https://truckmanualshub.com/

YOUR OPERATOR'S MANUALS

Vehicle document wallet in the vehicle
Here you can find information on operation, service work and the guarantee for your vehicle in printed form.

Digital on the Internet
You can access the Operator's Manual on the Mercedes-Benz homepage.

Digital as an app
The Mercedes-Benz Guides app is available free of charge in common app stores.

Apple® iOS

Android™

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Order no. 6462 9543 02 Part no. 960 584 32 73 Edition 2019-06

Actros/Arocs Operating Instructions

Actros/Arocs

Operating Instructions

Mercedes-Benz

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Publication details

Internet
Further information about Mercedes-Benz vehicles and about Daimler AG can be found on the following websites:

http://www.mercedes-benz.com

http://www.daimler.com

Documentation team
Should you have any questions or suggestions regarding this Operator's Manual, you can reach the technical documentation team at the following address:

Daimler AG, HPC: CAC, Customer Service, 70546 Stuttgart, Germany

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Vehicle manufacturer
Daimler AG

Mercedesstraße 137

70327 Stuttgart

Germany

As at 18.02.2019

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Welcome to the world of Mercedes-Benz

Before you first drive off, read this Operator's Manual carefully and familiarise yourself with your vehicle. Please adhere to the information and warning notes in this Operator's Manual for your own safety and to ensure a longer operating lifespan of the vehicle. Disregarding them may lead to damage to the vehicle or injury to people.

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

- model
- order
- national version
- availability

The illustrations in this Operator's Manual show a left-hand-drive vehicle. The location of vehicle parts and control elements for right-hand drive vehicles differ accordingly.

Mercedes-Benz continues to develop its vehicles.

Mercedes-Benz therefore reserves the right to introduce changes in the following areas:

- design
- equipment
- technical features

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

The following documents are integral parts of the vehicle:

- Digital Operator's Manual
- printed Operator's Manual
- service booklet
- equipment-dependent supplements

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

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In these Operating Instructions, you will find the following symbols:

DANGER Danger due to not observing the warning notices

Warning notices draw your attention to hazards that may endanger your health or life, or the health or life of others.

▶ Observe the warning notices.

ENVIRONMENTAL NOTE Environmental damage due to failure to observe environmental notes

Environmental notes include information on environmentally responsible behaviour or environmentally responsible disposal.

▶ Observe environmental notes.

NOTE Damage to property due to failure to observe notes on material damage

Notes on material damage inform you of risks which may lead to your vehicle being damaged.

▶ Observe notes on material damage.

ⓘ These symbols indicate useful instructions or further information that could be helpful to you.

▶	Instructions
(→ page)	Further information on a topic
Display	Information in the multifunction display/media display
⟶	Highest menu level, which is to be selected in the multimedia system
▶▶	Corresponding submenus, which are to be selected in the multimedia system
*	Marks a cause

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Protection of the environment

ENVIRONMENTAL 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.

Operating conditions:

- ▶ Make sure that the tyre pressure is correct.
- ▶ Do not carry any unnecessary weight (e.g. roof luggage racks once you no longer need them).
- ▶ Adhere to the service intervals.
  A regularly serviced vehicle will contribute to environmental protection.
- ▶ Always have maintenance work carried out at a qualified specialist workshop.

Personal driving style:

- ▶ Do not depress the accelerator pedal when starting the engine.
- ▶ Do not warm up the engine while the vehicle is 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 ⅔ of its maximum engine speed.
- ▶ Switch off the engine in stationary traffic, e.g. by using the ECO start/stop function.
- ▶ Drive fuel-efficiently. Observe the ECO display for a fuel-efficient driving style.

Genuine Mercedes-Benz parts

ENVIRONMENTAL NOTE Environmental damage caused by not using recycled reconditioned components

Daimler AG offers recycled reconditioned components and parts with 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 AG.

The operating safety of the vehicle could be jeopardised if you use parts, tyres and wheels as well as accessories relevant to safety which have not been approved by Mercedes-Benz. Safety-relevant systems, e.g. the brake system, may malfunction. Only use genuine Mercedes-Benz parts or parts of equal quality. Only use tyres, wheels and accessories approved for your type of vehicle.

Mercedes-Benz tests original 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, Mercedes-Benz is unable to assess other parts. Mercedes-Benz therefore accepts no responsibility for the use of such parts in Mercedes-Benz vehicles, even if they have been independently 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 genuine Mercedes-Benz parts meet the approval requirements. The use of unapproved parts may result in the general operating permit being invalidated.

This is the case in the following situations:

- the vehicle type is different from that for which the vehicle's general operating permit was granted.
- other road users could be endangered.
- the exhaust gas or noise levels are adversely affected.

Always specify the vehicle identification number (VIN) when ordering genuine Mercedes-Benz parts (→ page 384).

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

For safety reasons, have add-on equipment produced and assembled in accordance with the valid Mercedes-Benz add-on equipment guidelines. 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, Mercedes-Benz recommends the following:

- Do not make any other changes to the vehicle.
- Obtain approval from Mercedes-Benz 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.

Observe the information on genuine Mercedes-Benz parts (→ page 5).

You will find the Mercedes-Benz body/equipment mounting directives on the internet at https://bb-portal.mercedes-benz.com.

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

ⓘ Further information can be obtained at a qualified specialist workshop.

⚠ **WARNING** Risk of accident and injury in the event of incorrect conversions or changes to the vehicle

Conversions or changes to the vehicle can impair the function of systems or components.

As a result, they may no longer function as intended and/or endanger the operating safety of the vehicle.

▶ Always have conversions or changes to the vehicle made at a qualified workshop.

Even seemingly minor changes to the vehicle such as attaching a radiator grille in winter operation are not permitted. Do not cover up the engine radiator. Do not use thermal mats, insect protection covers or anything similar.

Otherwise, the values of the diagnostic system may be affected. In some countries, the recording of engine diagnostic data is legally prescribed, and must always be verifiable and accurate.

Operating Instructions

These Operating Instructions describe all models and all standard and special equipment available for your vehicle at the time of these Operating Instructions going to press. Country-specific differences are possible. Note that your vehicle may not be fitted with all features described. This is also the case for systems and functions relevant to safety. 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 a Mercedes-Benz 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

⚠ **WARNING** Risk of accident due to malfunctions or system failures

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

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

⚠ **WARNING** Risk of accident and injury as a result of incorrect modifications to electronic component parts

Modification to electronic components, their software or wiring could impair their function and/or the function of other networked component parts. In particular, systems relevant to safety could also be affected.

As a result, they may no longer function as intended and/or endanger the operating safety of the vehicle.

▶ Never tamper with the wiring and electronic component parts or their software.

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▶ You should have all work on electrical and electronic components carried out at a qualified specialist workshop.

The electromagnetic radiation from RF transmitters can interfere with the on-board electronics if RF transmitters are manipulated or retrofitted incorrectly. This could jeopardise the operating safety of the vehicle. There is a risk of an accident. Always have work on electrical and electronic devices carried out at a qualified specialist workshop.

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

⚠ **WARNING** Risk of fire due to flammable materials on 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 on unpaved roads or off-road, regularly check the vehicle underside.

▶ Remove trapped plants or other flammable material, in particular.

▶ If there is damage, consult a qualified specialist workshop immediately.

! **NOTE** Damage to the vehicle

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

- the vehicle becomes grounded, e.g. on a high kerb or an unpaved road
- the vehicle is driven too fast over an obstacle, e.g. a kerb, speed bump or pothole
- a heavy object strikes the underbody or chassis components

In situations such as this, the body, the underbody, chassis components, wheels or tyres could be damaged without the damage being visible. Components damaged in this way can unexpectedly fail or, in the case of an accident, may not absorb the loads that arise as intended.

If the underbody panelling is damaged, flammable materials such as leaves, grass or twigs can collect between the underbody and the underbody panelling. These materials may ignite if they come into contact with hot parts on the exhaust system.

▶ Have the vehicle checked and repaired immediately at a qualified specialist workshop.

or

▶ If driving safety is impaired while continuing your journey, pull over and stop the vehicle immediately in accordance with the traffic conditions, and contact a qualified specialist workshop.

Declarations of conformity

Electromagnetic compatibility

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

Wireless vehicle components

For EU and EFTA countries only:
The following note applies to all wireless components of the vehicle and the information systems and communications equipment integrated in the vehicle:

The wireless components of the vehicle that receive and/or transmit radio waves are compliant with the basic requirements and all other relevant regulations stipulated by Directive 2014/53/EU. You can obtain further information from a Mercedes-Benz Service Centre.

Daimler AG hereby declares that two-way radio system types CTPDIN and CTPMID conform to Directive 2014/53/EU.

ADC Automotive Distance Control Systems GmbH hereby declares that two-way radio system types ARS3-A, ARS4-A and ARS4-B conform to Directive 2014/53/EU.

Aptiv hereby declares that the SRR2 device (type L2C0055TR) complies with the basic requirements and all other relevant conditions of Directive 2014/53/EU (RED).

Schrader Electronics Ltd hereby declares that two-way radio system types TG6WU, TG6IECU and TG6ERX conform to Directive 2014/53/EU.

Bosch Car Multimedia GmbH hereby declares that the two-way radio system type IPPC conforms to Directive 2014/53/EU.

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Marquardt GmbH, Schlossstrasse 16, 78604 Rietheim-Weilheim, Germany, hereby declares that two-way radio system types EIS and transmitter key conform to Directive 2014/53/EU.

KATHREIN Automotive GmbH hereby declares that the two-way radio system types of the HF antenna amplifier conform to Directive 2014/53/EU.

TomTom Int'l BV hereby declares that the two-way radio system type STG AP conforms to Directive 2014/53/EU.

Visteon Electronics Germany GmbH, Visteonstrasse 4-10, 50170 Kerpen, Germany hereby declares that the Connect5 multimedia system conforms to Directive 2014/53/EU.

The full texts of the EU declarations of conformity are available at the following web address: www.mercedes-benz.com/truck-conformity

Brazil only:
Note on the two-way radio systems in the vehicle:

These systems are not protected from harmful interference and must not cause interference in duly approved systems.

Wireless applications in the vehicle

ⓘ Depending on the equipment chosen or the country variant, not all two-way radio systems may be present in your vehicle.

Wireless applications in the vehicle

Component	Service	Transmission frequency band	Transmission output
CTPMID, CTPDIN	3G UMTS/HSDPA/HSUPA	Band I 2100 MHz Band II 1900 MHz Band V 850 MHz Band VI 800 MHz Band VII 900 MHz	0.25 W (Power Class 3)
	2G GSM/GPRS/EDGE	GSM 850 MHz E-GSM 900 MHz	2 W (Power Class 4)
		DCS 1800 MHz PCS 1900 MHz	1 W (Power Class 1)
	WLAN (IEEE 802.11b)	2.4 GHz band	50 mW
	WLAN (IEEE802.11g/n)	2.4 GHz band	25 mW
	Bluetooth®	2.4 GHz band	2.5 mW
ARS3-A, ARS4-B, ARS4-A	Vehicle-interval radar	76 - 77 GHz band	3.16 W
SRR2 (type L2C0055TR)	Lateral radar	76 - 77 GHz band	1 W
EIS, transmitter key	Short-range wireless technologies	433 MHz band	10 mW
TPM	Short-range wireless technologies	433 MHz band	10 mW
STG AP	Bluetooth®	1,925 - 1,975 MHz	25.6 dBm
		2,402 - 2,480 MHz	5.5 dBm
	Wi-Fi	1,715 - 1,780 MHz	25.6 dBm

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Component	Service	Transmission frequency band	Transmission output
		2,412 - 2,484 MHz	18.5 dBm
		5,150 - 5,350 MHz	17.5 dBm
		5,470 - 5,725 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
		1,710 - 1,785 MHz	30 dBm
Connect 5	WLAN 5 GHz	5.725 – 5.875 GHz band	< 25 mW
		5.150 – 5.350 GHz band	< 200 mW
	WLAN 2.4 GHz	2.400 – 2.4835 GHz band	< 20 mW
	Bluetooth®	2.400 – 2.4835 GHz band	< 10 mW

Radio operating permit for aerial amplifiers

Radio equipment approval number RKE213E1

Country	Radio equipment approval number
Argentina	Número de Inscripción: H-15475
Brazil	ANATEL 3691-15-5298 Dieses Produkt ist von ANATEL gemäß den gesetzlich geregelten Verfahren (Resolution 242/2000) homologiert und erfüllt die angewendeten technischen Anforderungen. Weitere Informationen finden Sie auf der ANATEL-Website:www.anatel.gov.br
Indonesia	41771/SDPPI/2015 5205
Jordan	TRC/LPD/2015/236

Country	Radio equipment approval number
Malaysia	MCMC S00269
Morocco	AGREE PAR L'ANRT MAROC Numéro d'agrément: MR 10631 ANTR 2015 Date d'agrément: 16/07/2015
Mexico	IFETEL: RLVKARK15-1741
Oman	TRA R/2715/15 D090258
Serbia	4005 15
Singapore	Complies with IMDA Standards Dealer's Licence No.: N2225-15

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Country	Radio equipment approval number
South Africa	TA- 2015/1438
South Korea	Dieses Gerät ist für elektromagnetische Geräte für den Hausgebrauch (Klasse B) geeignet und kann in allen Bereichen verwendet werden. Es können Funkstörungen beim Betrieb des Funkgeräts auftreten. Funkfrequenz: 433 MHz
Ukraine	
United Arab Emirates (UAE)	TRA Registered No: ER64693/18 Dealer: KATHREIN Automotive GmbH

Vehicle key radio operating permit

Radio equipment approval numbers MS2

Country	Radio equipment approval number
Brazil	00616-17-02930 Dieses Produkt ist von ANATEL gemäß den gesetzlich geregelten Verfahren (Resolution 242/2000) homologiert und erfüllt die angewendeten technischen Anforderungen. Weitere Informationen finden Sie auf der ANATEL-Website:www.anatel.gov.br
Indonesia	50154/SDPPI/2017 2208

Country	Radio equipment approval number
Malaysia	CIDF19000029
Morocco	AGREE PAR L'ANRT MAROC Numéro d'agrément: MR 13300 ANRT 2017 Date d'agrément: 2017-02-15
Moldova	024
Oman	TRA R/4136/17 D080134
Russia	
Zambia	ZMB/ZICTA/TA/2018/9/30
Serbia	
Singapore	Complies with IMDA Standards Dealer's Licence No.: D103787
South Africa	TA-2016/3314

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Country	Radio equipment approval number
South Korea	Dieses Gerät ist für elektromagnetische Geräte für den Hausgebrauch (Klasse B) geeignet und kann in allen Bereichen verwendet werden. Es können Funkstörungen beim Betrieb des Funkgeräts auftreten. Funkfrequenz: 433.92 MHz
Syria	SyTRA Registered No: FR00138-18 Dealer No: 1410086-16
Ukraine	
United Arab Emirates (UAE)	TRA Registered No: ER52668/17 Dealer No: 0018994/09
Belarus	

Electronic ignition lock radio operating permit

Radio equipment approval numbers DAG16

Country	Radio equipment approval number
Brazil	ANATEL 01024-19-02930 Dieses Produkt ist von ANATEL gemäß den gesetzlich geregelten Verfahren (Resolution 242/2000) homologiert und erfüllt die angewendeten technischen Anforderungen. Weitere Informationen finden Sie auf der ANATEL-Website:www.anatel.gov.br
Jordan	TRC/LPD/2018/252
Malaysia	MCMC CIDF19000029
Morocco	AGREE PAR L'ANRT MAROC Numéro d'agrément: MR 16862 ANTR 2018 Date d'agrément: 18/06/2018
Oman	TRA R/5785/18 D172249
Zambia	ZICTA ZM/ZICTA/TA/2018/8/19
Singapore	Complies with IMDA Standards Dealer's Licence No.: D103787
South Africa	ICASA TA- 2018/1781
South Korea	Dieses Gerät ist für elektromagnetische Geräte für den Hausgebrauch (Klasse B) geeignet und kann in allen Bereichen verwendet werden. Es können Funkstörungen beim Betrieb des Funkgeräts auftreten. Funkfrequenz: 21.85 kHz
United Arab Emirates (UAE)	TRA Registered No: ER67463/18 Dealer No: 0018994/09

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Radio equipment approval

Radio equipment approval numbers

Country	Radio equipment approval number
Brazil	ANATEL MODELO: 1-DIN TCC MID Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados. Este produto está homologado pela Anatel, de acordo com os procedimentos regulamentados pela Resolução nº 242/2000 e atende aos requisitos técnicos aplicados.
European Union	CE
Mexico	La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada. Modelo: 1-DIN TCC MID Marca: Bosch
Russia	EAC
Taiwan	根據 NCC 低功率電波輻射性電機管理辦法 規定: 第十二條 經型式認證合格之低功率 射頻電機，非經許可，公 司、商號或使 用者均不得 擅自變更頻率、加大功率 或變更原設計之特性及功 能。 第十四條 低功率射頻電機之使用不 得影響飛航安全及干擾合 法通信；經發 現有干擾現 象時， 應立即停用，並改 善至無干擾時方得繼續使 用。前項合法通信，指依 電信法規定作業之無線電 通信。低功率射頻電機須 忍受合法通信或工業、科 學及醫療用電波輻射性電 機設備之干擾。

Radio type approval for radar sensor system

Ukraine only:
The original (name of ADC Automotive Distance Control Systems GmbH) states that the two-way radio type fulfils the technical regulations for two-way radios; the full text of the declaration of conformity is available on the website at the following address: http://continental.automotive-approvals.com/.

Related EU declaration of conformity: ADC Automotive Distance Control Systems GmbH hereby declares that two-way radio types ARS3-A/ARS4-A/ARS4-B conform to the requirements of Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following website: http://continental.automotive-approvals.com/.

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Name and address of the manufacturer	ADC Automotive Distance Control Systems GmbH Peter-Dornier-Strasse 10, 88131, Lindau, Germany
Frequency band(s) in which the two-way radio is operated:	76 - 77 GHz
Maximum output of the radio frequency signal which is transmitted in the frequency range/ranges in which the two-way radio is operated:	3.16 W (35 dBm RMS effektive Strahlungsleistung)
ARS3-A is registered with:	UA RF: 1CONT 0002
ARS4-A is registered with:	UA RF: 1CONT 0004
ARS4-B is registered with:	UA RF: 1CONT 0001

Note on the MirrorCam system (camera/monitor system)

When using two-way radio systems in the vehicle, note the following: the distance between the aerial of the two-way radio system and the camera arm of the MirrorCam system must be at least 85 cm.

Jack

Copy and translation of the original declaration of conformity:

EC declaration of conformity 2006/42/EC

We, WEBER-HYDRAULIK GMBH, Heilbronner Str. 30, 74363 Güglingen, declare that the product "Weber hydraulic bottle jack", types:

A AD ADX AH AHX AL AT ATD ATDX ATG ATN ATGX ATPX ATQ AX

Capacity: 2,000 to 100,000 kg

Serial no.: from year of manufacture 01/2010

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

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 correctly and in accordance with the Owner's Manual
- if the required regular checks are not performed.

Relevant EU Directives: EC Machinery Directive 2006/42/EC

Applicable standards: ISO 11530

Quality assurance: DIN EN ISO 9001:2000

Güglingen, 1 July 2013

Signed by:

Managing director, WEBER-HYDRAULIK GmbH

Authorised representative of technical documentation, WEBER-HYDRAULIK GMBH

Heilbronner Straße 30, 74363 Güglingen

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IPPC+ declaration on dangerous substances present

Only for Taiwan:

Equipment name: Daimler IPPC+ Equipment name: Daimler IPPC+	Type designation (type): Taiwan (Release 7) Type designation (type): Taiwan (Release 7)

Unit Unit	Restricted substances and their chemical symbols Restricted substances and their chemical symbols					
	Lead Lead (Pb)	Mercury Mercury (Hg)	Cadmium Cadmium (Cd)	Hexavalent chromium Hexavalent chromium (Cr^{+6})	Polybrominated biphenyls Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers Polybrominated diphenyl ethers (PBDE)
Housing, cover Housing, cover	○	○	○	○	○	○
Metallic parts Metallic parts	○	○	○	○	○	○
Connectors Connectors	○	○	○	○	○	○
PCB ASY PCB ASY	○	○	○	○	○	○

Note 1: "○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

Note 1: "○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

Note 2: The "-" indicates that the restricted substance corresponds to the exemption.

Note 2: The "-" indicates that the restricted substance corresponds to the exemption.

Diagnostics connection

The diagnostics connection is only intended for the connection of diagnostic devices at a qualified specialist workshop.

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

If you connect equipment to a diagnostics connection in the vehicle, it may affect the operation of vehicle systems.

As a result, the operating safety of the vehicle could be affected.

▶ Only connect equipment to a diagnostics connection in the vehicle which is

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approved for your vehicle by Mercedes-Benz.

WARNING 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 jeopardises 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.
- ▶ Ensure floor mats and carpets cannot slip and provide sufficient room for the pedals.
- ▶ Do not lay multiple floor mats or carpets on top of one another.

NOTE Battery discharging from using devices connected to the diagnostics connection

Using devices at the diagnostics connection drains the battery.

- ▶ Check the charge level of the battery.
- ▶ If the charge level is low, charge the battery, e.g. by driving a considerable distance.

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 engine 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 increase engine output.
- vehicle must be recertified.
- report changes in output to the accident insurance bodies.

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

If you sell the vehicle, inform the buyer of any alterations to the vehicle's engine output. If you do not inform the buyer, this may constitute a punishable offence under national legislation.

Qualified specialist workshop

NOTE Work carried out incorrectly can result in damage to the engine electronics

Work carried out incorrectly on the engine electronics can damage vehicle components and invalidate the vehicle's general operating permit.

- ▶ Always have work on the engine electronics and related components carried out at a qualified specialist workshop.

A qualified specialist workshop has the necessary special skills, tools and qualifications to correctly carry out any necessary work on your vehicle. This particularly applies to safety-relevant works.

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

- safety-relevant works
- service and maintenance work
- repair work
- modifications as well as installations and conversions
- work on electronic component parts

Mercedes-Benz recommends that you use a Mercedes-Benz service centre for this purpose.

Vehicle registration

Mercedes-Benz may ask its service centres to carry out technical inspections on certain vehi-

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cles. The quality or safety of the vehicle is improved as a result of the inspection.

Mercedes-Benz 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 a Mercedes-Benz service centre.

It is advisable to register your vehicle with a Mercedes-Benz service centre. Inform Mercedes-Benz as soon as possible about any change in address or vehicle ownership. You can do this, for example, at a Mercedes-Benz service centre.

Correct use of the vehicle

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

When using the vehicle, observe the following information:

- the safety notes in this manual
- the vehicle technical data
- 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) stipulates an information obligation for substances of very high concern (SVHC).

Daimler AG is acting to the best of its knowledge to avoid the use and application of these SVHCs and to enable the customer to handle theses substances safely. According to supplier information and internal product information of Daimler AG, SVHCs are known which are more than 0.1 percent by weight in individual products of this vehicle.

Further information can be found at:

- http://www.daimler.com/reach
- http://www.daimler.com/reach/en

Implied warranty

! **NOTE** Damage to the vehicle arising from violation of these operating instructions.

Damage to the vehicle can arise from violation of these operating instructions.

This damage is not covered either by the Mercedes-Benz implied warranty or by the New- or Used-Vehicle Warranty.

▶ Follow the instructions in these operating instructions on proper operation of your vehicle as well as on possible vehicle damage.

Vehicle data storage

Information from electronic control units

Electronic control units are fitted in your vehicle. Some of these are necessary for the safe operation of your vehicle, while some assist you when driving (driver assistance systems). In addition, your vehicle provides comfort and entertainment functions, which are also made possible by electronic control units.

The electronic control units contain data memories which can temporarily or permanently store technical information about the vehicle's operating state, component loads, maintenance requirements and technical events or faults.

In general, this information documents the state of a component part, a module, a system or the surroundings such as:

- operating status of system components (e.g. fill levels, battery status, tyre pressure)
- status messages concerning the vehicle and its individual components (e.g. number of wheel revolutions/speed, deceleration, lateral acceleration, display of the fastened seat belts)
- malfunctions or faults in important system components (e.g. lights, brakes)
- information on events leading to vehicle damage
- system reactions in special driving situations (e.g. airbag deployment, intervention of stability control systems)
- ambient conditions (e.g. temperature, rain sensor)

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In addition to providing the actual control unit function, this data assists the manufacturer in detecting and rectifying faults and optimising vehicle functions. The majority of this data is temporary and is only processed in the vehicle itself. Only a small portion of the data is stored in the event or fault memory.

When your vehicle is serviced, technical data from the vehicle can be read out by service network employees or third parties. Services include repair services, maintenance processes, warranties and quality assurance measures, for example. The read out is performed via the legally prescribed port for OBD ("on-board diagnostics") in the vehicle. The respective service network locations or third parties collect, process and use this data. They document technical statuses of the vehicle, assist in finding faults and improving quality and are sent to the manufacturer, if necessary. Furthermore, the manufacturer is subject to product liability. For this, the manufacturer requires technical data from vehicles.

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

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

This includes, for example:

- multimedia data such as music, films or photos for playback in an integrated multimedia system
- address book data for use in connection with an integrated hands-free system or an integrated navigation system
- entered navigation destinations
- data about the use of Internet services

This data can be stored locally in the vehicle or is located on a device which you have connected to the vehicle. If this data is stored in the vehicle, you can delete it at any time. This data is sent to third parties only at your request, particularly when you use online services in accordance with the settings that you have selected.

You can store convenience settings/custom settings in the vehicle and change them at any time.

Depending on the equipment, this includes, for example:

- seat and steering wheel position settings
- suspension and climate control settings
- custom settings such as interior lighting, display and system settings

If your vehicle is accordingly equipped, you can connect your smartphone or another mobile end device to the vehicle. You can control this by means of the control elements 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 can include:

- general vehicle data
- position data

This allows you to use selected apps on your smartphone, such as navigation or music playback. There is no further interaction between the smartphone and the vehicle; in particular, vehicle data is not directly accessible. Which type of further data processing occurs is determined by the provider of the specific app used. Which settings you can make, if any, depends on the specific app and the operating system of your smartphone.

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 enabled via the vehicle's transceiver or via connected mobile end devices (e.g. smartphones). Online functions can be used via the wireless network connection. This includes online services and applications/apps provided by the manufacturer or other providers.

Manufacturer's services

The manufacturer describes the respective functions and corresponding legal data protection information when suitable for the manufacturer's online services. Personal data may be used for the provision of online services. Data is exchanged via a secure connection, e.g. to the manufacturer's designated IT systems. Personal data is collected, processed and used via the provision of services exclusively on the basis of legal permissions or with prior consent.

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The services and functions (sometimes subject to a fee) can usually be activated or deactivated. In some cases, this also applies to the entire vehicle's data connection. This excludes, in particular, legally prescribed functions and services.

Third party services

If it is possible to use online services from other providers, these services are subject to the data protection and terms of use of the responsible provider. The manufacturer has no influence on the content exchanged.

Please enquire, therefore, about the type, scope and purpose of the collection and use of personal data as part of third party services from their respective provider.

Copyright

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

http://www.mercedes-benz.com/trucks-opensource.

