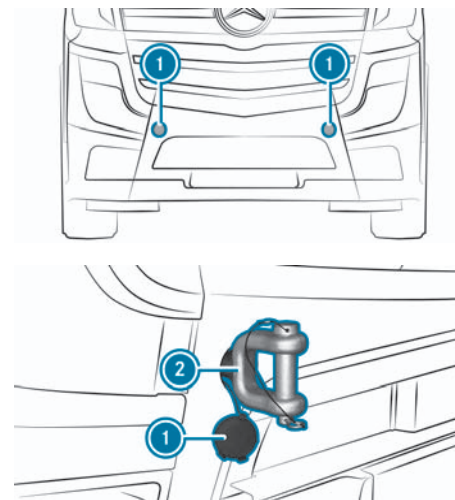
**Danger**

#### Risk of accident if unapproved towing eyes are used

The towing eyes may break.

The vehicle may fall out of the bracket during towing.

- ▶ For safety reasons, only use towing eyes that are authorised and approved for raising your vehicle.



If a towing eye (2) is not included in the vehicle tool kit, you can obtain it (2) from an authorised Mercedes-Benz Trucks service centre.

- ▶ Press the area marked with an arrow on the cover (1) in order to open it.

The towing eye (2) is screwed into the front end of the frame head behind the cover (1). Make sure that the towing eye is completely screwed in. If the thread is

## Breakdown assistance

### Jump-starting, tow-starting and towing away

dirty, clean it before screwing the towing eye in.

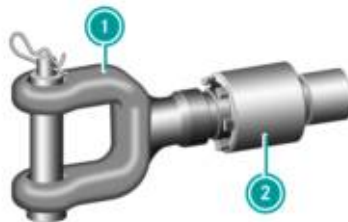
The towing eyes are made from a special material with higher strength values. Only use the original towing eyes.

If the vehicle is raised at the front for towing away, you need a second towing eye.

The person towing away the vehicle should bring one with them, or you can purchase one at an authorised Mercedes-Benz Trucks Service Centre.

**Vehicles with preinstallation for front-mounted implements:** The threaded hole is not suitable for towing eyes. Do not use towing eyes for tow-starting and towing away. Use the front coupling jaw for tow-starting and towing away the vehicle.

#### Vehicles with ProCabin



If a towing eye ① with extension ② is not included in the vehicle tool kit, you can obtain the towing eye with extension from an authorised Mercedes-Benz Trucks service centre.



- Remove the respective cover ① to expose the access to the frame head.

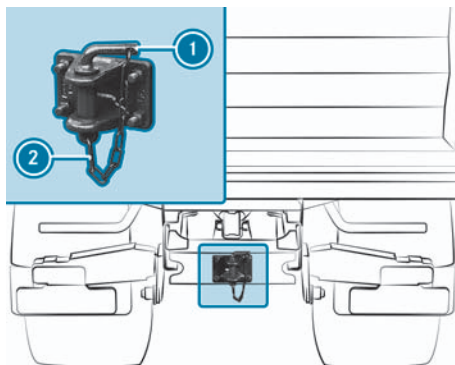
The towing eye is screwed into the frame head behind the cover ①. Make sure that the towing eye with extension is completely screwed in. If the thread is dirty, clean it before screwing in the towing eye with extension.

The towing eyes and extensions are made from a special material with higher strength values. Therefore, only use the original towing eyes and extensions.

If the vehicle is lifted at the front for towing, you need a second towing eye with extension.

The tow truck should bring one with it, or you can purchase one at an authorised Mercedes-Benz Trucks service centre.

### Rear towing coupling

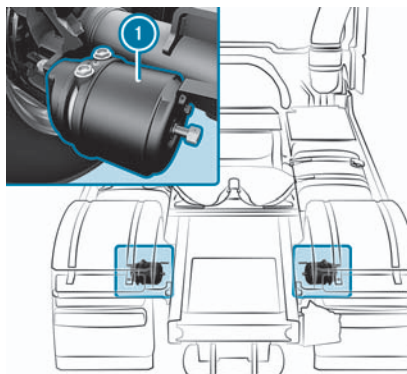


Use the rear towing coupling for manoeuvring, tow-starting and towing away.

- ▶ Disengage the catch (2) on the coupling pin (1).
- ▶ Remove the coupling pin (1).
- ▶ Attach the tow bar.
- ▶ Push the coupling pin (1) down through the eyelet of the tow bar.
- ▶ Hook the catch (2) onto the coupling pin (1) again.

### Spring-loaded brake

#### Overview of the arrangement of the spring-loaded brake cylinders



The arrangement of spring-loaded brake cylinders (1) on the front and/or rear axle depends on the axle type.

#### Arrangement of spring-loaded brake cylinders on front axle(s)

| Axles | 1                 | 2 |
|-------|-------------------|---|
| 4x2   | x <sup>5, 6</sup> |   |
| 4x4   | x <sup>5</sup>    |   |
| 6x2   |                   |   |

| Axles   | 1                 | 2 |
|---------|-------------------|---|
| 6x2 DNA | x <sup>5</sup>    |   |
| 6x2/2   | x                 |   |
| 6x2/4   | x                 |   |
| 6x4     | x <sup>5, 6</sup> |   |
| 6x6     | x <sup>5</sup>    |   |
| 8x4 ENA | x                 |   |
| 8x4/4   |                   | x |
| 8x6/4   | x <sup>5</sup>    | x |
| 8x8/4   | x <sup>5</sup>    | x |

<sup>5</sup> Special equipment  
<sup>6</sup> In conjunction with disc brakes

#### Arrangement of spring-loaded brake cylinders on rear axle(s)

| Axles | 1 | 2 |
|-------|---|---|
| 4x2   | x |   |
| 4x4   | x |   |
| 6x2   | x | x |
| 6x2/2 |   | x |
| 6x2/4 |   | x |
| 6x4   | x | x |
| 6x6   | x | x |



## Breakdown assistance

### Jump-starting, tow-starting and towing away

| Axles   | 1 | 2 |
|---------|---|---|
| 8x4 ENA | x | x |
| 8x4/4   | x | x |
| 8x6/4   | x | x |
| 8x8/4   | x | x |

### Manually releasing and moving the spring-loaded brake cylinder to the drive position

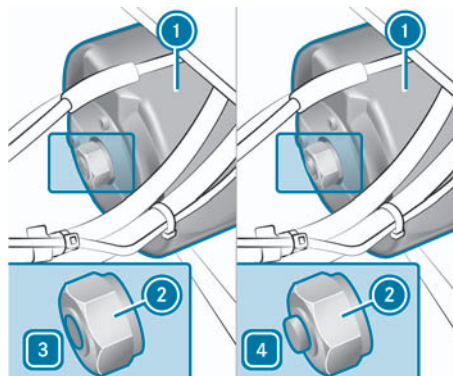


#### Note

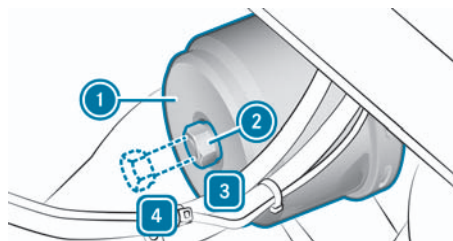
#### Damage to the spring-loaded brake cylinder

Using excessive torque when loosening or tightening the release screw can damage the spring-loaded brake cylinder.

- ▶ Loosen the release screw using a maximum of 70 Nm.
- ▶ Tighten the release screw using a maximum of 35 Nm.
- ▶ Do not use an impact wrench to loosen or tighten the release screw.



Spring-loaded brake cylinder with release screw and release indicator



Spring-loaded brake cylinder with release screw

#### Spring-loaded brake cylinder

- ① Spring-loaded brake cylinder
- ② Release screw
- ③ Drive position
- ④ Released position

#### ④ Released position

If there is insufficient supply pressure to release the parking brake, release all spring-loaded brake cylinders manually in the event of an emergency.

The vehicles may be fitted with different types of spring-loaded brake cylinders depending on the axle, e.g. spring-loaded brake cylinders with a release screw or with a release indicator.

- ▶ Use chocks to protect the vehicle against rolling away.
- ▶ **To release the spring-loaded brake cylinder:** Turn release screw ② of the spring-loaded brake cylinder ① to the left until it stops in release position ④.

#### Moving the spring-loaded brake cylinder to the drive position

Make sure to move all spring-loaded brake cylinders back into the drive position.



- ▶ Charge the brake system until the shut-off pressure is reached ( → Page 521).
- ▶ Use chocks to protect the vehicle against rolling away.
- ▶ Release the parking brake manually ( → Page 228).
- ▶ Turn release screw ② of spring-loaded brake cylinder ① clockwise to the drive position ③.
- ▶ Tighten the release screw ②.

## Wheels and tyres

### Operating and road safety

#### Operating and road safety

#### General notes on wheels and tyres

Tyres are of particular importance to the operating and road safety of the vehicle. Check vehicle tyres regularly (→ Page 485).

#### Tyre load-bearing capacity, tyre speed rating and tyre types



**Danger**

#### **Risk of injury through exceeding the specified tyre load-bearing capacity or the permissible speed rating**

Exceeding the specified tyre load-bearing capacity may lead to tyre damage and the tyres bursting.

- ▶ Therefore, only use tyre types and sizes approved for your vehicle model.
- ▶ Observe the tyre load-bearing capacity rating and speed rating required for your vehicle.

A tyre dealer, a qualified specialist workshop or an authorised Mercedes-Benz Trucks Service Centre will be able to provide you with further information on the following:

- Tyre load-bearing capacity (LI, Load Index)
- Tyre speed rating
- Tyre age
- Causes and consequences of tyre wear
- Measures to be taken in the event of tyre damage
- Types of tyre for specific regions, areas of operation or conditions of vehicle use
- Interchangeability of tyres

In particular, observe legal regulations and the permissible tyre specifications for the country you are currently in. These requirements may stipulate a specific tyre type for your vehicle. In addition, the use of specific tyre types may be advisable for certain regions and areas of operation.

#### Notes on replacing tyres and retreaded tyres

#### Replacing tyres

If you are replacing the standard tyres of your vehicle, use only the tyre and wheel rim sizes approved for your vehicle model.

A tyre dealer, a qualified specialist workshop or an authorised Mercedes-Benz Trucks Service Centre will be able to provide you with further information. After replacing your tyres, carry with you the vehicle's type approval for the new tyre and wheel disk size as well as the manufacturer's certificate showing that the tyres may be used on the vehicle. Observe the legal requirements for the country you are currently in. An authorised Mercedes-Benz Trucks Service Centre can provide you with information on obtaining a manufacturer's certificate.

After replacing your tyres, it may be necessary for adjustments to be made to the control units. If necessary, have these adjustments carried out at a qualified specialist workshop.

### Notes on sound changes or undesired handling characteristics

**Vehicles with power steering:** If you change the mechanical axle stops, have the power steering taught-in again at a qualified specialist workshop.

#### Retreaded tyres

Daimler Truck AG recommends that you only use wheels and tyres that have been approved for Mercedes-Benz trucks.

#### Balancing tyres

Daimler Truck AG recommends that you only use clip-on and adhesive wheel balance weights that have been approved for Mercedes-Benz trucks to balance the tyres. Filling balancing granules, sand or gel into the tyres can lead to leakage at the tyre inliner or failure of the tyre pressure sensor installed on the tyre valve.

#### Notes on wheels with tyre pressure sensors

##### Installation

You can identify wheels with tyre pressure sensors by a red ring on the tyre

valve. When mounting a tyre, observe the mounting instructions and the notes on the tyre pressure monitoring system in the "Tyres" menu window (→ Page 165).

A tyre dealer, a qualified workshop or an authorised Mercedes-Benz Trucks Service Centre will be able to provide you with further information.

#### Storage

The battery of a tyre pressure sensor for tyre pressure monitoring is activated automatically when it is installed. The tyre pressure sensor will subsequently begin to transmit data periodically. If you store wheels with installed tyre pressure sensors, the service life of the tyre pressure sensor battery during road use is reduced. Therefore, tyre pressure sensors must only be mounted a short time before the wheel is used.

#### Notes on sound changes or undesired handling characteristics

While driving, pay attention to vibrations, noises, and unusual handling characteristics, e.g. pulling to one side. This may indicate that the wheels or tyres are damaged. Reduce your speed if you suspect that a tyre is defective. Stop the vehicle as soon as possible to check the wheels and tyres for damage. Concealed tyre damage may also be causing the unusual handling characteristics. If you find no signs of damage, have the tyres and wheels checked at a qualified specialist workshop.

#### Notes on regularly inspecting wheels and tyres

Tyres are of particular importance to the operating and road safety of the vehicle.

Therefore, regularly check the following points:

- Tyre condition
- Tyre age
- Tyre tread

## Wheels and tyres

### Notes on regularly inspecting wheels and tyres

- Tyre pressure

#### Tyre condition



**Danger**

#### Risk of injury through damaged tyres

Damaged tyres can cause tyre pressure loss.

- ▶ Check the tyres regularly for signs of damage, and replace any damaged tyres as soon as possible.

Before starting your journey, check the tyre condition for the following points:

- External damage
- Foreign objects in the tyre tread
- Foreign objects between the tyres (on vehicles with twin tyres)
- Cracks or bulges
- Uneven tread wear or excessive wear on one side

Tyre damage can be caused by the following:

- The operating conditions of the vehicle

- Tyre ageing
- Kerbs
- Foreign objects
- Insufficient or excessive tyre pressure
- Weather conditions and environmental factors
- Contact with oil, grease, fuel

#### Tyre age



Tyres age, even if they are used infrequently or not at all. Operating and road safety diminish with the age of the tyres. For this reason, tyres more than six years old must be checked and, if necessary, replaced at a qualified specialist workshop. This also applies to the spare wheel. The date of manufacture ① provides information about the age of a tyre. The first and second digits refer to the week of man-

ufacture, starting with "01" for the first calendar week of the year. The third and fourth digits refer to the year of manufacture. For example, a tyre that is marked "3818" was manufactured in week 38 in 2018.

#### Tyre tread



**Danger**

#### Risk of accident from worn (insufficient) tyre tread

As the remaining tread depth wears off, the tyre grip decreases, particularly on wet or snowy carriageways or unpaved surfaces.

- ▶ Drive at an appropriate speed.
- ▶ Avoid ruts and brake carefully.
- ▶ Change tyres immediately if the tyre tread is insufficient.

You must regularly check the tyre tread depth and the condition of the tyre contact surface across the entire width on all tyres.

### Notes on regularly inspecting wheels and tyres

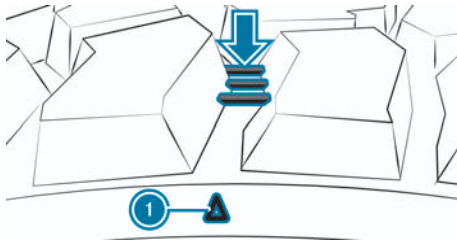


**Danger**

#### Risk of aquaplaning from insufficient tyre tread

Depending on the depth of the water on the roadway, the vehicle may aquaplane.

- ▶ Drive at an appropriate speed.
- ▶ Avoid ruts and brake carefully.
- ▶ Change tyres if the tyre tread is insufficient.



#### Tyre wear indicator

- ① Example: Tyre tread wear indicator

A specified minimum tread depth is a legal requirement for all tyres. Observe the legal requirements for the country you are currently in. The less tyre tread depth remaining, the poorer are the grip and

handling characteristics of the vehicle, particularly on wet or snow-covered carriageways. A tyre has reached the minimum tread depth once the tread wear indicator (arrow) is flush with the tyre tread.

For safety reasons, Daimler Truck AG recommends that you replace your tyres before reaching the legally prescribed limit for the minimum tread depth.

#### Tyre pressure



**Danger**

#### Risk of accident due to insufficient or excessive tyre pressure

Tyres with too low or too high tyre pressure can burst or wear excessively and/or unevenly.

In addition, the handling as well as steering and braking characteristics may be severely impaired.

- ▶ Observe the recommended tyre pressures and check the pressure of all tyres, including the spare, monthly, when the load changes, before embarking on a longer jour-

ney, and when operating conditions change (e.g., off-road driving).

- ▶ Adjust the tyre pressure as necessary.

Tyre pressure that is too low can have the following consequences:

- Tyres severely heating up
- Increased tyre wear
- Changed handling stability
- Increased fuel consumption

Tyre pressure that is too high can have the following consequences:

- Increased braking distance
- Poorer tyre traction
- Increased tyre wear



**Danger**

#### Risk of accident due to repeated pressure drop in the tyres

The wheels, valves or tyres could be damaged.

Too low a tyre pressure can lead to the tyres bursting.

## Wheels and tyres

### Determining tyre pressure

- ▶ Examine the tyres for foreign objects.
- ▶ Check whether the tyre has a puncture or the valve has a leak.
- ▶ If you are unable to rectify the damage, contact a qualified specialist workshop.



**Danger**

#### **Risk of injury from lowering the tyre pressure when the tyres are warm**

The temperature and pressure of the tyre increase when the vehicle is in motion.

Lowering the tyre pressure on warm tyres can cause the tyres to burst.

- ▶ Do not lower the tyre pressure on warm tyres.
- ▶ Make sure you keep to the specified tyre pressure.

The tyre pressures are specified according to E.T.R.T.O. standards and may deviate from the manufacturer's specifications.

Before starting your journey, determine the specified tyre pressure and check the

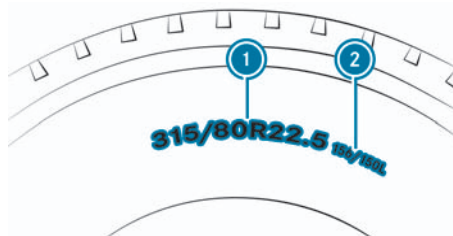
tyre pressures while the tyres are cold (→ Page 488).

#### Determining tyre pressure

- ▶ Observe the notes in the "Tyre pressure" section of "Regular checking of the wheels and tyres" (→ Page 485).

Use the correct tyre pressures for each axle on the vehicle.

Vehicles with ProCabin wheel trims: Observe the notes on removing the wheel trims (→ Page 454).



Example: Tyre size and load-bearing index

- ▶ Read off tyre size ① and load-bearing index ② on the tyre.

If the load index ② comprises two numbers, the first number before the "/" is for single tyres and the second number, after the "/", is for twin tyres.

- ▶ Determine the permissible axle load by checking the vehicle identification plate (→ Page 502).
- ▶ Select the tyre pressure table according to the tyre type (single tyres (→ Page 489) or twin tyres (→ Page 496)).
- ▶ Search tyre size ① in the tyre pressure table.
- ▶ Search load-bearing index ② which corresponds to the tyre type next to the tyre size in the tyre pressure table.
- ▶ Find the maximum permissible axle load in the tyre pressure table and read off the tyre pressure.

The tyre pressure changes by approximately 30 to 40 kPa (0.3 to 0.4°bar/ 4.4 to 5.8 psi) per 10°C change in air temperature. Bear this temperature-related change in tyre pressure in mind when checking tyre pressures indoors, where the tem-

## Tyre pressure table for single tyres

perature may be higher than the outside temperature.

Example:

- The outside temperature is approximately 0°C.
- The room temperature is approximately 20°C.
- Set the tyre pressure approximately 60 to 80 kPa (0.6 to 0.8 bar/8.7 to 11.6 psi) higher than that prescribed in the tyre pressure table.

### Note

For specific tasks, e.g. for winter services, a maximum vehicle axle load rating for fitting approved attachments may be increased. In such cases, the speed of the vehicle is limited. The tyre pressure will then deviate from the information in the following tyre pressure table. It needs to be increased in accordance with the E.T.R.T.O. standard and the information provided by the tyre manufacturer.

### Tyre pressure table for single tyres

#### Tyres 215/75 R 17.5

Single tyres/load index 135

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 3200      | 575           | 5.75 | 83  |
| 3400      | 625           | 6.25 | 91  |
| 3600      | 675           | 6.75 | 98  |
| 3800      | 725           | 7.25 | 105 |
| 4000      | 775           | 7.75 | 112 |
| 4100      | 800           | 8.0  | 116 |
| 4,200     | 825           | 8.25 | 120 |
| 4300      | 850           | 8.5  | 123 |

#### Tyres 14 R 20

Single tyres/load index 160

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 500           | 5.0  | 72  |
| 6700      | 500           | 5.0  | 72  |
| 7100      | 525           | 5.25 | 76  |
| 7500      | 575           | 5.75 | 83  |

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 8000      | 600           | 6.0 | 87  |
| 8500      | 650           | 6.5 | 94  |
| 9000      | 700           | 7.0 | 102 |

#### Tyres 14 R 20

Single tyres/load index 164

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 500           | 5.0  | 72  |
| 6700      | 500           | 5.0  | 72  |
| 7100      | 500           | 5.0  | 72  |
| 7500      | 525           | 5.25 | 76  |
| 8000      | 575           | 5.75 | 83  |
| 8500      | 625           | 6.25 | 91  |
| 9000      | 675           | 6.75 | 98  |
| 9500      | 700           | 7.0  | 102 |
| 10000     | 750           | 7.5  | 109 |

#### Tyres 14 R 20

Single tyres/load index 168

## Wheels and tyres

### Tyre pressure table for single tyres

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 500           | 5.0  | 72  |
| 6700      | 500           | 5.0  | 72  |
| 7100      | 500           | 5.0  | 72  |
| 7500      | 525           | 5.25 | 76  |
| 8000      | 575           | 5.75 | 83  |
| 8500      | 600           | 6.0  | 87  |
| 9000      | 650           | 6.5  | 94  |
| 9500      | 700           | 7.0  | 102 |
| 10000     | 750           | 7.5  | 109 |
| 10500     | 800           | 8.0  | 116 |
| 11200     | 850           | 8.5  | 123 |

#### Tyres 365/85 R 20

Single tyres/load index 164

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 500           | 5.0  | 72  |
| 6700      | 500           | 5.0  | 72  |
| 7100      | 525           | 5.25 | 76  |
| 7500      | 575           | 5.75 | 83  |

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 8000      | 625           | 6.25 | 91  |
| 8500      | 650           | 6.5  | 94  |
| 9000      | 700           | 7.0  | 102 |
| 9500      | 750           | 7.5  | 109 |
| 10000     | 800           | 8.0  | 116 |

#### Tyres 11 R 22.5

Single tyres/load index 148

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6300      | 850           | 8.5 | 123 |

#### Tyres 12 R 22.5

Single tyres/load index 152

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6300      | 750           | 7.5 | 109 |
| 6700      | 800           | 8.0 | 116 |
| 7100      | 850           | 8.5 | 123 |

#### Tyres 13 R 22.5

Single tyres/load index 154

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6300      | 700           | 7.0 | 102 |
| 6700      | 750           | 7.5 | 109 |
| 7100      | 800           | 8.0 | 116 |
| 7500      | 850           | 8.5 | 123 |

#### Tyres 13 R 22.5

Single tyres/load index 156

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 650           | 6.5  | 94  |
| 6700      | 725           | 7.25 | 105 |
| 7100      | 775           | 7.75 | 112 |
| 7500      | 825           | 8.25 | 120 |
| 8000      | 875           | 8.75 | 127 |

#### Tyres 275/70 R 22.5

Single tyres/load index 148



## Tyre pressure table for single tyres

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6300      | 900           | 9.0 | 131 |

### Tyres 275/70 R 22.5

Single tyres/load index 150

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 825           | 8.25 | 120 |
| 6700      | 900           | 9.0  | 131 |

### Tyres 295/60 R 22.5

Single tyres/load index 150

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6300      | 850           | 8.5 | 123 |
| 6700      | 900           | 9.0 | 131 |

### Tyres 295/80 R 22.5

Single tyres/load index 152

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6300      | 750           | 7.5 | 109 |

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6700      | 800           | 8.0 | 116 |
| 7100      | 850           | 8.5 | 123 |

### Tyres 295/80 R 22.5

Single tyres/load index 154

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 675           | 6.75 | 98  |
| 6700      | 750           | 7.5  | 109 |
| 7100      | 800           | 8.0  | 116 |
| 7500      | 850           | 8.5  | 123 |

### Tyres 305/70 R 22.5

Single tyres/load index 150

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6300      | 800           | 8.0 | 116 |
| 6700      | 850           | 8.5 | 123 |

### Tyres 305/70 R 22.5

Single tyres/load index 152

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 775           | 7.75 | 112 |
| 6700      | 850           | 8.5  | 123 |
| 7100      | 900           | 9.0  | 131 |

### Tyres 315/60 R 22.5

Single tyres/load index 152

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 775           | 7.75 | 112 |
| 6700      | 850           | 8.5  | 123 |
| 7100      | 900           | 9.0  | 131 |

### Tyres 315/60 R 22.5

Single tyres/load index 154

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 725           | 7.25 | 105 |
| 6700      | 800           | 8.0  | 116 |
| 7100      | 850           | 8.5  | 123 |
| 7500      | 900           | 9.0  | 131 |

## Wheels and tyres

### Tyre pressure table for single tyres

#### Tyres 315/60 R 22.5

Single tyres/load index 156

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6,300     | 700           | 7.0  | 102 |
| 6700      | 725           | 7.25 | 105 |
| 7100      | 775           | 7.75 | 112 |
| 7500      | 850           | 8.5  | 123 |
| 8000      | 900           | 9.0  | 131 |

#### Tyres 315/70 R 22.5

Single tyres/load index 154

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 725           | 7.25 | 105 |
| 6700      | 800           | 8.0  | 116 |
| 7100      | 850           | 8.5  | 123 |
| 7500      | 900           | 9.0  | 131 |

#### Tyres 315/70 R 22.5

Single tyres/load index 156

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 675           | 6.75 | 98  |
| 6700      | 725           | 7.25 | 105 |
| 7100      | 775           | 7.75 | 112 |
| 7500      | 850           | 8.5  | 123 |
| 8000      | 900           | 9.0  | 131 |

#### Tyres 315/70 R 22.5

Single tyres/load index 158

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 625           | 6.25 | 91  |
| 6700      | 675           | 6.75 | 98  |
| 7100      | 725           | 7.25 | 105 |
| 7500      | 775           | 7.75 | 112 |
| 8000      | 850           | 8.5  | 123 |
| 8500      | 900           | 9.0  | 131 |

#### Tyres 315/80 R 22.5

Single tyres/load index 154

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 675           | 6.75 | 98  |
| 6700      | 725           | 7.25 | 105 |
| 7100      | 775           | 7.75 | 112 |
| 7500      | 825           | 8.25 | 120 |

#### Tyres 315/80 R 22.5

Single tyres/load index 156

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6300      | 650           | 6.5 | 94  |
| 6700      | 700           | 7.0 | 102 |
| 7100      | 750           | 7.5 | 109 |
| 7500      | 800           | 8.0 | 116 |
| 8000      | 850           | 8.5 | 123 |

#### Tyres 315/80 R 22.5

Single tyres/load index 158

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6,300     | 625           | 6.25 | 91  |

## Tyre pressure table for single tyres

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6700      | 675           | 6.75 | 98  |
| 7100      | 725           | 7.25 | 105 |
| 7500      | 775           | 7.75 | 112 |
| 8000      | 850           | 8.5  | 123 |
| 8500      | 900           | 9.0  | 131 |

### Tyres 355/50 R 22.5

Single tyres/load index 154

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 725           | 7.25 | 105 |
| 6700      | 800           | 8.0  | 116 |
| 7100      | 850           | 8.5  | 123 |
| 7500      | 900           | 9.0  | 131 |

### Tyres 355/50 R 22.5

Single tyres/load index 156

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 675           | 6.75 | 98  |

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6700      | 725           | 7.25 | 105 |
| 7100      | 775           | 7.75 | 112 |
| 7500      | 850           | 8.5  | 123 |
| 8000      | 900           | 9.0  | 131 |

### Tyres 355/50 R 22.5

Single tyres/load index 158

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6,300     | 625           | 6.25 | 91  |
| 6700      | 675           | 6.75 | 98  |
| 7100      | 725           | 7.25 | 105 |
| 7500      | 775           | 7.75 | 112 |
| 8000      | 850           | 8.5  | 123 |
| 8500      | 900           | 9.0  | 131 |

### Tyres 375/50 R 22.5

Single tyres/load index 156

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 675           | 6.75 | 98  |
| 6700      | 725           | 7.25 | 105 |
| 7100      | 775           | 7.75 | 112 |
| 7500      | 850           | 8.5  | 123 |
| 8000      | 900           | 9.0  | 131 |

### Tyres 375/50 R 22.5

Single tyres/load index 158

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6,300     | 625           | 6.25 | 91  |
| 6700      | 675           | 6.75 | 98  |
| 7100      | 725           | 7.25 | 105 |
| 7500      | 775           | 7.75 | 112 |
| 8000      | 850           | 8.5  | 123 |
| 8500      | 900           | 9.0  | 131 |

### Tyres 385/55 R 22.5

Single tyres/load index 158

## Wheels and tyres

### Tyre pressure table for single tyres

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 6,300     | 600           | 6.0 | 87  |
| 6700      | 650           | 6.5 | 94  |
| 7100      | 700           | 7.0 | 102 |
| 7500      | 750           | 7.5 | 109 |
| 8000      | 800           | 8.0 | 116 |
| 8500      | 850           | 8.5 | 123 |

#### Tyres 385/55 R 22.5

Single tyres/load index 160

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6,300     | 600           | 6.0  | 87  |
| 6700      | 625           | 6.25 | 91  |
| 7100      | 675           | 6.75 | 98  |
| 7500      | 725           | 7.25 | 105 |
| 8000      | 800           | 8.0  | 116 |
| 8500      | 850           | 8.5  | 123 |
| 9000      | 900           | 9.0  | 131 |

#### Tyres 385/55 R 22.5

Single tyres/load index 162

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6,300     | 550           | 5.5  | 80  |
| 6700      | 600           | 6.0  | 87  |
| 7100      | 625           | 6.25 | 91  |
| 7500      | 675           | 6.75 | 98  |
| 8000      | 725           | 7.25 | 105 |
| 8500      | 800           | 8.0  | 116 |
| 9000      | 850           | 8.5  | 123 |
| 9500      | 900           | 9.0  | 131 |

#### Tyres 385/65 R 22.5

Single tyres/load index 160

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6,300     | 600           | 6.0  | 87  |
| 6700      | 625           | 6.25 | 91  |
| 7100      | 675           | 6.75 | 98  |
| 7500      | 725           | 7.25 | 105 |
| 8000      | 800           | 8.0  | 116 |
| 8500      | 850           | 8.5  | 123 |
| 9000      | 900           | 9.0  | 131 |

#### Tyres 385/65 R 22.5

Single tyres/load index 162

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6,300     | 550           | 5.5  | 80  |
| 6700      | 600           | 6.0  | 87  |
| 7100      | 625           | 6.25 | 91  |
| 7500      | 675           | 6.75 | 98  |
| 8000      | 725           | 7.25 | 105 |
| 8500      | 800           | 8.0  | 116 |
| 9000      | 850           | 8.5  | 123 |
| 9500      | 900           | 9.0  | 131 |

#### Tyres 385/65 R 22.5

Single tyres/load index 164

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6,300     | 525           | 5.25 | 76  |
| 6700      | 550           | 5.5  | 80  |
| 7100      | 600           | 6.0  | 87  |
| 7500      | 625           | 6.25 | 91  |
| 8000      | 675           | 6.75 | 98  |

## Tyre pressure table for single tyres

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 8500      | 750           | 7.5 | 109 |
| 9000      | 800           | 8.0 | 116 |
| 9500      | 850           | 8.5 | 123 |
| 10000     | 900           | 9.0 | 131 |

### Tyres 425/65 R 22.5

Single tyres/load index 165

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 500           | 5.0  | 72  |
| 6700      | 500           | 5.0  | 72  |
| 7100      | 550           | 5.5  | 80  |
| 7500      | 575           | 5.75 | 83  |
| 8000      | 625           | 6.25 | 91  |
| 8500      | 675           | 6.75 | 98  |
| 9000      | 725           | 7.25 | 105 |
| 9500      | 775           | 7.75 | 112 |
| 10000     | 825           | 8.25 | 120 |

### Tyres 495/45 R 22.5

Single tyres/load index 169

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 500           | 5.0  | 72  |
| 6700      | 500           | 5.0  | 72  |
| 7100      | 500           | 5.0  | 72  |
| 7500      | 500           | 5.0  | 72  |
| 8000      | 575           | 5.75 | 83  |
| 8500      | 625           | 6.25 | 91  |
| 9000      | 675           | 6.75 | 98  |
| 9500      | 725           | 7.25 | 105 |
| 10000     | 750           | 7.5  | 109 |
| 10500     | 800           | 8.0  | 116 |
| 11200     | 875           | 8.75 | 127 |
| 11500     | 900           | 9.0  | 131 |

### Tyres 12 R 24

Single tyres/load index 160

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 550           | 5.5  | 80  |
| 6700      | 600           | 6.0  | 87  |
| 7100      | 625           | 6.25 | 91  |

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 7500      | 675           | 6.75 | 98  |
| 8000      | 725           | 7.25 | 105 |
| 8500      | 800           | 8.0  | 116 |
| 9000      | 850           | 8.5  | 123 |

### Tyres 325/95 R 24

Single tyres/load index 162

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 525           | 5.25 | 76  |
| 6700      | 550           | 5.5  | 80  |
| 7100      | 600           | 6.0  | 87  |
| 7500      | 625           | 6.25 | 91  |
| 8000      | 700           | 7.0  | 102 |
| 8500      | 750           | 7.5  | 109 |
| 9000      | 800           | 8.0  | 116 |
| 9500      | 850           | 8.5  | 123 |

### Tyres 325/95 R 24

Single tyres/load index 164

## Wheels and tyres

### Tyre pressure table for twin tyres

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 500           | 5.0  | 72  |
| 6700      | 550           | 5.5  | 80  |
| 7100      | 600           | 6.0  | 87  |
| 7500      | 625           | 6.25 | 91  |
| 8000      | 700           | 7.0  | 102 |
| 8500      | 750           | 7.5  | 109 |
| 9000      | 800           | 8.0  | 116 |
| 9500      | 850           | 8.5  | 123 |
| 10000     | 900           | 9.0  | 131 |

#### Tyres 325/95 R 24

Single tyres/load index 167

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 6300      | 500           | 5.0  | 72  |
| 6700      | 500           | 5.0  | 72  |
| 7100      | 525           | 5.25 | 76  |
| 7500      | 575           | 5.75 | 83  |
| 8000      | 625           | 6.25 | 91  |
| 8500      | 675           | 6.75 | 98  |

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9000      | 725           | 7.25 | 105 |
| 9500      | 775           | 7.75 | 112 |
| 10000     | 825           | 8.25 | 120 |
| 10500     | 875           | 8.75 | 127 |

### Tyre pressure table for twin tyres

#### Tyres 14 R 20

Twin tyres/load index 157

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 500           | 5.0  | 72  |
| 10000     | 500           | 5.0  | 72  |
| 10500     | 500           | 5.0  | 72  |
| 11500     | 500           | 5.0  | 72  |
| 12000     | 500           | 5.0  | 72  |
| 12300     | 500           | 5.0  | 72  |
| 12600     | 500           | 5.0  | 72  |
| 13000     | 525           | 5.25 | 76  |
| 13400     | 550           | 5.5  | 80  |

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 16000     | 675           | 6.75 | 98  |

#### Tyres 14 R 20

Twin tyres/load index 160

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 500           | 5.0  | 72  |
| 10000     | 500           | 5.0  | 72  |
| 10500     | 500           | 5.0  | 72  |
| 11500     | 500           | 5.0  | 72  |
| 12000     | 500           | 5.0  | 72  |
| 12300     | 500           | 5.0  | 72  |
| 12600     | 500           | 5.0  | 72  |
| 13000     | 500           | 5.0  | 72  |
| 13400     | 525           | 5.25 | 76  |
| 16000     | 650           | 6.5  | 94  |

#### Tyres 14 R 20

Twin tyres/load index 165

## Tyre pressure table for twin tyres

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 500           | 5.0  | 72  |
| 10000     | 500           | 5.0  | 72  |
| 10500     | 500           | 5.0  | 72  |
| 11500     | 500           | 5.0  | 72  |
| 12000     | 500           | 5.0  | 72  |
| 12300     | 500           | 5.0  | 72  |
| 12600     | 500           | 5.0  | 72  |
| 13000     | 500           | 5.0  | 72  |
| 13400     | 500           | 5.0  | 72  |
| 16000     | 625           | 6.25 | 91  |
| 20600     | 850           | 8.5  | 123 |

### Tyres 11 R 22.5

Twin tyres/load index 145

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 675           | 6.75 | 98  |
| 10000     | 725           | 7.25 | 105 |
| 10500     | 750           | 7.5  | 109 |
| 11500     | 850           | 8.5  | 123 |

### Tyres 12 R 22.5

Twin tyres/load index 148

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 600           | 6.0  | 87  |
| 10000     | 650           | 6.5  | 94  |
| 10500     | 700           | 7.0  | 102 |
| 11500     | 775           | 7.75 | 112 |
| 12000     | 800           | 8.0  | 116 |
| 12300     | 825           | 8.25 | 120 |
| 12600     | 850           | 8.5  | 123 |

### Tyres 12 R 22.5

Twin tyres/load index 149

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 575           | 5.75 | 83  |
| 10000     | 625           | 6.25 | 91  |
| 10500     | 650           | 6.5  | 94  |
| 11500     | 725           | 7.25 | 105 |
| 12000     | 775           | 7.75 | 112 |
| 12300     | 800           | 8.0  | 116 |

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 12600     | 825           | 8.25 | 120 |
| 13000     | 850           | 8.5  | 123 |

### Tyres 13 R 22.5

Twin tyres/load index 150

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 575           | 5.75 | 83  |
| 10000     | 625           | 6.25 | 91  |
| 10500     | 650           | 6.5  | 94  |
| 11500     | 725           | 7.25 | 105 |
| 12000     | 775           | 7.75 | 112 |
| 12300     | 800           | 8.0  | 116 |
| 12600     | 825           | 8.25 | 120 |
| 13000     | 850           | 8.5  | 123 |
| 13400     | 875           | 8.75 | 127 |

### Tyres 13 R 22.5

Twin tyres/load index 151

## Wheels and tyres

### Tyre pressure table for twin tyres

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 550           | 5.5  | 80  |
| 10000     | 600           | 6.0  | 87  |
| 10500     | 625           | 6.25 | 91  |
| 11500     | 700           | 7.0  | 102 |
| 12000     | 725           | 7.25 | 105 |
| 12300     | 775           | 7.75 | 112 |
| 12600     | 775           | 7.75 | 112 |
| 13000     | 825           | 8.25 | 120 |
| 13400     | 850           | 8.5  | 123 |

#### Tyres 275/70 R 22.5

Twin tyres/load index 145

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 725           | 7.25 | 105 |
| 10000     | 750           | 7.5  | 109 |
| 10500     | 800           | 8.0  | 116 |
| 11500     | 900           | 9.0  | 131 |

#### Tyres 295/55 R 22.5

Twin tyres/load index 145

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 725           | 7.25 | 105 |
| 10000     | 750           | 7.5  | 109 |
| 10500     | 800           | 8.0  | 116 |
| 11500     | 900           | 9.0  | 131 |

#### Tyres 295/60 R 22.5

Twin tyres/load index 147

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 675           | 6.75 | 98  |
| 10000     | 700           | 7.0  | 102 |
| 10500     | 750           | 7.5  | 109 |
| 11500     | 850           | 8.5  | 123 |
| 12000     | 875           | 8.75 | 127 |
| 12300     | 900           | 9.0  | 131 |

#### Tyres 295/80 R 22.5

Twin tyres/load index 148

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 600           | 6.0  | 87  |
| 10000     | 650           | 6.5  | 94  |
| 10500     | 700           | 7.0  | 102 |
| 11500     | 775           | 7.75 | 112 |
| 12000     | 800           | 8.0  | 116 |
| 12300     | 825           | 8.25 | 120 |
| 12600     | 850           | 8.5  | 123 |

#### Tyres 295/80 R 22.5

Twin tyres/load index 149

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 575           | 5.75 | 83  |
| 10000     | 625           | 6.25 | 91  |
| 10500     | 650           | 6.5  | 94  |
| 11500     | 725           | 7.25 | 105 |
| 12000     | 775           | 7.75 | 112 |
| 12300     | 800           | 8.0  | 116 |
| 12600     | 825           | 8.25 | 120 |
| 13000     | 850           | 8.5  | 123 |



## Tyre pressure table for twin tyres

### Tyres 305/70 R 22.5

Twin tyres/load index 148

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 600           | 6.0  | 87  |
| 10000     | 650           | 6.5  | 94  |
| 10500     | 700           | 7.0  | 102 |
| 11500     | 775           | 7.75 | 112 |
| 12000     | 800           | 8.0  | 116 |
| 12300     | 825           | 8.25 | 120 |
| 12600     | 850           | 8.5  | 123 |

### Tyres 305/70 R 22.5

Twin tyres/load index 150

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 600           | 6.0  | 87  |
| 10000     | 625           | 6.25 | 91  |
| 10500     | 675           | 6.75 | 98  |
| 11500     | 750           | 7.5  | 109 |
| 12000     | 800           | 8.0  | 116 |
| 12300     | 825           | 8.25 | 120 |

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 12600     | 850           | 8.5  | 123 |
| 13000     | 875           | 8.75 | 127 |
| 13400     | 900           | 9.0  | 131 |

### Tyres 315/45 R 22.5

Twin tyres/load index 145

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 725           | 7.25 | 105 |
| 10000     | 750           | 7.5  | 109 |
| 10500     | 800           | 8.0  | 116 |
| 11500     | 900           | 9.0  | 131 |