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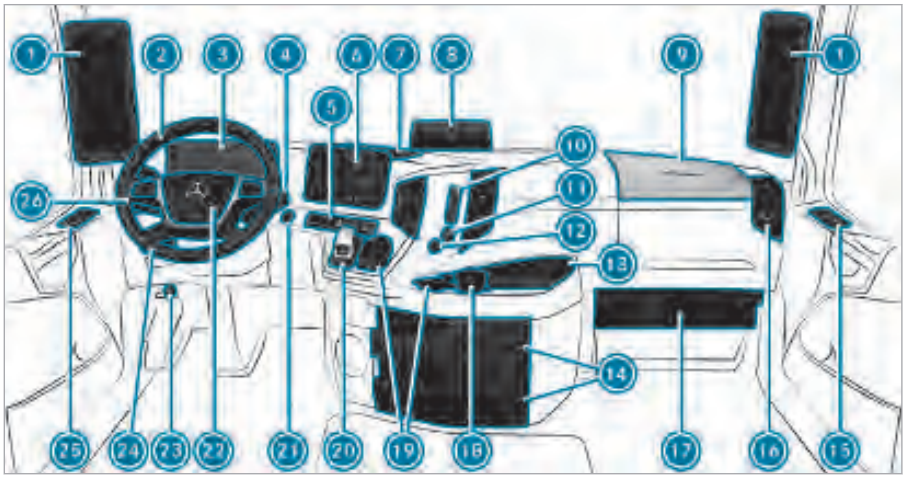

Overview (example using a left-hand drive vehicle)

1 Mirror camera system display	→	69
2 Multifunction steering wheel		
3 Instrument cluster	→	116
4 Multifunction lever		
5 Switch unit		
6 Multimedia system display	→	155
7 Telephone holder	→	106
8 Rain and light sensor and Lane Keeping/Attention Assist camera	→	318
9 Folding table	→	101
10 USB port		
11 Power socket (example)	→	95
12 Cigarette lighter		
13 Climbing aid for the top berth	→	59
14 Drawers	→	98
15 Front passenger door switch unit		
16 Air vent (example)	→	114
17 Main fuse carrier cover	→	356
18 Ashtray	→	97
19 Cup holder	→	102
20 Electric parking brake	→	207
Electric independent trailer brake	→	209
21 Start/stop button	→	198
22 Horn (air/standard horn)		
23 Adjusting the multifunction steering wheel	→	67
24 Switch unit		
25 Driver's door switch unit		
26 Combination switch	→	79

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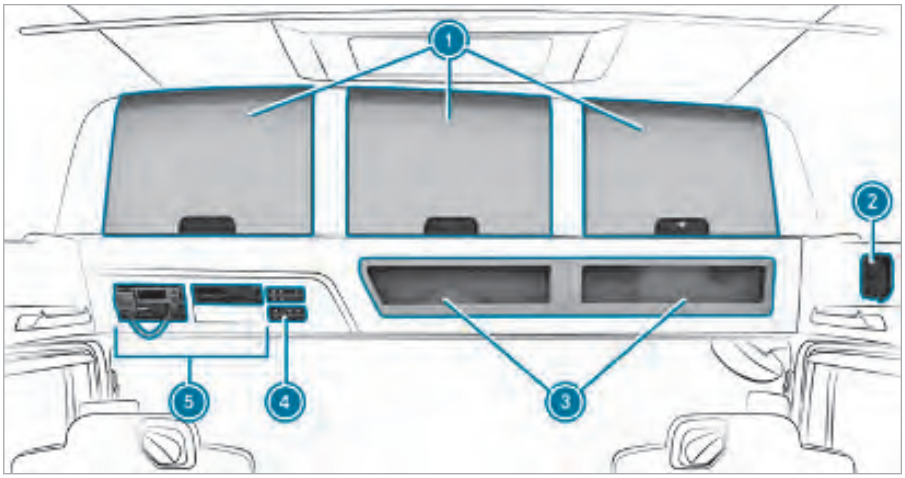

Overview (example using a left-hand drive vehicle)

1 Stowage compartments	→	98
2 Smoke detector	→	98
3 Stowage spaces	→	98
4 Switch units		
5 DIN slots for:		
Two-way radio (see separate operating instructions)		
Digital tachograph (see separate operating instructions)		

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Multimedia cockpit displays

Multimedia cockpit instrument cluster

1 Speedometer		
2 Time	→	119
3 Outside temperature	→	119
4 Rev counter	→	116
5 Selected drive program, selected gear and gearshift recommendation	→	215
6 AdBlue® level (vehicles with BlueTEC® exhaust gas after-treatment)	→	117
7 Menu	→	124
8 Fuel level	→	118

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Interactive multimedia cockpit displays

Interactive multimedia cockpit instrument cluster

1 Time	→	119
2 Speedometer		
3 Rev counter	→	117
4 Outside temperature	→	119
5 Fuel level	→	118
6 Selected drive program, selected gear and gearshift recommendation	→	215
7 AdBlue® level (vehicles with BlueTEC® exhaust gas after-treatment)	→	118

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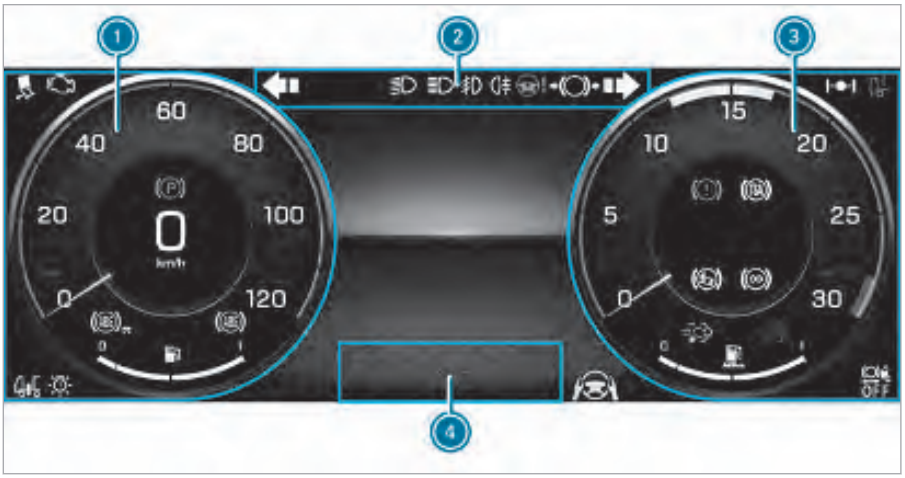
Multimedia cockpit warning/indicator lamps



Instrument cluster (example)

1 Left-hand warning/indicator lamps

Control intervention by Stability Control Assist or ASR	→	228
Stability Control Assist or ASR deactivated	→	228
ASR (acceleration skid control system)	→	228
Engine diagnostics	→	120
(red) Parking brake	→	207
ABS (anti-lock braking system)	→	205
ABS, trailers/semitrailers	→	205
Level control system outside driving level	→	261
Lamp check	→	74

2 Top warning/indicator lamps

Turn signal indicators, left/right	→	79
Standing lights		
Low beam	→	75
Low beam (automatic)	→	75
High beam	→	79
Adaptive Highbeam Assist	→	78
Front fog lights	→	75
Rear fog lamp	→	75
Steerable additional axle malfunction or power steering malfunction	→	137
Instruction to brake at high engine speed		

3 Right-hand warning/indicator lamps

Differential locks	→	229
Cab tilt lock	→	339
Brake malfunction	→	201
Trailer Stability Assist	→	256
Hill holder	→	210
HOLD function	→	211
Continuous brake	→	212
Diesel particulate filter regeneration	→	276
Diesel particulate filter malfunction or regeneration lockout	→	276
Active Brake Assist	→	244

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Active Drive Assist	→	257
④ Warning and indicator lamps in the status area	→	153

Interactive multimedia cockpit warning/indicator lamps

Instrument cluster (example)

① Top/left warning/indicator lamps

Engine diagnostics	→	120
Cab tilt lock	→	339
Steerable additional axle malfunction or power steering malfunction	→	137
ABS, trailers/semitrailers	→	205
ABS (anti-lock braking system)	→	205
Hill holder	→	210
HOLD function	→	211
(red) Parking brake	→	207
Brake malfunction	→	201
Turn signal indicator, left	→	79
Active Brake Assist	→	244

② Top/right warning/indicator lamps

Turn signal indicator, right	→	79
Lamp check	→	74
Standing lights		
Low beam	→	75
Low beam (automatic)	→	75
High beam	→	79
Adaptive Highbeam Assist	→	78
Front fog lamps	→	75
Rear fog lamp	→	75
Control intervention by Stability Control Assist or ASR	→	228
Stability Control Assist or ASR deactivated	→	228
ASR (acceleration skid control system)	→	228
Level control system outside driving level	→	261
Trailer Stability Assist	→	256
Instruction to brake at high engine speed		

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Continuous brake	→	212
3 Warning and indicator lamps in the status area	→	153
4 Bottom warning/indicator lamps		
Differential locks	→	229
Active Drive Assist	→	257
Diesel particulate filter regeneration	→	276
Diesel particulate filter malfunction or regeneration lockout	→	276

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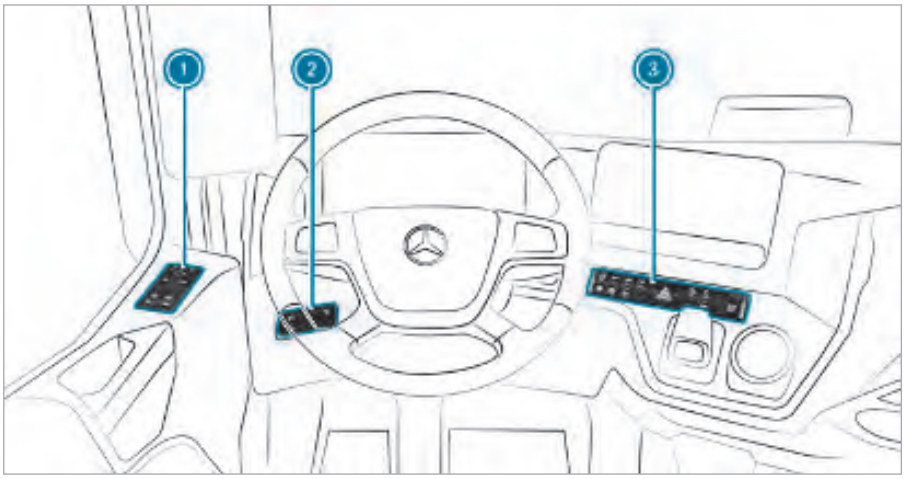
Cockpit

Driver cockpit



Switch panels in the driver cockpit (example)

1 Driver's door switch panel		
2 Switch panel		
Standing lights	→	75
Low beam	→	75
Cargo liftgate (see the separate Owner's Manual)		
Work lamp (switched off automatically when the vehicle pulls away)		
Leading/trailing axle	→	266
3 Switch panel		
Hazard warning lights		
Lane Keeping Assist	→	251
ASR (anti-slip control)	→	228
Stability Control Assist	→	228
Differential locks	→	229
Rocking-free system	→	219
Hydraulic auxiliary drive	→	233
Manoeuvring mode	→	227
Electro-hydraulic cab tilting system	→	339
Anti-theft alarm system	→	45
Panic alarm	→	45
Battery disconnect switch	→	94
Off-road gear transfer case	→	232
Frequent-stop brake	→	209
Level control system: driving level	→	263
Level control system: raised driving level	→	265
STOP Level control system: STOP		
Level control system: shunting level	→	265
Level control system: road paver operation	→	264
12 V 12 V voltage converter	→	96

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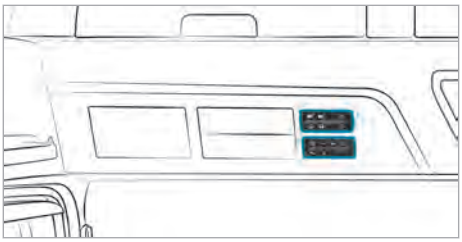
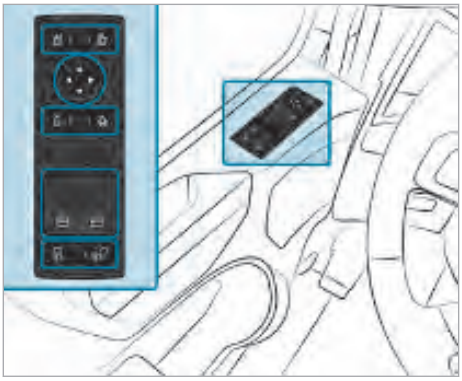
Above the windscreen



Retracts the roller sunblind	→	54
Extends the roller sunblind	→	54
Illuminated Mercedes star	→	80
Driver's reading lamp		
Nightlight		
Interior lamps		
Automatic interior lighting controls		
Opens the sliding sunroof/pop-up roof	→	49
Closes the sliding sunroof/pop-up roof	→	49
Rotating beacon	→	80

Driver's door (vehicles with outside mirror)



Outside mirror, left	→	67
Outside mirror, right	→	67
Adjusts the outside mirrors	→	67
Mirror heater	→	68
Manoeuvring function for the co-driver outside mirror	→	67
Opens/closes the side windows	→	48
Locks the doors	→	43
Unlocks the doors	→	43

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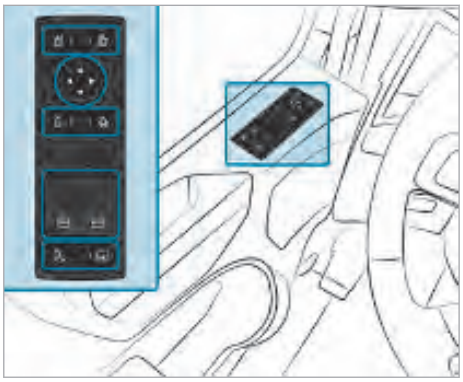
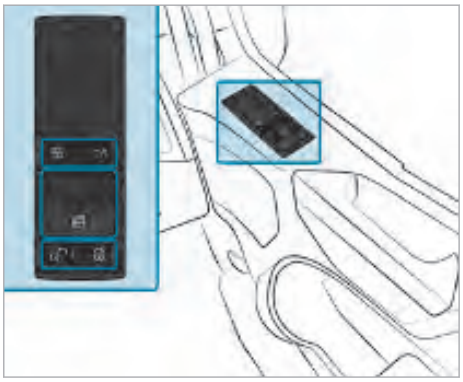
Driver's door (vehicles with MirrorCam)



Selects display, left	→	70
Selects display, right	→	70
Sets field of vision	→	70
Activates/deactivates camera heating	→	70
Activates/deactivates automatic field of vision adjustment/manoeuvring view	→	70
Opens/closes the side windows	→	48
Unlocks/locks the doors	→	43
Activates MirrorCam system	→	70

Co-driver's door (vehicles with outside mirror)



Co-driver's reading lamp		
Interior lamps		
Opens/closes co-driver's side window	→	48
Locks the doors	→	43
Unlocks the doors	→	43

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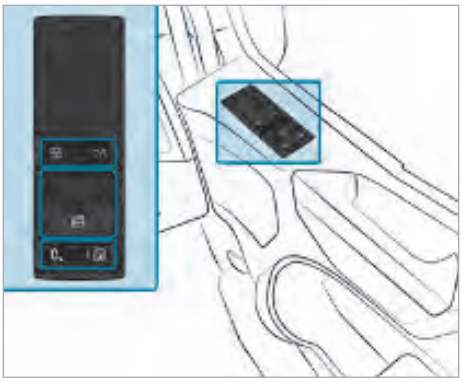
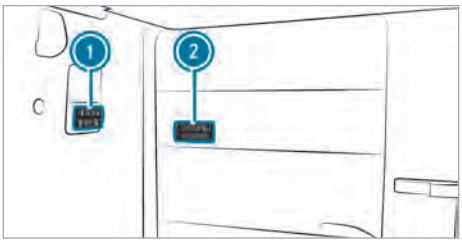
Co-driver's door (vehicles with MirrorCam)



- Co-driver's reading lamp
- Interior lamps
- Opens/closes co-driver's side window → 48
- Unlocks/locks the doors → 43
- Activates MirrorCam system → 69

Berth



1 Bed/berth switch panel

- Auxiliary heating → 112
- Stationary air conditioning system → 113
- Audio equipment (radio) → 105
- Opens the sliding sunroof/pop-up roof → 49
- Closes the sliding sunroof/pop-up roof → 49
- MAX / Interior lighting

2 Switch panel

- Activates the mirror camera system → 69

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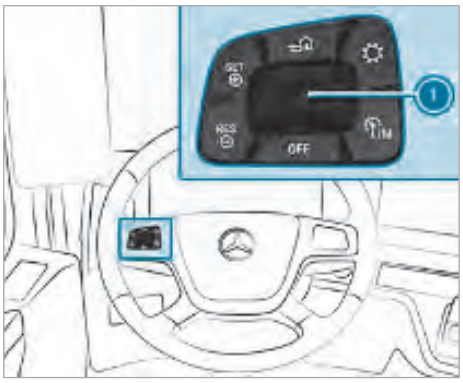

Example: left group of buttons on the multifunction steering wheel

Operating the on-board computer:	→ 123
1 Navigates/confirms/selects on the on-board computer	
Main menu and back button (on-board computer)	
Settings	
Press briefly: selects cruise control/selects Proximity Control Assist	→ 236
Press and hold the button for a few seconds: selects the limiter	→ 235
OFF Deactivates speed limiter/cruise control/Proximity Control Assist	
SET Activates and adjusts current speed/limit speed; increases the speed/limit speed	
RES Activates and calls up stored speed/limit speed; reduces set speed/limit speed	

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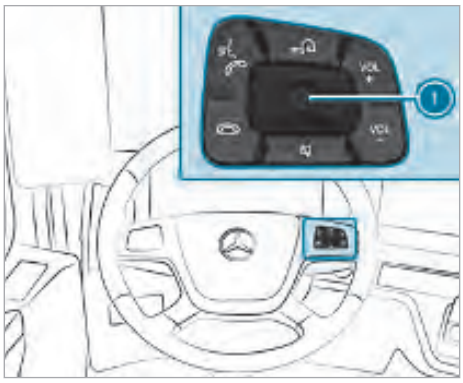

Example: right-hand button group on the multifunction steering wheel

Operating the multimedia system: → 156

1 To navigate/confirm/select in the multimedia system	To switch the mute function on/off
Main menu and back button (multimedia system)	To end/reject a call
VOL + To increase the volume	To make/accept a call
VOL – To decrease the volume	To activate the voice control system

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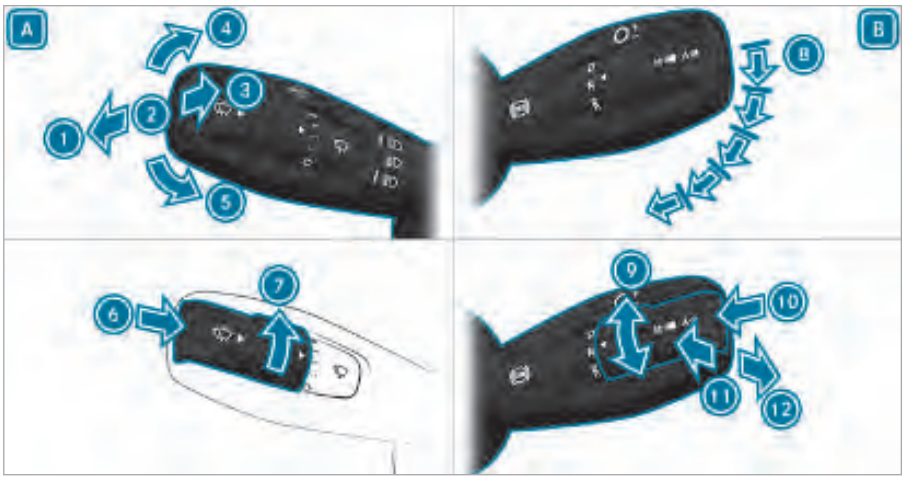

A Combination switch		
1 High beam on (when low beam is switched on)	→	79
High beam is automatically controlled (when Adaptive Highbeam Assist is activated)	→	78
2 High beam off (when low beam is switched on)	→	79
3 Headlamp flashing	→	79
4 Turn signal indicator, right	→	79
5 Turn signal indicator, left	→	79
6 Wiping with washer fluid / single wipe	→	94
7 Windscreen wipers	→	93
B Multifunction lever		
8 Continuous brake	→	212
9 Automatic gearshift – selection of the direction of travel		
D Drive (driving forwards)	→	220
N Neutral position	→	220
R Reversing	→	223
10 Automatic gearshift – drive program selection A/M automatic drive program A or manual drive program M	→	216
11 Automatic gearshift – manual upshifting, automatic drive program	→	221
Manual drive program	→	222
12 Automatic gearshift –manual downshifting, automatic drive program	→	221
Manual drive program	→	222

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Restraint system

Protection by the restraint system

The restraint system includes 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 airbag are not deployed in every accident.

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

In order for the restraint system to provide the intended level of protection, each vehicle occupant must observe the following information:

- Fasten seat belts correctly.
- Sit in an almost upright seat position with their back against the seat backrest.
- Sit with their feet resting on the floor, if possible.
- Always secure persons under 1.50 m tall in an additional restraint system suitable for Mercedes-Benz vehicles.

However, 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. It is also not possible to completely rule out the risk of injury caused by the airbag deploying.

Reduced restraint system protection

WARNING Risk of injury or death from modifications to the restraint system

The restraint system can no longer function correctly after alterations have been made.

The restraint system may then not protect the vehicle occupants as intended by failing in an accident or triggering unexpectedly, for example

- ▶ 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 modify the vehicle to accommodate a person with disabilities, contact a qualified specialist workshop.

Mercedes-Benz recommends that you use driving aids which have been approved for your vehicle by Mercedes-Benz.

Operational readiness of the restraint system

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

Overview of warning/indicator lamps (→ page 153).

Restraint system malfunction

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

WARNING Risk of injury due to malfunctions in the restraint system

If the restraint system is malfunctioning, restraint system components may be triggered unintentionally or may not deploy as intended during an accident. This may affect the seat belt tensioner or airbag, for example.

- ▶ Have the restraint system checked and repaired immediately at a qualified specialist workshop.

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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 apparent frontal impact.

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 should 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 the airbag being deployed. 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 affected, 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 seat belt of the driver's seat and the driver's airbag are deployed together.

⚠ **WARNING** Rick 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.

Mercedes-Benz 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 immediately or open the window in order to prevent breathing difficulties.

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.

⚠ **WARNING** 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 55) and adjusting the steering wheel (→ page 67).

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.
- Push the lap belt down as far as possible across your hips and pull tight with the shoulder section of the belt. Never route the lap belt across your abdomen.

  Pregnant women must also take particular care with this.
- Never route the seat belt across sharp, pointed, abrasive or fragile objects.

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- Only one person may use each seat belt at any one time. Infants and children must never travel sitting on the lap of a vehicle occupant.
- Never secure objects with a seat belt if the seat belt is being used by one of the vehicle's occupants. To secure objects, luggage or loads, always observe the instructions and safety notes on stowage spaces and stowage compartments (→ page 98).

  Also ensure that no objects, e.g. a cushion, are ever placed between a person and the seat.
- Feet should always be placed on the ground. Do not put your feet on the cockpit, for example. Otherwise, when braking or in the event of an accident, you could slide underneath the seat belt.

If children are travelling in the vehicle, be sure to observe the instructions and safety notes on "Children in the vehicle" (→ page 39).

Limitations of the protection provided by the seat belt

WARNING 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.

When braking or in the event of an accident, you could slide underneath the seat belt and sustain abdominal or neck injuries, for example.

▶ Adjust the seat properly before beginning your journey.

▶ Always ensure that the seat backrest is in an almost vertical position and that the shoulder section of your seat belt is routed across the centre of your shoulder.

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

Persons under 1.50 m tall cannot wear the seat belt correctly without a suitable additional restraint system.

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 secure persons under 1.50 m tall in a suitable restraint system.

WARNING 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
- 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 belts, seat belt tensioners, seat belt anchorages or seat belt retractors.

▶ Make sure that the seat belts are not damaged, are not worn and are clean.

▶ Always have the seat belts checked immediately after an accident at a qualified specialist workshop.

Mercedes-Benz recommends that you use seat belts that are approved specifically for the relevant type of vehicle by Mercedes-Benz. Otherwise, your vehicle's general operating permit could be invalidated.

WARNING 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 immediately replaced at a qualified specialist workshop.

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Mercedes-Benz recommends that you have the vehicle towed to a qualified specialist workshop after an accident.

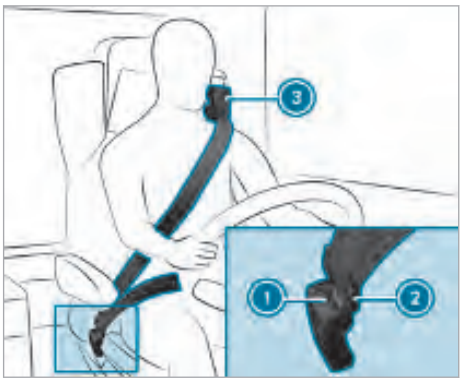
NOTE Damage caused by trapping the seat belt

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.

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.



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

▶ Press and hold the belt sash guide release and slide belt sash guide ③ into the desired position which corresponds to the body size of the occupant.

▶ Let go of the belt sash guide release and make sure that belt sash guide ③ has engaged. Information on operating the seat (→ page 56).

Releasing a 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 goes out 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 153).

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.

WARNING 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 and can even cause additional injuries when deployed.

To avoid risks, every vehicle occupant must always make sure of the following:

- Fasten the seat belt correctly. Pregnant women should pay particular attention 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.

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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 55) and adjusting the steering wheel (→ page 67).
- Hold the steering wheel by the rim only. This allows the airbag to deploy fully.
- Always lean against the backrest while driving. Do not lean forward. You may otherwise be in the deployment area of the airbag.
- Feet should always be placed on the ground. Do not put your feet on the dashboard, for example.
- When travelling with children in the vehicle, observe the additional notes (→ page 39).
- 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:

- 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.

Limitation of protection from airbag

WARNING Risk of injury due to modifications to the airbag cover

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

▶ Never modify the cover of an airbag and do not affix objects to it.

The installation location of an airbag is identified by the AIRBAG label (→ page 37).

WARNING Risk of injury due to deployed airbag

A deployed airbag no longer offers any protection and cannot provide the intended protective function in the event of an accident.

▶ Have the vehicle towed to a qualified specialist workshop in order to have the deployed airbag replaced.

Have deployed airbags replaced immediately.

Travelling safely with children in the vehicle

Always observe when children are travelling in the vehicle

ⓘ Be sure to observe the safety notes relevant to the situation. In doing so, you will be able to identify possible risks and avoid dangers when children are travelling in the vehicle (→ page 39).

Be diligent

Bear in mind that negligence when securing the child in the child restraint system may have serious consequences. Always be diligent and secure a child carefully before each journey.

To improve protection for children younger than 12 years old and under 1.50 m in height, Mercedes-Benz recommends you always observe the following notes:

- Always secure the child in a child restraint system suitable for your Mercedes-Benz vehicle.
- 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

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

Observing 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. Mercedes-Benz recommends that you use a Mercedes-Benz Service Centre for this purpose.

Identifying risks, avoiding danger

Securing systems for child restraint systems in the vehicle

Only use the following securing system for child restraint systems:

- the vehicle's seat belt system

The advantage 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.

Secure the child restraint system correctly at all times

⚠ **WARNING** Risk of injury or death caused by incorrect installation of the child restraint system

If the child restraint system is incorrectly installed on a suitable seating position, it cannot perform its intended protective function.

The child cannot be restrained in the event of an accident, heavy braking or a sudden change of direction.

▶ 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 sitting surface of the seat.

▶ Never place objects under or behind the child restraint system, e.g. cushions.

▶ Always use child restraint systems with the original cover designed for them.

▶ Always replace damaged covers with genuine covers.

⚠ **WARNING** Risk of injury or death from unsecured child restraint systems in the vehicle

If the child restraint system is not correctly installed or secured, it could release in the event of an accident, sudden braking or a sudden change in direction.

The child restraint system could be flung around and hit vehicle occupants.

▶ Always fit child restraint systems correctly, even when not in use.

▶ Always comply with the child restraint system manufacturer's installation instructions.

- 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 co-driver's seat (⟶ page 40).
- Observe the warning labels in the vehicle interior and on the child restraint system.

Do not modify the child restraint system

⚠ **WARNING** Risk of injury due to alterations to the child restraint system

The child restraint system may no longer function as it is supposed to if you make alterations or attach objects to it, e.g. toys or unsuitable accessories. This poses an increased risk of injury!

Never alter the child restraint system. Only attach accessories which the manufacturer of the child restraint system has authorised especially for this child restraint system.

Mercedes-Benz recommends you use Mercedes-Benz care products to clean child restraint systems recommended by Mercedes-Benz.

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Only use child restraint systems which are not damaged

⚠ **WARNING** Risk of injury or death caused by the use of damaged child restraint systems

Child restraint systems or their retaining systems that have been subjected to a load in an accident may then not be able to perform their intended protective function.

The child cannot be restrained in the event of an accident, heavy braking or a sudden change of direction.