### Tyres 315/60 R 22.5

Twin tyres/load index 148

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 650           | 6.5  | 94  |
| 10000     | 675           | 6.75 | 98  |
| 10500     | 725           | 7.25 | 105 |

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 11500     | 825           | 8.25 | 120 |
| 12000     | 850           | 8.5  | 123 |
| 12300     | 875           | 8.75 | 127 |
| 12600     | 900           | 9.0  | 131 |

### Tyres 315/60 R 22.5

Twin tyres/load index 150

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 600           | 6.0  | 87  |
| 10000     | 625           | 6.25 | 91  |
| 10500     | 675           | 6.75 | 98  |
| 11500     | 750           | 7.5  | 109 |
| 12000     | 775           | 7.75 | 112 |
| 12300     | 825           | 8.25 | 120 |
| 12600     | 850           | 8.5  | 123 |
| 13000     | 875           | 8.75 | 127 |
| 13400     | 900           | 9.0  | 131 |

### Tyres 315/70 R 22.5

Twin tyres/load index 148

## Wheels and tyres

### Tyre pressure table for twin tyres

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 600           | 6.0  | 87  |
| 10000     | 650           | 6.5  | 94  |
| 10500     | 700           | 7.0  | 102 |
| 11500     | 775           | 7.75 | 112 |
| 12000     | 800           | 8.0  | 116 |
| 12300     | 825           | 8.25 | 120 |
| 12600     | 850           | 8.5  | 123 |

#### Tyres 315/70 R 22.5

Twin tyres/load index 150

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 600           | 6.0  | 87  |
| 10000     | 625           | 6.25 | 91  |
| 10500     | 675           | 6.75 | 98  |
| 11500     | 750           | 7.5  | 109 |
| 12000     | 800           | 8.0  | 116 |
| 12300     | 825           | 8.25 | 120 |
| 12600     | 850           | 8.5  | 123 |
| 13000     | 875           | 8.75 | 127 |

| Axle load | Tyre pressure |     |     |
|-----------|---------------|-----|-----|
| kg        | kPa           | bar | psi |
| 13400     | 900           | 9.0 | 131 |

#### Tyres 315/80 R 22.5

Twin tyres/load index 150

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 575           | 5.75 | 83  |
| 10000     | 600           | 6.0  | 87  |
| 10500     | 650           | 6.5  | 94  |
| 11500     | 725           | 7.25 | 105 |
| 12000     | 750           | 7.5  | 109 |
| 12300     | 775           | 7.75 | 112 |
| 12600     | 800           | 8.0  | 116 |
| 13000     | 825           | 8.25 | 120 |
| 13400     | 850           | 8.5  | 123 |

#### Tyres 12 R 24

Twin tyres/load index 156

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 500           | 5.0  | 72  |
| 10000     | 500           | 5.0  | 72  |
| 10500     | 500           | 5.0  | 72  |
| 11500     | 575           | 5.75 | 83  |
| 12000     | 600           | 6.0  | 87  |
| 12300     | 625           | 6.25 | 91  |
| 12600     | 625           | 6.25 | 91  |
| 13000     | 675           | 6.75 | 98  |
| 13400     | 675           | 6.75 | 98  |
| 16000     | 850           | 8.5  | 123 |

#### Tyres 325/95 R 24

Twin tyres/load index 160

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 500           | 5.0  | 72  |
| 10000     | 500           | 5.0  | 72  |
| 10500     | 500           | 5.0  | 72  |
| 11500     | 500           | 5.0  | 72  |
| 12000     | 525           | 5.25 | 76  |

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 12300     | 550           | 5.5  | 80  |
| 12600     | 550           | 5.5  | 80  |
| 13000     | 575           | 5.75 | 83  |
| 13400     | 600           | 6.0  | 87  |
| 16000     | 725           | 7.25 | 105 |

### Tyres 325/95 R 24

Twin tyres/load index 162

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 500           | 5.0  | 72  |
| 10000     | 500           | 5.0  | 72  |
| 10500     | 500           | 5.0  | 72  |
| 11500     | 500           | 5.0  | 72  |
| 12000     | 500           | 5.0  | 72  |
| 12300     | 525           | 5.25 | 76  |
| 12600     | 550           | 5.5  | 80  |
| 13000     | 575           | 5.75 | 83  |
| 13400     | 600           | 6.0  | 87  |
| 16000     | 725           | 7.25 | 105 |

### Tyres 325/95 R 24

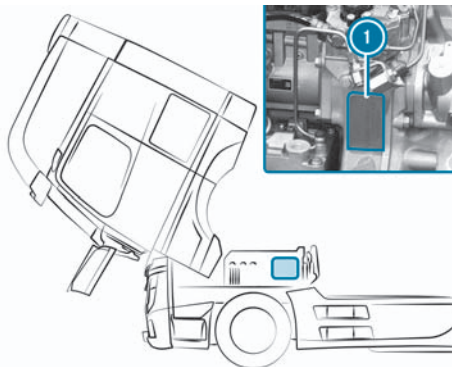
Twin tyres/load index 164

| Axle load | Tyre pressure |      |     |
|-----------|---------------|------|-----|
| kg        | kPa           | bar  | psi |
| 9500      | 500           | 5.0  | 72  |
| 10000     | 500           | 5.0  | 72  |
| 10500     | 500           | 5.0  | 72  |
| 11500     | 500           | 5.0  | 72  |
| 12000     | 500           | 5.0  | 72  |
| 12300     | 500           | 5.0  | 72  |
| 12600     | 500           | 5.0  | 72  |
| 13000     | 525           | 5.25 | 76  |
| 13400     | 550           | 5.5  | 80  |
| 16000     | 700           | 7.0  | 102 |

## Technical data

### Engine identification plate

#### Engine identification plate



OM 471 engine (example)

The engine type plate ① is located at the rear left of the crankcase viewed in the direction of travel.

The engine type plate ① shows the following information:

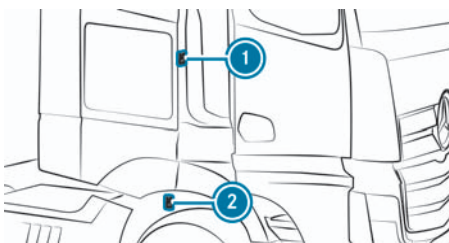
- Manufacturer
- Engine type
- Engine model designation
- Engine number

#### **i** Note

In vehicles with the OM 460 engine, the engine type plate is located on the right of the crankcase viewed in the direction of travel, .

#### Vehicle identification plate/axle loads

#### Vehicle identification plate and Vehicle Identification Number (VIN)

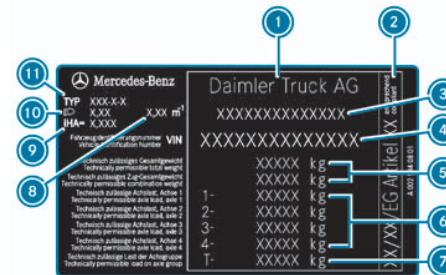


Example: Vehicle Identification Number (VIN) and vehicle identification plate

The vehicle identification plate ① is located in the door frame on the co-driver's side. The Vehicle Identification Number (VIN) ② is stamped on the longitudinal frame member in the right wheel well.

Vehicles for Gulf States: The Vehicle Identification Plate ① is located in the door frame on the driver's side.

#### Vehicle identification plate

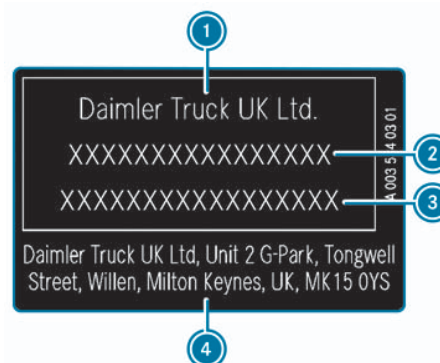


EU vehicle identification plate (example)

#### Information on the vehicle identification plate

- ① Vehicle manufacturer
- ② Approval for extended cabs
- ③ EU general operating permit number (only in certain countries)
- ④ Vehicle Identification Number (VIN)

- ⑤ Maximum permissible gross vehicle weight (kg)  
Permissible gross vehicle combination weight (kg)
- ⑥ Permissible axle loads of axles 1 to 4 (kg)
- ⑦ Permissible load of axle group T (kg)
- ⑧ Flue gas coefficient
- ⑨ Rear axle ratio
- ⑩ Basic headlamp setting
- ⑪ Vehicle model or vehicle model designation



United Kingdom vehicle identification plate (example)

### Information on the vehicle identification plate

- ① Licensee
- ② Type approval number
- ③ Vehicle identification number (VIN)
- ④ Licensee address

You will find the technically permissible gross vehicle combination weight on the vehicle identification plate or in the COC documents. Note that, in ADR mode, the technically permissible gross vehicle combination weight is determined by the continuous braking effect of the vehicle. You

will find this value in your ADR certification.

If you require further assistance, consult an authorised Mercedes-Benz Trucks Service Centre.

### Radio regulations

#### Wireless vehicle components

Only for EU and EFTA countries and countries that recognise the EU manufacturer's declaration of conformity



The following note applies to all wireless components of the vehicle and the information systems and communications equipment integrated in the vehicle:

The manufacturers of the wireless components declare that all wireless components installed in the vehicle comply with Directive 2014/53/EU.

## Technical data

### Radio regulations

The full text of the EU Declarations of Conformity are available at the following internet address:

<https://manuals.daimlertruck.com/truckownermanuals/conformity>



#### For Israel only

It is prohibited to make any change to a vehicle-installed radio component that could affect the wireless specifications of the device, including software changes, replacement of the original antenna, or adding the option to connect the device to an external antenna, without first obtaining approval from the Communications Ministry, because of concern about wireless interference.

#### For the United Kingdom only



The following note applies to all wireless components of the vehicle and the information systems and communications equipment integrated in the vehicle:

The manufacturers of the radio components declare that all radio equipment installed in the vehicle is in compliance with the relevant statutory requirements. The full texts of the declarations of conformity are available at the following web address:

<https://manuals.daimlertruck.com/truckownermanuals/conformity>



#### Importer

Mercedes-Benz Trucks UK Limited  
Delaware Drive, Tongwell  
Milton Keynes MK15 8BA  
**Großbritannien**

#### Importer of Mercedes-Benz spare parts

Mercedes-Benz Parts Logistics  
Delaware Drive, Tongwell  
Milton Keynes MK15 8BA  
**Großbritannien**

#### For Brazil only



Information about radio equipment in the vehicle:

These systems are not protected against harmful interference and must not cause interference in properly-approved systems.

#### For Jamaica only

All vehicle-installed radio components have been Type Approved by SMA.

#### For Russia only:



The manufacturers of the wireless components installed in the vehicle hereby declare that all wireless components installed in the vehicle comply with the technical regulations for two-way radios. You can obtain further information from an authorised Mercedes-Benz Trucks Service Centre.

#### For Thailand only:

Telecommunications equipment in this vehicle is in compliance with the requirements of the National Broadcasting and Telecommunications Commission (NBTC).

Radar sensor ARS4-A:

1) The telecommunications equipment and this device comply with the standard

or requirements of the National Broadcasting and Telecommunications Commission (NBTC).

2) When in use, this two-way radio system emits electromagnetic radiation that meets the health and safety standards of the National Telecommunications Commission (NTC).

#### Radio operating permits

Information on radio approvals and radio approval numbers is available at the following Internet address:

<https://manuals.daimlertruck.com/truckownermanuals/conformity>



#### Notes on the MirrorCam system

Observe the following when using radio equipment in the vehicle:

The distance between the two-way radio aerial and the MirrorCam system camera arm must be at least 85 cm.

## Technical data

### Radio regulations

Type of wireless application and specification in accordance with 2014/53/EU



#### Note

Not all two-way radio systems may be available in your vehicle. This depends on the equipment chosen or the national version.

| Component                                    | Service   | Transmission frequency band                                                                                                                                                                             | Transmission output    |
|----------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Telematics platform<br>(Truck Data Center 8) | 4G<br>LTE | Band 1<br>Band 3<br>Band 4<br>Band 5<br>Band 7<br>Band 8<br>Band 12<br>Band 14<br>Band 17<br>Band 18<br>Band 19<br>Band 20<br>Band 25<br>Band 26<br>Band 28<br>Band 39<br>Band 40<br>Band 41<br>Band 66 | 0.25 W (Power Class 3) |



| Component                                          | Service                     | Transmission frequency band                                                      | Transmission output    |
|----------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------|------------------------|
|                                                    | 3G<br>UMTS/HSDPA/HSUPA      | Band 1<br>Band 5<br>Band 8                                                       | 0.3 W (Power Class 3)  |
|                                                    | 2G GSM/GPRS/EDGE            | GSM 850 MHz<br>E-GSM 900 MHz                                                     | 2 W (Power Class 4)    |
|                                                    | 2G GSM/GPRS/EDGE            | DCS 1800 MHz<br>PCS 1900 MHz                                                     | 1 W (Power Class 1)    |
|                                                    |                             | EDGE GSM 850 MHz<br>EDGE E-GSM 900 MHz<br>EDGE DCS 1800 MHz<br>EDGE PCS 1900 MHz | 0,5 W (Power Class 3)  |
|                                                    | Wi-Fi (IEEE802.11b)         | 2.4 GHz-band                                                                     | 50 mW                  |
|                                                    | Wi-Fi (IEEE802.11g/n/ax)    | 2.4 GHz-band                                                                     | 25 mW                  |
|                                                    | Wi-Fi (IEEE802.11a/n/ac/ax) | 5 GHz-band                                                                       | 15 mW                  |
|                                                    | Bluetooth®                  | 2.4 GHz-band                                                                     | 5 mW                   |
| Telematics platform<br>(Truck Data Center 7, 2019) | 4G<br>LTE                   | Band I 2100 MHz<br>Band III 1800 MHz<br>Band V 850 MHz<br>Band VII 2600 MHz      | 0.25 W (Power Class 3) |
|                                                    | 3G<br>UMTS/HSDPA/HSUPA      | Band I 2100 MHz<br>Band II 1900 MHz<br>Band V 850 MHz<br>Band VIII 900 MHz       | 0.25 W (Power Class 3) |
|                                                    | 2G GSM/GPRS/EDGE            | GSM 850 MHz<br>E-GSM 900 MHz                                                     | 2 W (Power Class 4)    |

## Technical data

### Radio regulations

| Component                                                  | Service                | Transmission frequency band                                                                                                                       | Transmission output    |
|------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
|                                                            |                        | DCS 1800 MHz<br>PCS 1900 MHz                                                                                                                      | 1 W (Power Class 1)    |
|                                                            | Wi-Fi (IEEE802.11b)    | 2.4 GHz-band                                                                                                                                      | 50 mW                  |
|                                                            | WIFI (IEEE802.11g/n)   | 2.4 GHz-band                                                                                                                                      | 25 mW                  |
|                                                            | Bluetooth®             | 2.4 GHz-band                                                                                                                                      | 2.5 mW                 |
| Telematics platform<br>(Truck Data Center 7, from 10/2022) | 4G<br>LTE              | Band I 2100 MHz<br>Band III 1800 MHz<br>Band VII 2600 MHz<br>Band VIII 900 MHz<br>Band XX 800 MHz<br>Band XXVIII 700 MHz<br>Band XXXVIII 2600 MHz | 0.25 W (Power Class 3) |
|                                                            | 3G<br>UMTS/HSDPA/HSUPA | Band I 2100 MHz<br>Band VIII 900 MHz                                                                                                              | 0.25 W (Power Class 3) |
|                                                            | 2G GSM/GPRS/EDGE       | E-GSM 900 MHz<br>DCS 1800 MHz                                                                                                                     | 2 W (Power Class 4)    |
|                                                            | Wi-Fi (IEEE802.11b)    | 2.4 GHz-band                                                                                                                                      | 50 mW                  |
|                                                            | WIFI (IEEE802.11g/n)   | 2.4 GHz-band                                                                                                                                      | 25 mW                  |
|                                                            | Bluetooth®             | 2.4 GHz-band                                                                                                                                      | 2.5 mW                 |
| Radar sensor system<br>(ARS3-A, ARS4-A, ARS4-B, ARS4-C)    | Vehicle-interval radar | 76 – 77 GHz-Band                                                                                                                                  | 3.16 W                 |
| Radar sensor system<br>(SRR2, model L2C0055TR)             | Lateral radar          | 76 – 77 GHz-Band                                                                                                                                  | 1 W                    |
| Radar sensor system                                        | Corner radar           | 76 – 77 GHz-Band                                                                                                                                  | 0.11 – 0.92 W          |

| Component                                          | Service                           | Transmission frequency band | Transmission output |
|----------------------------------------------------|-----------------------------------|-----------------------------|---------------------|
| (CR5TPCC)                                          |                                   |                             |                     |
| Radio<br>(Daimler TCC Touch*,<br>1-DIN TCC MID*)   | Bluetooth®                        | 2402 - 2480 MHz             | ≤ 2.5 mW (4 dBm)    |
| Electronic ignition lock<br>(EIS, transmitter key) | Short-range wireless technologies | 433 MHz-band                | 10 mW               |
| Tyre pressure monitoring system<br>(TPM)           | Short-range wireless technologies | 433 MHz-band                | 10 mW               |
| Android Black Box<br>(STG AP)                      | Bluetooth®                        | 1925–1975 MHz               | 25.6 dBm            |
|                                                    |                                   | 2402 - 2480 MHz             | 5.5 dBm             |
|                                                    | WiFi                              | 1715 - 1780 MHz             | 25.6 dBm            |
|                                                    |                                   | 2412 - 2484 MHz             | 18.5 dBm            |
|                                                    |                                   | 5150–5350 MHz               | 17.5 dBm            |
|                                                    |                                   | 5470–5725 MHz               | 17.5 dBm            |
|                                                    | GPRS 900                          | 880 - 914 MHz               | 33 dBm              |
|                                                    |                                   | 885 - 910 MHz               | 25.5 dBm            |
|                                                    | GPRS 1800                         | 837 - 857 MHz               | 25.5 dBm            |
|                                                    |                                   | 1710–1785 MHz               | 30 dBm              |
| Instrument cluster<br>(Connect5)                   | WIFI 5 GHz                        | 5.725 – 5.875 GHz-band      | < 25 mW             |
|                                                    |                                   | 5.150 – 5.350 GHz-band      | < 200 mW            |
|                                                    | WIFI 2.4 GHz                      | 2.400 – 2.4835 GHz-band     | < 20 mW             |

## Technical data

### Radio regulations

| Component                                               | Service    | Transmission frequency band | Transmission output |
|---------------------------------------------------------|------------|-----------------------------|---------------------|
|                                                         | Bluetooth® | 2.400 – 2.4835 GHz-band     | < 10 mW             |
| * 1-DIN TCC LOW does not have Bluetooth® functionality. |            |                             |                     |

### Operating fluids

#### Notes on operating fluids



#### **Danger**

#### **Risk of injury from hazardous operating fluids**

Operating fluids may be poisonous and harmful to your health.

- ▶ Observe the text on the original containers when using, storing, or disposing of operating fluids.
- ▶ Always store operating fluids in their closed original containers.
- ▶ Always keep operating fluids away from children.



#### **Note**

#### **Damage to major assemblies caused by additives**

Using additives in approved operating fluids can damage major assemblies.

- ▶ Do not mix additives with the operating fluids.



#### **Note**

#### **Pollution of the environment due to irresponsible disposal of operating fluids**

Incorrectly disposing of operating fluids can cause considerable damage to the environment.

- ▶ Dispose of operating fluids in an environmentally responsible manner.

Operating fluids include:

- Fuels
- Lubricants
- Coolant
- Additives for exhaust gas after-treatment, e.g. AdBlue®
- Windscreen washer fluid
- Air conditioning system refrigerants

Only use products approved by Daimler Truck® AG. Damage caused by the use of unsuitable operating fluids is not covered by the warranty.

Products approved by Daimler Truck AG are clearly marked on the containers.

You can obtain information about approved operating fluids and container designations from an authorised Mercedes-Benz Trucks Service Centre or online at:

<https://bevo.mercedes-benz-trucks.com/>

#### Notes on engine oils



#### **Note**

#### **Damage to the engine due to unauthorised engine oil quality**

To prevent damage:

- ▶ Only use engine oils of a quality level that is approved for your vehicle in accordance with the Mercedes-Benz Trucks Specifications for Operating Fluids.



Observe the notes on operating fluids (→ Page 511).

The quality of the engine oil used is of decisive importance for the engine's functionality and service life. Daimler Truck AG continually approves engine oils based on demanding tests in line with the latest technological standards.

Engine oils with a higher quality standard have a favourable effect on the following factors:

- Oil change interval period
- Engine wear
- Fuel consumption
- Exhaust gas emissions

#### Oil change



##### Note

#### Increased wear due to mixing different grades of oil

If engine oils of different quality grades are mixed, the intervals for changes of engine oil will be shorter than with engine oils of the same quality.

- ▶ Only mix engine oils of different quality grades in exceptional cases.
- ▶ Adjust the specification of the engine oil to a lower quality level.



##### Note

#### Engine damage due to the use of engine oil with inadequate temperature properties

The engine oil used does not have adequate temperature properties. This can lead to damage to the engine.

- ▶ Select the SAE classification (viscosity) of the engine oil based on the average outside temperature according to the season.

- ▶ The SAE classification of the engine oil does not match the ambient temperature: Change the engine oil in good time, especially before the onset of the cold season.

Oil change intervals are dependent on the following factors:

- Vehicle operating conditions
- The quality of the engine oil used
- The fuel type
- The fuel grade



##### Note

The oil change intervals are shortened depending on the fuel type and fuel grade (sulphur content).

Select the SAE classification (viscosity) of the engine oil according to the outside temperature. For information on SAE classes and ambient temperature ranges, please refer to the notes on operating fluids (→ Page 511).

The maximum oil change interval is only achieved with engine oils of a particularly high quality grade. The on-board com-

puter automatically displays when the next oil change is due.

### Filling or topping up engine oil



#### Note

#### Damage caused by topping up too much engine oil

Excess engine oil can damage the engine or catalytic converter.

- Have excess engine oil removed at a qualified workshop.

Daimler Truck AG recommends that you only refill with engine oils of the same quality grade and SAE classification as was used the last time the oil was changed.

Check the oil level in the on-board computer (→ Page 170) before you top up the engine oil (→ Page 421).

### Miscibility of engine oils

If you mix engine oils, you reduce the advantages of high-quality engine oils.

Engine oils are differentiated according to the following points:

- Engine oil brand
- Quality level (specification)
- SAE classification (viscosity)

If, in exceptional cases, the engine oil filled with is not available, top up with another engine oil approved for Mercedes-Benz Trucks.

### Setting the oil quality

When the instrument cluster displays the symbol  and you refill the displayed oil filling capacity, observe the following:

- If you top up or add a lower quality engine oil, set the lower quality level on the on-board computer (→ Page 171).
- If you are topping up with engine oil of a better quality, do not enter the better quality level.

### Transmission oils

#### General notes



#### Note

#### Damage to the transmission from mineral-based transmission oil

The transmission may be damaged when changing from a synthetic to a mineral-based transmission oil.

- Before you change the transmission oil, check whether a mineral-based transmission oil is permitted. You can find information at an authorised Mercedes-Benz Trucks Service Centre.

Observe the notes on operating fluids (→ Page 511).

The drive axles and the transmission are filled with a high-quality synthetic oil at the factory.

The planetary hub reduction axles are filled with mineral oil.

Information on the usability of transmission oils can be found in the

## Technical data

### Operating fluids

Mercedes-Benz Trucks Specifications for Operating Fluids.

#### Transmission oil quality

You can check the quality grade of the transmission oil used on the on-board computer (→ Page 171).

#### Notes on coolant



**Danger**

#### **Risk of fire and injury from antifreeze agent**

If antifreeze agent comes into contact with hot component parts in the engine compartment, it may ignite.

- ▶ Allow the engine to cool down before you top up the antifreeze agent.
- ▶ Make sure that no antifreeze agent spills out next to the filler opening.
- ▶ Thoroughly clean the antifreeze agent from component parts before starting the vehicle.

Observe the notes on operating fluids (→ Page 511).

A coolant that ensures anti-corrosion/antifreeze protection and other important protective effects is added ex works.

The coolant is a mixture of water and corrosion inhibitor/antifreeze agent.

The corrosion inhibitor/antifreeze agent in the coolant has the following properties:

- Heat dissipation
- Anti-corrosion protection
- Cavity seal (protection against pitting)
- Antifreeze protection
- Increases the boiling point

Leave the coolant in the engine cooling system all year round even in countries with high outside temperatures.

Check the anti-corrosion/antifreeze agent concentration in the coolant every six months.

Only use approved corrosion inhibitor/antifreeze agents.

If you replace the coolant, make sure that the coolant contains 50 % corrosion inhibitor/antifreeze. This corresponds to antifreeze protection down to -37 °C.

Do not exceed a concentration of 55% (antifreeze protection down to a temperature of around -45°C). Heat dissipation and antifreeze protection may otherwise deteriorate.

In the event of coolant loss, do not just refill with water, but also proportionally with an approved corrosion inhibitor/antifreeze agent.

The water used in coolant must meet specific requirements, which are often met by drinking water. Have the water treated if the water quality is inadequate.

Mix the water and the corrosion inhibitor/antifreeze agent together externally of the coolant circuit before filling.

Avoid mixing different anti-corrosion/antifreeze agents.



### Notes on refrigerant

Your vehicle's climate control system is filled with refrigerant R134a and contains fluorinated greenhouse gas.

The warning label for the refrigerant type used is located behind the maintenance flap.



#### Note

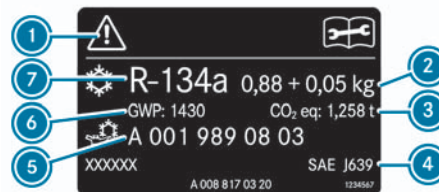
#### Damage due to incorrect refrigerant or refrigerant compressor oil

If the incorrect refrigerant or refrigerant compressor oil (PAG oil) is used, this can damage the climate control system.

- ▶ Only use refrigerant R134a and the PAG oil approved by Daimler Truck<sup>®</sup>AG for your vehicle.
- ▶ Do not mix the approved PAG oil with another PAG oil.

Maintenance work, such as topping up the refrigerant or replacing components, must be carried out only by a qualified specialist workshop. All applicable regulations and SAE standard J639 must be complied with.

### Refrigerant information label



#### Information on refrigerant information label

- ① Symbols for hazards and service information
- ② Refrigerant filling capacity
- ③ CO equivalent of the refrigerant used
- ④ Applicable standards
- ⑤ PAG oil part number
- ⑥ GWP (global warming potential) of the refrigerant used
- ⑦ Refrigerant type

The symbols ① indicate the following:

- Possible dangers
- The performance of maintenance work at a qualified specialist workshop

### Notes on fuel grade



#### Danger

#### Risk of fire from fuel mixture

If you mix diesel fuel with petrol, the flash point of the fuel mixture is lower than that of pure diesel fuel.

- ▶ Do not refuel diesel engines with petrol.
- ▶ Do not mix petrol with diesel fuel.

Even small amounts of the wrong fuel could result in damage to the fuel system, engine and exhaust gas aftertreatment system.



#### Note

#### Damage to the exhaust gas after-treatment system for vehicles with diesel particulate filters

If you use diesel fuel with a sulphur content that is too high, the exhaust gas aftertreatment system may be damaged.

- ▶ In countries without sulphur-free diesel fuel, refuel using only low-

## Technical data

### Operating fluids

sulphur diesel fuel with a sulphur content of less than 50 ppm.

#### Note

BlueTec® 6 vehicles only: Refuel only with commercially available vehicle diesel fuel that conforms to the latest version of the European standards EN 590 or EN 16734 (or equivalent national fuel standards).

#### Note

Refuel only with commercially available vehicle diesel fuel that conforms to the latest version of European standard EN 590 (or equivalent national fuel standards).

For diesel engines, you will find the compatibility labels on the fuel tank and on the fuel dispenser or on the pump nozzle of the filling station.

- **B7:** For diesel fuel with a maximum of 7% vol. fatty acid methyl ester FAME (biodiesel fuel) by volume in accord-

ance with EN 590, paraffinic proportions (HVO/XTL) may be added

- **XTL:** for paraffinic diesel fuel in accordance with DIN EN 15940

#### Information on low outside temperatures

Refuel your vehicle with as much winter diesel fuel as possible at the beginning of winter.

Before switching to winter diesel fuel, the fuel tank must be as empty as possible. When first refuelling with winter diesel fuel, only refuel using a small amount, e.g. to reserve level. The next time you refuel, you can fill the fuel tank normally again.

Further information on fuel is available at the following locations:

- Filling stations
- Qualified specialist workshops

#### Information on diesel fuels in accordance with EN 590 and EN 16734

##### Notes



#### **Danger**

##### **Risk of fire or explosion from fuel**

Fuels are highly flammable.

- ▶ Fire, naked flames, smoking and a formation of sparks must be avoided.
- ▶ Before refuelling, switch off the vehicle and, if present, the auxiliary heating.



#### **Note**

##### **Malfunctions in the fuel supply due to contaminated fuel**

Impurities may enter the fuel system from drums or canisters when refuelling. This can cause malfunctions in the fuel supply and in the fuel system.

- ▶ Before refuelling, filter the fuel if it is taken from drums or canisters.



### Note

#### Damage to the engine and the exhaust system due to excessively high a sulphur content in the fuel

Fuels can have different levels of sulphur content. A high fuel sulphur content accelerates the ageing process of the engine oil and can damage the engine and exhaust system.

- Use fuels with a low sulphur content.

#### BlueTec® 6 vehicles:

Only refuel with commercially available sulphur-free diesel fuel that conforms to the latest version of European standards EN 590 or EN 16734, with a max. sulphur content of 0.001% by weight (10 ppm).

The following fuel types are not permitted:

- Sulphurous fuel with a sulphur content over 0.001% by weight
- Marine diesel fuel
- Aviation turbine fuel
- Heating oils

- Biodiesel fuels in accordance with DIN EN 14214 (FAME (fatty acid methyl ester) and UCOME (used cooking oil methyl ester))

These fuel types cause irreversible damage to the engine and BlueTec® 6 exhaust gas after-treatment system and significantly reduce the expected service life.

#### BlueTec® 4 vehicles and BlueTec® 5 vehicles:

Diesel fuel must comply with the latest version of European standard EN 590. This allows the engines to attain the specified output as well as the legally prescribed emission levels of the Euro IV and Euro V standard.

Using fuels with a sulphur content above 0.005% by weight (50 ppm) will reduce the life expectancy of the engine and exhaust system.

The following fuel types are not permitted:

- Sulphurous fuel with a sulphur content over 0.05% by weight (500 ppm)

- Marine diesel fuel
- Aviation turbine fuel
- Heating oils
- Biodiesel fuel FAME (fatty acid methyl ester) > 7% by vol.
- Biodiesel fuel UCOME (Used Cooking Oil Methyl Ester)

#### Vehicles without BlueTec® exhaust gas aftertreatment

Only refuel with commercially available sulphur-free diesel fuel that conforms to the latest version of European standard EN 590 or a comparable national fuel standard.

This enables the engines to achieve both the specified performance and the emission levels legally prescribed by the Euro III standard.

The following fuel types are not permitted:

- OM 460: Sulphurous fuel with a sulphur content over 0.2% by weight (2000 ppm)
- OM 473: Sulphurous fuel with a sulphur content over 0.1% by weight (1000 ppm)

## Technical data

### Operating fluids

- Marine diesel fuel
- Aviation turbine fuel
- Heating oils
- Biodiesel fuel FAME (fatty acid methyl ester) > 7% by vol.
- Biodiesel fuel UCOME (Used Cooking Oil Methyl Ester)

For vehicles without BlueTec® exhaust gas aftertreatment, the sulphur content of the fuel is set to the value customary in the country of delivery. If you fill up with diesel fuel with a different sulphur content, set the new value for the sulphur content in the on-board computer (→ Page 171). If you do not know the sulphur content of the diesel fuel used, set the lower value for the sulphur content in the on-board computer.

Some countries have diesel fuels with a different sulphur content. Diesel fuels with a lower sulphur content are sold in some countries under the designation "Euro diesel".

You can find information about current country-specific sulphur content at an authorised Mercedes-Benz Trucks service

centre or in the Mercedes-Benz Trucks Specifications for Operating Fluids (→ Page 511).

#### Diesel fuels at low temperatures



**Danger**

#### Risk of fire and explosion from igniting fuel

If parts of the fuel system heat up, fuel may escape and ignite. Depending on the type of damage, fuel may only escape when the engine is running.

- ▶ Do not heat up parts of the fuel system.
- ▶ Contact a qualified workshop to have the fault rectified.

At very low outside temperatures, paraffin may separate from the diesel fuel resulting in inadequate flow characteristics.

To prevent malfunctions, diesel fuel with improved flow characteristics is available in the winter months.

You can normally use winter diesel fuel without problems at the outside temper-

atures expected in the country where it is on sale.

The vehicle can be equipped with a fuel preheating system. The fuel preheating system heats the fuel and thus improves its flow characteristics.

#### Fuel additives



**Note**

#### Damage due to the mixing of fuel additives

If fuel additives are added to the diesel fuel or FAME fatty acid methyl ester, this may lead to malfunctions, catalytic converter damage and/or engine damage.

- ▶ Do not mix fuel additives.



**Note**

#### Damage to the fuel system due to deterioration of the lubrication qualities of the diesel fuel

Using petrol or petroleum will impair the lubrication qualities of the diesel fuel. This can damage the fuel system.

- Do not mix petrol or kerosene with diesel fuel.

### Information about alternative diesel fuels in accordance with DIN EN 15940

Observe the notes on operating fluids (→ Page 511).

Alternative diesel fuels according to DIN EN 15940 can be produced from the following resources:

- Hydrotreated vegetable oils (HVO)
- Biomass (BtL biomass to liquid)
- Natural gas (GtL gas to liquid)
- Coal (CtL coal to liquid)

For BlueTec® 6 vehicles, you can use alternative diesel fuels in accordance with DIN EN 15940 in the following engines:

- OM 470
- OM 471
- OM 473
- OM 936

You can operate your vehicle with pure alternative diesel fuels in accordance

with DIN EN 15940 and in a mixture with conventional diesel fuels.

### Notes on AdBlue®

It may be improper or punishable in some countries to operate a vehicle that uses no AdBlue® or one that does not comply with the specifications of these operating instructions.



#### Note

#### Paintwork damage caused by AdBlue®

If AdBlue® comes into contact with painted or aluminium surfaces when refuelling, these surfaces may be attacked.

- Immediately rinse the affected surfaces with plenty of water.

If the AdBlue® tank is still filled with enough AdBlue®, pressure compensation may occur when the tank cap is opened. This may cause AdBlue® to leak. Therefore, unscrew the tank cap of the AdBlue® tank with care.

AdBlue® is a non-flammable, non-toxic, colourless, odourless, water-soluble liquid.

When you open the AdBlue® tank, small amounts of ammonia vapour may escape. Ammonia vapours have a pungent odour and irritate the following body parts in particular:

- Skin
- Mucous membranes
- Eyes

This can cause a burning sensation in the eyes, nose and throat as well as coughing and watering eyes.

Do not inhale any escaping ammonia vapours. Only fill the AdBlue® tank in well-ventilated areas.

AdBlue® must not come into contact with skin, eyes or clothing or be swallowed. Keep AdBlue® away from children.

If you do come into contact with AdBlue®, observe the following:

- Wash AdBlue® off skin immediately with soap and water.

## Technical data

### Operating fluids

- If you get AdBlue® in your eyes, rinse them immediately and thoroughly with clean water. Seek medical attention immediately.
- If you swallowed AdBlue®, rinse your mouth immediately with water and drink plenty of water. Seek medical attention immediately.
- Immediately change clothes that have been soiled by AdBlue®.

### High outside temperatures

AdBlue® may decompose if it heats to over 50°C over an extended period of time, e.g. due to direct sunlight. This creates ammonia vapour.

### Low outside temperatures

AdBlue® freezes at a temperature of approximately -11°C. The vehicle's AdBlue® supply system is equipped with a fully automatic heating system. Winter operation is therefore also ensured for temperatures below -11 °C.

### Additives, tap water



#### Note

#### Damage caused by mixing additives with AdBlue® or from diluting AdBlue®

The BlueTec® exhaust gas aftertreatment can be destroyed by additives in AdBlue® and by the dilution of AdBlue®.

- ▶ Only use AdBlue® in accordance with ISO 22241.
- ▶ Do not mix additives.
- ▶ Do not dilute AdBlue®.

### Storage

Tanks made of the following materials are not suitable for storing AdBlue®:

- Aluminium
- Copper
- Copper alloys
- Non-alloy steel
- Galvanised steel

If AdBlue is stored in these types of container, constituents of these metals may dissolve and damage the BlueTec® ex-

haust gas after-treatment system beyond repair.

Only use tanks made of the following materials for storing AdBlue®:

- Cr-Ni steel according to DIN EN 10 088-1/2/3
- MoCrNi steel according to DIN EN 10 088-1/2/3
- Polypropylene
- Polyethylene

### Waste disposal



#### Note

#### Environmental pollution caused by environmentally irresponsible disposal

To prevent damage:

- ▶ Dispose of AdBlue® in an environmentally responsible manner.

When disposing of AdBlue®, observe the legal requirements for the country you are currently in.

### Purity



#### Note

#### Damage and malfunctions due to impurities in AdBlue®

Contamination of AdBlue® leads to increased emission values, catalytic converter damage, engine damage and malfunctions in the AdBlue® exhaust gas aftertreatment system.

- ▶ Do not refill the AdBlue® tank with pumped-out AdBlue®.
- ▶ Avoid any impurities in AdBlue®.

Ensure that AdBlue® is pure to avoid malfunctions in the BlueTec® exhaust gas aftertreatment.

If you pump AdBlue® out of the tank during a repair, for example, do not refill the tank with this same fluid. Otherwise the purity of the liquid is no longer guaranteed.

### Operating data

#### Compressed-air system

#### Minimum pressure of the compressed-air system

| Minimum pressures                             | Pressure |
|-----------------------------------------------|----------|
| Brake circuit 1                               | 6.8 bar  |
| Brake circuit 2                               | 6.8 bar  |
| Brake circuit 3                               | 5.5 bar  |
| Transmission circuit/<br>clutch circuit       | 5.5 bar  |
| Spring-loaded brake cylinder release pressure | 6.8 bar  |

#### Supply pressures of compressed-air system

| Supply pressures                                                       | Pressure              |
|------------------------------------------------------------------------|-----------------------|
| Service brake                                                          | 10.5 bar ... 13.6 bar |
| Air suspension                                                         | 10.5 bar ... 15.5 bar |
| External source of compressed air (charging the compressed-air system) | 11.0 bar ... 12.5 bar |
| Remaining pressure circuits                                            | 7.0 bar ... 8.7 bar   |

### Engine

#### Engine speeds OM 936 (7698 cm³)

|                                       | Speed                                |
|---------------------------------------|--------------------------------------|
| Idle speed                            | ≈ 600 rpm                            |
| Engine brake (operating range)        | Around<br>1,000 rpm ...<br>3,000 rpm |
| Speed range at maximum engine torque  | Around<br>1,200 rpm ...<br>1,600 rpm |
| Engine speed at maximum engine output | ≈ 1,800 rpm                          |

#### Engine speeds of OM 460 (12,816 cm³)

|                                       | Speed                                |
|---------------------------------------|--------------------------------------|
| Idle speed                            | Around<br>560 rpm ... 800 rpm        |
| Engine brake (operating range)        | Around<br>1,500 rpm ...<br>2,500 rpm |
| Engine speed at maximum engine output | ≈ 1,600 rpm                          |

## Technical data

### Operating data

#### Engine speeds of OM 470 (10,667 cm<sup>3</sup>) and OM 471 (12,809 cm<sup>3</sup>)

|                                       | Speed                                |
|---------------------------------------|--------------------------------------|
| Idle speed                            | Around<br>500 rpm ... 550 rpm        |
| Engine brake (operating range)        | Around<br>1,000 rpm ...<br>2,300 rpm |
| Speed range at maximum engine torque  | ≈ 1,100 rpm                          |
| Engine speed at maximum engine output | Around<br>1,600 rpm ...<br>1,800 rpm |

#### Engine speeds of OM 473 (15569 cm<sup>3</sup>)

|                                       | Speed                                |
|---------------------------------------|--------------------------------------|
| Idle speed                            | ≈ 500 rpm                            |
| Engine brake (operating range)        | Around<br>1,000 rpm ...<br>2,300 rpm |
| Speed range at maximum engine torque  | ≈ 1,100 rpm                          |
| Engine speed at maximum engine output | ≈ 1,600 rpm                          |

### Operating temperature

#### Operating temperature OM 936

| Operating mode                                           | Temperature                |
|----------------------------------------------------------|----------------------------|
| Normal operation                                         | Around<br>80 °C ... 100 °C |
| Maximum permissible coolant temperature during operation | ≤ 103 °C                   |
| Automatically reduced engine output                      | > 103 °C                   |

#### Operating temperature OM 460

| Operating mode                                           | Temperature               |
|----------------------------------------------------------|---------------------------|
| Normal operation                                         | Around<br>80 °C ... 95 °C |
| Maximum permissible coolant temperature during operation | ≤ 110 °C                  |
| Automatically reduced engine output                      | > 105 °C                  |

#### Operating temperature of OM 470, OM 471, OM 473

| Operating mode   | Temperature                |
|------------------|----------------------------|
| Normal operation | Around<br>85 °C ... 105 °C |

| Operating mode                                           | Temperature |
|----------------------------------------------------------|-------------|
| Maximum permissible coolant temperature during operation | ≤ 110 °C    |
| Automatically reduced engine output                      | > 110 °C    |

### Tyre pressure

| Tyres                                                       | Pressure                           |
|-------------------------------------------------------------|------------------------------------|
| Tyre pressure table for single tyres                        | See the "Wheels and tyres" section |
| Tyre pressure table for twin tyres                          | See the "Wheels and tyres" section |
| Permissible difference in pressure between tyres on an axle | 20 kPa (0.2 bar/3 psi)             |
| Maximum permissible air pressure for inflating tyres        | 1000 kPa<br>(10.0 bar/145 psi)     |

### Wheel nut tightening torques

The tightening torques for the wheel nuts are identical for light-alloy and steel wheels.