▶ Always replace child restraint systems immediately that have been damaged or involved in an accident.

▶ Have the securing systems for the child restraint systems checked at a qualified specialist workshop before installing a child restraint system again.

Avoiding direct sunlight

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

If the child restraint system is exposed to direct sunlight or heat, parts could heat up.

Children could suffer burns on these parts, particularly on metallic parts of the child restraint system.

▶ Always make sure that the child restraint system is not exposed to direct sunlight.

▶ Protect it with a blanket, for example.

▶ If the child restraint system has been exposed to direct sunlight, allow it to cool before securing a child into it.

▶ Never leave children unattended in the vehicle.

Observe the following when stopping or parking

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

If children are left unattended in the vehicle, they could:

- Open doors, thereby endangering other persons or road users.
- Get out and be struck by oncoming traffic.
- Operate vehicle equipment and become trapped, for example.

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

- Releasing the parking brake.
- Changing the transmission position.
- Starting the vehicle.

▶ Never leave children unattended in the vehicle.

▶ When leaving the vehicle, always take the key with you and lock the vehicle.

▶ Keep the vehicle key out of reach of children.

⚠ **WARNING** Risk of fatal injury due to exposure to extreme heat or cold in the vehicle

If people –particularly children – are exposed to extreme temperatures over an extended period of time, there is a risk of serious or even fatal injury!

▶ Never leave anyone – particularly children – unattended in the vehicle.

▶ Never leave animals in the vehicle unattended.

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.

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Example of an approval label

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

- ☑ When using a child restraint system in the "Universal" category, ensure that it is approved for the vehicle seat.
- ☑ Observe the manufacturer's installation and operating instructions for the child restraint system used.
- ☑ 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.
- ☑ 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.
- ☑ The child restraint system must not be put under strain by the head restraint. Adjust the head restraints as appropriate.
- ☑ 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.
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.
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

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

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

Thereby an animal may:

- activate vehicle equipment and become trapped, for example
- switch systems on or off and endanger other road users

Unsecured animals may be thrown around in 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.

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Locking system

Electronic key

Overview of electronic keys

Your vehicle is equipped with a special key system.

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

- switching on the ignition
- starting the engine
- shifting gears

ⓘ If a vehicle key is lost, obtaining a replacement is a time-consuming process.
This can only be done through a Mercedes-Benz Service Centre.
Mercedes-Benz therefore recommends that you always keep an easily accessible replacement key with you for emergencies.
If you lose a key, have it disabled at a Mercedes-Benz Service Centre.
This prevents the lost key from being misused.

Key with remote control

Key with remote control and lamp check

Your vehicle is equipped with one of two keys.

A mechanical key is integrated in each key with which you can lock/unlock the doors without using the remote control, via the co-driver's door lock.

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

You can use the [🔒] and [🔓] buttons to operate the central locking system and the convenience opening and convenience closing functions (→ page 44).

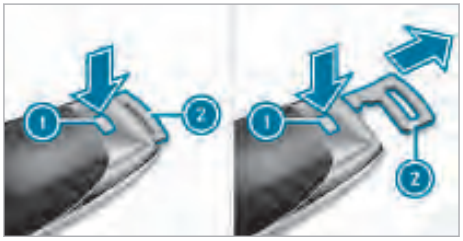
The remote control works regardless of the direction in which it is pointed. You can lock/unlock the vehicle from a distance of up to approximately 30 m. Only use the remote control in the immediate vicinity of the vehicle. This helps to prevent theft.

There is a battery in the key. When this remote control battery is discharged, the on-board computer displays an appropriate event window. Replace the battery in the key (→ page 47).

Observe the information on the "Vehicle key radio operating permit" (→ page 10).

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.

ⓘ 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.

Performing a lamp check with the key

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

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- Apply the parking brake.
- Press the button on the key. Dipped-beam headlamps, marker lamps, tail lamps and licence plate lighting light up permanently. Turn signals, main-beam headlamps, brake lights, daytime driving lights, reversing lamps, foglamps and working-area lamps 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.

Unlocking/locking the central locking system

External door lock

! NOTE Damage to the vehicle when opening the doors

Make sure that there is sufficient clearance when opening the doors.

Otherwise, damage may be caused to the vehicle or to other vehicles.

- Only open doors if the situation permits this.

Unlocking/locking using the key

ⓘ If you use the emergency key element to unlock the door and ATA is primed (→ page 45), the alarm is triggered.

- Insert the key into the door lock of driver's door (Code F9Y only) A or of co-driver's door B in position 2.
- **To unlock:** turn the key to position 1. The corresponding door is unlocked.
- **To lock:** turn the key to position 3. Both doors are locked.

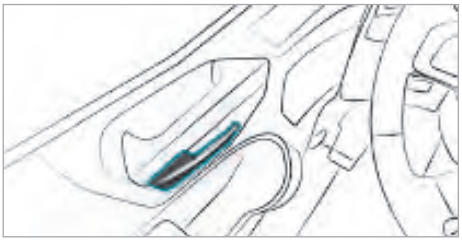
Unlocking/locking using the remote control

- **To unlock:** press the button on the key. The driver's door or both doors are unlocked.

ⓘ 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 co-driver's door by pressing the button again.

- **To lock:** press the button on the key. Both doors are locked.

Internal door lock
Unlocking using the door handle



- Pull the door handle.

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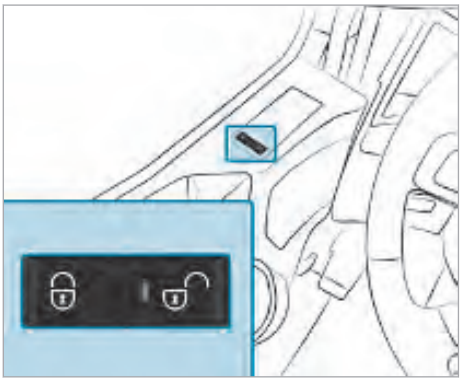
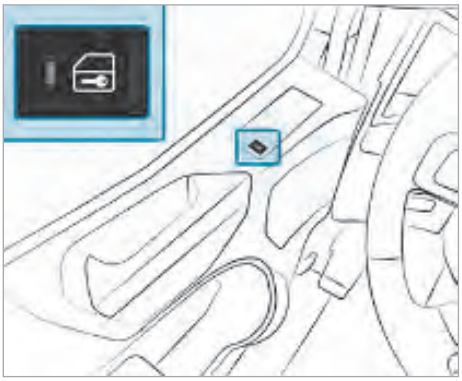
Locking/unlocking centrally using the buttons



- Close both doors.
- **To lock centrally:** press the button.
- **To unlock centrally:** press the button. The indicator lamp in the button flashes briefly.

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



- Close both doors.
- **To lock centrally:** press the button.
- **To unlock centrally:** press the button. The indicator lamp in the button flashes briefly.

Operating the convenience central locking system

WARNING Risk of entrapment caused by inadvertent 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.

- Observe the complete closing procedure when using convenience closing.
- When closing, make sure that no body parts are in the closing area.

WARNING Risk of becoming trapped while you are opening and closing the sliding sunroof / pop-up roof

During opening and closing, parts of the body could get caught in the sweep of the sliding sunroof / pop-up roof.

- During opening and closing, make sure that no body parts are in the sweep of the sliding sunroof / pop-up roof.
- Release the button immediately if somebody becomes trapped.

or

- Press the upper section of the button again.
  The closing process will be stopped.

WARNING Risk of becoming trapped when closing a side window

When closing a side window, body parts could be trapped in the closing area in the process.

- When closing, make sure that no body parts are in the closing area.
- If someone is trapped, release the button immediately or press the button in order to reopen the side window.

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Convenience closing

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

or

▶ **Vehicles without ATA:** press the [🔒] button on the key for approximately 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.

ⓘ The roof hatch is not closed.

If there is a risk of becoming trapped:

▶ Turn the integrated 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 integrated key into position [2] in the driver's 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.

ⓘ The roof hatch is not opened.

ATA (Anti-Theft Alarm system)

Notes on ATA

ATA protects the towing vehicle from break-in and theft.

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 for the transport of hazardous goods: if ATA is primed and the power supply is interrupted using the battery disconnect switch (→ page 94), the alarm is triggered. The on-board computer displays a corresponding message in an event window.

Observe the following:

- when ATA is primed, 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 the rest position. ATA cannot then monitor these components, e.g. open outside flaps.
- components that are moved to the rest position within approximately 30 seconds of ATA being primed will be monitored.
- if you subsequently close the outside flaps and want to include them in the monitoring, prime ATA again.

ATA alarm

If ATA triggers an alarm, there is a visual and audible warning:

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

If you switch on the ignition after an alarm has been triggered, the on-board computer displays the alarm trigger data along with the date and time in an event window.

Priming/deactivating ATA

Before ATA is primed

▶ Close the roof hatch, the sliding sunroof or the pop-up roof.

▶ Close the windows.

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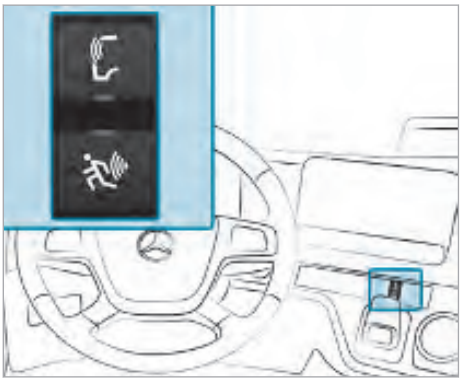
- Draw back the curtains.
- Close the outside flaps.
- Detach/remove any loose objects in the cab, e.g. mascots or coat hangers.

Priming ATA with interior protection

> ⚠ **WARNING** Risk of becoming trapped when closing a side window
>
> When closing a side window, body parts could be trapped in the closing area in the process.
>
> - When closing, make sure that no body parts are in the closing area.
> - If someone is trapped, release the button immediately or press the button in order to reopen the side window.

> ⚠ **WARNING** Risk of becoming trapped while you are opening and closing the sliding sunroof / pop-up roof
>
> During opening and closing, parts of the body could get caught in the sweep of the sliding sunroof / pop-up roof.
>
> - During opening and closing, make sure that no body parts are in the sweep of the sliding sunroof / pop-up roof.
> - Release the button immediately if somebody becomes trapped.
>
> or
>
> - Press the upper section of the button again.
> The closing process will be stopped.



- Switch off the ignition or turn it to the radio position.
- Turn the integrated key to the locking position in the door lock of the driver's door and hold it for approximately two seconds.
- Then turn the integrated key back to the rest 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 is locked.

  Vehicles with convenience central locking system: the windows and the sliding sunroof/pop-up roof close.

Priming ATA without interior protection

If persons or animals are to remain in the vehicle, prime ATA without interior protection.

- Switch off the ignition or turn it to the radio position.
- Briefly press the upper section of the button.
  The indicator lamp on the button will light up.
  For the next locking operation, interior protection remains deactivated.
- Lock the vehicle with the integrated key or by remote control.

or

- Press the upper section of the button for longer than two seconds (not for the Netherlands).
  The vehicle is locked and all turn signal lamps flash three times.

  ATA is primed.

If you switch on the ignition, ATA is deactivated automatically.

Deactivating ATA/cancelling the alarm

- Press the button on the key.

or

- If ATA was primed using the button, press the upper section of the button again for longer than two seconds (not for the Netherlands).
  All turn signal lamps flash once.

If you switch on the ignition, ATA is deactivated automatically.

Triggering/deactivating the panic alarm

An alarm can be triggered manually with the button if danger threatens, for example.

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▶ **To trigger:** press the bottom section of the button.
The alarm is triggered and the vehicle is locked.

Vehicles with convenience central locking system: the windows and the sliding sunroof/pop-up roof close.

ⓘ The roof hatch is not closed.

▶ **To deactivate:** press the bottom section of the button.
The alarm will deactivate.

Replacing the key battery

⚠ **DANGER** Serious damage to health caused by swallowing batteries

Batteries contain toxic and corrosive substances. Swallowing batteries may cause serious damage to health.

There is a risk of fatal injury.

▶ Keep batteries out of the reach of children.

▶ If batteries are swallowed, seek medical attention immediately.

ENVIRONMENTAL NOTE Environmental damage due to improper disposal of batteries

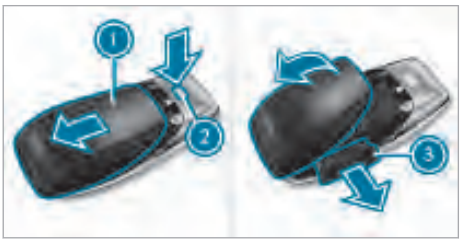
Batteries contain pollutants. It is illegal to dispose of them with the household rubbish.

▶ 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 require a CR 2032 3 V cell battery.

▶ 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.

▶ Remove battery compartment ③ and take out the discharged battery.

▶ Insert the new battery into battery compartment ③. Observe the positive pole marking in the battery compartment and on the battery when doing this.

▶ Push in battery compartment ③.

▶ Re-attach cover ① and push it until it engages.

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Problems with the locking system

Problem	Possible causes/consequences and ▶ Solutions
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 45). ▶ Check that the monitored component parts are locked, e.g.: • Doors • Windows • Cab tilt lock • Outside flaps on driver's and co-driver's side • Maintenance flap ▶ Prime ATA (→ page 45). ▶ If there is no visual acknowledgement, have ATA checked at a qualified specialist workshop.

Getting in/out

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

If children are left unattended in the vehicle, they could:

- Open doors, thereby endangering other persons or road users.
- Get out and be struck by oncoming traffic.
- Operate vehicle equipment and become trapped, for example.

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

- Releasing the parking brake.
- Changing the transmission position.
- Starting the vehicle.

▶ Never leave children unattended in the vehicle.

▶ When leaving the vehicle, always take the key with you and lock the vehicle.

▶ Keep the vehicle key out of reach of children.

Be sure to observe the safety notes in the "Children in the vehicle" section.

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. This will make your footing safer.

▶ Use the easy entry and exit feature on the suspension seat (→ page 56).

▶ Use grab handles ① and steps ② when getting in and out.

Side windows

Opening and closing the side windows

WARNING Risk of becoming trapped when opening a side window

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

▶ When opening, make sure that nobody is touching the side window.

▶ If someone is trapped, release the button immediately or pull it in order to close the side window again.

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WARNING Risk of becoming trapped when closing a side window

When closing a side window, body parts could be trapped in the closing area in the process.

- When closing, make sure that no body parts are in the closing area.
- If someone is trapped, release the button immediately or press the button in order to reopen the side window.

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

If you close a side window again immediately after it has been blocked, the side window will close with increased or maximum force. The reversing feature will then not be active.

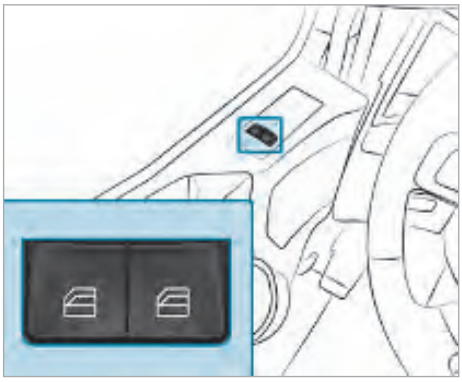
Parts of the body could become trapped in the closing area in the process.

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

After a malfunction or voltage supply interruption, reset the side windows (→ page 49).

The buttons for the driver's and front passenger door side windows are located on the driver's door switch panel. The front passenger door switch panel contains only the button for the front passenger door side window.

You can also use the key to open the side windows and, in vehicles with the convenience central locking system, to close them as well (→ page 44).



- Switch the ignition lock to the radio position.
- **To open/close:** push or pull the left- or right-hand button until the corresponding side window has reached the desired position.
- **Convenience opening:** briefly push the left- or right-hand button past the point of resistance. The corresponding side window will open fully.
- **Convenience closing (vehicles with the convenience central locking system):** briefly pull the left- or right-hand button past the point of resistance.
  The corresponding side window will close completely. 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 closing/opening:** push or pull the corresponding button again.

Resetting the side windows

Reset the side window after a voltage supply interruption or if a side window no longer closes or opens completely.

- Switch the ignition lock to the radio position.
- 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 roof

WARNING Risk of becoming trapped while you are opening and closing the sliding sunroof / pop-up roof

During opening and closing, parts of the body could get caught in the sweep of the sliding sunroof / pop-up roof.

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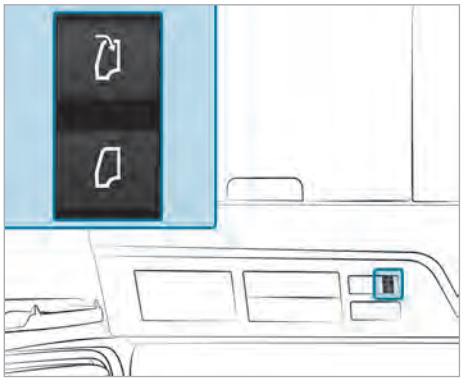
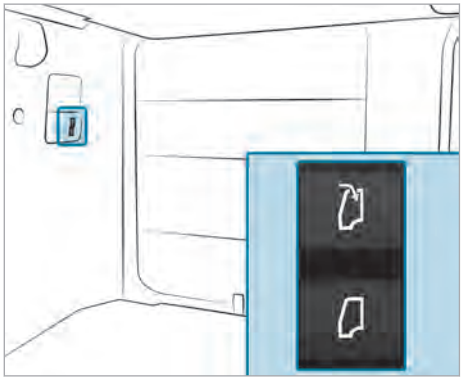
- ▶ During opening and closing, make sure that no body parts are in the sweep of the sliding sunroof / pop-up roof.
- ▶ Release the button immediately if somebody becomes trapped.

or

- ▶ Press the upper section of the button again.
  The closing process will be stopped.

Opening the sliding sunroof / pop-up roof





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

Closing the sliding sunroof / pop-up roof

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

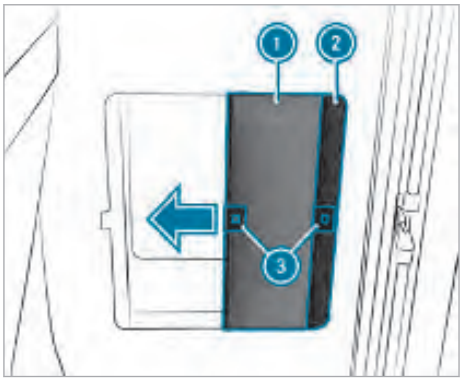
or

- ▶ 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 mechanically.

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

Opening the blackout screen / insect roller screen



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

The sliding sunroof is fitted with an insect roller screen ① and a blackout screen ②. With a sliding sunroof, you can only ever close one screen.

- ▶ Push the handle ③ on the screen as far as it will go in the closing direction.
- ▶ Push the handle ③ upwards and unhook the screen.
- ▶ Guide the screen back to the opposite end of the roof frame and release the handle ③.

Closing the blackout screen / insect roller screen

- ▶ Pull the handle ③ on the screen up to the opposite end of the roof frame.

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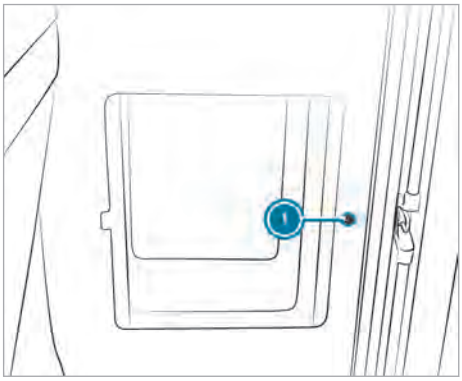
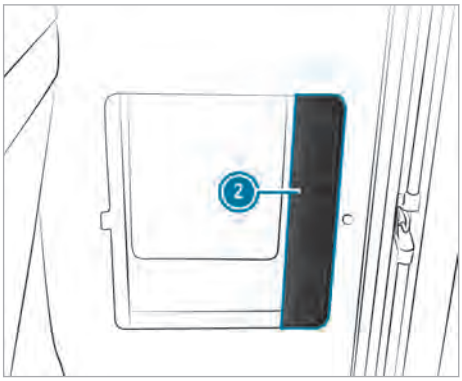
- Press the handle ③ down slightly at the end stop and let it go.
  The screen will be hooked in.

Closing the sliding sunroof mechanically

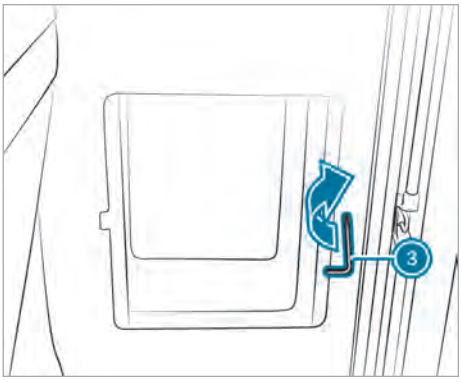
ⓘ The hexagon socket wrench for opening the sliding sunroof can be found in the vehicle document wallet.

Vehicles with a ClassicSpace/CompactSpace cab



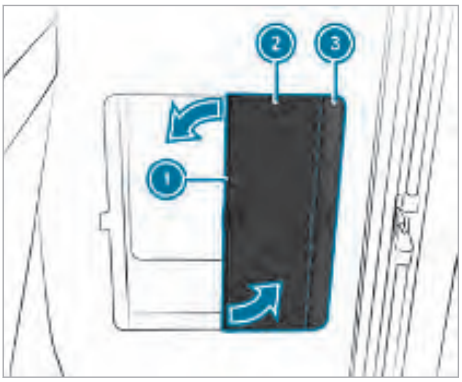


- Vehicles with a ClassicSpace cab: remove the cover cap ①.
- Vehicles with a CompactSpace cab: remove the cover ②.



- Insert the hexagon socket wrench ③ into the actuator motor through the opening provided and turn it clockwise until the sliding sunroof is completely closed.
- Vehicles with a ClassicSpace cab: attach the cover cap ①.
- Vehicles with a CompactSpace cab: fit the cover ②.

Vehicles with a Big-/Stream-/GigaSpace cab



- Pull the blackout screen ② to the middle of the roof frame using the handle.
- Turn the guide bar ① for the screen and remove it from the screen guides on both sides of the roof frame.
- Carefully guide the blackout screen ② back until the screen stops and allow it to hang in the cab.
- Remove the insect roller screen ③ from the screen guide in the roof frame, as previously

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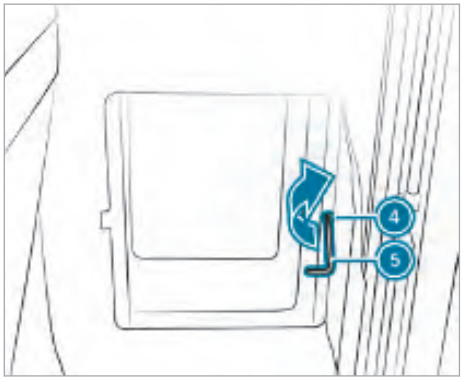
described for the blackout screen ②, and allow it to hang in the cab.



- Where necessary, press the screens against the roof frame and insert the hexagon socket wrench ⑤ into the actuator motor through the opening ④.
- Turn the hexagon socket wrench ⑤ clockwise 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 the blackout screen ② into the screen guides in the roof frame, turn it so that it is parallel to the end position and guide the blackout screen ② back into the end position.

Resetting the sliding sunroof

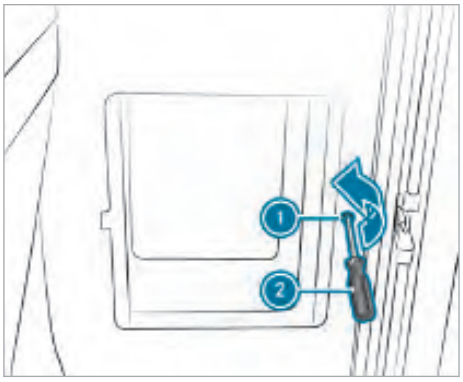
Reset the sliding sunroof after a voltage supply interruption or when it has been opened with a jerk.

- Press and hold the [0] button until the sliding sunroof has been completely closed for three seconds.

Closing the pop-up roof mechanically

ⓘ The flathead screwdriver (blade width: 4 mm) can be found in the vehicle tool kit.

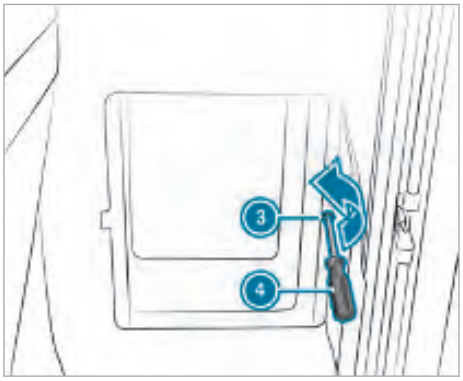
Vehicles with a ClassicSpace cab



- Remove the cover cap from the opening ①.
- Insert the flathead screwdriver ② into the actuator motor through the opening ① and turn it anti-clockwise until the pop-up roof is completely closed.
- Insert the cover cap into the opening ①.

Vehicles with a Big-/Stream-/GigaSpace cab

- Remove the cover from the roof lining



- Insert the flathead screwdriver ④ into the actuator motor through the opening ③ and turn it anti-clockwise until the pop-up roof is completely closed.

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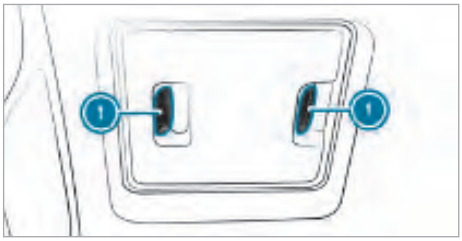
Opening/closing the roof hatch



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/closing the circular roof hatch

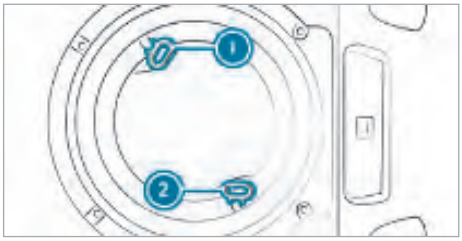
⚠ **WARNING** Risk of injury due to unsecured roof hatch

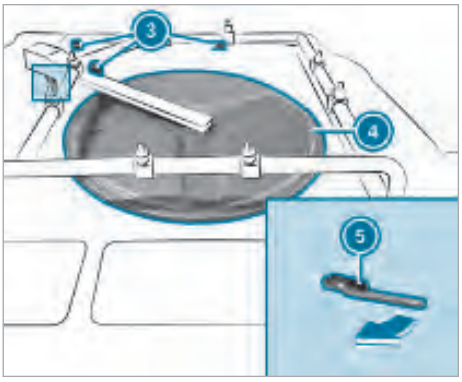
If you do not secure the open roof hatch, it may close by itself in the following situations:

- In the event of an accident
- In the event of a braking procedure
- If there is a sudden change of direction

▶ Always secure the open roof hatch.

Unlocking and opening





▶ Pull the two handles ① and ② downwards and remove them from the locking mechanism by rotating them clockwise.
The roof hatch ④ will lift up.

▶ Slide the roof hatch ④ as far as it will go to the left over the bearing pads ③.

▶ Swivel the lever ⑤ in the direction of the arrow as far as it will go.
The roof hatch ④ will be pressed onto the bearing pads ③ on the roof and secured in place.

Closing and locking

▶ Swivel the lever ⑤ as far as it will go towards the roof hatch ④.
The roof hatch ④ will be released and lift up.

▶ Slide the roof hatch ④ as far as it will go to the right over the roof opening.

▶ Pull the roof hatch ④ downwards using both handles ① and ②.

▶ Rotate the handles ① and ② clockwise into the locking mechanism.

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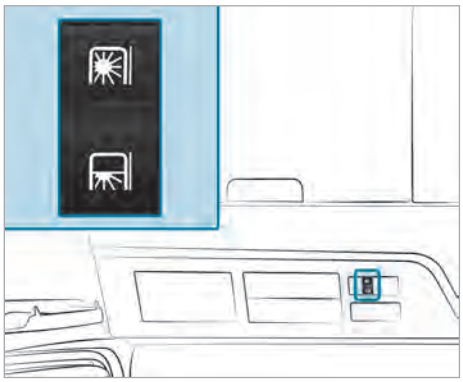
Retracting/extending the roller sunblind

Extending the roller sunblind



In the following situations, the roller sunblind will perform a reference drive and be completely retracted:

- if the power supply has been interrupted, e.g. following operation of the battery disconnect switch
- if the vehicle is exposed to an excessive load, e.g. due to a pothole

▶ Briefly press the button.
The roller sunblind will extend as far as the end position.

or

▶ Press and hold the button until the roller sunblind has reached the desired position.