### Wheel nut tightening torques

| Wheels                                                                                              | Torque |
|-----------------------------------------------------------------------------------------------------|--------|
| Wheel nuts with pressure plate (hub centring) M22x1.5 for 20", 22.5" and 24" rims, 10 hole mounting | 600 Nm |
| Wheel nuts with pressure plate (hub centring) M18 x 1.5 for 17.5" wheel rims, 6-hole mounting       | 400 Nm |
| Wheel nuts with conical spring washers                                                              | 450 Nm |
| Connecting flange with twin tyres 14.00 R 20                                                        | 450 Nm |
| Wheel nut covers                                                                                    | 60 Nm  |

### Spring-loaded brake cylinder release torque/release pressure

| Spring-loaded brake cylinder                              | Torque/pressure |
|-----------------------------------------------------------|-----------------|
| Release torque of the release screw                       | ≤ 70 Nm         |
| Tightening torque of the release screw                    | ≤ 35 Nm         |
| Release pressure (with external source of compressed air) | ≥ 6.5 bar       |

### Level control system

|                                                                                 | Pressure   |
|---------------------------------------------------------------------------------|------------|
| Fill the air suspension via connection 28 on the electronic air processing unit | ≤ 12.5 bar |

### Compressed-air reservoir

#### Information on the compressed-air reservoir

#### Information for the initial purchaser and other users

Supporting documentation in accordance with Directive 2009/105/EC of the European Parliament and of the Council and in accordance with the technical standard EN 286-2.

### Accompanying documentation

|    |                                                                                                                                                                               |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a- | The reservoir is only intended for use in compressed-air systems and auxiliary equipment on motor vehicles and their trailers, and is only to be used to hold compressed air. |
| b- | For the purposes of identification, the reservoir is marked with a factory no. and                                                                                            |

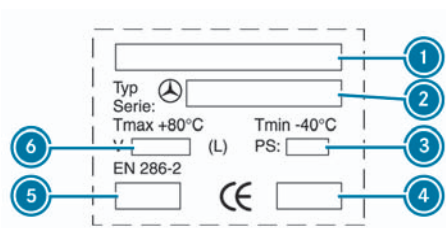
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | the manufacturer of the reservoir, as well as the key operating data and the CE mark, see the identification plate or inscriptions directly on the wall of the reservoir.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| c- | The reservoir is manufactured with a "Declaration of conformity" in accordance with Article 12 of Directive 2009/105/EC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| d- | The reservoir is to be secured to the vehicle by tensioning straps (clamps).<br>If the reservoir is an aluminium reservoir, contact surfaces must be designed to inhibit corrosion or mechanical damage. Tensioning straps are to be positioned in such a way that they do not come into contact with the base connecting seams; the reservoir is not to be subjected to any stress that would jeopardise operating safety.<br>Coatings applied to aluminium reservoirs must not contain lead, and the top coat of paint must only be applied over a suitable primer coat. Steel threaded connections for aluminium reservoirs must have a corrosion-proof coating. |
| -  | Aluminium reservoirs are only to be cleaned using non-alkaline cleaning agents.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| -  | The interior of the reservoir must be visible through the threaded connections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| -  | The reservoir must be emptied at regular intervals to prevent the accumulation of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Technical data

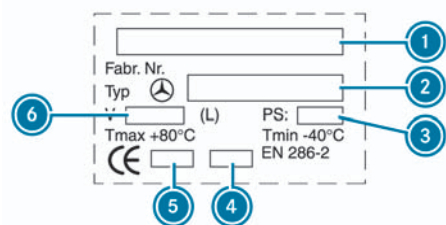
### Compressed-air reservoir

|                  |                                                                                                                                                                    |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | condensation (pull ring on drain valve at the lowest point of the reservoir).                                                                                      |
| e-               | The reservoir requires no maintenance if item d is complied with.                                                                                                  |
| f-               | No welding, heat treatment or other operation relevant to safety is to be performed on the pressure-bearing walls of the reservoir (casing, base, threaded rings). |
| g-               | The internal pressure of the reservoir may exceed the maximum operating pressure Ps by no more than 10% for a brief period.                                        |
| Daimler Truck AG |                                                                                                                                                                    |

- ③ Maximum operating pressure (bar)
- ④ Year of construction
- ⑤ Testing establishment code number
- ⑥ Volume (litres)



### Compressed-air reservoir identification plate



### Aluminium reservoir

- ① Manufacturer
- ② MB part number

### Steel reservoir

- ① Manufacturer
- ② MB part number
- ③ Maximum operating pressure (bar)
- ④ Testing establishment code number
- ⑤ Year of construction
- ⑥ Volume (litres)

#### Notes on display messages

#### Safety instructions

If you ignore warning/indicator lamps or display messages, you will not be able to identify failures and malfunctions in components or systems. Driving/braking characteristics may be affected and the reliability and road safety of your vehicle may be impaired.

- ▶ Have the affected system checked and repaired at a qualified specialist workshop.
- ▶ Always pay attention to warning lights and display messages, and follow the appropriate remedial measures.

Operating information, fault messages and warnings will automatically be displayed in a display message by the instrument cluster. As well as the display message, an indicator lamp may light up in the status area (→ Page 175).

Depending on the priority of the event, the instrument cluster will display the display message in different colours:

- For a fault/message with low priority, the instrument cluster will display a **grey** display message.  
Observe the instructions in the display message.  
Continuing the journey is possible.
- For a fault/message with medium priority, the instrument cluster will display a **yellow** display message.  
The instrument cluster will also display a yellow display message for special operating statuses, e.g. if the tyre pressure of a tyre is too low.  
The instrument cluster will also display a yellow display message if maintenance work due has not been performed, for example.  
Observe the instructions in the display message.
- For a high-priority fault, the instrument cluster will display a **red** display message.  
The instrument cluster will show a red display message if the brake reservoir pressure is low, for example.

Observe the instructions in the display message.

Park the vehicle in a safe place as soon as possible and notify a qualified specialist workshop.

If further information on the malfunction/message is available, the display message shows the  symbol. You can display the information using the  button on the multifunction steering wheel.

If you can acknowledge the display message with the  button, the display message will disappear. You can view the display message again at a later point in time (→ Page 170). If, in addition to the display message, an indicator lamp lights up in the status area, the indicator lamp will remain on.

## Display messages

### BlueTec® exhaust gas aftertreatment/diesel particulate filter

#### BlueTec® exhaust gas aftertreatment/diesel particulate filter

| Display messages                                                                                                                  | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>Rotational speed increase                    | <p>An automatic engine speed increase reduces hydrocarbon deposits in the catalytic converter. The message disappears automatically when the process is complete.</p> <p>Vehicles with diesel particulate filter: This function is not a regeneration of the diesel particulate filter.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <br>Regeneration disabled                        | <p>Diesel particulate filter regeneration is disabled and the fill level of the diesel particulate filter is raised.</p> <ul style="list-style-type: none"> <li>► In order to enable automatic regeneration of the diesel particulate filter, deactivate the regeneration lockout as soon as possible ( → Page 340).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <br>Manual regeneration not possible             | <p>Additional text : <a href="#">Requirements for manual regeneration have not been fulfilled. Please observe the Operating Instructions.</a></p> <p>Diesel particulate filter regeneration is not possible. At least one requirement has not been fulfilled.</p> <ul style="list-style-type: none"> <li>► Observe the activation conditions and requirements for manual regeneration of the diesel particulate filter ( → Page 341).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |
| <br>Diesel particulate filter: raised fill level | <p>Additional text : <a href="#">Please start regeneration Please observe the Operating Instructions</a></p> <p>The  indicator lamp also lights up on the instrument cluster. Regeneration of the diesel particulate filter is necessary.</p> <p>Depending on the driving operation, do the following within the next four hours:</p> <ul style="list-style-type: none"> <li>► Deactivate regeneration lockout and keep it in this state as long as you are driving on a motorway or overland, until the indicator lamp  goes out.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Start manual regeneration ( → Page 341).</li> </ul> |

| Display messages                                                                                                        | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Diesel particulate filter full</p> | <p>Additional text : <a href="#">Start regeneration immediately Please observe the Operating Instructions</a></p> <p>The  indicator lamp also lights up on the instrument cluster. Regeneration of the diesel particulate filter is necessary.</p> <p>Depending on the driving operation, do the following within the next 30 minutes:</p> <ul style="list-style-type: none"> <li>► Deactivate regeneration lockout and keep it in this state as long as you are driving on a motorway or overland, until the indicator lamp  goes out.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Start manual regeneration ( → Page 341).</li> </ul> |
|  <p>Diesel particulate filter full</p> | <p>Additional text : <a href="#">Start regeneration immediately Please observe the Operating Instructions</a></p> <p>Indicator lamp  in the instrument cluster also flashes.</p> <p>Regeneration of the diesel particulate filter is necessary immediately and it can be started for the last time manually.</p> <ul style="list-style-type: none"> <li>► Start manual regeneration straight away ( → Page 341). The diesel particulate filter may otherwise only be able to be cleaned or replaced at a qualified specialist workshop.</li> </ul>                                                                                                                                                                                         |
|  <p>Diesel particulate filter full</p> | <p>Additional text : <a href="#">Stop vehicle. Consult service centre. Regeneration is no longer possible.</a></p> <p>The  indicator lamp also lights up on the instrument cluster.</p> <p>The diesel particulate filter has reached its soot load limit. Engine performance will be reduced and manual regeneration will no longer be possible.</p> <ul style="list-style-type: none"> <li>► Clean the diesel particulate filter as soon as possible or have it replaced.</li> </ul>                                                                                                                                                                                                                                                      |
|  <p>AdBlue reserve</p>                 | <p>Additional text : <a href="#">Please top up AdBlue.</a></p> <p>The AdBlue® level has dropped to approximately 10%.</p> <ul style="list-style-type: none"> <li>► Top up AdBlue® tank immediately ( → Page 352). <ul style="list-style-type: none"> <li>&lt; <b>Vehicles with BlueTec® 4/BlueTec® 5:</b> Engine output may be reduced.</li> <li>&lt; <b>Vehicles with BlueTec® 6:</b> Engine output may be reduced and speed may be limited to approximately 20 km/h.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                               |

## Display messages

### BlueTec® exhaust gas aftertreatment/diesel particulate filter

| Display messages                                                                                         | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>AdBlue reserve</p>  | <p><b>Vehicles with BlueTec® 6</b></p> <p>Additional text : <a href="#">Please top up with AdBlue. Risk of reduction in engine power</a></p> <p>The  indicator lamp in the status area also lights up.</p> <p>The AdBlue® level has dropped to approximately 7.5%.</p> <ul style="list-style-type: none"> <li>► Top up AdBlue® tank immediately (→ Page 352). <ul style="list-style-type: none"> <li>◁ Engine output may be reduced and speed may be limited to approximately 20 km/h.</li> </ul> </li> </ul>                                                                                                            |
|  <p>AdBlue very low</p> | <p><b>Vehicles with BlueTec® 6</b></p> <p>Additional text : <a href="#">Please top up with AdBlue. Reduction in engine power after stopping</a></p> <p>The  indicator lamp in the status area also lights up.</p> <p>The AdBlue® level has dropped to approximately 2.5%.</p> <ul style="list-style-type: none"> <li>► Top up AdBlue® tank immediately (→ Page 352). <ul style="list-style-type: none"> <li>◁ Engine output will be reduced the next time the vehicle comes to a standstill and speed may be limited to approximately 20 km/h.</li> </ul> </li> </ul>                                                    |
|  <p>AdBlue empty</p>    | <p>Additional text : <a href="#">Please top up AdBlue.</a></p> <p>The AdBlue® level has dropped to approximately 0%. Engine output will be reduced the next time the vehicle is started.</p> <ul style="list-style-type: none"> <li>► Adapt your driving style accordingly.</li> <li>► Top up AdBlue® tank immediately (→ Page 352).</li> </ul>                                                                                                                                                                                                                                                                                                                                                           |
|  <p>AdBlue empty</p>    | <p><b>Vehicles with BlueTec® 6</b></p> <p>Additional text : <a href="#">Please top up with AdBlue Risk of limit speed</a></p> <p>The  indicator lamp in the status area also lights up.</p> <p>The AdBlue® level has dropped to approximately 0%. Engine output is reduced.</p> <ul style="list-style-type: none"> <li>► Adapt your driving style accordingly.</li> <li>► Top up AdBlue® tank immediately (→ Page 352). <ul style="list-style-type: none"> <li>◁ Engine output will be reduced the next time the vehicle comes to a standstill and speed may be limited to approximately 20 km/h.</li> </ul> </li> </ul> |

## BlueTec® exhaust gas aftertreatment/diesel particulate filter

| Display messages                                                                                              | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Engine power reduced</p> | <p>Additional text : <a href="#">Please top up AdBlue.</a></p> <p>The AdBlue® level has dropped to approximately 0%. Engine output is reduced.</p> <ul style="list-style-type: none"> <li>► Adapt your driving style accordingly.</li> <li>► Top up AdBlue® tank immediately ( → Page 352).</li> </ul>                                                                                                                                                                                                                                                                                                                       |
|  <p>Engine power reduced</p> | <p><b>Vehicles with BlueTec® 6</b></p> <p>Additional text : <a href="#">Please top up with AdBlue Risk of limit speed</a></p> <p>The  indicator lamp in the status area also lights up.</p> <p>The AdBlue® level has dropped to approximately 2.5%. Engine output is reduced.</p> <ul style="list-style-type: none"> <li>► Adapt your driving style accordingly.</li> <li>► Top up AdBlue® tank immediately ( → Page 352).</li> <li>◄ Otherwise, engine output may be reduced and speed may be limited to approximately 20 km/h.</li> </ul> |
|  <p>Speed restriction</p>    | <p><b>Vehicles with BlueTec® 6</b></p> <p>Additional text : <a href="#">Please top up AdBlue.</a></p> <p>The  indicator lamp in the status area also lights up.</p> <p>The AdBlue® level has dropped to approximately 0%. The speed is limited to approximately 20 km/h.</p> <ul style="list-style-type: none"> <li>► Adapt your driving style accordingly.</li> <li>► Top up AdBlue® tank immediately ( → Page 352).</li> </ul>                                                                                                            |

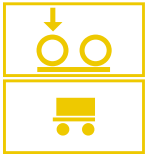
## Display messages

### Trailers/semitrailers

#### Trailers/semitrailers

| Display messages                                                                                                | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Coupling level reached</p> | <p>In addition to the display message, the  indicator lamp in the status area lights up. The semitrailer has been detected during reversing. The fifth-wheel coupling is unlocked.</p> <p>► Continue the coupling procedure by reversing slowly.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|  <p>Wheel brake overload</p>   | <p>Additional text : <a href="#">Adapt your driving style.</a></p> <p>The temperature of one of the drum/disk brakes on the trailer/semitrailer is too high. The drum/disk brake may overheat.</p> <p> <b>Warning</b></p> <p><b>Risk of accident due to high temperatures at the trailer/semitrailer brake</b></p> <p>The vehicle's driving and braking characteristics may change. Observe the notes in the separate operating instructions provided by the trailer/semitrailer manufacturer.</p> <ul style="list-style-type: none"> <li>► Continue your journey carefully.</li> <li>► Shift to a lower gear.</li> <li>► Brake the vehicle with the continuous brake.</li> <li>► Depress the brake pedal in addition only if the braking power of the continuous brake is not sufficient.</li> <li>► Have the brake system checked at a qualified specialist workshop.</li> </ul> |
|  <p>Check tyre pressure</p>   | <p>The tyre pressure is too low in at least one of the trailer/semitrailer tyres.</p> <p> <b>Warning</b></p> <p><b>Risk of accident due to insufficient or excessive tyre pressure in a trailer/semitrailer tyre</b></p> <p>The vehicle's driving and braking characteristics may change.</p> <p>Also observe the notes in the separate Operating Instructions provided by the trailer/semitrailer manufacturer.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle without steering or braking suddenly. Pay attention to the traffic conditions.</li> <li>► Check the tyre pressure and correct it if necessary.</li> </ul>                                                                                                                                                                                                                                                                                                                            |



| Display messages                                                                                                 | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Starting-off aid active</p> | <p>The starting-off aid on the trailer/semitrailer is switched on.</p> <ul style="list-style-type: none"> <li>► Observe the separate Operating Instructions provided by the trailer/semitrailer manufacturer.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|  <p>Additional axle raised</p>  | <p>The leading/trailing axle on the trailer/semitrailer has been raised.</p> <ul style="list-style-type: none"> <li>► Observe the separate Operating Instructions provided by the trailer/semitrailer manufacturer.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|  <p>Note trailer height.</p>    | <p>In addition to the display message, the indicator lamp  in the instrument cluster also comes on.<br/>The level control for the trailer/semitrailer is outside the driving level.</p> <div>  <p><b>Warning</b></p> <p><b>Risk of accident due to an inappropriate trailer/semitrailer height</b></p> <p>The vehicle's driving and braking characteristics may change.</p> <p>Observe the maximum headroom clearance of underpasses. Observe the notes in the separate operating instructions provided by the trailer/semitrailer manufacturer.</p> <ul style="list-style-type: none"> <li>► Set the level control for the trailer/semitrailer to driving level; see the separate operating instructions provided by the trailer/semitrailer manufacturer.</li> </ul> </div> |

## Display messages

### Trailers/semitrailers

| Display messages                                                                                                                                                                                        | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   <p>Turn signal faulty (Example)</p> | <p>The turn signal light on the trailer/semitrailer is faulty.</p> <ul style="list-style-type: none"> <li>► Replace the corresponding bulb; see the separate Operating Instructions issued by the trailer/semitrailer manufacturer.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|  <p>Open semitrailer coupling.</p>                                                                                     | <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <p>If the instrument cluster displays the warning and a warning tone sounds, the fifth-wheel kingpin was detected during coupling/uncoupling and the monitored fifth-wheel coupling is not locked.</p> <div style="background-color: #f0f0f0; padding: 10px;"> <p> <b>Danger</b></p> <p><b>Risk of accident due to damaged or unlocked fifth-wheel coupling</b></p> <p>You could lose the semitrailer.</p> <ul style="list-style-type: none"> <li>► Always ensure that the fifth-wheel coupling is undamaged and has been locked after coupling up.</li> </ul> </div> <ul style="list-style-type: none"> <li>► When uncoupling: Continue with the process.</li> <li>► When coupling: Check the locking mechanism on the monitored fifth-wheel coupling.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Couple the semitrailer again.</li> </ul> |
|  <p>Driving level below coupling level</p>                                                                             | <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <p>If the instrument cluster shows the warning and a warning tone sounds, the semitrailer is no longer detected when reversing. The monitored fifth-wheel coupling is not yet engaged.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Display messages                                                                                                            | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                             | <p> <b>Danger</b></p> <p><b>Risk of accident due to damaged or unlocked fifth-wheel coupling</b><br/>You could lose the semitrailer.</p> <ul style="list-style-type: none"> <li>► Always ensure that the fifth-wheel coupling is undamaged and has been locked after coupling up.</li> <li>► Correct the semitrailer level until the instrument cluster shows the <b>Coupling level reached</b> display message.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                             |
| <p></p> <p>Check semitrailer coupling.</p> | <p>Additional text : <b>Check semitrailer coupling: open if needed.</b></p> <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <p>If the instrument cluster shows the warning and a warning tone sounds, the monitored fifth-wheel coupling is locked and the semitrailer is not detected.</p> <p> <b>Danger</b></p> <p><b>Risk of accident due to damaged or unlocked fifth-wheel coupling</b><br/>You could lose the semitrailer.</p> <ul style="list-style-type: none"> <li>► Always ensure that the fifth-wheel coupling is undamaged and has been locked after coupling up.</li> </ul> |
| <p></p> <p>Check semitrailer coupling.</p> | <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <p>If the instrument cluster shows the warning and a warning tone sounds, the monitored fifth-wheel coupling is locked and the semitrailer is not detected.</p> <p> <b>Danger</b></p> <p><b>Risk of accident due to damaged or unlocked fifth-wheel coupling</b><br/>You could lose the semitrailer.</p> <ul style="list-style-type: none"> <li>► Always ensure that the fifth-wheel coupling is undamaged and has been locked after coupling up.</li> </ul> <p>or</p>                                                                                                                                                    |