Retracting the roller sunblind

▶ Briefly press the button.
The roller sunblind will retract as far as the end position.

or

▶ Press and hold the button until the roller sunblind has reached the desired position.

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

▶ **If a reference drive is interrupted:** press the button and then press the button immediately afterwards. The roller sunblind will be retracted into the upper end position.

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Notes on the seats

WARNING Risk of injury if vehicle settings are adjusted while the vehicle is in motion

You could lose control of the vehicle in the following situations:

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

▶ Adjust the driver's seat, steering wheel or mirrors and fasten your seat belt before you start the engine.

WARNING Risk of becoming trapped when adjusting the seats

When you adjust a seat, you or other vehicle occupants could become trapped, e.g. on the seat guide rail.

▶ When adjusting a seat, make sure that no one has any body parts in the sweep of the seat.

WARNING 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.

When braking or in the event of an accident, you could slide underneath the seat belt and sustain abdominal or neck injuries, for example.

▶ Adjust the seat properly before beginning your journey.

▶ Always ensure that the seat backrest is in an almost vertical position and that the shoulder section of your seat belt is routed across the centre of your shoulder.

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

If the driver's seat is not engaged, it could move unexpectedly while the vehicle is in motion.

This could cause you to lose control of the vehicle.

▶ Always make sure that the driver's seat is engaged before starting the vehicle.

WARNING Risk of injury due to head restraints which are not fitted or are adjusted incorrectly

If head restraints are not fitted or are adjusted incorrectly, they cannot provide protection as intended.

There is an increased risk of injury in the head and neck area, e.g. in the event of an accident or when braking.

▶ Always drive with the head restraints fitted.

▶ Before driving off, make sure for every vehicle occupant that the centre of the head restraint supports the back of the head at about eye level.

WARNING Risk of becoming trapped due to inadequate clearance for the suspension seat

If sufficient clearance is not available, body parts could become trapped between the steering wheel and suspension seat.

▶ Make sure that there is sufficient clearance to accommodate the movements of the suspension seat.

▶ Lower the suspension seat completely before getting out.

WARNING Risk of becoming trapped if the seat boot is pushed inwards

If you push the boot of the suspension seat inwards, your hand could become trapped.

▶ Do not push the seat boot inwards.

NOTE Damage to the seats and the seat heating

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

▶ Do not pour liquids onto the seats. If anything is poured or spilled onto the seats, dry them 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.

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▶ 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. If possible, use the seats only for people.

▶ 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 due to objects in the cab

Ensure that no objects block the seats in the cab.

Otherwise, the seats could be damaged.

▶ Keep the seats' range of adjustment clear.

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

- Place the seat backrest in a near-vertical position and sit almost upright. Do not drive with your seat backrest leaning back at a steep angle.
- Your arms should be slightly bent when you are holding the steering wheel.
- Avoid seat positions that prevent the seat belt from being routed correctly. 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.
- Sit at a suitable distance from the pedals to ensure that you can depress them properly.
- 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. You may need to adjust the height of your seat accordingly.

Depending on the cab and its equipment, your vehicle may be fitted with various types of seat:

- Static seat without suspension
- Standard suspension seat
- Comfort suspension seat
- Climatised suspension seat
- Front passenger and centre seat
- Function seat
- Corner seat

Also see the safety notes on the "Protection provided by the airbag" (→ page 37) and "Children in the vehicle" (→ page 38).

If your vehicle is fitted with a suspension seat, always use the easy entry and exit feature to get out.

To enable use of a suspension seat, your vehicle's compressed-air system must have a supply 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 berth.

A seat with an integrated seat belt is a safety-critical component part and restraint system. Be sure to also read the safety notes on "Occupant safety" (→ page 34).

You can find information on cleaning seats under "Cleaning and care" (→ page 313).

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

Operating the seat

! NOTE Seat overheating

The seat heating/ventilation will not automatically switch off if it overheats.

Observe the following instructions, otherwise the seat heating/ventilation could be damaged:

▶ Do not place any objects on the seat.

▶ Do not cover the seat, such as with a towel or a cushion.

▶ If the front passenger seat is unoccupied, switch off the seat heating and ventilation for that seat.

▶ When the engine is not running, switch off the seat heating and ventilation for both the driver's and front passenger seats.

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NOTE Damage to the head section and the bottom berth

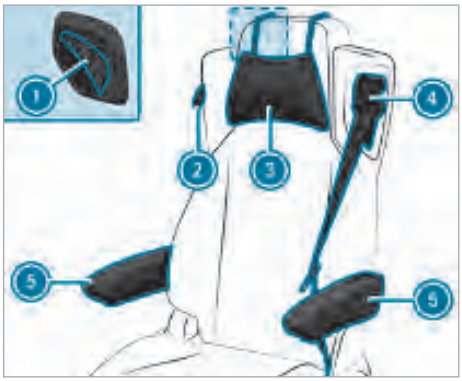
▶ When adjusting the seat fore-and-aft position, ensure that the head section of the bottom berth is fully lowered. Otherwise, the head section could come into contact with the seat, resulting in damage to both components.

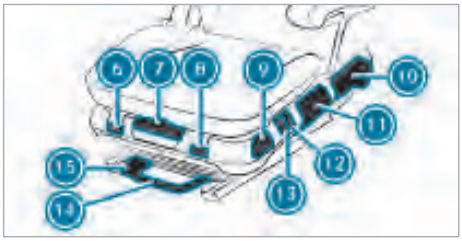
NOTE Damage to the suspension seat

Ensure that the suspension seat can swing freely. In particular, ensure that the lock on the bed does not rub against the back of the seat.

▶ Store the lock on the bed in such a way that it does not rub against the back of the suspension seat, e.g. under the mattress.

Standard/comfort/climatised static, centre and suspension seats





Read the safety notes concerning the seats before adjusting them. Depending on the seat model, certain adjustment options may not apply.

▶ When adjusting the seats, make sure that there is sufficient clearance behind the seat in particular.

▶ **Adjusting 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.
- Release lever 1.

▶ **Folding the seat backrest:** Pull lever 2 up and fold the seat backrest forwards or back.

▶ **Adjusting the neck cushion:**
- Press the buttons on the rubber straps and adjust neck cushion 3 to the position appropriate for your height.
- Release the buttons.

▶ **Adjusting 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.
- Release button 4.

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

▶ **Adjusting the vibration damper:** Use lever 6 to adjust the vibration damper in increments such that the seat does not bottom out.

▶ **Adjusting the seat cushion length:**
- Pull lever 7 up and hold it in place.
- Push the seat cushion back/forwards until it is in the desired position.
- Release lever 7.

▶ **Engaging the fore-and-aft seat damping lock:** Raise lever 8.
The fore-and-aft seat damping will engage and the seat suspension will be locked.

▶ **Releasing the fore-and-aft seat damping lock:** Lower lever 8.
The seat will be able to vibrate.

▶ **Using the easy entry and exit feature:**
- Press button 8. The seat will be lowered fully.
- Press button 9. The seat will return to the last height set.

▶ **Adjusting the seat cushion angle:**

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- Push lever ⑩ down and hold it in place.
- Move the seat cushion or backrest into the desired position by applying pressure to or lifting your weight off it.
- Release lever ⑩.

▶ **Adjusting the seat backrest:**
- Lift your weight off the seat backrest.
- Pull lever ⑩ up and hold it in place.
- Move the seat backrest into the desired position by applying pressure to or lifting your weight off it.
- Release lever ⑩.

▶ **Adjusting the seat height:** Pull lever ⑪ up or push it down by one increment.
The seat will be raised or lowered by one increment.

▶ **Switching on the seat heating:** Press top section ⑫ of the [ ] switch.
The seat heating will be activated at the first heating level

or

▶ Press the bottom section ⑫ of the [ ] switch.
The seat heating will be activated at the second heating level.

▶ **Switching off the seat heating:** Set switch ⑫ to the centre position.

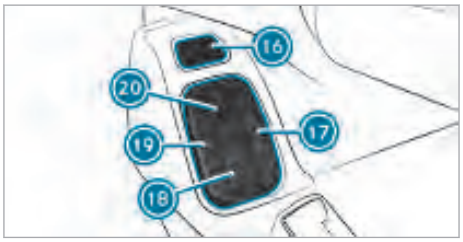
▶ **Switching on the seat ventilation:** Turn the blower regulator [ ] ⑬ downwards from the [0] position.
You can increase the airflow in three increments.

▶ **Switching off the seat ventilation:** Turn the blower regulator [ ] ⑬ all the way to the top.

▶ **Adjusting the seat fore-and-aft position:**
- Pull lever ⑭ up and hold it in place.
- Push the seat back/forwards until it is in the desired position.
- Release lever ⑭.
- Push the seat back or forwards until it engages audibly.

▶ **Setting to rest position:**
- Pull lever ⑭ up and hold it in place.
- Push the seat back as far as it will go.
- Lift lever ⑮ 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.



ⓘ You can prevent muscle tension using the massage function.

▶ **Switching the massage function on/off:** Press button ⑯.
When the massage function is switched on, you will feel alternating upward and downward 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.

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

▶ **Adjusting 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 button ⑰.
This will make the side contours firmer.

▶ Press button ⑲.
This will make the side contours softer.

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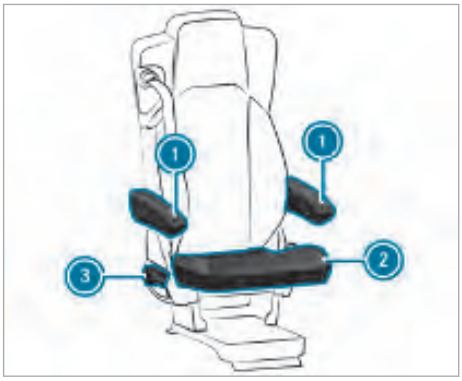
Function seat



Before adjusting the seats, read the section "Notes on the seats".

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

▶ **Adjusting the seat backrest:**
- Lift your weight off the seat backrest.
- Pull lever 3 up and hold it in place.
- Move the seat backrest into the desired position by applying pressure to or lifting your weight off it.
- Release lever 3.

▶ **Folding up the seat cushion:** Fold up seat cushion 2 until it engages.

▶ **Folding down the seat cushion:**
- Push seat cushion 2 against the seat backrest and release it.
- Fold down seat cushion 2.

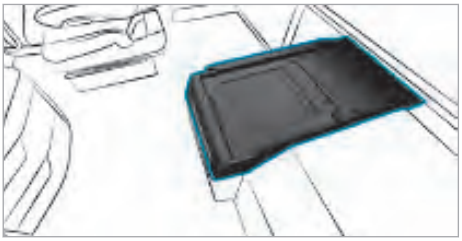
Beds and berths

Overview of beds and berths

The following beds/berths can be installed in the L cab:

- Wide/narrow top bed (→ page 59)
- Top bed (car transporter with two beds) (→ page 59)
- Top bed, folding (→ page 59)
- Bottom bed (→ page 60)
- Seat/berth combination (→ page 62)
- SoloStar Concept (→ page 64)

Information on the climbing aid



Use the surface on the engine tunnel as a climbing aid for the top bed.

Folding the top bed up/down

⚠ **WARNING** Risk of injury or death if the berth is used while the vehicle is in motion

Any vehicle occupant using a bed while the vehicle is in motion cannot be restrained properly.

▶ Use the bed only when the vehicle is parked.

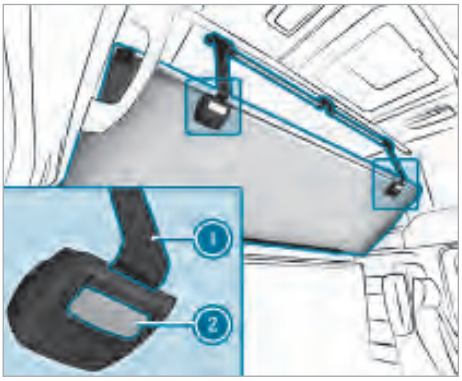
! **NOTE** Damage to the bed and seats

Make sure that the bed does not come into contact with the seats when it is folded up and down.

If it does, both components could be damaged.

▶ Fold the backrests of the driver's and front passenger seats forwards or move the seats further forwards.

Top bed



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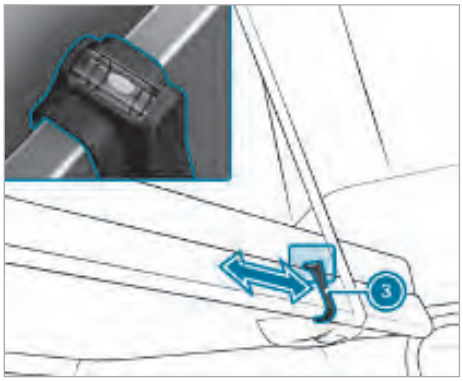
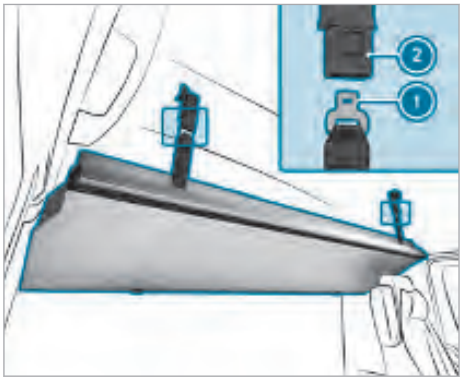
If the vehicle is parked on an incline, you can move the wide top bed into the horizontal position. To do so, adjust the angle of the wide top bed.

- Move or fold the backrests of the driver's and front passenger seats forwards.
- If necessary, slide the driver's and front passenger seats an adequate distance forwards.
- **Folding down and adjusting the angle:** Press and hold release buttons ②.



- Swing the bed down.
- Align the bed horizontally with the aid of the spirit level on bracket ③ and correct the angle of the bed.
  To make the bed fully aligned, slide bracket ③ along the bed frame. It is also possible to unclip bracket ③ at the bottom and to clip it back on at the other end of the bed. The air bubble in the spirit level should sit between the marker lines at all times.
- Let go of release buttons ②.
  Retaining straps ① will automatically engage and the bed will be held at this angle.
- **Folding up:** Swing the bed upwards as far as it will go.

Folding down the top bed (car transporter)



- Move or fold the backrests of the driver's and front passenger seats forwards.
- If necessary, slide the driver's and front passenger seats an adequate distance forwards.
- Lift the bed slightly, hold it in place and press the release buttons on both strap buckles ②.
- Pull out retaining strap tongues ① from both buckles ②.
- Swing the bed down.

Folding the top bed upwards (car transporter)

- Swing the bed upwards and hold it in place.
- Push retaining strap tongues ① into buckles ② until they engage audibly.

Folding the bottom bed up/down

! NOTE Damage to the bed and seats

Make sure that the bed does not come into contact with the seats when it is folded up and down.

If it does, both components could be damaged.

- Fold the backrests of the driver's and front passenger seats forwards or move the seats further forwards.

! NOTE Damage to the bed or other components

If the bed is not folded down in the event of an accident, the rubber mounts may detach from the wall brackets.

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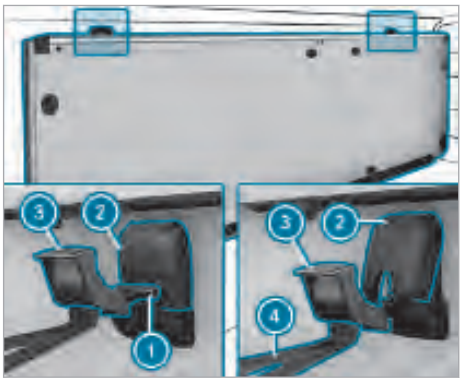
The bed will fold down and could be damaged or damage other components.

▶ Fold down the bed before setting off.



Folding up

▶ Move or fold the backrests of the driver's and front passenger seats forwards.

▶ If necessary, slide the driver's and front passenger seats an adequate distance forwards.

▶ Lower the adjustable backrest of the bed all the way.

▶ Fold up the bed, push it against the rear panel and hold it in place.

▶ For both wall brackets one after the other, use rubber mount ① to push cover ② until rubber mount ① engages.

Adjusting the angle of the berth

▶ Pull on loop ④ to set the berth to the vertical position.

▶ To change the angle, e.g. for ventilation or to hang up laundry, push clasp ③ upwards and set the berth to the desired position.

Folding down

▶ Push the bed against the rear panel and hold it in place.

▶ Push cover ② back.

▶ Detach both rubber mounts ① from the wall brackets.

▶ Swing the bed down.

Setting up the safety net

⚠ **WARNING** Risk of injury or death if the berth is used while the vehicle is in motion

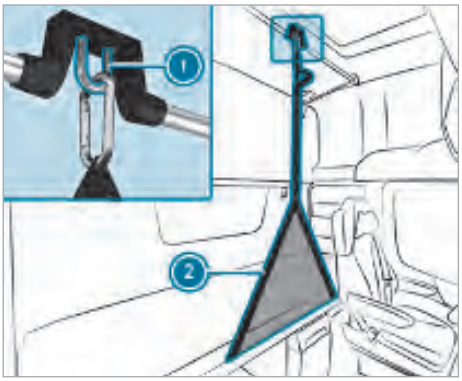
Any vehicle occupant using a bed while the vehicle is in motion cannot be restrained properly.

▶ Use the bed only when the vehicle is parked.

⚠ **WARNING** Risk of injury during use of the berth

A vehicle occupant lying on the berth could fall down and be injured.

▶ Always use the safety net when lying on the berth.



Always deploy the safety net when using the bottom bed while the vehicle is in motion. Take note of the legal requirements for the country you are currently in before using the bed.

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

ⓘ When there is no one occupying the bottom bed, stow the safety net under the bed. Clip the snap hook onto the loop provided on the left-hand edge of the safety net.

Adjusting the adjustable backrest

Vehicles with (lowered) bottom beds do not have adjustable backrests.

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NOTE Damage to the adjustable backrest and seats

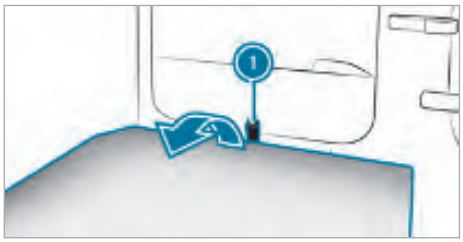
During adjustment, the seat could come into contact with the adjustable backrest if it is folded up.

This could result in damage to both components.

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

NOTE Damage to the bed or adjustable backrest

- Do not place any objects under the adjustable backrest while it is folded up. If you do, folding it down could result in damage to the adjustable backrest or the bed.



Do not apply loads of more than 500 N (equivalent to roughly 50 kg) to the adjustable backrest.

- Pull the adjustable backrest up by loop 1 until it engages.
  The adjustable backrest has five increments of engagement.
- **Lowering into the horizontal position:** Use loop 1 to raise the adjustable backrest beyond the top position and lower it all the way.

Notes on seat/berth combinations

WARNING Risk of injury or death if the berth is used while the vehicle is in motion

Any vehicle occupant using a berth while the vehicle is in motion cannot be restrained properly.

- Use the berth only when the vehicle is parked.

WARNING Risk of injury during use of the berth

A vehicle occupant lying on the berth could fall down and be injured.

- Always use the safety net when lying on the berth.

WARNING Risk of injury or death if sitting surface is not locked

If the sitting surface is not locked in the sitting position, it could move.

The seat belt may not provide the protection intended.

- Before setting off, always make sure that the sitting surface is locked in the sitting position.

WARNING Risk of becoming trapped when the seat backrest is folded up and down

When folding the seat backrest up or down, you could cause yourself or other vehicle occupants to become trapped.

- Make sure that the area of movement of the seat backrest is clear and that no one is trapped.

WARNING Risk of becoming trapped due to seat backrest falling down when it is folded up or down

If you do not keep a firm hold on the seat backrest when folding it up or down, it will fall down.

It could hit a vehicle occupant and cause body parts to become trapped.

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

WARNING Risk of becoming trapped when you are pulling out the sitting surface

When you pull out the sitting surface, you or other vehicle occupants could become trapped between the seat frame and the sitting surface.

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When you are pulling out the sitting surface, make sure that no one has any body parts within the sweep of the sitting surface.

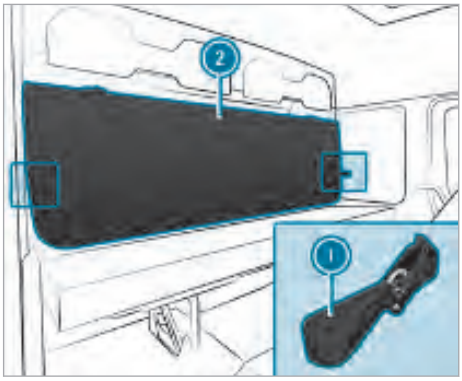
The safety net on the top berth is not a restraint system to enable the berth to be used while the vehicle is in motion.

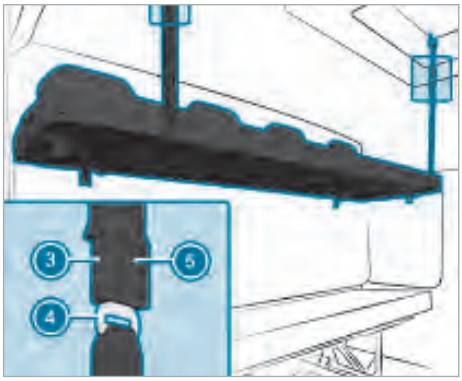
The seat/berth combination is not suitable for child restraint systems. Never fit a child restraint system anywhere other than the front passenger seat. Observe the safety notes in the "Children in the vehicle" section (→ page 38).

There is a sitting position and a berth position for the seat backrests and/or sitting surfaces.

Folding the top berth upwards/downwards

Folding the seat backrest up into the berth position



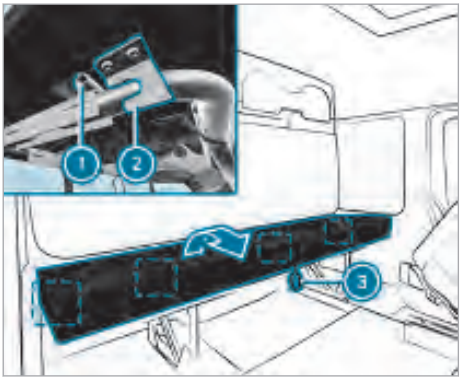


- Detach retaining straps ① on the left and right of the seat backrest ②.
- Swing seat backrest ② upwards.
- Swing seat backrest ② into the horizontal position and hold it in place.
- Clip seat belt tongues ④ into the right and left seat belt buckles ③.

Folding the seat backrest down into the seat position

- Lift seat backrest ② slightly, hold it in place and press release buttons ⑤ for seat belt buckles ③ on the left and right.
- Swing seat backrest ② upwards slightly.
- Swing the berth down until it reaches the rear panel.
- Clip retaining straps ① to the left and right of the seat backrest ②.

Pulling out/pushing in the bottom berth



- **Pulling the sitting surface out into the berth position:** Use loop ③ to pull the sitting surface up and forwards.
- Hook holders ② into detents ①.
- **Pushing the sitting surface into the seat position:** Use loop ③ to lift the sitting surface and push it back.

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SoloStar Concept

Using the front passenger seat and folding table

WARNING Risk of injury when the folding table is folded out

If the folding table is unfolded while the vehicle is in motion, vehicle occupants could bump into it, especially in the event of an accident, sudden braking or an abrupt change of direction.

- Stow the folding table before each journey.

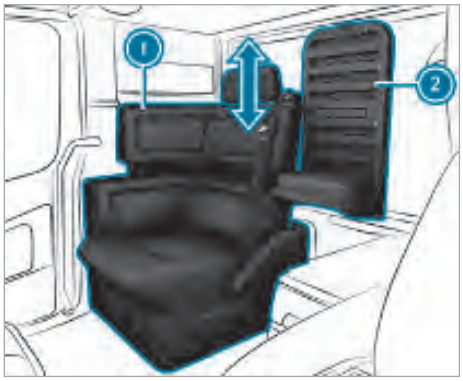
WARNING Risk of injury from unsecured items in the vehicle

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 sudden braking or a sudden change 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.

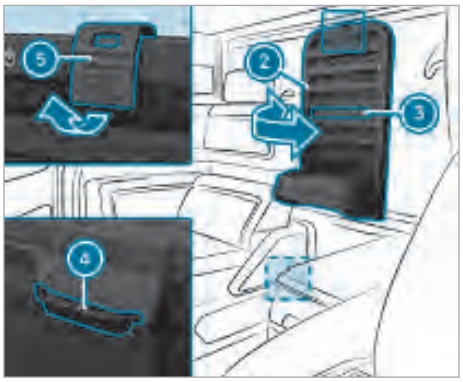
Keep loose objects stored in the stowage spaces and stowage compartments while the vehicle is in motion (→ page 98).



1 Corner seat
2 Folding table

- **Adjusting the head restraint:** Pull the head restraint up or push it down until it is at the desired height.
- **Removing the head restraint:** Pull up firmly on the head restraint.

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 bed down/up

WARNING Risk of injury or death if the berth is used while the vehicle is in motion

Any vehicle occupant using a bed while the vehicle is in motion cannot be restrained properly.

- Use the bed only when the vehicle is parked.

NOTE Damage to the bed and seats

Make sure that the bed does not come into contact with the seats when it is folded up and down.

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If it does, both components could be damaged.

▶ Fold the backrests of the driver's and front passenger seats forwards or move the seats further forwards.

! NOTE Damage to the adjustable backrest and seats

During adjustment, the seat could come into contact with the adjustable backrest if it is folded up.

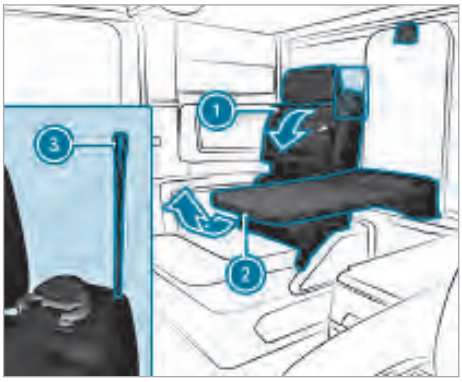
This could result in damage to both components.

▶ When resetting the seat, make sure that the adjustable backrest is lowered.

▶ Before folding up the adjustable backrest, move the seat forwards or swing the seat backrest forwards.

! NOTE Damage to the bed or adjustable backrest

▶ Do not place any objects under the adjustable backrest while it is folded up. If you do, folding it down could result in damage to the adjustable backrest or the bed.



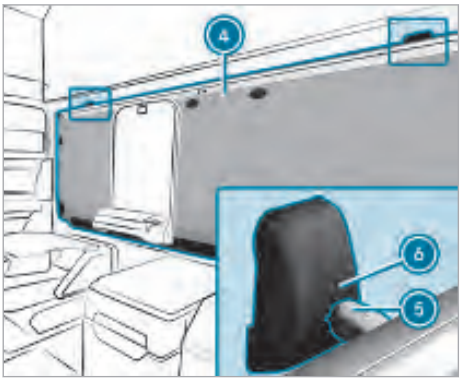
▶ Move the driver's seat an adequate distance forwards if necessary.

▶ Fold up folding table ②, clip the rubber mount to folding table ② and fold in the support.

▶ Pull loop ③ on front passenger seat ①. The backrest on the front passenger seat will now be unlocked.

▶ Fold down the seat backrest.

Folding the bed down



Take note of the legal requirements for the country you are currently in before using the bed while the vehicle is in motion. If you use the bed while the vehicle is in motion, set up the safety net. You can find information on setting up the safety net and adjusting the head section in the "Bottom bed" section.

▶ Push the bed ④ against the rear panel.

▶ Press and hold catch ⑥.

▶ Detach rubber mount ⑤ from the wall bracket.

▶ Release catch ⑥.

▶ Swing bed ④ down.

Folding the bed up

▶ Lower the head section of the bed all the way.

▶ Fold up bed 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.

Berths in the M-cab

Overview of berths in the M-cab

The following berths may be fitted in the M-cab:

- Bottom standard berth / upholstered stowage space(→ page 66)
- Bottom standard berth, partitioned(→ page 66)

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Using the bottom standard berth/upholstered stowage space

WARNING Risk of injury or death if the berth is used while the vehicle is in motion

Any vehicle occupant using a berth while the vehicle is in motion cannot be restrained properly.

- Use the berth only when the vehicle is parked.

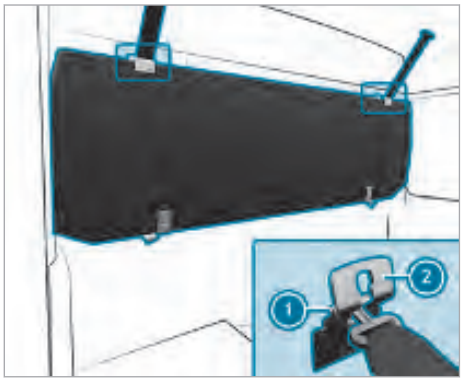
NOTE Damage to the berth and seats

Make sure that the berth does not come into contact with the seats when it is folded up and down.

If it does, both components could be damaged.

- Fold the backrests of the driver's and front passenger seats forwards or move the seats further forwards.

Folding the berth down



- Vehicles with bottom standard berth: Move or fold the backrests of the driver's and front passenger seats forwards.
- If necessary, slide the driver's and front passenger seats an adequate distance forwards.
- Push the berth against the rear panel and hold it in place.
- Rotate the hooks (1) by 90° and detach them from wall brackets (2).
- Swing the berth down.

Folding the berth upwards

- Fold the berth upwards, press it against the rear panel and hold it in place.
- Rotate the hooks (1) by 90° and clip them into wall brackets (2).

Bottom standard berth, partitioned

WARNING Risk of injury or death if the berth is used while the vehicle is in motion

Any vehicle occupant using a berth while the vehicle is in motion cannot be restrained properly.

- Use the berth only when the vehicle is parked.

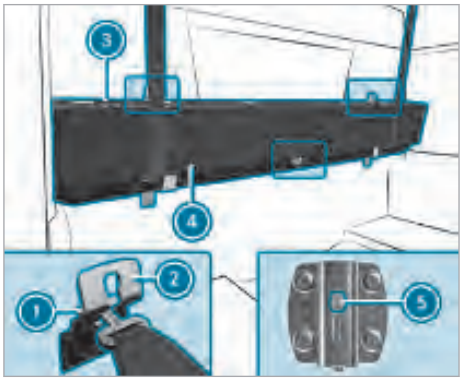
NOTE Damage to the berth and seats

Make sure that the berth does not come into contact with the seats when it is folded up and down.

If it does, both components could be damaged.

- Fold the backrests of the driver's and front passenger seats forwards or move the seats further forwards.

Folding the berth down



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

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- Push the berth against the rear panel and hold it in place.
- Rotate hooks ① by 90° and detach them from wall brackets ②.
- Slide locking catch ⑤ downwards.
  The front ④ and rear ③ berth sections will now no longer be locked.
- Swing the berth down.
- Push hooks ① between the upholstered sections.

Folding the berth upwards

- Fold the berth upwards, press it against the rear panel and hold it in place.
- Rotate hooks ① by 90° and clip them into wall brackets ②.
- Push front berth section ④ against rear berth section ③ until locking catches ⑤ engage.

Adjusting the multifunction steering wheel

WARNING Risk of injury through adjusting vehicle settings while the vehicle is in motion

You could lose control of the vehicle 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 engine: adjust the driver's seat, the head restraints, the steering wheel or the mirror and fasten your seat belt.

WARNING Risk of injury due to unlocked steering wheel

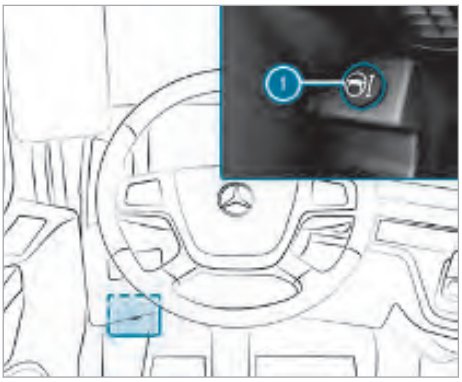
If the steering wheel is unlocked while driving, it may move unexpectedly.

This could cause you to lose control of the vehicle.

- Make sure that the steering wheel is locked before driving off.
- Never unlock the steering wheel while driving.

Requirements:

- there is sufficient reservoir pressure



Steering column release in the driver's footwell

- Stop the vehicle.
- Apply the parking brake.
- **To adjust:** step on and hold down yellow button ①.
  The steering column is unlocked.
- Adjust the multifunction steering wheel height and angle.
- Remove your foot from button ①.
  The steering column is locked.

Exterior mirrors

Adjusting the outside mirrors

WARNING Risk of injury through adjusting vehicle settings while the vehicle is in motion

You could lose control of the vehicle 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 engine: adjust the driver's seat, the head restraints, the steering wheel or the mirror and fasten your seat belt.

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WARNING Risk of accident due to misjudgement of distances when using the outside mirror

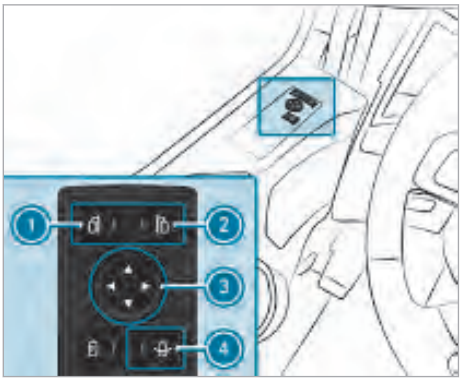
The outside mirrors reflect objects on a smaller scale. The objects in view are in fact closer than they appear.

As a result, you may misjudge the distance between you and the road user driving behind you, e.g. when changing lanes.

▶ Therefore, always look over your shoulder in order to ensure that you are aware of the actual distance between you and the road users driving behind you.

An incorrectly adjusted outside mirror may impair visibility.

▶ Always check the positions of the outside mirrors on the vehicle before starting a journey.



Driver's door control panel

1. Left outside mirror
2. Right outside mirror
3. Adjusts the 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 outside mirror on the front passenger side can move 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 ignition.

▶ **Adjusting the outside mirrors:** press the button for the left outside mirror or the button for the right outside mirror.
The indicator lamp on the button will light up.

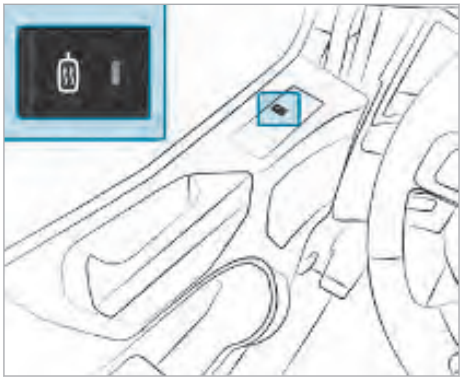
▶ Push the button forwards or backwards, right or left, until the outside mirror is in the correct position.

▶ **Swivelling the outside mirrors into the manoeuvring position:** press the button.
The indicator lamp on the button will light up.
The front-passenger outside mirror will move outwards into the manoeuvring position.

▶ **Setting the outside mirrors to the manoeuvring position:** push the button to the right or left until the outside mirror is in the correct position.
The manoeuvring position set will be stored. If you press the button when next manoeuvring, the outside mirror will swivel into the last manoeuvring position selected.

▶ **Swivelling 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.

Switching the mirror heater on/off



Driver's door control panel

This function keeps the outside mirrors free of fogging and ice in humid and cold weather. The kerb view mirror is not heated.

▶ Switch on the ignition.

▶ **To switch on/off:** press the button.
When the indicator lamp on the button lights up, the mirror heater is switched on.

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ⓘ 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.

MirrorCam system

Important safety notes

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

The system must be repaired before continuing the journey in the following situations:

- Complete failure of a display
- Stationary images – despite objects moving in front of the camera
- Delayed display of the traffic conditions

▶ Park the vehicle safely as soon as possible.

▶ Notify a qualified specialist workshop.

If only one of the two images in the display fails, the journey can be continued cautiously to the next workshop. Have the system repaired there. 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 the following display situations, for example:

- distorted images
- clearly noticeable pixel errors, column or row failures
- no visible information (arrows) e.g. when a field of vision is moved when cornering (→ page 73)
- contrast or colour changes

If a monitor shows a blurred, unclear or fuzzy image, check if the camera lens is dirty and clean it if necessary. Observe the notes on cleaning the MirrorCam camera in the "Cleaning the sensors" section (→ page 318).

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.

The display contrast may be impaired due to incident sunlight (e.g. low sun) or by other intense light sources. In this case, be particularly careful and adapt your driving style accordingly.

Drivers must always wear the necessary personal visual aids prescribed 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 313).

Function of the MirrorCam system

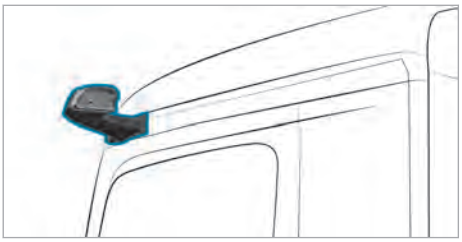
The MirrorCam system is used to replace legally prescribed mirror systems on the vehicle with electronic image detection and display systems. It assists you in keeping an overview of your vehicle and its surroundings.

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 housing (example: left-hand side of the vehicle)

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.

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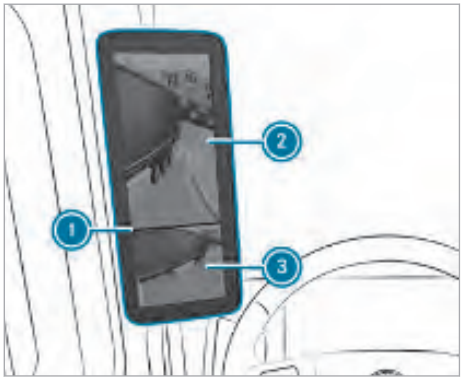
ⓘ A fitted spring enables the camera arm to automatically return to the correct operating position in the event of minor deviations. In the event of larger deviations, it may be necessary to manually return the camera arm to the correct position.

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.

The heating can also be activated/deactivated manually by pressing the button (see Operation of the MirrorCam system (→ page 70)).

ⓘ Depending on the temperature signals it receives, the automatic control system can reverse manual activation/deactivation of the heating.



Display (example: left-hand side of the vehicle)

The MirrorCam system display does not have a separate heating function. The display does not work at temperatures below -18° C (+/- 2° C) (measured on the glass surface of the display).

At low temperatures, heat the vehicle interior until the display starts working.

The display is divided in two by a status display (blue line) ①.

The field of vision shown in upper section of screen ② corresponds to the main mirror; the field of vision in bottom section ③ corresponds to the wide-angle mirror.

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

Operating the MirrorCam system

Automatic activation of the MirrorCam system

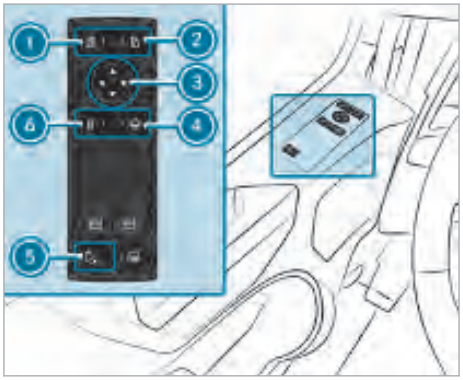
The system is automatically activated when the following occurs:

- Unlocking/opening the door
- Unlocking/opening the vehicle
- The ignition is switched on

ⓘ Switching on the ignition 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 vision (basic setting) is available to the driver in the display.



Door operating unit, driver's side

① Selects display, left
② Selects display, right
③ Sets field of vision
④ Activates/deactivates automatic field of vision adjustment/manoeuvring view
⑤ Manually activates system
⑥ Activates/deactivates camera heating

Control 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

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The MirrorCam system automatically switches to standby mode in the following situations:

- Two minutes after the ignition has been switched off.
- Two minutes after the button was last pressed after the ignition was switched off.

ⓘ Ten seconds before the system changes to standby mode, the symbol is shown in the display.

The system is reactivated out of standby mode in the following situations:

- The button is pressed.
- A door is opened.

ⓘ When the system is activated out of standby mode, an image is available to the driver in the display within one second.

The system is automatically deactivated after five minutes in standby mode.

Adjusting the field of vision

Adjusting the back edge of the semitrailer/trailer

After switching on the ignition or after changing the semitrailer/trailer, adjustable distance line ① shown in the display can be moved to the back 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 upper or lower area of the button to move line ① shown in the display.
The line in the display flashes.

▶ To store the setting: press the button right or left.
The line shown in the display stops flashing.

The setting is stored for both sides.

ⓘ The selected setting remains stored even after switching off the ignition. This way, the back edge must be reset only if the overall length is changed, e.g. by a different semitrailer/trailer or if there is an overhanging load.

ⓘ The semitrailer/trailer back edge is hidden when semitrailer tracking is active or if the field of vision is manually set.

ⓘ 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 vision shown in the upper section of the display up, down, left or right.

▶ **To adjust the field of vision manually:** 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.

▶ 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 symbol (red) is shown in the display.

ⓘ If the manoeuvring view is activated, both fields of vision shown in the display are moved.

ⓘ The distance lines are hidden if the field of vision was set manually (→ page 73).

▶ **To reset the field of vision to the 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 will light up.

▶ 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 symbol (green) flashes in the display for five seconds and then goes out.

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ⓘ A manually adjusted field of vision is reset to the basic setting by switching off the ignition.

Automatic field of vision adjustment for forward travel (semitrailer tracking)

The automatic field of vision 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 vision.
- The semitrailer is correctly connected to the towing vehicle (signal transmission).
- The [ ] automatic field of vision adjustment function is activated.

Automatic field of vision adjustment only occurs in the upper section of the display.

Automatic field of vision adjustment only occurs in the display of the side on the inside of the bend.

The function detects cornering manoeuvres in which an adjusted field of vision is useful.

The following are influencing variables for automatic adjustment of the view:

- The swivel angle between the towing vehicle and the trailer/semitrailer.
- The vehicle speed.

▶ **To activate the automatic field of vision adjustment function:** press the [ ] button.
The function is activated when the indicator lamp in the [ ] button is lit.

The driver is shown an automatic field of vision adjustment by the [ ] symbol in the display for the relevant side.

ⓘ If automatic field of vision adjustment is active, no distance lines are shown in the display (→ page 73).

During the automatic field of vision adjustment, an additional manual field of vision adjustment is possible. Due to this, the influence of different semitrailers on the position of the semitrailer end can be compensated for with semitrailer tracking, for example.

▶ 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 [ ] symbol flashes in the display, the setting is stored.

Automatic field of vision adjustment continues to remain active.

ⓘ Manual field of vision adjustment can be reset to the basic setting by pressing the [ ] button for approximately two seconds.

ⓘ When driving without a semitrailer, it is necessary to deactivate the automatic field of vision adjustment function.

▶ **To deactivate the automatic field of vision adjustment function:** press the [ ] button.
The function is deactivated when the indicator lamp in the [ ] button goes out.

Manoeuvring view

The manoeuvring view assists drivers when manoeuvring by providing them with a better overview of the vehicle and its surroundings.

When manoeuvring view is active, the nearer vehicle surroundings are displayed in the upper part of the display, those farther away in the lower part.

Activating manoeuvring view

ⓘ 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.

ⓘ Manual activation of manoeuvring view is only possible below a vehicle speed of 10 km/h.

▶ Press the [ ] button.
If manoeuvring view has been activated, the [ ] or [ ] symbol is shown in the display.

The indicator lamp in the [ ] button additionally lights up.

ⓘ If manoeuvring view has been activated, an additional manual field of vision adjustment of both fields of vision shown in the display is possible.
For this, observe the "Manual field of vision adjustment" section.

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ⓘ If manoeuvring view has been activated, the adjustable distance line is shown elongated in the display for better orientation (→ page 73). The other distance lines are not displayed if manoeuvring view has been activated.

ⓘ If manoeuvring view has been activated, the semitrailer/trailer back edge is displayed elongated for better orientation.

▶ **To deactivate manoeuvring view:** press the [button.
The indicator lamp in the [button goes out.

ⓘ 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.

▶ Select the Controls menu and Settings, Screen brightness menu item in the multimedia system.
The brightness of the MirrorCam display can be adjusted separately for the driver's side and the co-driver's side.

▶ Select Driver mirrorcam or Co-driver mirrorcam and adjust the display brightness.

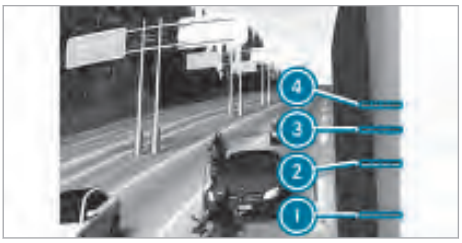
Overview of display situations in the display

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 vision after the system start. These assist you in better estimating speeds and distances to objects (e.g. vehicles).

ⓘ The lines are shown in an area of the display in which no legally prescribed field of vision is shown.



Example: trailer/semitrailer back edge and distance lines

1. Adjustable distance line (→ page 71)
2. Distance line
3. Distance line
4. Distance line

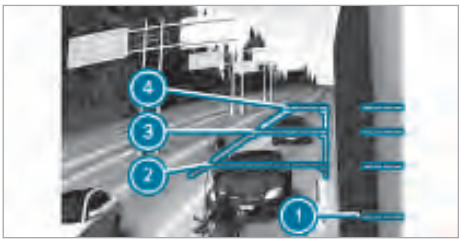
ⓘ Adjustable distance line 1 can be adjusted after switching on the ignition or changing the semitrailer/trailer (→ page 71).

ⓘ The distances in which 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 vision has been set manually
- when manoeuvring view has been activated (only 2, 3 and 4)

Overtaking assistant



The overtaking assistant is an extended display of the distance lines. The function is intended to support the driver in overtaking on roads with several lanes in the direction of travel.

Here, distance lines 2, 3 and 4 are accordingly extended outward.

The display appears on the relevant side when the turn signal is activated starting at vehicle speeds above 30 km/h.

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On the co-driver's side, the areas between the lines are also marked in colour.

Ten seconds after deactivating the turn signal, or if the vehicle falls below a speed of 25 km/h, the guide lines are hidden.

Explanation of the symbols in the display

- (yellow) Sideguard Assist warning (in addition to the display in the instrument cluster) (→ page 254)
- (red) Sideguard Assist warning (in addition to the display in the instrument cluster) (→ page 254)
- Automatic semitrailer tracking for forward travel active
- Manual setting during active automatic semitrailer tracking (flashes when storing the new setting)
- Display ten seconds before the system changes to standby mode
- Display after system start or after changing the semitrailer/trailer

  Adjustment of the trailer/semitrailer back edge possible
- (red) Display does not show the legally prescribed field of vision
- (green) Display again 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)
- Camera outside the operating position
- Manoeuvring view active (example, left side)

ⓘ Several symbols may be shown in the display simultaneously.

ⓘ 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 on the instrument cluster.

The indicator lamp on the instrument cluster will light up in the following situations:

- A fault has been detected in the vehicle's lighting.
- An error has been detected that could lead to an incorrect activation of the lighting.

Follow the instructions in the event window on the instrument cluster.

Check the vehicle lighting with a second person.

Depending on the vehicle's equipment, you also have the following options for checking the lighting:

- The electronic vehicle key (→ page 42)
- The "Remote Online" function (→ page 103)

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Exterior lighting menu

Exterior lighting menu (example)

1. Exterior lighting menu
2. Interior lighting menu
3. Roof position marker lamps
4. Work lamps
5. Rear fog light
6. Switch-off delay time setting
7. Highbeam Assist
8. Standing lights
9. Low beam
10. AUTO Automatic driving lights
11. OFF Switches off exterior lighting
12. Front fog lights
13. ∧/∨ Headlamp range adjustment
14. Additional headlamps

> ⚠ **WARNING** Risk of accident if the exterior lighting is covered by the dropside.
>
> The exterior lighting at the rear is concealed when you open the rear dropside.
>
> As a result, other road users cannot detect the vehicle as an obstacle until late.
>
> ▶ Protect the vehicle at the rear in accordance with national regulations, e.g. with a warning triangle.

ⓘ Depending on the vehicle's equipment, functions/buttons may not be present.

For the exterior lighting control, press the quick entry button below the multimedia display to access the lighting menu.

Then, select the Exterior lighting function ① to display the menu presented above.

Switching the exterior lighting on/off

The operation of the following exterior lighting components is described elsewhere:

- High beam / headlamp flashing (→ page 79)
- Rotating beacons (→ page 80)
- Illuminated Mercedes star (→ page 80)

You have the following options for operating the lighting menu:

- Press the desired function on the touchscreen of the multimedia system
- The right-hand button group on the multifunction steering wheel

An acoustic warning sounds in the following cases:

- You open the driver's door with the low beam switched on and the ignition lock in the radio position.
- You open the driver's door with the standing lights or low beam switched on and the ignition lock in the 0 position.

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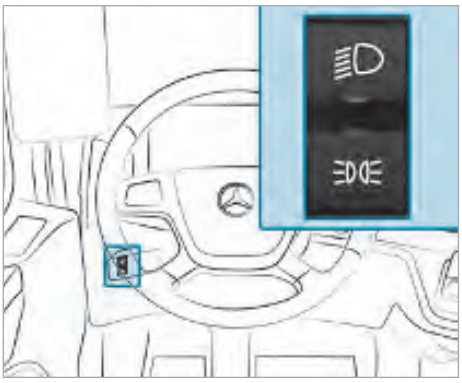

Standing lights/low beam button on the instrument panel

Multimedia system:

Lights ▸▸ Exterior lighting

Activating/deactivating the standing lights

▶ **To switch on:** press the button in the multimedia system (recommended).

or

▶ Press the lower section of the button on the instrument panel.
The standing lights will be switched on.

The indicator lamp on the button will light up.

The indicator lamp on the instrument cluster will light up.

▶ **To switch off:** press the OFF button in the multimedia system again (recommended).
When night mode is active: the Do you want to switch off the lights? event window will be shown on the display.

▶ Swipe right to confirm.

or

▶ Press the lower section of the button on the instrument panel again.
The standing lights will be switched off.

The indicator lamp on the button will go out.

The indicator lamp on the instrument cluster will go out.

Activating/deactivating low beam

ⓘ The low beam is asymmetrical. In countries in which traffic does not drive on the same side of the road as in the country where the vehicle is registered, there is a risk of dazzling other drivers. Parts of the headlamps must therefore be masked when you are driving in such countries (→ page 92).

▶ **To switch on:** press the button in the multimedia system (recommended).

or

▶ Press the upper section of the button on the instrument panel.
The low beam will be switched on.

The indicator lamp on the button will light up.

The indicator lamp on the button will light up.

The indicator lamp on the instrument cluster will light up.

▶ **To switch off:** press the OFF button in the multimedia system.
When night mode is active: the Do you want to switch off the lights? event window will be shown on the display.

▶ Swipe right to confirm.

or

▶ Press the upper section of the button on the instrument panel again.
The low beam will be switched off.

The indicator lamp on the button will go out.

The indicator lamp on the button will go out.

The indicator lamp on the instrument cluster will go out.

Vehicles with a manual headlamp range controller: when the low beam is switched on for the first time, the instrument cluster will display the Headl. range ctrl. event window after the ignition is switched on or after the engine is started.

If the illumination of the road is not sufficient or oncoming traffic is being dazzled:

▶ Change the setting shown by pressing the ∧ or ∨ button in the multimedia system. 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 0.

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Switching off exterior lighting

▶ Press the OFF button in the multimedia system.
When night mode is active: the Do you want to switch off the lights? event window will be shown on the display.

▶ Swipe right to confirm.
The exterior lighting will be switched off.

Activating/deactivating the automatic driving lights

⚠ **WARNING** Risk of accident when the low beam is switched off in poor visibility

When the AUTO function is switched on, the low beam will not switch on automatically if there is fog, snow or other causes of poor visibility such as spray.

Switch the low beam on manually in such situations.

The automatic driving lights are only an aid. The responsibility for vehicle lighting rests with the driver at all times.

▶ **To switch on:** press the AUTO button in the multimedia system.
The automatic driving lights will be switched on.

The low beam and standing lights will be switched on or off automatically depending on the light conditions.

The indicator lamp on the AUTO button will light up.

If the low beam has been automatically switched on, the indicator lamp on the instrument cluster will light up.

▶ **To switch off:** press the OFF button in the multimedia system again (recommended).
When night mode is active: the Do you want to switch off the lights? event window will be shown on the display.

▶ Swipe right to confirm.
The indicator lamp on the AUTO button will go out.

ⓘ If the ignition is switched off manually or automatically (→ page 198), vehicle lighting switched on by the automatic driving lights will also be switched off. If necessary, switch the vehicle lighting on manually.

ⓘ If the rain and light sensor is malfunctioning, the low beam and standing lights will be switched on automatically and stay on.

Switching Adaptive Highbeam Assist on and off

▶ Press the button in the multimedia system.
When the indicator lamp on the button lights up, the function is switched on.

ⓘ Observe notes on the function and operation of vehicles with Adaptive Highbeam Assist (→ page 78).

Switching the fog light on and off

▶ **To switch on:** press the button in the multimedia system.
The front fog lights will be switched on.

The indicator lamp on the instrument cluster will light up.

▶ **To switch off:** press the button again.
The front fog lights will be switched off.

The indicator lamp on the instrument cluster will go out.

Switching the rear fog light on and off

ⓘ When the front fog lights are switched off and you switch the rear fog light on, both functions will be switched on.

▶ **To switch on:** press the button in the multimedia system.
The rear fog light will be switched on.

The indicator lamp on the instrument cluster will light up.

▶ **To switch off:** press the button again.
The rear fog light will be switched off.

The indicator lamp on the instrument cluster will go out.

Activating/deactivating additional headlamp

ⓘ Find out about the legal requirements for the country in which you are currently driving before using additional headlamps on public roads.

▶ Press the button in the multimedia system.
The additional headlamps will be switched on.

Switching the roof position marker lamps on and off

▶ Press the button in the multimedia system.
The position marker lamps on the roof will be switched on.

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Switching the work lamp on

▶ Press the button in the multimedia system.
The work lamps will be switched on.

ⓘ The work lamps will be switched off after you pull away.

Setting the delayed switch-off time of the exterior lighting

▶ Press the button in the multimedia system.

▶ Set the switch-off delay time.

Cornering light function

Vehicles with front fog lights and LED daytime running lamps:

If the low beam is switched on, the cornering light will improve the illumination of the carriageway in the turning direction.

The cornering light also provides you with assistance when you are manoeuvring. If you engage reverse gear, both fog lights will switch on when you turn the steering wheel.

The cornering light will switch on automatically in the following situations:

- You are travelling at a speed lower than around 25 km/h and are indicating or turn 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.

How Adaptive Highbeam Assist works

⚠ **WARNING** Risk of accident despite Adaptive Highbeam Assist

Adaptive Highbeam Assist does not recognise the following road users:

- 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 barrier
- Road users crossing the road

An overtaking vehicle is not detected by Adaptive Highbeam Assist until it is completely 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.

In these or similar situations, the automatic high beam will not be deactivated or will be activated nonetheless.

▶ 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 recognise bike riders, but this is not guaranteed. Always monitor the road and traffic conditions closely and, if necessary, switch the high beam off manually. 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 prevents other road users from being dazzled.

The low beam will stay switched on.

When the system no longer detects any other vehicle, it will re-activate the high beam.

The following influencing variables may also lead to automatic activation/deactivation of the high beam:

- The light conditions
- The 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.

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- if the windscreen in the area of the camera is obscured, e.g. 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 road lane markings.
- after a major change in load with the ignition switched on. The engine should therefore be started afresh after a major change in load so that Adaptive Highbeam Assist is available without restriction.