## Display messages

### Trailers/semitrailers

| Display messages                                                                                                            | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                             | <ul style="list-style-type: none"> <li>► Couple the semitrailer again.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|  <p>Semitrailer coupling sensor faulty</p> | <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <p>The sensor on the fifth-wheel coupling is faulty. The state of the monitored fifth-wheel coupling has not been correctly detected.</p> <p>See the supplementary text  regarding malfunction/remedy, e.g. <a href="#">Clean sensor</a></p> <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p> <b>Danger</b></p> <p><b>Risk of accident due to damaged or unlocked fifth-wheel coupling</b></p> <p>You could lose the semitrailer.</p> <ul style="list-style-type: none"> <li>► Always ensure that the fifth-wheel coupling is undamaged and has been locked after coupling up.</li> </ul> </div> <ul style="list-style-type: none"> <li>► Clean the sensor; see the manufacturer's Operating Instructions.</li> </ul> |

### Lighting system

| Display messages                                                                                                                                                       | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <br> | <p>All the vehicle's exterior lighting is electronically monitored. If the display message is displayed, a bulb has failed. The display message contains information on the fault location and how to rectify the fault, e.g. <a href="#">Replace light bulb</a>. <a href="#">Left dipped beam faulty</a> or <a href="#">Visit workshop</a>. <a href="#">Left dipped beam faulty</a>.</p> <p>If the "Replace light bulb" display message is displayed:</p> <ul style="list-style-type: none"> <li>► Replace the respective bulb (→ Page 106). <ul style="list-style-type: none"> <li>◁ If you do not switch off the lighting system before you change the bulb, you must reset the display message afterwards. To do so, switch the relevant lighting or, if necessary, the vehicle off and on again.</li> </ul> </li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Consult a qualified workshop in the case of LED lights.</li> </ul> <p>If the "Visit workshop" display message is displayed:</p> <ul style="list-style-type: none"> <li>► Visit a qualified workshop.</li> </ul> |

## Display messages

### Operating fluids and maintenance

#### Operating fluids and maintenance

| Display messages                                                                                                                  | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                  | <p>The washer fluid level in the washer fluid reservoir has fallen to approximately one litre.</p> <ul style="list-style-type: none"> <li>► Top up the washer fluid reservoir (→ Page 417).</li> </ul>                                                                                                                                                                                                                                                                                          |
| <br>Air filter                                   | <p>Additional text: 12/08/2020 3000 km (example)</p> <p>A maintenance appointment is due.</p> <ul style="list-style-type: none"> <li>► Schedule the service appointment at a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                                          |
| <br>Air filter Maintenance due (Example)         | <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <p>A maintenance appointment is due.</p> <ul style="list-style-type: none"> <li>► Have the maintenance work carried out at a qualified specialist workshop.</li> </ul>                                                                                                                                            |
| <br>Engine Maintenance due immediately (Example) | <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <p>A maintenance due date has been significantly exceeded. This can result in damage to the vehicle and the major assemblies. It may also result in increased wear.</p> <ul style="list-style-type: none"> <li>► Have the maintenance work carried out immediately at a qualified specialist workshop.</li> </ul> |
| <br>Fully refuel the main tank first             | <p>The main tank has run dry.</p> <p>On vehicles with an additional fuel tank, you must observe the filling order, otherwise the fuel display does not correctly show the current fuel level and the on-board computer does not show the correct range.</p> <ul style="list-style-type: none"> <li>► First, completely fill up the main tank on the left of the vehicle (→ Page 349).</li> <li>► Then fill up the additional fuel tank.</li> </ul>                                              |
|                                                 | <p>The fuel has dropped to the reserve level.</p> <ul style="list-style-type: none"> <li>► Refuel the vehicle.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |

### Brakes

| Display messages                                                                                                                     | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Driving and braking characteristics changed</p> | <p>Additional text : <a href="#">Visit workshop.</a></p> <p>In addition, the  warning lamp lights up on the instrument cluster.</p> <p>The vehicle's brake system is malfunctioning.</p> <div>  <b>Danger</b> <p><b>Risk of an accident due to a brake system malfunction</b></p> <p>If the brake system is malfunctioning, braking characteristics may be impaired.</p> <ul style="list-style-type: none"> <li>► Continue your journey carefully.</li> <li>► Have the brake system checked at a qualified specialist workshop as soon as possible.</li> </ul> </div>                                                                                                                                  |
|  <p>Increased brake force and pedal travel</p>      | <p>Additional text : <a href="#">Stop vehicle. Contact service centre.</a></p> <p>In addition, the  warning lamp lights up on the instrument cluster.</p> <p>The vehicle's brake system is malfunctioning.</p> <p>Full braking power may not be available.</p> <div>  <b>Warning</b> <p><b>Risk of accident due to increased pedal travel</b></p> <p>The vehicle's driving and braking characteristics may change. The operating and road safety of the vehicle is jeopardised.</p> <ul style="list-style-type: none"> <li>► Carefully bring the vehicle to a standstill and park it safely.</li> <li>► Apply the parking brake.</li> <li>► Consult a qualified specialist workshop.</li> </ul> </div> |

## Display messages

### Brakes

| Display messages                                                                                                                                                                                      | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Brakes, axle 1 Maintenance due immediately (Example)</p>                                                         | <p>In addition to the display message, the  indicator lamp lights up, supplemented by  in the status area.</p> <p>The maintenance work due has not been performed.</p> <p>The wear limits of the brake linings and/or brake disks have been exceeded.</p> <p> <b>Danger</b></p> <p><b>Risk of accident due to impaired braking power</b></p> <p>When the brake pads have reached their wear limit, the braking power may be impaired.</p> <ul style="list-style-type: none"> <li>► Continue your journey carefully.</li> <li>► Have the brake system checked at a qualified specialist workshop as soon as possible.</li> </ul> <p>► Visit a qualified workshop.</p>                                                                                                                                                                                                                                                              |
|   <p>Brake pads completely worn</p> | <p>Additional text : <a href="#">Visit workshop</a>.</p> <p>The wiring for the trailer/semitrailer is interrupted or the maintenance work due has not been performed on the trailer/semitrailer.</p> <p>The wear limit of the brake linings and/or brake disks of the trailer/semitrailer have been exceeded.</p> <p> <b>Danger</b></p> <p><b>Risk of accident due to impaired braking power</b></p> <p>When the brake pads have reached their wear limit, the braking power may be impaired.</p> <ul style="list-style-type: none"> <li>► Continue your journey carefully.</li> <li>► Have the brake system checked at a qualified specialist workshop as soon as possible.</li> </ul> <p> <b>Note</b></p> <p>Observe the notes in the separate operating instructions provided by the trailer/semitrailer manufacturer.</p> <p>► Have the trailer/semitrailer wiring checked immediately at a qualified specialist workshop.</p> |



| Display messages                                                                                                                                                                                  | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                                                                                                                                                                   | <p>or</p> <p>► Have the brake linings on the trailer/semitrailer replaced immediately at a qualified specialist workshop.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|   <p>Braking effect limited</p> | <p>Additional text : <a href="#">Adapt your driving style.</a></p> <p>The temperature of one of the disk brakes on the towing vehicle is too high.</p> <div>  <b>Warning</b> <p><b>Risk of accident due to high disc brake temperatures</b></p> <p>The vehicle's driving and braking characteristics may change. The disk brake may overheat.</p> <ul style="list-style-type: none"> <li>► Continue your journey carefully.</li> <li>► Shift to a lower gear.</li> <li>► Brake the vehicle with the continuous brake.</li> <li>► Depress the brake pedal in addition only if the braking power of the continuous brake is not sufficient.</li> </ul> </div> |
|  <p>Engage parking brake.</p>                                                                                    | <p>Proximity Control Assist has stopped the vehicle.</p> <p>The parking brake was not applied and one of the following actions was performed:</p> <ul style="list-style-type: none"> <li>• The driver left the driver's seat.</li> <li>• The driver's door was opened.</li> <li>• The vehicle was switched off.</li> </ul> <div>  <b>Danger</b> <p><b>Risk of accident if the driver's seat is vacated with Proximity Control Assist active</b></p> <p>The distance control assistant function is no longer keeping the vehicle stationary. The parked vehicle may roll away. You may endanger yourself and others.</p> <ul style="list-style-type: none"> <li>► Apply the parking brake.</li> </ul> </div>                                  |

## Display messages

### Brakes

| Display messages                                                                                           | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>Engage parking brake. | <p>The parking brake has not been applied.</p> <p>The vehicle was parked with a gear engaged and the parking brake released. After the engine has been switched off, the transmission automatically shifts to neutral.</p> <div>  <b>Danger</b> </div> <p><b>Risk of accident due to the vehicle rolling on its own</b></p> <p>The parked vehicle may roll away. You may endanger yourself and others.</p> <p>► Apply the parking brake.</p> |
| <br>Engage parking brake. | <p>Vehicles with parameterisable special module (PSM): Parking brake not applied.</p> <p>You did not apply the parking brake before switching on the power take-off.</p> <div>  <b>Danger</b> </div> <p><b>Risk of accident due to the vehicle rolling on its own</b></p> <p>The parked vehicle may roll away. You may endanger yourself and others.</p> <p>► Apply the parking brake before switching on the power take-off.</p>            |

### Compressed-air system

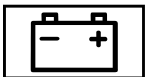
| Display messages                                                                                                                              | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Condensation in compressed-air reservoir</p>             | <p>The compressed-air dryer is malfunctioning.</p> <ul style="list-style-type: none"> <li>► Have the compressed-air dryer checked at a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|  <p>Transmission/clutch reservoir pressure too low</p>       | <p>The reserve pressure in the transmission/clutch is too low.</p> <p> <b>Danger</b></p> <p><b>Risk of accident due to low supply pressure</b></p> <p>In the event of pressure loss or if the supply pressure in the transmission/clutch circuit is too low, you will no longer be able to shift gears properly.</p> <ul style="list-style-type: none"> <li>► Park the vehicle as soon as it is safe to do so.</li> <li>► Apply the parking brake.</li> <li>► Let the engine run until the display message goes out and the reserve pressure has reached an adequate level.</li> <li>► If the malfunction occurs regularly, have the compressed-air system checked at a qualified specialist workshop.</li> </ul>         |
|  <p>Brake supply pressure in circuit 1 too low (Example)</p> | <p>In addition, the  warning lamp lights up on the instrument cluster.</p> <p>The supply pressure in brake circuit 1  or 2  is too low.</p> <p>If the supply pressure in the spring-loaded brake circuit and the trailer's brake circuit is too low, the display message shows the  symbol.</p> <p>Possible causes:</p> <ul style="list-style-type: none"> <li>• Too much compressed air was used.</li> <li>• There is a leak in the compressed-air system.</li> </ul> |

## Display messages

### Compressed-air system

| Display messages | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <p> <b>Danger</b></p> <p><b>Risk of accident due to leaking compressed-air brake system</b><br/>The operating and road safety of the vehicle is jeopardised.</p> <ul style="list-style-type: none"><li>► Park the vehicle safely as soon as possible.</li><li>► Apply the parking brake.</li></ul> <p>► Fill the compressed-air system by starting the drive system.</p> <ul style="list-style-type: none"><li>◁ The  warning lamp goes off and you can continue the journey.</li><li>▽ The  warning light does not go off.<ul style="list-style-type: none"><li>► Check that the compressed air brake system is not leaking ( → Page 224).</li></ul></li><li>▽ The  warning lamp does not go off, the compressed-air brake system has been checked for leaks.<ul style="list-style-type: none"><li>► Have the compressed-air brake system checked at a qualified specialist workshop.</li></ul></li></ul> |

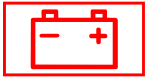
### Vehicle and electrical system

| Display messages                                                                                                                                                                                                                                   | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|  <p>Left-side traffic detected</p> <p>or</p>  <p>Right-side traffic detected</p> | <p>Additional text: <a href="#">Check setting for traffic direction</a>.</p> <p>The traffic direction detected by the vehicle deviates from the setting stored in the instrument cluster.</p> <p>The traffic direction set in the instrument cluster has an effect on the warning/monitoring range of Sideguard Assist/Active Sideguard Assist (→ Page 305) and on road illumination by Matrix LED headlamps (L1K) (→ Page 117).</p> <p>► Check which setting has been saved in the instrument cluster in the Settings menu , menu screen <a href="#">Vehicle</a> ►► <a href="#">DirectionTravel</a> and change it if necessary.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|  <p>Energy-saving mode active</p>                                                                                                                                 | <p>Additional text : <a href="#">Electrical consumers are switched off</a></p> <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <p>The engine is switched off and the battery charge level is low.</p> <p>The following electrical consumers will automatically be deactivated:</p> <ul style="list-style-type: none"> <li>• Audio device/subwoofer</li> <li>• Cigarette lighter/refrigerator box</li> <li>• 24 V sockets/12 V sockets</li> <li>• 230 V socket</li> <li>• 1st switch for non-MB body (e.g. load compartment lamp)</li> <li>• Stowage compartment lamp above the windscreen</li> <li>• Reading lamps/night lighting/rear stowage compartment lighting/ambient living area light</li> <li>• Wireless charging (mobile phone)/USB charging function</li> <li>• 12 V port for body manufacturers</li> <li>• Sliding/tilting roof opening function</li> <li>• Heating for outside mirrors/heating for compressed-air dryer/heating for berth</li> </ul> |

## Display messages

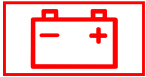
### Vehicle and electrical system

| Display messages                                                                                                                    | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                                                                                                                                     | <p><b>i Note</b></p> <p>The audio equipment can be switched on again manually after the automatic switch-off.</p> <p>The duration of actuation will be shortened for the following functions:</p> <ul style="list-style-type: none"> <li>• Automatic activation of the interior lighting</li> <li>• Switch-off delay time of the exterior lighting</li> </ul> <p>► If necessary, start the vehicle.</p> <p>◁ When you start the vehicle, the electrical consumers will be available again.</p>                                                                                                                                                                                                                                               |
|  <p>Battery charge level cannot be detected</p>    | <p>Additional text : <a href="#">Visit workshop Energy saving mode, battery charge level warning and alternator management unavailable</a></p> <p>The measurement values for the battery charge level are not available. No warning will be issued for these in the event of a critical battery charge level.</p> <ul style="list-style-type: none"> <li>► If electrical consumers are switched on when the engine is switched off, be mindful of the electricity consumption.</li> <li>► Have the electrical system checked at a qualified specialist workshop.</li> </ul>                                                                                 |
|  <p>Bat. charge level too low<br/>Start engine</p> | <p>Additional text : <a href="#">Please start engine and/or charge battery.</a></p> <p>In addition to the display message, three short warning tones will sound and the indicator lamp  in the status area will light up.</p> <p>The vehicle is switched off and the battery charge level is too low.</p> <ul style="list-style-type: none"> <li>► Start the vehicle.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Charge the battery ( → Page 424).</li> <li>► Switch off electrical consumers that are not required, e.g. climate control.</li> </ul> |

| Display messages                                                                                      | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|  <p>Overvoltage</p>  | <p>Additional text : Stop vehicle. Switch off engine. Stop vehicle Driving charact. changed</p> <p>The indicator lamp  in the instrument cluster also lights up.</p> <p>The voltage in the batteries is too high.</p> <div>  <b>Warning</b> <p><b>Risk of accident due to altered voltage in the vehicle electrical system</b></p> <p>The vehicle's driving characteristics may change. The operating and road safety of the vehicle is jeopardised.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle safely as soon as possible. Pay attention to the traffic conditions.</li> <li>► Switch off the vehicle.</li> <li>► Consult a qualified specialist workshop.</li> </ul> </div>                                                                                                                                                                                                                                                                      |
|  <p>Undervoltage</p> | <p>Supplementary text while driving : Stop vehicle Driving charact. changed</p> <p>Supplementary text if the vehicle is stationary : If possible, charge the battery If the fault persists, contact service</p> <p>The indicator lamp  in the instrument cluster status area also lights up.</p> <div>  <b>Warning</b> <p><b>Risk of accident due to altered voltage in the vehicle electrical system</b></p> <p>The vehicle's driving characteristics may change. The operating and road safety of the vehicle is jeopardised.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle safely as soon as possible. Pay attention to the traffic conditions.</li> <li>► Switch off the vehicle.</li> <li>► Consult a qualified specialist workshop.</li> </ul> </div> <p>► Stop the vehicle.</p> <p>► Charge the battery (→ Page 424).</p> <p>If the malfunction persists:</p> |

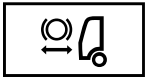
## Display messages

### Vehicle and electrical system

| Display messages                                                                                                                  | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                                                                                                   | ► Consult a qualified specialist workshop.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|  <p>Alternator faulty</p>                        | <p>Additional text : <a href="#">Discharging battery</a> <a href="#">Stop vehicle</a> <a href="#">Contact service</a></p> <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <p>The three-phase alternator is faulty or the poly-V-belt has torn.</p> <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p> <b>Warning</b></p> <p><b>Risk of accident due to altered or missing charging voltage of the alternator</b></p> <p>The vehicle's driving and braking characteristics may change.</p> <p>► Have the vehicle checked at a qualified specialist workshop immediately.</p> </div> |
|  <p>Unable to detect starter battery failure</p> | <p>Additional text : <a href="#">Stop vehicle. Contact service centre.</a></p> <p>The indicator lamp  in the instrument cluster also lights up.</p> <p>The 24 V on-board electrical system battery is malfunctioning. The electric power steering may fail unexpectedly.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle immediately in accordance with the traffic conditions. Do not continue driving!</li> <li>► Consult a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                       |
|  <p>Starter battery has failed</p>               | <p>Additional text : <a href="#">Stop vehicle. Contact service centre.</a></p> <p>The indicator lamp  in the instrument cluster also lights up.</p> <p>The 24 V on-board electrical system battery is malfunctioning. The electric power steering may fail unexpectedly.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle immediately in accordance with the traffic conditions. Do not continue driving!</li> <li>► Consult a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                       |



### Driving systems and steering

| Display messages                                                                                                           | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Emergency braking finished</p>        | <p>Active Brake Assist has automatically triggered an emergency braking manoeuvre (maximum full-stop braking) and the emergency braking manoeuvre has been completed.</p> <ul style="list-style-type: none"> <li>► Remove the vehicle from the danger zone as quickly as possible, paying attention to road and traffic conditions as you do so.</li> <li>► Stop the vehicle, paying attention to road and traffic conditions.</li> <li>► Make sure that the vehicle is in proper working order and that the load is secured properly.</li> </ul>                                                                                                                                                                             |
|  <p>Active Brake Assist not available</p> | <p>Additional text : <a href="#">Visit workshop. Frequent emergency braking</a></p> <p> <b>Warning</b></p> <p><b>Risk of accident due to malfunction of Active Drive Assist</b></p> <p>If Active Brake Assist is not available, you will not receive any collision warnings. In critical situations, the vehicle will not brake automatically.</p> <ul style="list-style-type: none"> <li>► If necessary, use the service brake to brake the vehicle.</li> <li>► Have the Active Brake Assist system checked at a qualified specialist workshop.</li> </ul> |
|  <p>Deactivate shunting level.</p>        | <p>You are driving faster than approximately 20 km/h in manoeuvring level. If you drive faster than approximately 40 km/h, a warning tone also sounds.</p> <p> <b>Warning</b></p> <p><b>Risk of accident due to manoeuvring level</b></p> <p>The vehicle's driving and braking characteristics may change.</p> <ul style="list-style-type: none"> <li>► Adapt your driving style to the conditions when manoeuvring.</li> <li>► Deactivate manoeuvring level ( → Page 323).</li> </ul> <p>or</p>                                                                                                                                             |