Keep the windscreen in the area of the camera free of dirt, snow or ice. Use the windscreen wipers or clean the windscreen by hand if required. Please note the sections "Notes on cleaning the vehicle exterior" (→ page 315) and "Cleaning sensors" (→ page 318).

If the system is malfunctioning, the high beam will be switched off. The driver will be notified of the malfunction by an event window displayed on the instrument cluster.

If necessary, switch the high beam on manually.

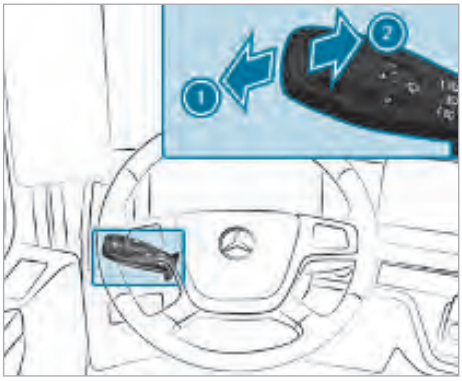
Switching Adaptive Highbeam Assist on/off
The function can be activated/deactivated in the Lights menu under the Exterior lighting menu item in the multimedia system (→ page 75).

The [ ] indicator lamp (grey) on the display shows the driver that Highbeam Assist is active.

The [ ] indicator lamp (blue) on the display shows the driver that the high beam has been automatically switched on by Highbeam Assist.

Combination switch

Using high beam / headlamp flashing

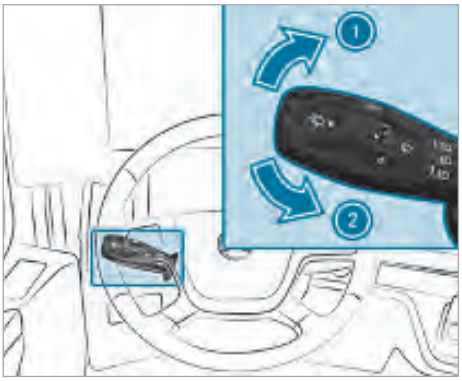


- Switch on the ignition.
- **To switch on the high beam:** switch on the dipped beam [ ].
- Press the combination switch in the direction of arrow 1 and allow it to engage there.
  The [ ] indicator lamp on the instrument cluster will light up.
- **Vehicles with Adaptive Highbeam Assist:** the high beam can be controlled automatically.
- Switch on Adaptive Highbeam Assist [ ] (→ page 78).
- Switch on the low beam [ ].
- Press the combination switch in the direction of arrow 1 and allow it to engage there.
  The high beam will be switched on/off automatically depending on the situation.

  The [ ] indicator lamp (grey) on the instrument cluster will light up (when high beam is OFF).

  The [ ] indicator lamp (blue) on the instrument cluster will light up (when high beam is ON).
- **Headlamp flashing:** pull the combination switch in the direction of arrow 2 briefly.
  The [ ] indicator lamp on the instrument cluster and the high beam will go on briefly.

Using the turn signal indicators



- **To flash:** push the combination switch upwards to indicate right 1 or downwards to indicate left 2 until it engages.
  The corresponding turn signal lamps and the [◁] or [▷] indicator lamp on the instrument cluster will flash.

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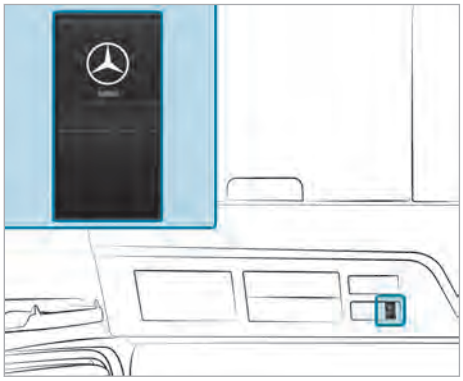
When significant steering movements are made, the combination switch will automatically reset itself.

▶ **To flash briefly:** when you are overtaking or changing lanes, briefly tap the combination switch in the desired direction to indicate right ① or indicate left ②.
The corresponding turn signal lamps and the ◁ or ▷ indicator lamp on the instrument cluster will flash five times.

▶ **To cancel brief flashing:** briefly tap the combination switch in the opposite direction.
The corresponding turn signal lamps and the ◁ or ▷ indicator lamp on the instrument cluster will flash.

Switching the illuminated Mercedes star on and off



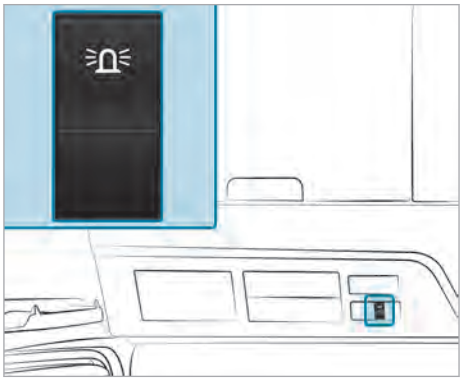
The illuminated Mercedes star on the maintenance flap is approved exclusively for use on private land. Use on public roads is prohibited, e.g. also in public parking areas.

Due to legal stipulations, deviations from the use of the illuminated Mercedes star described here are possible in some countries. Observe the legal requirements for your current location.

▶ **To switch on:** press the upper section of the ⊛ switch.
The indicator lamp on the ⊛ switch will light up.

▶ **To switch off:** Press the lower section of the ⊛ switch.
The indicator lamp on the ⊛ switch will go out.

Switching the rotating beacon on and off



Rotating beacon button in the overhead control panel (example)

▶ **To switch on/off:** press the button.

When driving the vehicle with a rotating beacon, observe the legal requirements for the country in which you are currently driving. If the required field of vision is not satisfied due to trailers, bodies or attachments, secure the vehicle using additional lights.

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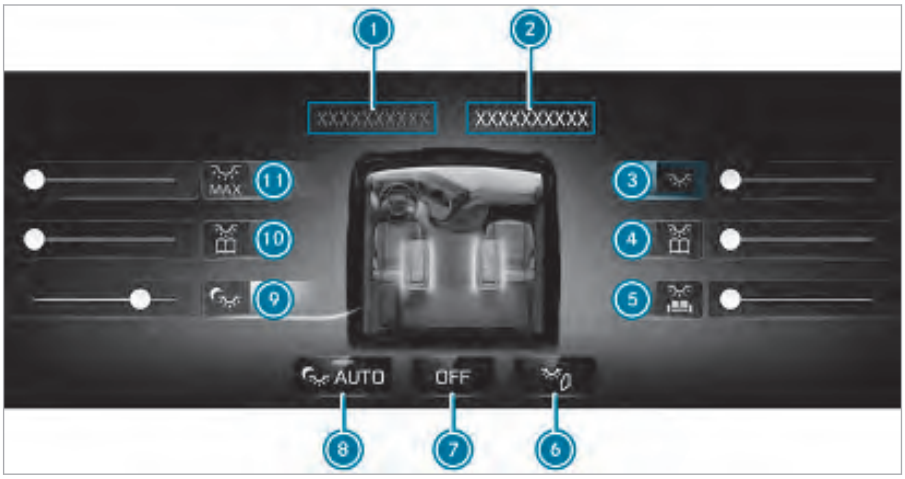
Interior lighting

Multimedia system:

→ Lights ▸▸ Interior lighting

Overview of the interior lighting menu



Interior lighting menu (example)

1. Exterior lighting menu
2. Interior lighting menu
3. Interior lamps
4. Co-driver's reading lamp
5. Ambient living area light
6. Automatic interior lighting control
7. OFF Switches off all interior lighting
8. AUTO Controls night lighting automatically
9. Night lighting
10. Driver's reading lamp
11. Interior lamps and reading lamps

▶ Press the quick entry button below the multimedia display to access the lighting menu.

▶ Select the Interior lighting 2 function. The menu shown above will be displayed.

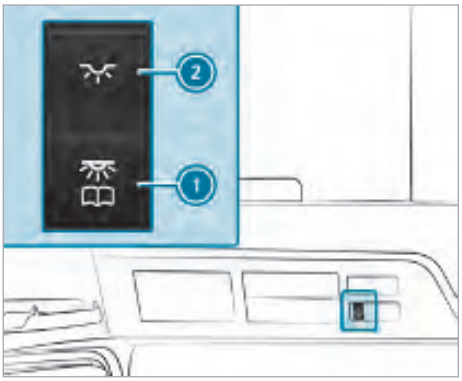
ⓘ You can switch the various functions of the interior lighting on/off by pressing the corresponding button. You can also move a controller to the left or right to dim the corresponding lighting.

ⓘ Depending on the vehicle's equipment, functions/buttons may not be present.

You have the following options for operating the lighting menu:

- Press the desired function on the touchscreen of the multimedia system
- The right-hand button group on the multifunction steering wheel

Overview of interior lighting switches



Switch panel above the windscreen (variant 1)

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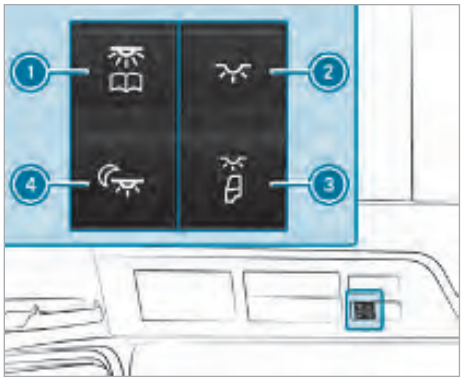
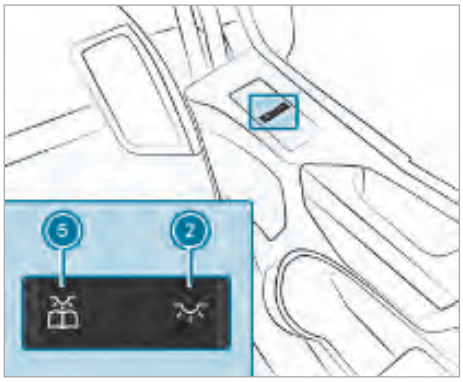
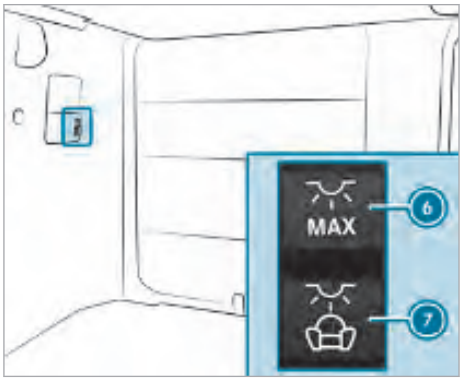


Switch panel above the windscreen (variant 2)



Front passenger door switch panel



Bed/berth switch panel with reading lamp (example: bottom berth)

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 the front passenger's reading lamp on/off or dims it
6. Switches the interior lamps and reading lamps on/off or dims them
7. Switches the ambient living area light on/off or dims it

Interior lamps

Depending on the vehicle's equipment, you have the following options for controlling the interior lamps:

- The Interior lighting menu item in the multimedia system
- Button 2 as described in the following

▶ **To switch on:** press button 2 briefly.
The interior lamps will be switched on but dimmed.

▶ **To dim:** press and hold button 2.
The brightness of the interior lamps is adjustable from 0 to 100%. When the interior lighting has reached maximum brightness, the brightness will decrease again. When the interior lighting has reached maximum dimming, the brightness will increase again. If you drive at a speed greater than 30 km/h, the brightness will automatically be reduced.

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▶ **To switch off:** press button ② again briefly. The interior lamps will be switched off.

▶ **To switch on/off with the bed/berth switch panel:** press button ⑥. The interior lighting in the cab will be switched on or off.

Automatic interior lighting control

Depending on the vehicle's equipment, you have the following options for activating/deactivating the function:

- The Interior lighting menu in the multimedia system
- Button ③ as described in the following

▶ **To switch on/off using the button:** press button ③ until a brief acoustic signal sounds. When the driver's door or front passenger door is opened and the interior lamps and entrance lighting switch on automatically, the automatic control will be activated.

The interior lighting will switch off in the following situations:

- The engine is started with the doors closed.
- The engine is running and the last door is closed.
- The vehicle is locked using the radio remote control.
- A door remains open for an extended period of time.

The automatic interior lighting control will switch off interior lamps that were switched on manually in the following situations:

- A door is opened or closed (delayed switch-off).
- The vehicle is locked or unlocked using the radio remote control.

Driver's/front passenger's reading lamp

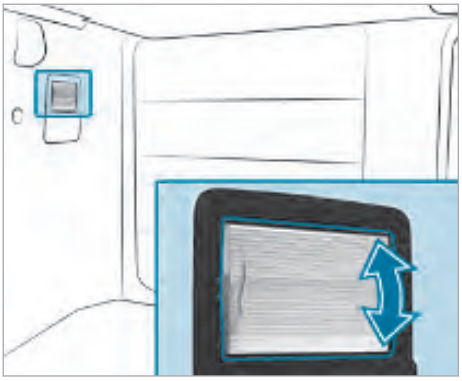
Depending on the vehicle's equipment, you have the following options for controlling the function:

- The Interior lighting menu in the multimedia system
- Button ① or ⑤ as described in the following

▶ **To switch on/off using the button:** briefly press button ① for the driver's reading lamp or ⑤ for the front passenger's reading lamp. The corresponding reading lamp will light up.

▶ **To dim:** press and hold button ① for the driver's reading lamp or ⑤ for the front passenger's reading lamp. When the reading light has reached maximum brightness, the brightness will decrease again. When the reading light has reached the maximum dimming level, the brightness will increase again.

Bed/berth reading lamp



Bed/berth reading lamp (example)

▶ **To switch on:** press the lower section of the reading lamp's lens.

▶ **To switch off:** press the upper section of the reading lamp's lens.

Night lighting

The night lighting provides non-dazzle ambient lighting while you are driving.

Depending on the vehicle's equipment, you have the following options for controlling the function:

- The Interior lighting menu in the multimedia system
- Button ④ as described in the following

▶ **To switch on/off with the button:** press button ④.

Ambient living area light

The ambient living area light serves as interior lighting when the vehicle is parked.

Depending on the vehicle's equipment, you have the following options for controlling the function:

- The Interior lighting menu in the multimedia system
- Button ⑦ as described in the following

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- **To switch on/off with the button:** briefly press button 7.
- **To dim:** press and hold button 7.

When the ambient living area light has reached maximum brightness, the brightness will decrease again. When the ambient living area light has reached the maximum dimming level, the brightness will increase again.

Changing bulbs

Notes on changing a bulb

Mercedes-Benz recommends that you have the headlamp bulbs changed at a qualified specialist workshop.

WARNING Risk of burns from hot component parts whilst replacing a bulb

Bulbs, lamps and plug connectors can become very hot during operation.

When replacing a bulb, you could burn yourself on these component parts.

- Allow the component parts to cool down before replacing the bulbs.

When changing bulbs, wear safety glasses and clean gloves.

A bulb could 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 bulb if it has been dropped or if its glass has been scratched.

Stains on the glass tube will reduce the bulb's service life. Do not touch the glass tube with your bare hands. If necessary, clean the bulb with alcohol or spirits when it is cold and wipe it down with a lint-free cloth.

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, ensure that all bulbs are always working.

ⓘ Mercedes-Benz recommends that you also change the corresponding bulb in the other headlamp when a bulb for the low beam or high beam fails. Mercedes-Benz recommends that you use long-life bulbs for this.

DANGER Risk of fatal injuries as a result of touching the electrical contacts of the xenon bulb

Xenon bulbs carry a high voltage.

If you remove the cover of the xenon bulb and touch the electrical contacts of the xenon bulb, you could receive an electric shock.

- Never touch components or electrical contacts of the xenon bulb.
- Always have work on the xenon bulb carried out at a qualified specialist workshop.

You will be able to tell whether your vehicle is equipped with bi-xenon lamps from the following: the light cone of xenon bulbs will move from top to bottom and back again when the engine starts. For this to work, the low beam needs to have been switched on before the engine is started.

When you are changing a bulb, also note the following points:

- To prevent a short circuit, switch off the lighting system and the ignition before changing the bulb.
- Wear safety glasses and gloves when you are removing the faulty bulb.
- Always replace faulty bulbs with specified new bulbs with the correct wattage and voltage.
- Touch new bulbs only with a clean, lint-free cloth or similar. Do not perform this work with moist 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 light up, consult a qualified specialist workshop.

Have the following light sources changed by a qualified specialist workshop:

- Bi-xenon lamps
- Position lamp (bi-xenon headlamps)
- LED daytime running lamps
- LED clearance lights, front
- LED turn signal lamps
- Lamps for ambient lighting in the cab
- LED interior lamps
- LED night lighting

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Vehicles with LED lamp clusters at the rear: only the complete LED module can be replaced.

If necessary, have the LED module replaced at a qualified specialist workshop.

Bulbs

Front bulbs

Turn signal light, front	PY21 W 24 V
High beam	H1 24 V
Daytime running lights	H21W 24 V
Low beam (halogen headlamps)	H7 24 V
Turn signal light, side; side marker light	P21/5 W 24 V
Clearance lights	LED module
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	P21 W 24 V
Tail light, number plate lamp, position lamp	R5W 24 V

Interior lighting

Dome lamp: interior lighting	P18 W 24 V
Dome lamp: reading light	R10 W 24 V
Dome lamp: night lighting	EBS-R4 1.2 W 24 V
Reading light for bed/berth (tubular lamp)	10 W 24 V
Stowage compartment lighting under berth	W5W 5 W 24 V
Stowage compartment lighting above windscreen (tubular lamp)	5 W 24 V

Additional bulbs

Side marker light	LED module
Work lamp, top	H11 24 V
Work lamp, bottom	H3 24 V
Rotating beacons	H1 24 V

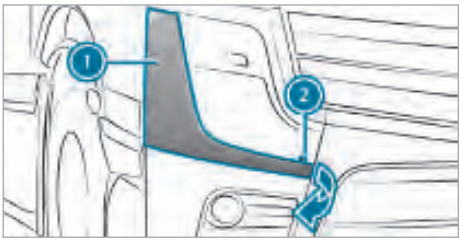
Changing front bulbs

Changing the bulbs is described, taking the right-hand headlamp as an example.

Swinging out headlamps (variant 1)

Cover next to headlamp (example using right headlamp)

▶ Press on the cover next to the headlamp at the location marked by an arrow.
The cover will fold out.



▶ Unscrew screw ②.

▶ Fold bumper section ① outwards in the direction of the arrow.

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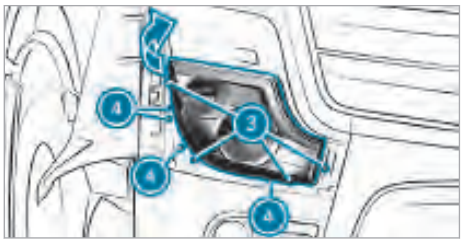
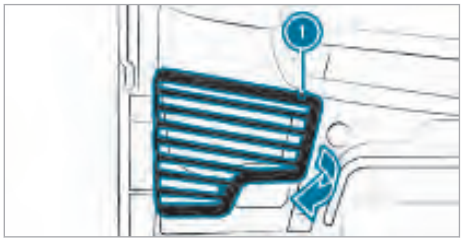


- Unscrew the screws with grey washers 3. Do not turn adjustment screws 4 of the headlamp. Otherwise, the headlamp will have to be readjusted.
- Swing the headlamp out in the direction of the arrow.

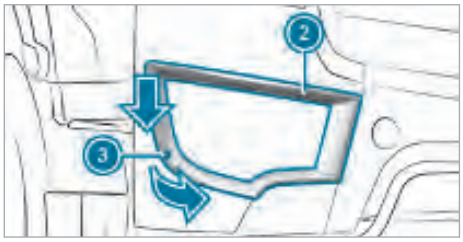
ⓘ Do not lean on the headlamp that you have swung out.

Swinging out headlamps (variant 2)

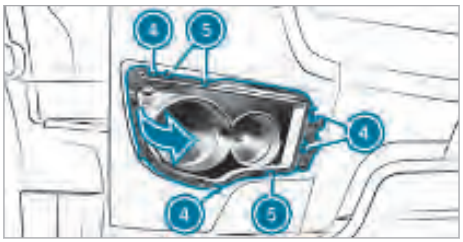


Protective grille (example)

- If the vehicle is fitted with protective grilles in front of the headlamps, loosen screw 1 and swing the protective grille outwards in the direction of the arrow.



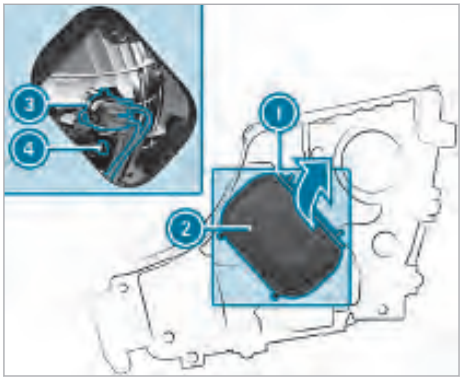
- Unscrew screw 3.
- Push outer cover frame 2 downwards, swing it forwards in the direction of the arrow and remove it.



- Unscrew the screws with grey washers 4. Do not turn adjustment screws 5 of the headlamp. Otherwise, the headlamp will have to be readjusted.
- Swing the headlamp out in the direction of the arrow.

ⓘ Do not lean on the headlamp that you have swung out.

Low beam and position lamps (halogen headlamps)



Halogen headlamp (variant 1)

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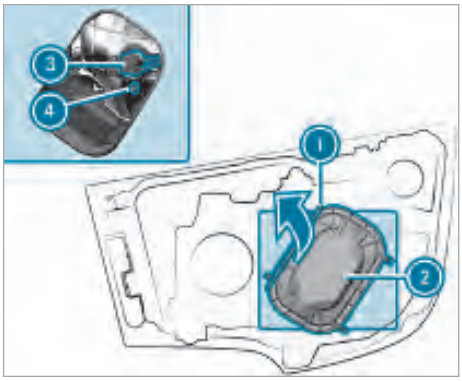
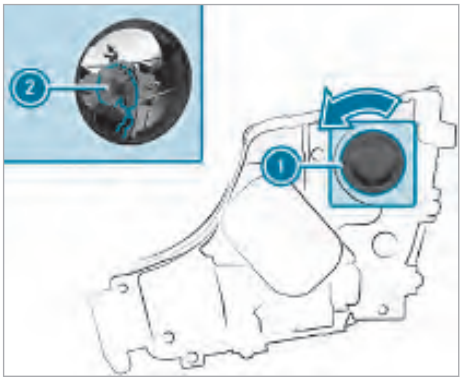


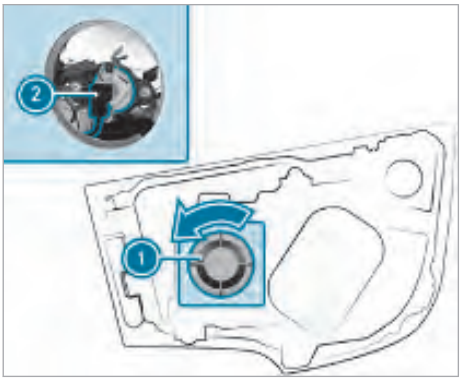
Halogen headlamp (variant 2)

- Observe the notes on changing a bulb (→ page 84).
- Swing out the headlamp (variant 1 or variant 2).
- Press clips ① in the direction of the arrow.
- Open and remove cover ②.
- **Low beam:** remove the connector from bulb ③.
- Release the safety spring.
- Remove bulb ③.
- Insert the new bulb in the socket so that the base fits in the recess.
- **Position lamp:** press on the side of socket ④ and pull the socket out.
- Pull the bulb out of the socket.

High beam



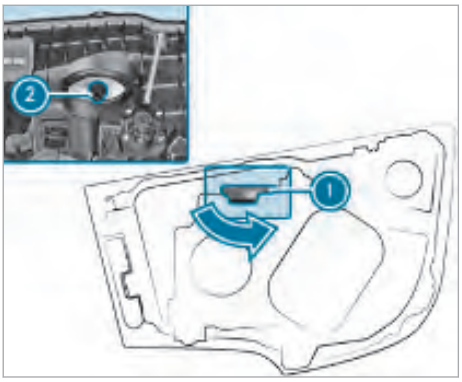
Headlamp (variant 1)



Headlamp (variant 2)

- Observe the notes on changing a bulb (→ page 84).
- Swing out the headlamp (variant 1 or variant 2).
- Turn cover ① anti-clockwise and remove it.
- Remove the connector from bulb ②.
- Release the safety spring.
- Remove bulb ②.
- Insert the new bulb in the socket so that the base fits in the recess.

Daytime running lights



Headlamp (variant 2)

- Observe the notes on changing a bulb (→ page 84).
- Swing out the headlamp (variant 2).
- Turn cover ① anti-clockwise and remove it.

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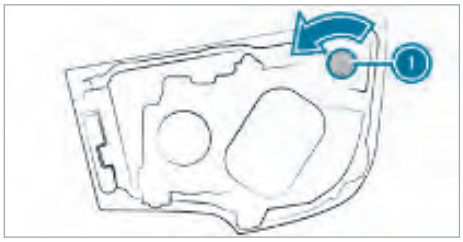
- Gently turn the socket for bulb ② anti-clockwise and pull it out.
- Gently turn the bulb anti-clockwise and remove it.
- Insert the new bulb into the socket and gently turn it clockwise.

Turn signal light

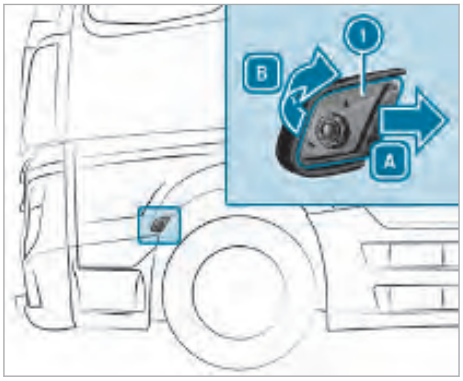
Headlamp (variant 1)



Headlamp (variant 2)

- Observe the notes on changing a bulb (→ page 84).
- Swing out the headlamp (variant 1 or variant 2).
- Gently turn socket ① anti-clockwise and pull it out.
- Gently turn the bulb anti-clockwise and remove it.
- Insert the new bulb into the socket ① and gently turn it clockwise.

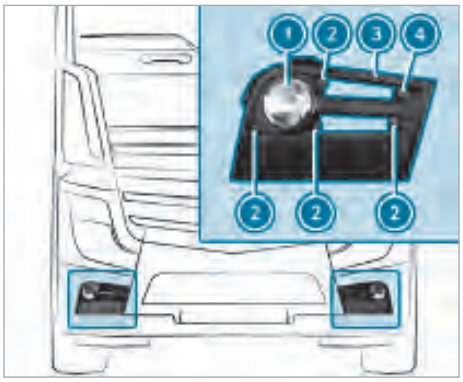
Turn signal light, side; side marker light



Turn signal light and side marker light (example)

- Observe the notes on changing a bulb (→ page 84).
- Pull lamp ① backwards A and unclip at the front with a twisting motion B.
- Gently turn the bulb mount anti-clockwise and remove it.
- Gently turn the bulb anti-clockwise and remove it.
- 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 84).
- Unscrew screw ④ in faceplate ③.
- Unclip faceplate ③ at the top and bottom and remove it.

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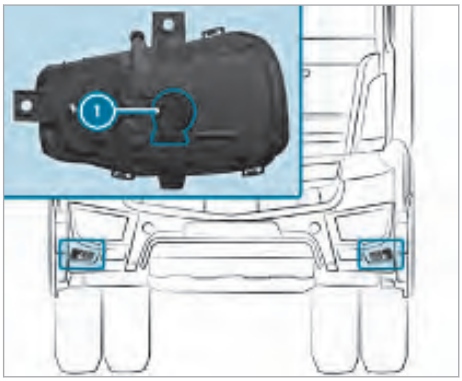
- Unscrew screws ② in front fog lamp ①.
- Pull front fog lamp ① out slightly.
- Remove the connector from the bulb of front fog lamp ①.
- Pull front fog lamp ① out.
- Unscrew the bulb from the reflector in an anti-clockwise direction.
- Insert the new bulb and screw it into the reflector in a clockwise direction.

Front fog light (variant 2)

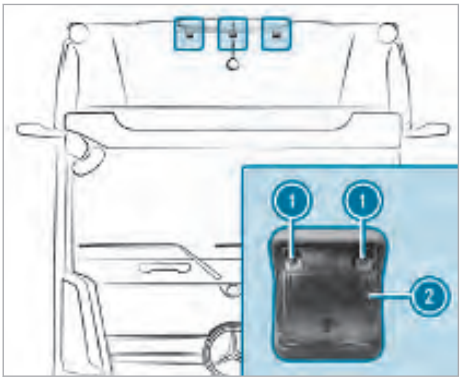


Front fog lamp (example: front fog lamp with LED daytime running lamp in the Arocs)

ⓘ If front fog lamp ① is removed with the LED daytime running lamp, do not change the light source for the LED daytime running lamp. If necessary, have the light source changed at a qualified specialist workshop.

- Observe the notes on changing a bulb (→ page 84).
- Swing out the headlamp.
- Remove the connector from bulb ① of the front fog lamp.
- Unscrew bulb ① from the reflector in an anti-clockwise direction.
- Insert the new bulb and screw it into the reflector in a clockwise direction.

Roof position marker lamps

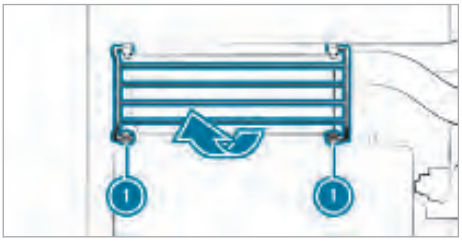


Roof position marker lamps

- Observe the notes on changing a bulb (→ page 84).
- Unscrew screws ①.
- Remove lens ②.
- Gently turn the bulb anti-clockwise and remove it.
- Insert the new bulb in the bulb mount and gently turn it clockwise.

Changing rear bulbs

Swinging the protective grille out of the way



- Unclip the protective grille from clamps ① and swing it upwards.

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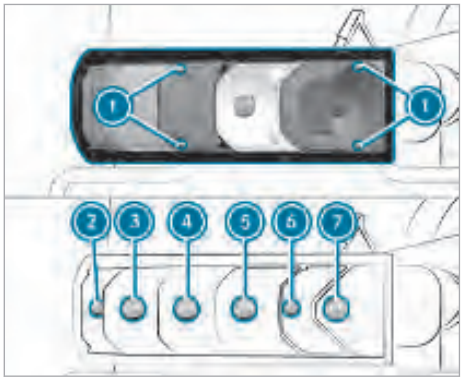
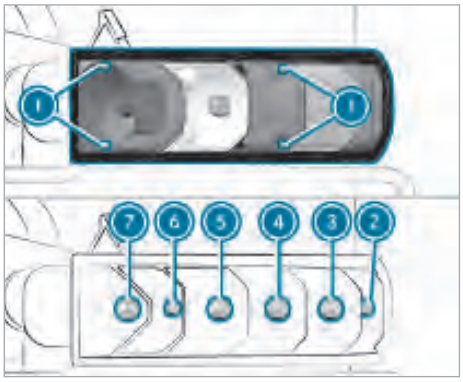
Replacing bulbs



Six-chamber lamp cluster, rear left (example: platform vehicle)



Six-chamber lamp cluster, rear right (example: platform vehicle)

1. Screws
2. Clearance lights / 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 LED lamp clusters at the rear: only the complete LED module can be replaced.

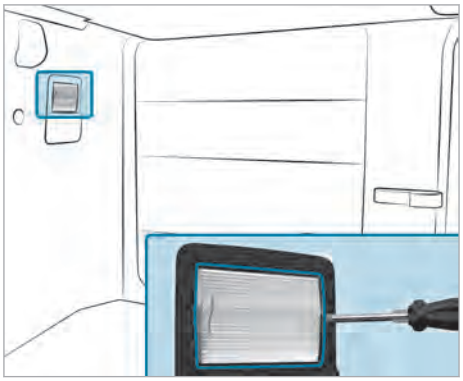
If necessary, have the LED module replaced at a qualified specialist workshop.

- Observe the notes on changing a bulb (→ page 84).
- Unscrew screws 1.
- Remove the lens.
- Gently turn the bulb anti-clockwise and remove it.
- Insert the new bulb and gently turn it clockwise.

Changing interior lighting bulbs

Observe the notes on changing a bulb (→ page 84).

Bed/berth reading lamp



Bed/berth reading lamp

- Push the lens out of the pivot hinge using a screwdriver.
- Remove the bulb.
- Insert the new bulb.

Changing additional bulbs

Observe the notes on changing a bulb (→ page 84).

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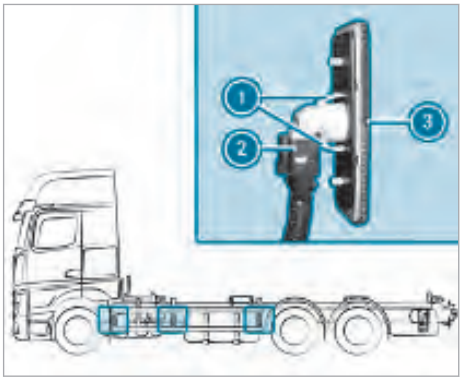
Side marker lamps



Side marker lamps (example)

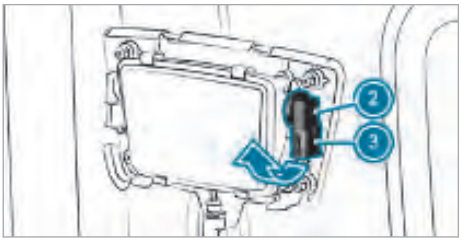
- Press and firmly hold the retainer on cable connector 2 with a screwdriver.
- Pull out cable connector 2.
- Press retainers 1 on side marker lamp 3 together and hold them firmly.
- Replace side marker lamp 3.

ⓘ Semi-trailer truck: fold the side trim outwards before you change the side marker lamp (→ page 301).

Work lamp, top

Work lamp (example)

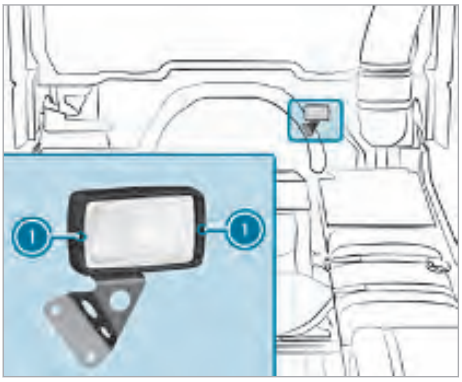
- Press safety buttons 1 and swing the housing up.



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 bulb 2.

Work lamp, bottom



Work lamp (example)

- Loosen screws 1.
- Remove the reflector with frame.

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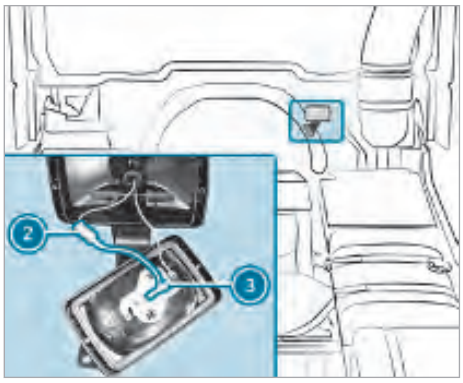


- Pull out cable connector ②.
- Release the safety spring.
- Remove bulb ③.
- Insert the new bulb in the socket so that the base fits in the recess.

Partially masking headlamps – left-hand/ right-hand traffic

Do not use any sharp objects to remove the adhesive tape again. Otherwise, you may damage the lens of the headlamp.

In countries in which traffic does not drive on the same side of the road as in the country where the vehicle is registered, mask the headlamps. This ensures that oncoming traffic will not be dazzled. With the masked headlamps, the edge of the carriageway will no longer be illuminated as far or as high.

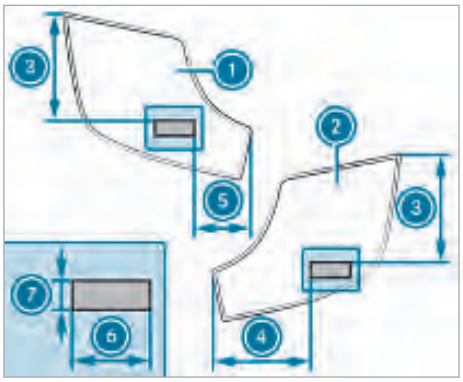
When you are using the vehicle in other countries, observe the legal requirements for the country you are currently in.

The responsibility for vehicle lighting rests with you at all times.

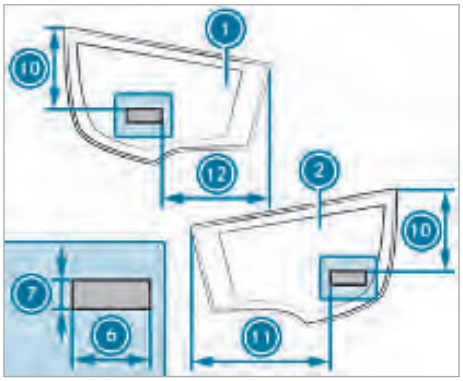
Vehicles with xenon headlamps: Before crossing the border into such countries, have your headlamps converted promptly at a qualified specialist workshop as close to the border as possible. On your return journey, have the xenon headlamps changed back to asymmetrical low beam at a qualified specialist workshop as close to the border as possible.

Vehicles with halogen headlamps: Before crossing the border into such countries, mask halogen headlamps as close to the border as possible in accordance with the following specifications from Mercedes-Benz. 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 close as possible to the border crossing.



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)

① Right headlamp
② Left headlamp
③ 112 mm
④ 102 mm
⑤ 63 mm
⑥ 80 mm
⑦ 30 mm
⑩ 92 mm

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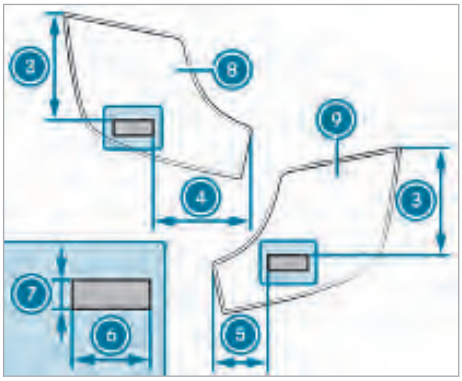
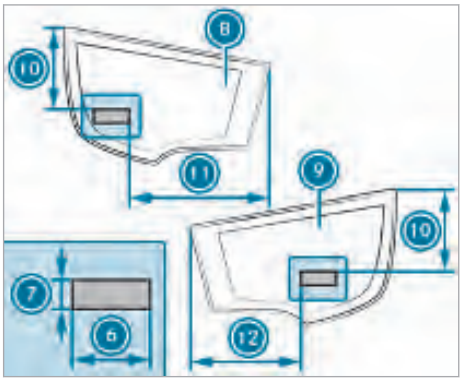
⑪ 169 mm
⑫ 129 mm



Masking area for left-hand traffic vehicles when used in countries with right-hand traffic (example: halogen headlamps – variant 1)



Masking area for left-hand traffic vehicles when used in countries with right-hand traffic (example: halogen headlamps – variant 2)

③ 112 mm
④ 102 mm
⑤ 63 mm
⑥ 80 mm
⑦ 30 mm
⑧ Right headlamp
⑨ Left headlamp
⑩ 92 mm
⑪ 169 mm
⑫ 129 mm

Good visibility

Using the windscreen wipers

! NOTE Damage to the windscreen in vehicles with rain and light sensor

During dry weather, dirt or optical effects can adversely affect the windscreen wiper sweep.

This could damage the wiper blades or scratch the windscreen.

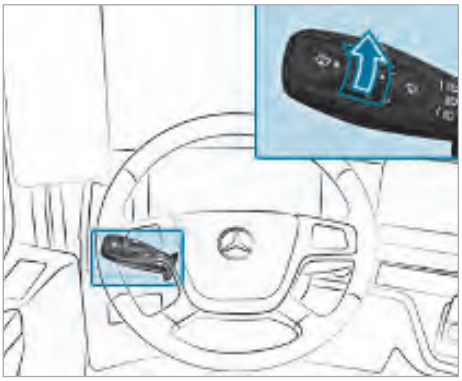
▶ Switch off the windscreen wipers in dry weather.

! NOTE Damage to the windscreen due to windscreen wiper being switched on when a new journey is started.

If the windscreen wipers are not switched off before the vehicle is switched off, unintended windscreen wiper sweeps may occur when a new journey is started. This could damage the windscreen wiper blades or scratch the windscreen, particularly if the windscreen is dirty or icy.

▶ Switch off the windscreen wipers before switching off the vehicle.

Worn or damaged windscreen wiper rubbers can cause smearing on the windscreen. This can cause malfunctions in vehicles with rain/light sensors.



Wiper switch on the combination switch

0 Windscreen wipers off
••• Slow intermittent wiping or wiping with the rain sensor
•••• Fast intermittent wiping or wiping with the rain sensor

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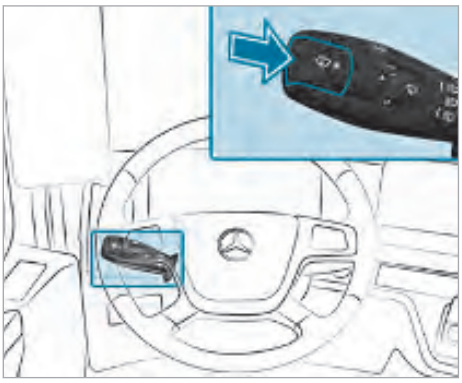
[—] Continuous wiping, slow
[=] Continuous wiping, fast

▶ **To switch on:** switch the ignition on.

▶ Turn the wiper switch to the desired position depending on the intensity of the rain.

Vehicles with rain and light sensor: if the [•••] or [••••] setting is used, an appropriate wipe frequency will be set according to rainfall. In the [••••] position, the rain and light sensor is more sensitive than in the [•••] position, causing the windscreen wipers to wipe more frequently. If the rain and light sensor fails, the 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:** press the button briefly.

▶ **To wipe the windscreen using washer fluid:** press and hold the button.

Vehicles with the headlamp cleaning system: once the ignition has been switched on, if the windscreen is washed with washer fluid for the first time with the dipped-beam headlamps switched on, the headlamps will also be cleaned. If you wash the windscreen with washer fluid ten times with the dipped-beam headlamps switched on, the headlamps will also be cleaned once.

Switching the windscreen heater on/off

The windscreen heater is operational when the engine is running and will deactivate automatically after approximately 15 minutes.

▶ **To switch on/off:** press button under the Climate control menu in the multimedia system.
When the indicator lamp on the button lights up, the windscreen heater is switched on.

Notes on winter use

Headlamps

If the plastic covers on the headlamps ice up in winter, do not use an ice scraper to remove the layer of ice. If you do, you could scratch the plastic covers. Use only de-icer spray that is suitable for plastic surfaces.

Windscreen washer system

At temperatures of approximately 5°C to -5°C accompanied by snowfall, direct the air to the windscreen using the or air-distribution control (⟶ page 110). 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 blade.

Power supply

Using the battery disconnect switch

⚠ **WARNING** Risk of an accident by pressing the battery disconnect switch while the vehicle is in motion

If the power supply is interrupted with the battery disconnect switch, the engine is switched off automatically. Safety-relevant functions may therefore be restricted or unavailable, e.g. power steering, lighting system and ABS. The compressed-air supply system fails.

You will then need to apply significantly more force when steering. The wheels may lock during braking. Also, the spring-loaded parking brake can activate if there is a loss of compressed air and the vehicle may then brake uncontrollably. You could lose control of the vehicle.

▶ Only press the battery disconnect switch when the vehicle is stationary and the parking brake is applied.

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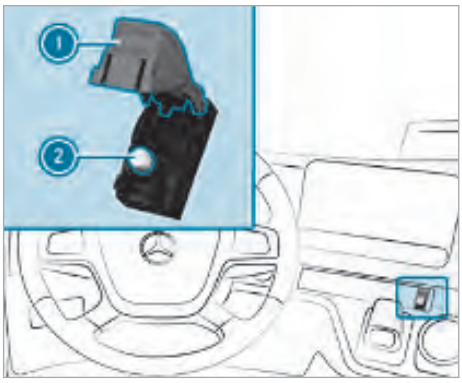
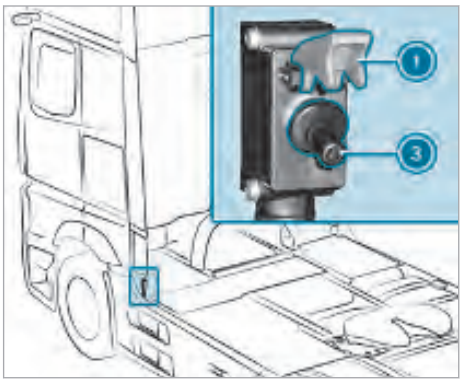




Example: battery isolator switch

You can interrupt the voltage supply using the battery isolator switches. This prevents short circuits, which could create sparks that might in turn cause a fire or an explosion. Vehicles for hazardous material transport are equipped with one or two battery isolator switches depending on the ADR classification regarding the interruption of the voltage supply.

Only use the battery disconnect switches when the vehicle is stationary, e.g. when loading the vehicle in a hazardous goods area.

- Observe the notes in the event window in the on-board computer.
- Switch the ignition off.

On vehicles with a retarder, wait approximately five seconds after switching the ignition off before interrupting the voltage supply using the battery disconnect switch.

If the auxiliary heating is switched on, wait for the auxiliary heating run-on phase to end.

In a hazardous situation, the power supply can be interrupted immediately with the battery disconnect switch.

It takes up to ten seconds from the disconnecting procedure until the voltage supply is interrupted.

If the voltage supply is interrupted by the battery isolator switch when the anti-theft alarm system is primed, the anti-theft alarm is triggered.

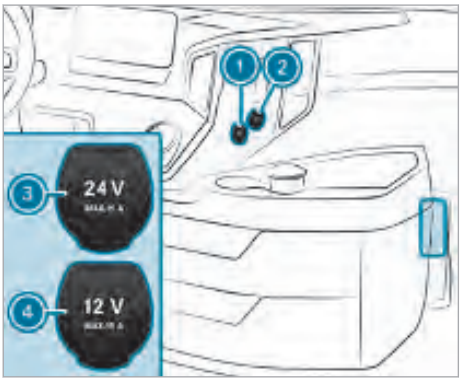
- **To interrupt the power supply:** swing cover (1) upwards.
- Remove switch pin (2).

or

- Swing switch pin (3) upwards.
  All consumers are disconnected from the batteries, apart from the digital tachograph.
- **To restore the power supply:** press the [OFF] cover (1) downwards until it engages audibly.

Overview of sockets

Overview



Example: sockets on the cockpit

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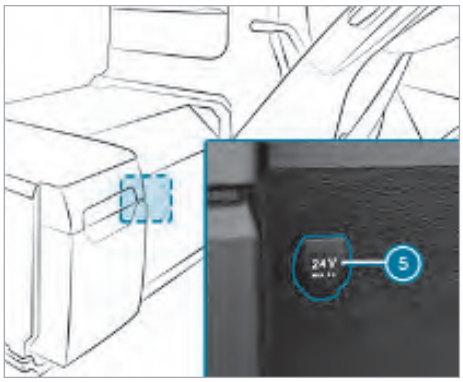
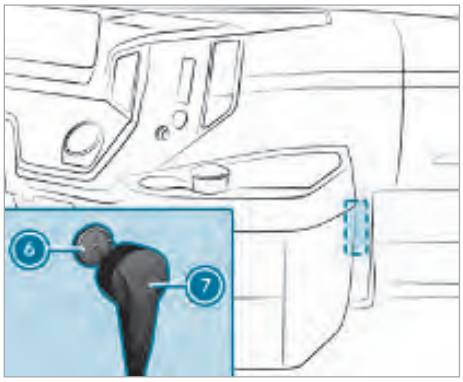
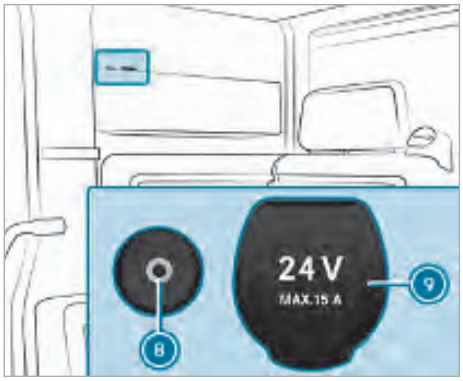


Example: socket in the stowage compartment



Example: 24 V power socket



Example: AUX socket/socket

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 2 or 12 V socket 15 A (180 W)
5. 24 V socket 15 A (max. 360 W), electric circuit 1
6. 24 V power socket 25 A (600 W)
7. 24 V power socket adapter plug
8. AUX socket (see the separate Operating Instructions)
9. 24 V socket 15 A (max. 360 W), electric circuit 2

12 V sockets

Do not exceed a load of 180 W (15 A) for the 12 V sockets.

Vehicles with a 12 V connection point for auxiliary consumers: if you wish 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 a maximum of 15 A (max. 360 W).

The 24 V sockets are hooked up to two electric circuits:

- Electric circuit 1: 24 V sockets 2 and 5
- Electric circuit 2: 24 V sockets 3, 4 and 9

If using several 24 V sockets simultaneously in one electric circuit, do not exceed the maximum load of 360 W (15 A).

Vehicles without a cigarette lighter: 24 V power socket 1 is fitted in place of the cigarette lighter. When the ignition lock is in the radio position or the key has been removed, the 24 V power socket is voltage safe.

ⓘ To use the 24 V socket, you must switch the ignition lock to the drive position.

24 V power socket

You can always use 24 V power socket 6 irrespective of the use of other sockets, for accessories up to a maximum of 600 W (25 A). To use 24 V power socket 6, Mercedes-Benz recommends that you have adapter plug 7 fitted at a qualified specialist workshop. Otherwise, safe usage cannot be guaranteed.

Using the 12 V voltage converter

The voltage converter supplies both the 12 V socket and the 12 V connection point for auxiliary consumers with a maximum of 15 A.

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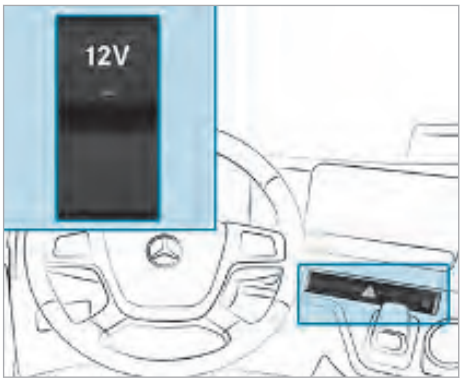
If you want to connect further devices, contact a qualified specialist workshop.



12 V voltage converter button

Vehicles with a 12 V connection point for auxiliary consumers:

▶ **To switch on/off:** press the upper section of the 12 V button.
When the indicator lamp in the 12 V button lights up, the 12 V sockets and the 12 V connection point for auxiliary consumers are supplied with voltage.

ⓘ The 12 V voltage converter is supplied permanently on vehicles without the 12 V button.

Practical tips

Notes on the ashtray

You can place the covered ashtrays in any of the cup holders in the cab.

Using the cigarette lighter

⚠ **WARNING** - 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.

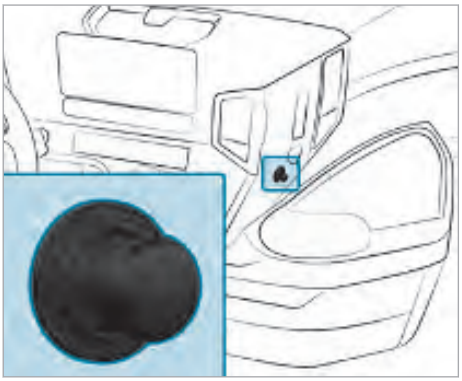
In addition, flammable materials may ignite if:

- you drop the hot cigarette lighter
- a child holds the hot cigarette lighter to objects, for example

▶ Always hold the cigarette lighter by the knob.

▶ Always make sure that the cigarette lighter is out of reach of children.

▶ Never leave children unattended in the vehicle.



Focus your attention on the road. Use the cigarette lighter only when traffic conditions permit.

▶ Switch on the ignition.

▶ 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.

Do not expose the cigarette lighter to a load of more than 5 A.

Depending on the vehicle's equipment, a 24 V socket (15 A) may be installed instead of the cigarette lighter.

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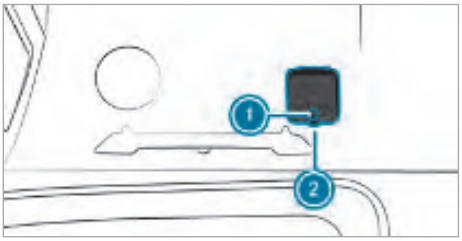
Enabling/disabling the smoke detector



The smoke detector is located above the front passenger 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.

Switching the alarm off/temporarily disabling the smoke detector

▶ Press 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 ① will flash every ten seconds.

Checking that the smoke detector is working properly

⚠ **WARNING** Risk of fatal injuries if smoke detector is not operational

If the battery is empty or the smoke detector is defective, it will not be able to warn you.

▶ Check the smoke detector regularly to ensure that it is working properly.

▶ When the battery runs out, replace it immediately.

Check once a week to ensure that the smoke detector is working properly.

▶ Press and hold button ①.
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. To ensure that the smoke detector is working properly, replace the battery as soon as possible.

Replacing the battery

The smoke detector is powered by a 9 V block battery.

▶ Press release catch ② 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 stowage compartments

⚠ **WARNING** Risk of injury due to objects being stowed incorrectly

If you inadequately stow objects in the vehicle interior, they could slip or be tossed around and thereby strike vehicle occupants. In addition, cup holders, open stowage spaces and mobile phone brackets cannot always restrain the objects they contain in the event of an accident.

There is a risk of injury, particularly in the event of sudden braking or a sudden change in direction.

▶ Always stow objects in such a way that they cannot be tossed about in these or similar situations.

▶ Always make sure that objects do not project from stowage spaces, luggage nets or stowage nets.

▶ Close the lockable stowage spaces before starting a journey.

▶ Always stow and secure objects that are heavy, hard, pointed, sharp-edged, fragile or too large in the boot.

⚠ **WARNING** Risk of injury if the maximum permitted load is exceeded

If you exceed the maximum permitted load in the stowage compartment or do not lock the stowage compartment, the flap may not be able to restrain objects.

Objects could be flung onto the road.

▶ Never exceed the maximum permitted load for the stowage compartment.

▶ Always ensure that the stowage compartment is locked before setting off.

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WARNING Risk of injury if the maximum permitted load is exceeded

If you exceed the maximum permitted load in the stowage compartment, the cover may not be able to restrain objects.

Objects could be flung out of the stowage compartment and hit vehicle occupants. There is a risk of injury, particularly in the event of sudden braking or a sudden change in direction.

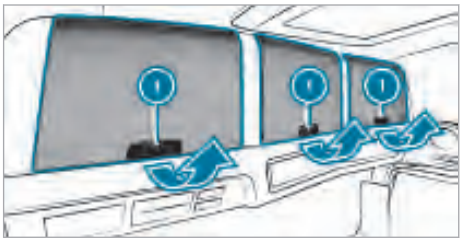
- Never exceed the maximum permitted load for the stowage compartment.
- Stow and secure heavy objects in the luggage compartment.

Do not exceed the following weights for the individual stowage compartments or drawers:

- Above the windscreen, with cover: 8 kg
- Stowage compartments/drawers in cockpit: 10 kg
- Central stowage compartments/drawers under the berth: 25 kg
- Outer stowage compartments/drawers under the berth: 50 kg (including tools and accessories)

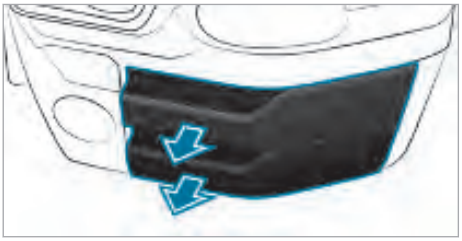
Opening/closing stowage compartments

Stowage compartments above the windscreen

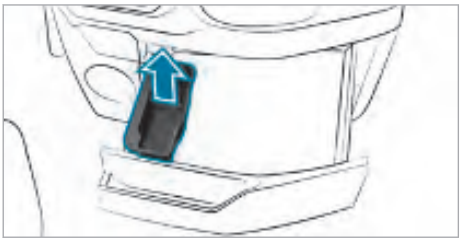


- **Opening:** Pull handle 1 and swing the flap up.
  The stowage compartment lighting will automatically switch on.
- **Closing:** Swing the flap down until the lock engages.
  The stowage compartment lighting will automatically switch off.