## Display messages

### Driving systems and steering

| Display messages                                                                                                          | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                           | <ul style="list-style-type: none"> <li>► Reduce the speed.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|  <p>Attention Assist: Take a break?</p>  | <p>Attention Assist has detected tiredness or increasing lapses in concentration. A warning tone will also sound.</p> <ul style="list-style-type: none"> <li>► If necessary, take a break.</li> </ul> <div>  <p><b>Note</b></p> <p>Take regular and timely breaks during longer journeys.</p> </div>                                                                                                                                                                                                                                                                                                                                                                       |
|  <p>ESP deactivated Set normal level</p> | <p>In addition, the  warning lamp lights up on the instrument cluster. If the chassis is not at driving level while driving, Stability Control Assist is deactivated.</p> <div>  <p><b>Danger</b></p> <p><b>Risk of accident due to incorrect driving level</b></p> <p>The vehicle's driving and braking characteristics may change.</p> <ul style="list-style-type: none"> <li>► Set the driving level before you set off.</li> </ul> </div> <ul style="list-style-type: none"> <li>► Set driving level (→ Page 320).</li> </ul>                                                         |
|  <p>ESP not available</p>                | <p>Additional text : <a href="#">Visit workshop</a>.</p> <p>In addition, the  warning lamp lights up on the instrument cluster. Stability Control Assist is malfunctioning.</p> <div>  <p><b>Danger</b></p> <p><b>Risk of skidding if ESP® has a fault</b></p> <p>If ESP® is malfunctioning, ESP® cannot perform vehicle stabilisation.</p> <ul style="list-style-type: none"> <li>► Continue your journey carefully.</li> <li>► Have ESP® checked at a qualified specialist workshop.</li> </ul> </div> |

| Display messages                                                                                                                      | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|  <p>Additional axle steering fluid level too low</p> | <p>Additional text : <a href="#">Visit workshop</a>.</p> <p>The steering oil level of the additional axle is too low.</p> <ul style="list-style-type: none"> <li>► Have the additional axle checked at a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|  <p>Steering characteristics changed</p>             | <p>Additional text : <a href="#">Do not steer when the vehicle is at a standstill. Steer carefully when the vehicle is moving at walking pace.</a> or <a href="#">Please have rectified at next maintenance</a>.</p> <p>The power steering has detected a malfunction. The steering characteristics may change.<br/>Strong steering movements in manoeuvring mode can activate emergency operation of the steering.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle, paying attention to road and traffic conditions.</li> <li>► Switch off the vehicle.</li> <li>► Restart the vehicle.</li> </ul> <p>If the error is displayed again or still displayed:</p> <ul style="list-style-type: none"> <li>► Have the vehicle checked by a qualified specialist workshop.</li> </ul> |
|  <p>Do not turn the steering wheel to the stop</p>   | <p>Additional text : <a href="#">Active steering wheel return inoperative</a> or <a href="#">Please have rectified at next maintenance</a>.</p> <p>A fault has occurred in the steering control unit. The vehicle's driving characteristics may change. The steering wheel will not return to the straight-ahead position.</p> <p>Do not steer up to the steering stop, otherwise the steering may overheat.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle, paying attention to road and traffic conditions.</li> <li>► Switch off the vehicle.</li> <li>► Restart the vehicle.</li> </ul> <p>If the error is displayed again or still displayed:</p> <ul style="list-style-type: none"> <li>► Have the vehicle checked by a qualified specialist workshop.</li> </ul>        |

## Display messages

### Driving systems and steering

| Display messages                                                                                                                     | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Leading/trailing axle centred</p>               | <p>The steered additional axle is malfunctioning and has been centred automatically.</p> <ul style="list-style-type: none"> <li>► Drive on carefully and stop at the next opportunity. Adjust your driving style to the changed handling and steering characteristics.</li> <li>► Stop the vehicle and switch it off.</li> <li>► Restart the vehicle after ten seconds. <ul style="list-style-type: none"> <li>◁ The display message will disappear.</li> <li>◁ The steered additional axle is reactivated.</li> <li>▽ The display message does not disappear. <ul style="list-style-type: none"> <li>► Have the steered additional axle checked at a qualified specialist workshop.</li> </ul> </li> </ul> </li> </ul>                                                                                  |
|  <p>Steer. characteristics of add. axle changed</p> | <p>Additional text : <a href="#">Visit workshop.</a></p> <p>The steered additional axle is malfunctioning and is only steering passively.</p> <ul style="list-style-type: none"> <li>► Adjust your driving style to the changed driving and steering characteristics.</li> <li>► Stop the vehicle and switch it off.</li> <li>► Restart the vehicle after approximately ten seconds. <ul style="list-style-type: none"> <li>◁ The display message will disappear. The steered additional axle is reactivated.</li> </ul> </li> </ul> <p>If the display message does not disappear:</p> <ul style="list-style-type: none"> <li>► Have the steered additional axle checked at a qualified specialist workshop.</li> </ul> |
|  <p>Power-steering assistance overheated</p>        | <p>Additional text : <a href="#">Adapt your driving style.</a></p> <p>In addition, the  warning lamp lights up on the instrument cluster.</p> <p>The steering system of the additional axle is overheated.</p> <ul style="list-style-type: none"> <li>► Avoid unnecessary steering manoeuvres. <ul style="list-style-type: none"> <li>◁ The steering system of the additional axle cools down in operation.</li> </ul> </li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Stop the vehicle, paying attention to road and traffic conditions.</li> <li>► Switch off the vehicle.</li> </ul>                                 |

| Display messages                                                                                                                     | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                                                                                                                                      | <ul style="list-style-type: none"> <li>► Let the steering gear cool down.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|  <p>Steer. characteristics of add. axle changed</p> | <p>Additional text  : <a href="#">Stop vehicle. Contact service centre.</a></p> <p>The steered additional axle is malfunctioning and is only steering passively. Stability Control Assist may also have been deactivated as a result. If the Stability Control Assist has been switched off, the display message shows  <b>ESP not available</b>.</p> <p>When braking suddenly on a slippery or uneven carriageway, the steerable additional axle may be deactivated. In vehicles with a height-adjustable trailing axle, it is no longer possible to lower the additional axle while the vehicle is moving.</p> <div style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p> <b>Warning</b></p> <p><b>Risk of accident due to temporary deactivation of Stability Control Assist</b></p> <p>If Stability Control Assist is deactivated due to a faulty steered additional axle, the vehicle's stability is decreased.</p> <ul style="list-style-type: none"> <li>► Drive on carefully and stop the vehicle safely at the next opportunity. Pay attention to the traffic conditions.</li> </ul> </div> <ul style="list-style-type: none"> <li>► Adjust your driving style to the changed driving and steering characteristics.</li> <li>► Stop the vehicle and switch it off.</li> <li>► Restart the vehicle after approximately ten seconds.             <ul style="list-style-type: none"> <li>◁ The display message will disappear. The steered additional axle is reactivated.</li> </ul> </li> </ul> <p>If the display message does not disappear:</p> <ul style="list-style-type: none"> <li>► Consult a qualified specialist workshop.</li> </ul> |
|  <p>Power-steering assistance overheated</p>        | <p>Additional text  : <a href="#">Stop vehicle. Switch off engine.</a></p> <p>In addition, the  warning lamp lights up on the instrument cluster.</p> <p>The steering gear has overheated.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle safely as soon as possible.</li> <li>► Switch off the vehicle.</li> <li>► Let the steering gear cool down.</li> <li>► Restart the vehicle.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Display messages

### Driving systems and steering

| Display messages                                                                                                              | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                               | <p>When the display message re-appears:</p> <ul style="list-style-type: none"> <li>► Consult a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|  <p>Power steering: function not assured</p> | <p>Additional text : <a href="#">Stop vehicle. Contact service centre.</a></p> <p>In addition, the  warning lamp lights up on the instrument cluster.</p> <p>The vehicle rolls without the engine running.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Start the vehicle.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|  <p>Power steering: function not assured</p> | <p>Additional text : <a href="#">Stop vehicle Check hydraulic steering during shunting Consult service centre</a></p> <p>In addition, the  warning lamp lights up on the instrument cluster.</p> <p>Steering operates in emergency operation mode.</p> <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p> <b>Warning</b></p> <p><b>Risk of accident due to failure of the hydraulic power steering</b></p> <p>The hydraulic power steering has failed.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle safely as soon as possible. Pay attention to the traffic conditions.</li> <li>► Switch off the vehicle.</li> </ul> <p>► Restart the vehicle.</p> </div> <p>If the error is displayed again or still displayed:</p> <ul style="list-style-type: none"> <li>► Consult a qualified specialist workshop.</li> </ul> |

| Display messages                                                                                                                     | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|  <p>Power steering: function not assured</p>        | <p>Additional text : <a href="#">Stop vehicle. Contact service centre.</a></p> <p>In addition, the  warning lamp lights up on the instrument cluster.</p> <p>A fault has occurred in the electric power steering.</p> <div>  <b>Warning</b><br/> <b>Risk of accident due to failure of electric power steering</b><br/>           Power steering is not ensured continuously.           <ul style="list-style-type: none"> <li>► Stop the vehicle safely as soon as possible. Pay attention to the traffic conditions.</li> <li>► Switch off the vehicle.</li> </ul> </div> <p>► Restart the vehicle.</p> <p>If the error is displayed again or still displayed:</p> <p>► Consult a qualified specialist workshop.</p> |
|  <p>Lane Keeping Assist not available (Example)</p> | <p>Additional text : <a href="#">Visit workshop Camera calibration faulty Lane Keeping Assist and Attention Assist unavailable</a></p> <div>  <b>Warning</b><br/> <b>Risk of accident due to impairments or unavailable driver assistance/driver safety systems</b><br/>           Driver assistance/driving safety systems may have a fault or be temporarily unavailable.           <ul style="list-style-type: none"> <li>► Drive on carefully.</li> </ul> </div>                                                                                                                                                                                                                                                                                                                                    |
|  <p>Lane Keeping Assist not available</p>          | <p>Additional text : <a href="#">Visit workshop Lane Keeping Assist and Attention Assist unavailable</a></p> <div>  <b>Warning</b><br/> <b>Risk of accident due to impairments or unavailable driver assistance/driver safety systems</b><br/>           Driver assistance/driving safety systems may have a fault or be temporarily unavailable.           <ul style="list-style-type: none"> <li>► Drive on carefully.</li> </ul> </div>                                                                                                                                                                                                                                                                                                                                                             |

## Display messages

### Driving systems and steering

| Display messages                                                                                                                                            | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|  <p>Lane Keeping Assist faulty</p>                                         | <p>Additional text : <a href="#">Visit workshop Lane Keeping Assist and Attention Assist unavailable</a></p> <p> <b>Warning</b></p> <p><b>Risk of accident due to impairments or unavailable driver assistance/driver safety systems</b></p> <p>Driver assistance/driving safety systems may have a fault or be temporarily unavailable.</p> <p>► Drive on carefully.</p>                                                                                                                                                                                                                                                                                                                   |
|  <p>Lane Keeping Assist faulty</p>                                         | <p>Additional text : <a href="#">Visit workshop Lane Keeping Assist, left speaker malfunctioning</a> or <a href="#">Visit workshop Lane Keeping Assist, right speaker malfunctioning</a></p> <p> <b>Warning</b></p> <p><b>Risk of accident due to faulty loudspeakers</b></p> <p>The left or right speaker is malfunctioning.</p> <p>If a speaker is malfunctioning on one side, Lane Keeping Assist will issue a warning tone from the intact speaker, regardless of the side. It is possible that in this situation, a warning tone may sound on the side opposite to the affected side of the vehicle.</p> <p>► Have Lane Keeping Assist checked at a qualified specialist workshop.</p> |
|  <p>Assistance system malfunction. Front camera's temperature too high</p> | <p>Additional text : <a href="#">Reduce interior temperature</a></p> <p>Multifunction camera temperature too high</p> <p><b>If the display message appears while the vehicle is in motion:</b></p> <p>The multifunction camera is malfunctioning.</p> <p>In addition, the corresponding indicator lamps of malfunctioning driver assistance/driving safety systems in the instrument cluster may light up.</p>                                                                                                                                                                                                                                                                                                                                                               |



| Display messages                                                                                                                                               | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                | <p> <b>Warning</b></p> <p><b>Risk of accident due to limited function of the multifunction camera</b><br/>           Driver assistance/driving safety systems may have a fault or be temporarily unavailable.</p> <ul style="list-style-type: none"> <li>► Drive on carefully.</li> <li>► Have the multifunction camera checked at a qualified specialist workshop as soon as possible.</li> </ul> <p><b>If the display message appears when the vehicle is parked:</b></p> <ul style="list-style-type: none"> <li>► Reduce the interior temperature, e.g. by ventilating.</li> <li>► Wait until the multifunction camera has cooled down and the display message disappears.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|  <p>Assistance system malfunction. Front camera's field of vision blocked</p> | <p>Additional text : <a href="#">Clean windscreen</a></p> <p>In addition, the corresponding indicator lamps of malfunctioning driver assistance/driving safety systems in the instrument cluster may light up.</p> <p>The visibility of the multifunction camera is reduced.</p> <p>Possible causes:</p> <ul style="list-style-type: none"> <li>• Dirt on windscreen in multifunction camera's field of vision</li> <li>• Heavy rain or fog</li> <li>• The windscreen is steamed up on the inside: Under certain weather conditions, condensation may form on the inside of the windscreen, especially during the winter months.</li> </ul> <p> <b>Warning</b></p> <p><b>Risk of accident due to impairments or unavailable driver assistance/driver safety systems</b><br/>           Driver assistance/driving safety systems may have a fault or be temporarily unavailable.</p> <ul style="list-style-type: none"> <li>► Drive on carefully.</li> </ul> <p>If the causes no longer apply, the driver assistance and driving safety systems are activated again. The corresponding indicator lamps and the display message in the instrument cluster disappear.</p> |

## Display messages

### Driving systems and steering

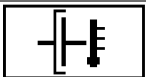
| Display messages                                                                                                                                                  | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                                                                                                                                                                   | <p>If the display message does not disappear:</p> <ul style="list-style-type: none"> <li>► Stop the vehicle in accordance with the traffic conditions.</li> <li>► Clean the windscreen where the camera is located ( → Page 406).</li> <li>► Restart the vehicle.</li> </ul> <p>If the display message does not disappear:</p> <ul style="list-style-type: none"> <li>► Have the vehicle checked at a qualified specialist workshop immediately.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|  <p>Assistance system malfunction. Distance sensors' field of vision blocked</p> | <p>Additional text : <a href="#">Clean sensors</a></p> <p>In addition, the corresponding indicator lamps of malfunctioning driver assistance/driving safety systems in the instrument cluster may light up.</p> <p>There is a distance sensor malfunction.</p> <p>Possible causes:</p> <ul style="list-style-type: none"> <li>• Sensor system dirty</li> <li>• Heavy rainfall</li> <li>• Longer journey next to uniform structures close to the carriageway, e.g. tunnel walls</li> </ul> <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p> <b>Warning</b></p> <p><b>Risk of accident due to impairments or unavailable driver assistance/driver safety systems</b></p> <p>Driver assistance/driving safety systems may have a fault or be temporarily unavailable.</p> <ul style="list-style-type: none"> <li>► Drive on carefully.</li> </ul> </div> <p>If the causes no longer apply, the driver assistance and driving safety systems are activated again. The corresponding indicator lamps and the display message in the instrument cluster disappear.</p> <p>If the display message does not disappear:</p> <ul style="list-style-type: none"> <li>► Stop the vehicle in accordance with the traffic conditions.</li> <li>► Clean the covers of the distance sensors on the front bumper and the side mud guards with water ( → Page 406).</li> </ul> |

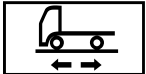
| Display messages                                                                                                   | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                    | <p> <b>Note</b></p> <p>Do not use any dry, rough or hard cloths and do not scrub or scratch.</p> <p>► Restart the vehicle.</p> <p>If the display message does not disappear:</p> <p>► Have the vehicle checked at a qualified specialist workshop immediately.</p>                                                                                                                                                                                                                       |
|  <p>Assistance systems faulty</p> | <p>The indicator lamp  also lights up on the instrument cluster.</p> <p> <b>Warning</b></p> <p><b>Risk of accident due to impairments or unavailable driver assistance/driver safety systems</b></p> <p>Driver assistance/driving safety systems may have a fault or be temporarily unavailable.</p> <p>► Drive on carefully.</p> <p>► Have the vehicle checked by a qualified specialist workshop.</p> |

## Display messages

### Transmission and clutch

#### Transmission and clutch

| Display messages                                                                                                                | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|  <p>Clutch under heavy strain</p>              | <p>The clutch is under heavy load.</p> <ul style="list-style-type: none"> <li>► Pull away in first gear only.</li> <li>► Keep the process of pulling away or manoeuvring as brief as possible.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|  <p>Transmission: oil temperature too high</p> | <p>Additional text : <a href="#">Visit workshop</a>.</p> <p>The permissible operating temperature of the transmission or retarder has been reached. The temperature of the transmission oil or coolant is excessive. This may be caused by an oil level in the transmission that is low or too high. If the oil temperature in the transmission remains elevated, the transmission may be damaged.</p> <ul style="list-style-type: none"> <li>► Switch off the retarder.</li> <li>► Stop the vehicle as soon as possible, taking into account the road and traffic conditions.</li> <li>► Apply the parking brake and shift the automatic transmission to neutral position.</li> <li>► Leave the vehicle running at a speed of 1200 rpm to 1500 rpm for between two and three minutes.</li> <li>► Switch off the vehicle.</li> <li>► If the oil temperature does not drop, check the oil level in the automatic transmission ( → Page 422).</li> <li>► If the display message continues to be displayed, contact a qualified workshop and have the fault rectified.</li> </ul> |
|  <p>Clutch under heavy strain</p>              | <p>The permissible operating temperature of the clutch has been reached. Further load poses a risk of clutch damage.</p> <ul style="list-style-type: none"> <li>► Shift to a lower gear for manoeuvring or moving off.</li> <li>► Keep the process of moving off or manoeuvring as brief as possible. Otherwise the clutch will be overloaded.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|  <p>Press shunting switch for longer</p>       | <p>You have pressed the switch  for manoeuvring mode too quickly.</p> <ul style="list-style-type: none"> <li>► Press the switch  again.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Display messages                                                                                                       | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|  <p>Press shunting switch faster.</p> | <p>If the display message disappears again, you have pressed the  manoeuvring mode switch for too long.</p> <p>If the display message remains on, the switch is  defective.</p> <p>If the display message disappears again:</p> <ul style="list-style-type: none"> <li>► Press the switch  again.</li> </ul> <p>If the display message remains on:</p> <ul style="list-style-type: none"> <li>► Have the switch  checked at a qualified specialist workshop.</li> </ul> |
|  <p>Set gear selector switch to D</p> | <p>The transmission is in position  and the vehicle speed is above 10 km/h.</p> <p>If the power supply is simultaneously malfunctioning, the power steering function may be impaired.</p> <ul style="list-style-type: none"> <li>► Shift the transmission to .</li> </ul>                                                                                                                                                                                                                                                                                                                                                                  |
|  <p>Gearshift system locked</p>       | <p>Additional text : <a href="#">Visit workshop.</a></p> <p>The vehicle's steering is faulty. Power steering may be impaired or may not be operational.</p> <p>For safety reasons, gearshifts are only possible below a vehicle speed of 10 km/h.</p> <ul style="list-style-type: none"> <li>► Drive carefully to the nearest qualified specialist workshop. Adjust your driving style to the changed handling and steering characteristics.</li> <li>► Have the power steering checked at a qualified specialist workshop.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Stop the vehicle in a safe place and notify a qualified specialist workshop.</li> </ul>                                           |
|  <p>Transmission faulty</p>           | <p>Additional text : <a href="#">Visit workshop.</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Display messages

### Transmission and clutch

| Display messages                                                                                                                                         | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                                                                                                                                                          |  <b>Note</b><br><b>Damage due to system malfunction</b><br>Transmission fault. Continuing the journey is possible with restrictions.<br>► Have the transmission checked at a qualified specialist workshop.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|  <p>Transmission faulty (only vehicles with automatic transmission)</p> | <p>Additional text : <a href="#">Visit workshop.</a></p> <div>  <b>Note</b><br/> <b>Damage due to system malfunction</b><br/>           Automatic transmission has a malfunction. Continuing the journey is possible with restrictions.<br/>           ► Have the automatic transmission checked by a qualified specialist workshop.         </div> <p>Depending on the fault, a specialist workshop can provide assistance so you can limp home by specifying fault codes. You can display the fault codes using the automatic transmission push-button gearshift (→ Page 422).</p> <ul style="list-style-type: none"> <li>► Stop the vehicle in accordance with the traffic conditions.</li> <li>► Apply the parking brake.</li> <li>► Switch on the vehicle.</li> <li>► Shift the automatic transmission to neutral position.</li> </ul> <p>Display of fault codes via the push-button gearshift:</p> <ul style="list-style-type: none"> <li>► Simultaneously press the  and  buttons on the push-button gearshift twice.             <ul style="list-style-type: none"> <li>◁ The push-button display shows the 5-digit fault codes one after the other.</li> </ul> </li> <li>► To display the next fault code, press the MODE button.             <ul style="list-style-type: none"> <li>◁ A maximum of five fault codes can be stored.</li> </ul> </li> <li>► To exit the fault code display, press the  and  buttons of the automatic transmission at the same time.</li> </ul> <p>or</p> |

| Display messages                                                                                                       | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                        | <ul style="list-style-type: none"> <li>► Shift the automatic transmission to neutral position.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|  <p>Clutch faulty</p>                 | <p>Additional text : <a href="#">Visit workshop.</a></p> <div>  <p><b>Note</b></p> <p><b>Damage due to system malfunction</b></p> <p>Clutch fault. Continuing the journey is possible with restrictions.</p> <ul style="list-style-type: none"> <li>► Have the clutch checked at a qualified specialist workshop.</li> </ul> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|  <p>Clutch faulty</p>                 | <p>Additional text : <a href="#">Stop vehicle. Contact service centre.</a></p> <div>  <p><b>Danger</b></p> <p><b>Risk of accident due to low supply pressure</b></p> <p>The transmission no longer shifts. The supply pressure in the transmission/clutch circuit may be too low.</p> <ul style="list-style-type: none"> <li>► Park the vehicle safely as soon as possible.</li> <li>► Apply the parking brake.</li> </ul> </div> <ul style="list-style-type: none"> <li>► If the display message <a href="#">Transmission/clutch reservoir pressure too low</a> appears: Let the engine run until there is sufficient supply pressure in the transmission/clutch circuit again.             <ul style="list-style-type: none"> <li>◁ The display message <a href="#">Transmission/clutch reservoir pressure too low</a> will disappear.</li> </ul> </li> <li>► Switch off the vehicle.</li> <li>► Restart the vehicle after approximately ten seconds.</li> <li>► When the display message <a href="#">Clutch faulty Stop vehicle. Contact service centre.</a> re-appears: Activate back-up mode.</li> <li>► If it is not possible to activate back-up mode: Consult a qualified specialist workshop.</li> </ul> |
|  <p>Clutch plate oil temperature</p> | <p>Additional text: <a href="#">180°C</a> (example)</p> <p>The oil temperature in the turbo retarder clutch is too high.</p> <ul style="list-style-type: none"> <li>► Shift to a lower gear.             <ul style="list-style-type: none"> <li>◁ The engine speed will increase and the dry clutch will be closed.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Display messages

### Transmission and clutch

| Display messages                                                                                                        | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>Retarder: oil temperature too high | <p>The oil temperature in the retarder is too high.</p> <ul style="list-style-type: none"><li>► Shift to a lower gear.<ul style="list-style-type: none"><li>◁ The engine speed and the engine braking effect will increase.</li></ul></li></ul>                             |
| <br>Off-road reduction gear            | <p>You are driving faster than approximately 50 km/h with an off-road gear engaged. The temperature in the retarder is too high.</p> <ul style="list-style-type: none"><li>► If the off-road gear is engaged, drive at a low engine speed or engage on-road gear.</li></ul> |



### Engine and cooling

| Display messages                                                                                                                     | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|  <p>Radiator shutters inoperative<br/>(Example)</p> | <p>The upper and/or lower air regulation system is malfunctioning, e.g. due to foreign objects blocking the engine radiator.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle and switch it off, paying attention to road and traffic conditions.</li> <li>► Check the upper and lower air regulation system for foreign objects and dirt and remove the foreign objects or dirt as necessary.</li> </ul> <p>If no foreign objects or dirt can be found or the display message is shown again:</p> <ul style="list-style-type: none"> <li>► Manually open the air regulation system and lock it in place ( → Page 449).</li> <li>► Have the air regulation system checked at a qualified specialist workshop.</li> </ul> |
|  <p>Drive control faulty</p>                        | <p>Additional text : <a href="#">Visit workshop</a>.</p> <p>The electronic drive control is malfunctioning.</p> <ul style="list-style-type: none"> <li>► Observe the instructions in the display message.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|  <p>Water separator full</p>                        | <p>Additional text : <a href="#">Empty water separator</a>.</p> <p>The washer fluid level in the water separator is too high.</p> <ul style="list-style-type: none"> <li>► Drain the fuel filter with water separator on the engine ( → Page 445).</li> </ul> <p>If the vehicle is equipped with a fuel prefilter:</p> <ul style="list-style-type: none"> <li>► Check whether the water has separated in the inspection glass and, if necessary, drain the fuel prefilter ( → Page 445).</li> </ul>                                                                                                                                                  |
|  <p>Engine faulty</p>                              | <p>One of the following systems is malfunctioning:</p> <ul style="list-style-type: none"> <li>• Engine</li> <li>• Engine cooling</li> <li>• Engine management</li> <li>• Fuel injection system</li> </ul> <ul style="list-style-type: none"> <li>► Have the systems checked at a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                            |

## Display messages

### Engine and cooling

| Display messages                                                                                                                 | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|  <p>Engine cooling faulty</p>                   | <p>The poly-V-belt may be damaged or the tension of the poly-V-belt may not be sufficient.</p> <ul style="list-style-type: none"> <li>► Have the poly-V-belt checked at a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                                                                                                  |
|  <p>Coolant temperature too high</p>            | <p>The coolant temperature is too high. Engine power output is automatically reduced.</p> <ul style="list-style-type: none"> <li>► Reduce the speed.</li> <li>► Shift to a lower gear.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Stop the vehicle, paying attention to road and traffic conditions.</li> <li>► Switch off the vehicle.</li> <li>► Remove objects that could block the air supply to the radiator, e.g. paper that has blown onto the grille.</li> </ul>                                                          |
|  <p>Engine protection: engine power reduced</p> | <p>The coolant temperature is too high. Engine power output is automatically reduced.</p> <ul style="list-style-type: none"> <li>► Reduce the speed.</li> <li>► Shift to a lower gear.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► Stop the vehicle, paying attention to road and traffic conditions.</li> <li>► Switch off the vehicle.</li> <li>► Remove objects that could block the air supply to the radiator, e.g. paper that has blown onto the grille.</li> </ul>                                                          |
|  <p>Coolant temperature too high</p>            | <p>Additional text : Stop vehicle. Switch off engine.</p> <p>In addition to the display message, the  indicator lamp in the status area lights up.</p> <ul style="list-style-type: none"> <li>► Park the vehicle safely as soon as possible.</li> <li>► Switch off the vehicle.</li> <li>► Apply the parking brake.</li> <li>► Let the engine cooling system cool down.</li> </ul> |

| Display messages                                                                                                            | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|  <p>Coolant level too low</p>              | <p>Additional text : <a href="#">Top up coolant.</a></p> <p>The coolant level has dropped below the normal fill level. The yellow display message is shown when the engine is cold and the vehicle is switched on.</p> <ul style="list-style-type: none"> <li>► Top up coolant (→ Page 414).</li> <li>► If the coolant level drops again, immediately have the cooling system checked at a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  <p>Coolant pressure regulation faulty</p> | <p>The electrical connector or the hose fitting on the coolant reserve tank is loose. The turquoise cap on the coolant expansion reservoir is not tight.</p> <ul style="list-style-type: none"> <li>► Check the electrical connector and the hose fitting on the coolant expansion reservoir .</li> <li>► If you detect any leakage, have the engine cooling system checked at a qualified specialist workshop.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|  <p>Coolant level too low</p>              | <p>Additional text : <a href="#">Top up coolant</a> <a href="#">Coolant temperature not reliable</a></p> <p>In addition to the display message, the  indicator lamp in the status area lights up. The coolant temperature display cannot be relied upon for as long as the  indicator lamp is on.</p> <p>The coolant level has dropped at least three litres below normal level. The engine's operating safety is at risk.</p> <ul style="list-style-type: none"> <li>► Park the vehicle safely as soon as possible.</li> <li>► Switch off the vehicle.</li> <li>► Apply the parking brake.</li> <li>► Top up coolant (→ Page 414).</li> <li>► Have the engine cooling system checked for leak tightness at a qualified specialist workshop.</li> </ul> |
|  <p>Engine oil pressure too low</p>       | <p>Additional text : <a href="#">Stop vehicle. Switch off engine.</a></p> <p>In addition to the display message, the  indicator lamp in the status area lights up. The oil pressure in the engine is too low.</p> <p>The engine's operating safety is at risk.</p> <ul style="list-style-type: none"> <li>► Park the vehicle safely as soon as possible.</li> <li>► Switch off the vehicle.</li> <li>► Apply the parking brake.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                               |

## Display messages

### Engine and cooling

| Display messages | Possible causes/consequences and ► solutions                                                                                                                              |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <ul style="list-style-type: none"><li>► Check the oil level in the engine and refill engine oil (→ Page 421).</li><li>► Notify a qualified specialist workshop.</li></ul> |

### Tyres

| Display messages                                                                                                                      | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|  <p>Spare wheel tyre pressure sensor battery low</p> | <p>Additional text : <a href="#">Replace tyre pressure sensor</a></p> <p>In addition to the display message, the  indicator lamp in the instrument cluster lights up. The battery of the tyre pressure sensor in the spare wheel is flat.</p> <ul style="list-style-type: none"> <li>► Have the tyre pressure sensor replaced at a qualified specialist workshop.</li> </ul>                                                                                                                                             |
|  <p>Tyre pressure in spare wheel too low</p>         | <p>Additional text : <a href="#">Check and correct tyre pressure.</a></p> <p>In addition to the display message, the  indicator lamp in the instrument cluster lights up. The tyre pressure in the spare wheel is too low.</p> <ul style="list-style-type: none"> <li>► Check the tyre pressure and correct it if necessary.</li> </ul>                                                                                                                                                                                  |
|  <p>Tyre pressure monitor in spare wheel faulty</p>  | <p>Additional text : <a href="#">Spare wheel tyre pressure monitor failure</a></p> <p>In addition to the display message, the  indicator lamp in the instrument cluster lights up. The tyre pressure monitor of the spare wheel is malfunctioning.</p> <ul style="list-style-type: none"> <li>► Have the tyre pressure sensor replaced at a qualified specialist workshop.</li> </ul>                                                                                                                                    |
|  <p>Tyre pressure too low</p>                        | <p>Additional text : <a href="#">Check and correct tyre pressure.</a></p> <p>In addition to the display message, the  indicator lamp in the instrument cluster lights up. The tyre pressure in one or more of the tyres is too low. The <a href="#">Tyres</a> menu screen on the on-board computer highlights the affected tyres amber or red.</p> <ul style="list-style-type: none"> <li>► Check the tyre pressure and correct it if necessary.</li> </ul>                                                              |
|  <p>Tyre pressure too high</p>                      | <p>Additional text : <a href="#">Check and correct tyre pressure.</a></p> <p>In addition to the display message, the  indicator lamp in the instrument cluster lights up. The pressure in one or more tyres has increased significantly while driving. The <a href="#">Tyres</a> menu screen on the on-board computer highlights the tyres concerned in colour.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle without steering or braking suddenly. Pay attention to the traffic conditions.</li> </ul> |

## Display messages

### Tyres

| Display messages                                                                                                          | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                           | <p>► Check the tyre pressure and correct it if necessary.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|  <p>Tyre temperature too high</p>        | <p>Additional text : <a href="#">Reduce speed drastically.</a></p> <p>In addition to the display message, the  indicator lamp in the instrument cluster lights up.</p> <div style="background-color: #f0f0f0; padding: 10px; margin: 10px 0;"> <p> <b>Danger</b></p> <p><b>Risk of accident due to excessive tyre temperature</b></p> <p>The temperature in one or more tyres has risen significantly while driving.</p> <ul style="list-style-type: none"> <li>• The brakes may have overheated.</li> <li>• The tyre pressure may be too low.</li> </ul> <p>The vehicle's driving and braking characteristics may change.</p> <p>► Continue your journey carefully.</p> </div> <p>► Drive on slowly.</p> <p>◁ The tyre temperature is lowered by the airflow.</p> <p>► If the tyre temperature has fallen, have the tyres and brakes checked and the cause of the problem rectified at a qualified specialist workshop.</p> |
|  <p>Tyre pressure sensor battery low</p> | <p>Additional text : <a href="#">Replace tyre pressure sensor</a></p> <p>In addition to the display message, the  indicator lamp in the instrument cluster lights up. The battery of a tyre pressure sensor is flat.</p> <p>► Have the tyre pressure sensor replaced at a qualified specialist workshop.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|  <p>Tyre pressure sensor faulty</p>     | <p>Additional text : <a href="#">Replace tyre pressure sensor</a> or <a href="#">Failure, tyre pressure monitor for one/multiple tyre(s)</a></p> <p>The tyre pressure sensor is malfunctioning on one of the tyres.</p> <p>► Have the tyre pressure sensor replaced at a qualified specialist workshop.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Display messages                                                                                                       | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Tyre pressure monitor faulty</p>  | <p>Additional text  : <a href="#">Failure, tyre pressure monitor for one/multiple tyre(s)</a></p> <p>The tyre pressure monitoring system on one or more tyres has failed. No signal is received by one or more tyre pressure sensors, e.g. due to a source of radio interference.</p> <ul style="list-style-type: none"> <li>► Drive on. <ul style="list-style-type: none"> <li>◄ As soon as the cause is rectified, the tyre pressure monitor is reactivated and the tyre pressure level is displayed again.</li> <li>▼ If the tyre monitoring is not automatically activated after a long journey: <ul style="list-style-type: none"> <li>► Have the tyre pressure monitoring system checked in a qualified specialist workshop.</li> </ul> </li> </ul> </li> </ul> |
|  <p>Tyre pressure monitor faulty</p>  | <p>The tyre pressure monitoring system is faulty.</p> <ul style="list-style-type: none"> <li>► Drive on. <ul style="list-style-type: none"> <li>◄ As soon as the cause is rectified, the tyre pressure monitor is reactivated and the tyre pressure level is displayed again.</li> <li>▼ If the tyre pressure monitor does not activate automatically after a long journey: <ul style="list-style-type: none"> <li>► Have the tyre pressure monitoring system checked in a qualified specialist workshop.</li> </ul> </li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                           |
|  <p>Wheel detection not possible</p>  | <p>The wheel detection on the tyre pressure monitor is malfunctioning.</p> <ul style="list-style-type: none"> <li>► Drive the vehicle at a speed of over 30 km/h for at least ten minutes. <ul style="list-style-type: none"> <li>▼ If the display message continues to be displayed: <ul style="list-style-type: none"> <li>► Have the tyre pressure monitoring system checked by a qualified specialist workshop.</li> </ul> </li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                 |
|  <p>Wheel detection not possible</p>  | <p>Additional text  : <a href="#">Lower additional axle.</a></p> <p>The trailing axle is raised while the tyre pressure monitoring system is performing automatic wheel detection.</p> <ul style="list-style-type: none"> <li>► Lower the trailing axle ( → Page 325).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|  <p>Wheel detection not possible</p> | <p>Additional text  : <a href="#">Unlock differential</a></p> <ul style="list-style-type: none"> <li>► The differential locks are activated. As a result, wheel detection is not possible on the locked axle.</li> <li>► Disengage the differential locks ( → Page 259).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Display messages

### Tyres

| Display messages                                                                                                           | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|  <p>Tyre pressure monitor inoperative</p> | <p>In addition to the display message, the  indicator lamp in the instrument cluster flashes for 75 seconds and then lights up permanently.</p> <p>The tyre pressure monitoring system is faulty.</p> <ul style="list-style-type: none"> <li>► Visit a qualified workshop.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|  <p>Flat tyre</p>                         | <p>Additional text : <a href="#">Change tyre.</a></p> <p>In addition to the display message, the  indicator lamp in the instrument cluster lights up.</p> <p>The tyre pressure has suddenly dropped in one or more tyres. A warning tone will also sound.</p> <p>The <a href="#">Tyres</a> menu screen in the on-board computer shows the affected wheel in red.</p> <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p> <b>Warning</b></p> <p><b>Risk of accident due to a faulty wheel/tyre</b></p> <p>Driving with a faulty wheel/tyre can change the vehicle's handling and braking characteristics.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle as soon as possible, paying attention to road and traffic conditions, and avoiding abrupt steering and braking manoeuvres. Pay attention to the traffic conditions.</li> <li>► Replace a faulty wheel or tyre.</li> </ul> </div> <p><b>Concrete mixer vehicle with single tyres:</b> The vehicle is designed in such a way that, in the event of a tyre failure on a rear axle, the vehicle can continue to travel a short distance at reduced speed. This allows you to find a safe place to stop the vehicle and change a wheel.</p> <ul style="list-style-type: none"> <li>► Check the scale of the damage to the wheel (tyre and disc wheel).</li> <li>► <b>If the defective tyre constitutes a hazard to road users:</b> Do not continue driving.</li> <li>► Replace the wheel immediately ( → Page 456).</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>► <b>If the defective tyre does not constitute a hazard to road users:</b> Continue the journey to the next opportunity to stop.</li> <li>► Drive at a maximum speed of 40 km/h when driving straight ahead.</li> </ul> |



| Display messages                                                                                      | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                                                                                                       | <ul style="list-style-type: none"> <li>► Drive at a maximum speed of 15 km/h when cornering.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|  <p>Locked wheel</p> | <p>Additional text : <a href="#">Stop vehicle and release locked wheel</a></p> <p>In addition to the display message, the  indicator lamp in the instrument cluster lights up.</p> <p>At least one wheel is blocked. A warning tone will also sound.</p> <p>The <a href="#">Tyres</a> menu screen in the on-board computer shows the affected wheel in red.</p> <div>  <p><b>Warning</b></p> <p><b>Risk of accident due to brakes locking</b></p> <p>Blocking one or more wheels can alter the vehicle's handling.</p> <ul style="list-style-type: none"> <li>► Stop the vehicle as soon as possible. Pay attention to the traffic conditions.</li> <li>► Check the affected wheel position and release the blocking if necessary.</li> </ul> </div> |

## Display messages

### Key

#### Key

| Display messages                                                                                                                    | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Use spare key</p>                              | <ul style="list-style-type: none"> <li>► Use the replacement key.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|  <p>Key not recognised</p>                         | <p>The key is currently not detected.<br/>The key must be in the cab.</p> <ul style="list-style-type: none"> <li>► Change the location of the key in the vehicle.</li> </ul> <p>If the key is still not detected:</p> <ul style="list-style-type: none"> <li>► Hold the key next to the Start/Stop button and start the vehicle.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|  <p>Press and hold EMERGENCY OFF button for 3s</p> | <p>The display message appears if you briefly press the Start/Stop button while driving. In an emergency situation, you can switch off the vehicle while the vehicle is in motion by pressing and holding the Start/Stop button.</p> <div style="background-color: #f0f0f0; padding: 10px;"> <p> <b>Danger</b></p> <p><b>Risk of accident when the vehicle is switched off while driving</b></p> <p>If you switch off the vehicle while driving, safety-relevant functions will be restricted or no longer available. You will then need to exert considerably more power when steering, for example.</p> <ul style="list-style-type: none"> <li>► For this reason alone, you should never switch off the vehicle while you are driving.</li> </ul> </div> <ul style="list-style-type: none"> <li>► If you want to switch off the vehicle, press and hold the Start/Stop button for around three seconds.</li> </ul> |

| Display messages                                                                                                                                              | Possible causes/consequences and ► solutions                                                                                                                                                                                                                                                                                                       |
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|  <p>Hold key on contact point as described in the Operating Instructions</p> | <p>Key detection is malfunctioning.</p> <ul style="list-style-type: none"> <li>► Change the location of the key in the vehicle.</li> <li>► Hold the key to the right of the Start/Stop button and start the vehicle.</li> </ul>                                                                                                                    |
|  <p>Incorrect key</p>                                                        | <p>You are using an incorrect key.</p> <ul style="list-style-type: none"> <li>► Use the correct key.</li> </ul>                                                                                                                                                                                                                                    |
|  <p>Please replace key.</p>                                                  | <p>Additional text : Please visit a workshop and have the key replaced.</p> <p>The key must be replaced.</p> <ul style="list-style-type: none"> <li>► Visit a qualified workshop.</li> </ul>                                                                      |
|  <p>Please replace ignition key battery.</p>                                 | <p>The key's battery is flat.</p> <ul style="list-style-type: none"> <li>► Replace the battery (→ Page 54).</li> </ul>                                                                                                                                                                                                                             |
|  <p>Key not recognised</p>                                                   | <p>Unable to detect the key and it may no longer be in the vehicle.</p> <p>If the key is no longer in the vehicle and you switch the vehicle off:</p> <ul style="list-style-type: none"> <li>• The vehicle can no longer be started</li> <li>• The vehicle cannot be centrally locked</li> <li>► Ensure that the key is in the vehicle.</li> </ul> |

# Confirmations

## Vehicle data

### Vehicle data

|                                                               |               |               |
|---------------------------------------------------------------|---------------|---------------|
| Model:                                                        |               |               |
| Vehicle identification number:                                |               |               |
| Initial registration:<br>(or date of delivery of new vehicle) |               |               |
| Paintwork                                                     |               |               |
| Licence plate                                                 | Licence plate | Licence plate |
| Licence plate                                                 | Licence plate | Licence plate |

## Body manufacturer

The following work or modifications have been carried out, e.g. to the chassis, cab, body (box body), or to additional assemblies/add-on equipment that has been fitted:

►

►

►

►

**The vehicle has been subjected to a quality control check and/or final inspection with regard to the work or modifications carried out on the vehicle. No faults or malfunctions were found.**

Please tick:

☐ Work and execution were carried out in accordance with the Mercedes-Benz Trucks body/equipment mounting directives.

☐ The certificate of non-objection was obtained from Daimler Truck AG, at the department responsible for body/equipment approval (see Mercedes-Benz Trucks body/equipment mounting directives).

☐ Operating instructions and maintenance instructions for the work, modifications, or the assemblies fitted have been placed in the vehicle.

City/town

►

Date

►

Mileage (km)

►

Operating hours (OH)

►

Signature

►

Signature/Stamp of the body manufacturer

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►

Signature

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City/town

►

Date

►

Mileage (km)

►

Operating hours (OH)

►

Signature

►

Signature/Stamp of the body manufacturer



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City/town

►

Date

►

Mileage (km)

►

Operating hours (OH)

►

Signature

►

Signature/Stamp of the body manufacturer

## 2

|                                                |            |
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