Drawers in the driver cockpit

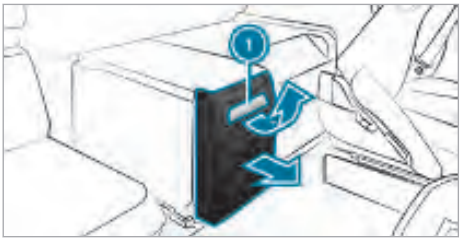


- **Opening:** Use the handles to pull the drawers out as far as they will go.
- **Closing:** Use the handles to push the drawers in as far as they will go.



You can remove the insert and attach it to the left/right side of the drawer or another drawer.

Drawer under the berth



- **Opening/closing:** Pull handle 1 upwards and pull the drawer out or push it in as far as it will go.

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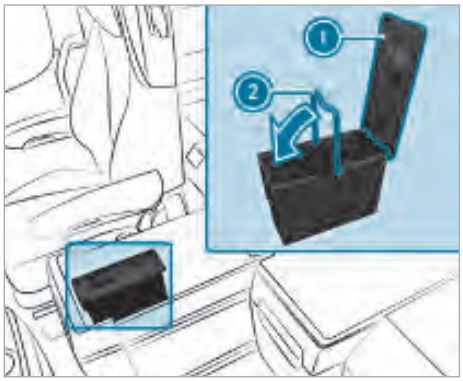
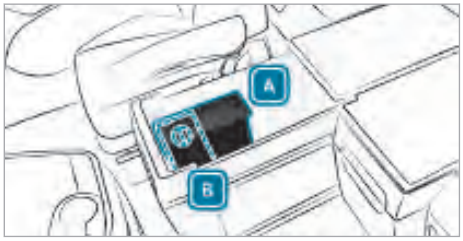
② Stowage tray
③ Waste receptacle

▶ **Opening/closing:** Pull stowage tray ② out into the desired position or push it in as far as it will go.

Waste receptacle

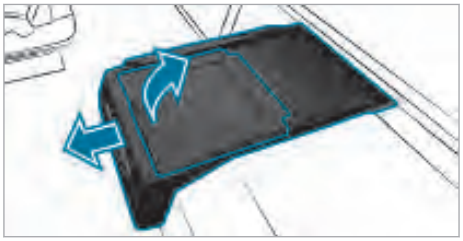


① Lid
② Handle



▶ Use the waste receptacle only in position A or B. Otherwise, the waste receptacle will not be secured and may tip over during a journey.

Refrigerator box



The drawer under the berth can also be equipped with a refrigerator box. You can find notes on using and adjusting the refrigerator box in the separate Owner's Manual.

▶ **Opening:** Pull out the drawer as far as it will go in the direction of the arrow.

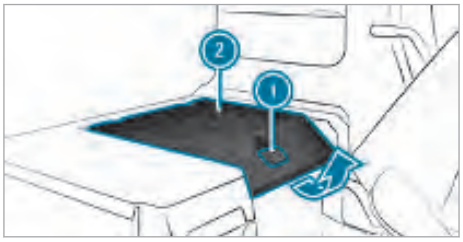
▶ Use the handle to swing the lid up in the direction of the arrow until it engages.

▶ **Closing:** Use the handle to swing the lid down.

▶ Push the drawer in as far as it will go.

There is a rocker switch on the refrigerator box that you can use to switch it on and off.

Stowage compartments with outside flaps



You can access the stowage compartments from inside via stowage compartment flaps under the berth and from outside via the outside flaps.

▶ Fold up the bottom berth and secure it.

▶ **Opening the stowage compartment flap:** Pull handle ①, swing stowage compartment flap ② up and secure it in place.
The stowage compartment lighting will automatically switch on.

▶ **Closing the stowage compartment flap:** Swing stowage compartment flap ② down until the lock engages.
The stowage compartment lighting will automatically switch off.

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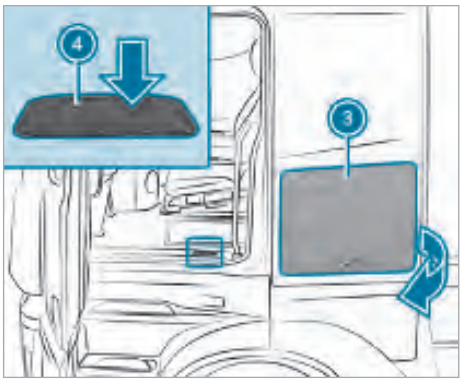


3 Outside stowage compartment flap
4 Release lever for outside stowage compartment flap
5 Release lever for outside tool kit compartment flap
6 Outside tool kit compartment flap (→ page 337)

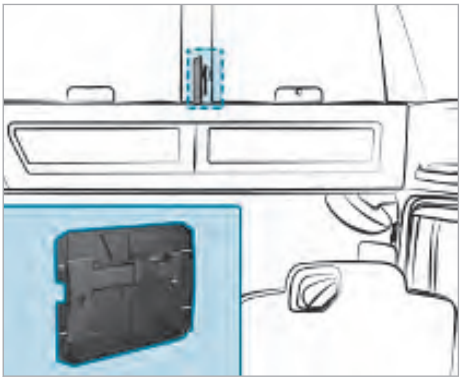
▶ **Opening the outside flap:** Push release lever 4 outwards.
The outside flap of stowage compartment 3 will open as far as the safety hook will allow.

▶ 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 outside 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 vanity mirror



In the Stream, Big and Giga cab variants, there is a vanity mirror in the right-hand stowage compartment above the windscreen (→ page 99) as special equipment. The vanity mirror is fixed to the left partition using catch hooks. You can remove the vanity mirror and arrange it using the fold-out stand or hang it up in a suitable place with the aid of the hook.

Folding the folding table in/out

⚠ **WARNING** Risk of injury when the folding table is folded out

If the folding table is unfolded while the vehicle is in motion, vehicle occupants could bump into it, especially in the event of an accident, sudden braking or an abrupt change of direction.

▶ Stow the folding table before each journey.

⚠ **WARNING** Risk of injury if the maximum load for the folding table is exceeded

If you exceed the maximum permitted load for the folding table, the table panel may fold down suddenly.

▶ Never exceed the maximum permitted load for the folding table.

Do not apply loads of more than 15 kg to the folding table.

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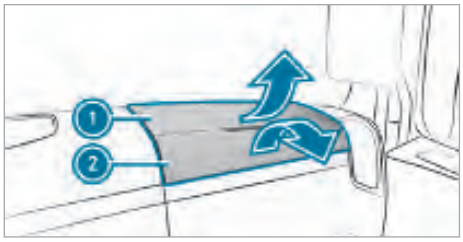
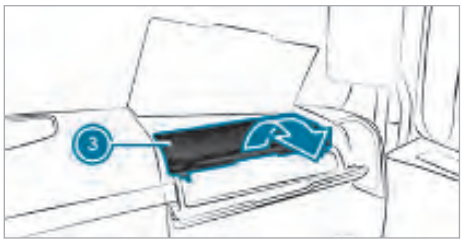
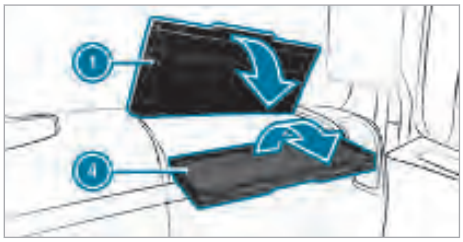


Folding out the folding table

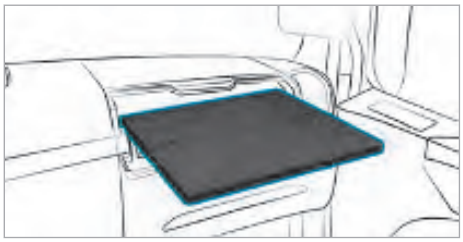
- Swivel the cover ② down.
- Swivel the cover ① up and hold it in place.



- Once folding table ③ is folded together, swivel it out as far as it will go.



- Swivel top cover ① down.
- Fold out the folding table half ④.



Folding in the folding table

- Fold folding table half ④ forwards.
- Swivel the cover ① up and hold it in place.
- Once folding table ③ is folded together, swivel it forwards into the stowage compartment as far as it will go.
- Swivel the cover ① down.
- Swivel the cover ② up.

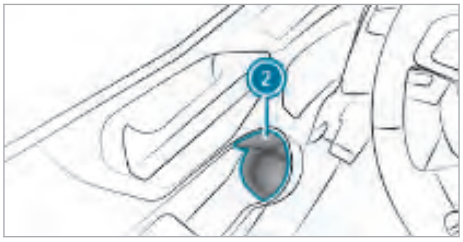
Notes on the cup holder

WARNING Risk of accident or injury if the cup holder is used while the vehicle is in motion

Cup and bottle holders cannot keep containers secure while the vehicle is in motion.

If you use a cup or bottle holder while the vehicle is in motion, the container may be flung around and liquids could be spilled. 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.

- Use the cup and bottle holders only when the vehicle is stationary.
- Place only suitable containers in the cup and bottle holders.
- Close the containers, particularly if the liquid is hot.



① Cup holder
② Bottle holder

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Cup holders ① also accommodate the ashtray (→ page 97).

Coupling/uncoupling the compressed-air connection in the cab

⚠ **WARNING** Risk of injury if compressed air is used for cleaning due to dispersed particles

If you use compressed air to clean the cab, particles will be stirred up.

These could get into your eyes, nose, mouth and ears and cause irritation.

▶ Always wear a respiratory protective mask, safety glasses and hearing protection when cleaning the cab with compressed air.

⚠ **WARNING** Risk of injury when the compressed-air gun is used

The compressed-air connection in the cab is under high pressure.

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 skin, for example.

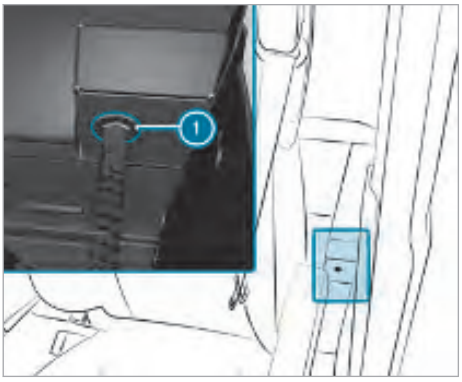
▶ Always direct the compressed-air gun away from your body.

▶ Never point the compressed-air gun at other people.

! **NOTE** Damage to the air filter due to compressed air

▶ Do not use the compressed-air gun to clean the air filter.

▶ Replace dirty air filters.



▶ **Coupling:** Push the compressed-air hose into compressed-air connection ① until it engages.

▶ **Uncoupling:** Push the compressed-air hose into compressed-air connection ① and then pull it out.

Communications

"Remote Online" function

General notes

With the "Remote Online" function, you can access the vehicle's network (Wi-Fi) from a distance of approximately 25 m with a mobile device. The distance is heavily dependant on the surroundings. The range is furthest in the open air and with direct visual contact. You can use various functions of the on-board computer and other additional functions over the vehicle's network.

For access to the vehicle network, the following conditions must be fulfilled:

- the Truck app must be installed on the mobile device
- the mobile device must first be authorised to access the vehicle's network (→ page 163)

Truck app

The Truck app can be purchased in the Google Play Store and in the Apple App Store and allows you to access the vehicle's network (Wi-Fi). You can operate various vehicle functions and call up status indicators with the Truck app. The number of functions depends on the vehicle's equipment and the type of vehicle.

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In the Pairing main menu, you can connect to a vehicle for which you have already received authorisation or add a new vehicle.

The vehicle functions in the My Truck main menu are distributed across the three menus Dashboard, Truck and Remote.

Some of the functions can only be operated when the ignition is switched on or the engine is running. In this case, use the ignition run-on or engine run-on functions (→ page 198).

The following is shown on the dashboard:

- Total distance recorder and engine operating hours
- Levels of fuel and AdBlue®
- Outside temperature and interior temperature (vehicles with automatic climate control)
- Reservoir pressure in the brake circuits

Further information on fuel/AdBlue® levels and range can be found in the "On-board computer and displays" section.

Truck

- Status display for outside flaps and the doors.

  You can see whether the exterior flaps and the doors are open or closed and whether the vehicle is locked or unlocked.

  If necessary, you can open or close the sliding sunroof/pop-up roof.
- Display of axle loads and the gross vehicle weight if the following conditions are fulfilled:
  - The vehicle is stationary
  - The driving level is active
  - The ignition is switched on, ignition run-on function(→ page 198)

  Refer to the "On-board computer and display" section for further information.
- Tyre pressure, tyre temperature and battery status of the tyre pressure sensors

  Refer to the "On-board computer and displays" section for further information on the tyre pressure monitor.
- Controls for the level control as with the on-board computer if the ignition is switched on (ignition run-on or engine run-on (→ page 198)).

  Refer to the "On-board computer and display" section for further information.
- Bulb check

  Dipped-beam headlamps, marker lamps, tail lamps and licence plate lighting light up permanently. Turn signals, main-beam headlamps, brake lights, daytime driving lights, reversing lamps, foglamps and working-area lamps are switched on one after the other. This cycle is repeated three times.

  The bulb check can only be activated when the parking brake is applied.

Using the remote control you can operate the following:

- Unlocking and locking the loading tailgate
- Switching the working area lamp on or off
- Switching auxiliary heating on or off (→ page 110)
- Switching the auxiliary air conditioning system on or off (→ page 114)
- Audio system
  - Activating/deactivating
  - Source selection
  - Station/track selection
  - Volume adjustment
  - Mute

Refer to the body manufacturer's operating instructions for further information.

Notes on the audio equipment (radio)

If you have fitted Mercedes-Benz audio equipment, you can operate your audio equipment as follows:

- with the buttons on the multifunction steering wheel in the instrument cluster under the Audio menu
- using the Truck app with a mobile device (→ page 103)
- using the audio equipment button in the bed/berth switch panel

If you fit audio equipment from another manufacturer, you cannot use these functions.

Information on operating your audio equipment can be found in the "CD radio" section (→ page 155).

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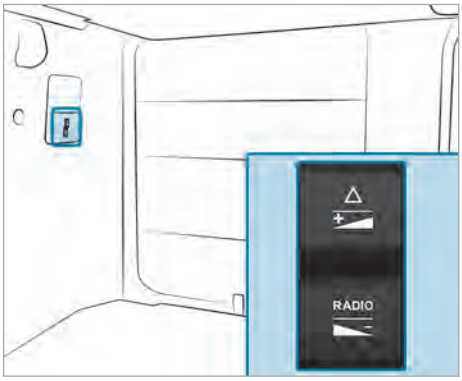
Operating the audio system (radio)



To switch the audio equipment on, to increase the volume, to select the next radio station, to select the next track

To switch the audio equipment on/off, to decrease the volume

- **To switch on:** press the button or button briefly.
- **To switch off:** press and hold the lower section of the button.
- **To increase the volume:** press the top section of the button.
- **To decrease the volume:** press the lower section of the button.
- **To select the next station/track:** press the top section of the button.

Telephone

Notes on the telephone

WARNING Risk of distraction from information systems and communications equipment

If you operate information and communication equipment integrated in the vehicle when driving, you will be distracted from the traffic situation. This could also cause you to lose control of the vehicle.

- Only operate this equipment when the traffic situation permits.
- If you cannot be sure of this, stop the vehicle whilst paying attention to road and traffic conditions and operate the equipment with the vehicle stationary.

Observe the legal requirements for the country you are currently in while operating the telephone or other communications equipment.

The vehicle may be equipped with a Bluetooth® hands-free system. To charge the Bluetooth® mobile phone in the vehicle, you need a suitable charger bracket. These are available from retailers of Mercedes-Benz accessories.

You can operate the mobile phone using the and buttons on the multifunction steering wheel.

The Mercedes-Benz installation specifications must be observed if you subsequently install one of the following communication devices:

- Mobile phone
- Two-way radio
- Fax machine

Notes on wireless charging of mobile phones

Observe the notes on charging the vehicle.

WARNING Risk of fire from placing objects in the mobile phone stowage compartment

There is a risk of fire, in particular, if you place more than one mobile phone in the mobile phone stowage compartment.

- Apart from a mobile phone, do not place any other objects in the mobile phone stowage compartment, especially those made of metal.

NOTE Damage to objects caused by placing them in the mobile phone stowage compartment

If objects are placed in the mobile phone stowage compartment, they may be damaged by electromagnetic fields.

- Do not place credit cards, storage media or other objects sensitive to electromagnetic fields in the mobile phone stowage compartment.

NOTE Damage to the mobile phone stowage compartment caused by liquids

If liquids enter the mobile phone stowage compartment, the compartment may be damaged.

- Ensure that no liquids enter the mobile phone stowage compartment.

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System limits

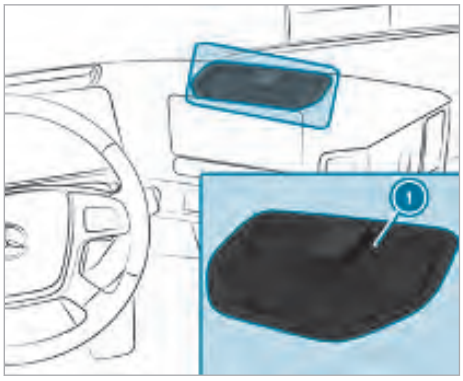
Observe the following notes when using the mobile phone compartment:

- The charging function as well as wireless coupling of the mobile phone with the vehicle exterior aerial are only available when the ignition is switched on.
- It is possible that small mobile phones may not be charged in every position in the mobile phone compartment.
- Large mobile phones, which cannot be placed flat in the mobile phone compartment, may not be charged or be coupled with the vehicle exterior aerial.
- As the mobile phone can become hot during the charging process, the mobile phone compartment is equipped with a cooling system. The heating depends on the applications, e.g. apps, currently running.
- Remove any protective case from the mobile phone for efficient charging and for coupling with the vehicle exterior aerial. This does not apply for protective cases that are designed for wireless charging.
- Low and high ambient temperatures can result in limitations of the wireless-charging function. Do not place your phone in direct sunlight and observe the mobile phone operating instructions.

Wireless charging of a mobile phone
Requirements:

- The mobile phone is suitable for wireless charging.

ⓘ A list of compatible mobile phones can be found at: https://www.mercedes-benz.com/connect.



▶ Place the mobile phone as close as possible to the centre of mat ① with the display facing upwards.

ⓘ The mat can be removed to clean, e.g. with clear, lukewarm water.

Using the laptop holder

Upper side

Underside

You can also use laptop holder ① as a writing support.

Use laptop holder ① only when the vehicle is stationary. When the vehicle is in motion, store laptop holder ① in a stowage compartment.

▶ **Securing the laptop:** Place laptop holder ① on the steering wheel and use guide ⑤ at the top to hook it onto the top of steering wheel.

▶ Open the laptop and slide the lower part of the keyboard under rubber bands ③ and ④ until it reaches edge ② of laptop holder ①.

▶ If necessary, move top rubber band ③ so that it does not get in the way of the keyboard. If you do so, the rubber band must be routed through one of the recesses ⑥.

If you use the laptop merely as a means of media playback during a rest period, you can secure it to the laptop holder and then attach it to the following positions in the cab:

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- Use top guide ⑤ to hook the laptop holder onto an open stowage space above the windscreen.

or

- Use top guide ⑤ to hook the laptop holder onto a grab handle above one of the doors.

or

- Use top ⑤ and bottom guides ⑦ to attach the laptop holder to the side wall stowage compartments of the bottom bed or the bottom berth.

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Notes on climate control

ENVIRONMENTAL NOTE

When the air conditioning system or the automatic climate control is switched on, fuel consumption will increase.

▶ Switch the function on only where necessary.

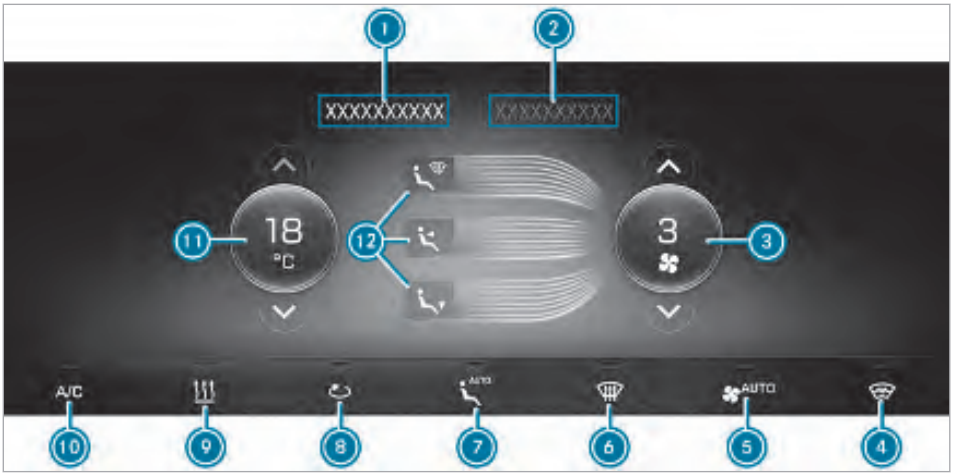
The heating, air conditioning system or automatic climate control is operational only when the engine is running.

The air conditioning system/automatic climate control regulates the temperature and air humidity in the cab.

The filter installed largely filters dust particles, pollen and unpleasant odours from the outside air that is fed in or the recirculated air in air-recirculation mode. An added filter reduces the flow of air into the cab. Depending on the operating conditions and environmental influences, the interval for replacing the filter may be shorter than prescribed.

ⓘ Ventilate the vehicle briefly in warm weather. This will accelerate the cooling process and the desired temperature will be reached more quickly.

Overview of the multimedia system climate control functions



Climate control menu (example: moving vehicle)

1. Menu for Climate control
2. Menu for Timer control
3. Sets the airflow (→ page 110)

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4 Switches the windscreen heater on/off (→ page 94)
5 AUTO Automatic airflow setting (→ page 110)
6 Defrosts the windscreen (→ page 110)
7 Automatic air distribution (→ page 110)
8 Switches air-recirculation mode on/off(→ page 110)
9 Switches auxiliary heating/engine preheating on/off(→ page 110)
10 A/C Switches air conditioning system on/off(→ page 109)
11 Sets the temperature(→ page 109)
12 Sets the air distribution (→ page 110)
Switches the electric stationary air conditioning system on/off (available only when stationary) (→ page 113)
REST Switches residual heat utilisation on/off (available only when stationary) (→ page 110)

Press the quick entry button below the multimedia display to access the climate control menu shown above.

ⓘ The functions shown on the display after the climate menu opens depend on whether the vehicle is stationary or moving.

ⓘ Depending on the vehicle's equipment, functions/buttons may not be present.

Some functions have a status display above the symbol. The function is enabled if the status display lights up.

Cooling with air dehumidification

Notes

In vehicles with an air conditioning system, you can dehumidify and cool the interior air to a set temperature when the weather is warm.

Depending on the vehicle's equipment, the function can have one or two stages.

With a single-stage version, only the A/C Dry function (cooling with air dehumidification) is available.

With a two-stage version, you can switch between the A/C (cooling without air dehumidification) and A/C Dry (cooling with air dehumidification) functions by pressing and holding the A/C button.

ⓘ Depending on the function selected, the display on the button will change.

The "Cooling without air dehumidification" 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.

ⓘ Condensation may leak from the underside of the vehicle in cooling mode.

Switching cooling with air dehumidification (air conditioning system) on/off

Single-stage function

▶ Press the A/C button under the Climate control menu in the multimedia system.
If the button's indicator lamp lights up in red, cooling with air dehumidification is switched on.

Two-stage function

▶ **To switch on cooling without air dehumidification:** briefly press the A/C button in the multimedia system under the Climate control menu.
If the button's indicator lamp lights up in red, the function is switched on.

▶ **To switch on cooling with air dehumidification:** press and hold the A/C button.
The A/C button's display will switch from A/C to A/C Dry.

▶ Press the A/C Dry button briefly.
If the button's indicator lamp lights up in red, the function is switched on.

Setting the temperature

The temperature can be set via the Climate control menu in the multimedia system or via the quick entry buttons under the touch display.

Setting via the multimedia system

▶ In the Climate control menu, use the ∧ or ∨ button to increase or reduce the set value (→ page 108).

Setting via the quick entry buttons

▶ Press the TEMP + or TEMP − button to increase or reduce the set value.

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Setting the air distribution/airflow

Air can be directed via the rigid air vents using the air distribution control. Regardless of the position of the air distribution control, air is also directed via the adjustable centre and side vents.

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

Air distribution

▶ Set the desired air distribution under the Climate control menu in the multimedia system by pressing the appropriate buttons 12.

or

▶ Press button 7 (→ page 108).

Airflow

▶ In the multimedia system, increase/reduce the airflow under the Climate control menu using the ∧/∨ buttons.

or

▶ Press the AUTO 5 button (→ page 108).

Demisting the windscreen and windows

Select the following setting only for as long as it takes for the windscreen to be clear again.

▶ **Vehicles with windscreen heater:** switch on the windscreen heater (→ page 94).

The following settings will be selected automatically when the "defrost" function is active:

- Temperature to **HI**
- Air-recirculation mode off
- Airflow to maximum
- Air distribution towards the windscreen and windows

▶ **To switch on/off:** press the button under the Climate control menu in the multimedia system.
When the function is switched on, the indicator lamp on the button will light up.

The A/C Dry function will automatically be activated.

Switching air-recirculation mode on/off

ⓘ When air-recirculation mode is switched on, the windows may mist up more quickly, especially in low outside temperatures. Switch air-recirculation mode on only briefly, 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 under the Climate control menu in the multimedia system.
If the indicator lamp on the button lights up, air-recirculation mode is switched on.

Switching 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.

ⓘ If residual heat utilisation is switched on, auxiliary heating (→ page 110) and the stationary air conditioning system (→ page 113) will automatically be switched off.

▶ Press the REST button under the Climate control menu in the multimedia system (→ page 108).
If the indicator lamp on the button lights up, residual heat utilisation is switched on.

▶ 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 engine is started.
- After a maximum operating time of 90 minutes (depending on the temperature set and the coolant temperature).

Auxiliary heating

Information about 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.

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- ▶ Always switch the stationary heater off in enclosed spaces without an air extraction systems, e.g. in garages.
- ▶ Keep the tailpipe and the area around the vehicle free from snow when the engine or the stationary heater are running.
- ▶ Open a window on the windward side of the vehicle to ensure an adequate supply of fresh air.

⚠ **WARNING** Risk of burns from the exhaust pipe during work on the auxiliary heating

If the auxiliary heating has been switched on, you could suffer burns from the hot exhaust pipe.

- ▶ Allow the exhaust pipe to cool down before you start work on the auxiliary heating.

! **NOTE** Damage to the auxiliary heating

If the auxiliary heating is not used for an extended period of time, it can be damaged.

- ▶ Switch the auxiliary heating on for around ten minutes at least 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.

Operate the auxiliary heating only with commercially available diesel fuel. Operation with 100% fatty acid methyl ester (FAME) fuel or diesel fuel with more than 10% of fatty acid methyl ester (FAME) fuel as an additive will cause malfunctions and is therefore not permitted. If the vehicle is operated with one of these fuel types, you will need an additional fuel tank for commercially available diesel fuel for the auxiliary heating.

The auxiliary heating operates independently of the engine and supplements the vehicle's heating. To support the heating (heater booster function), you can also switch the auxiliary heating on when the engine is running and outside temperatures are low.

Depending on the vehicle's equipment, the following options are available for controlling the auxiliary heating:

- The Climate control menu in the multimedia system (→ page 108)
- The bed/berth switch panel

The auxiliary heating heats the cab. If your vehicle is equipped with engine preheating, the auxiliary heating can also heat the coolant. Engine preheating therefore also has the effect of sparing the engine and saving fuel. You can switch the auxiliary heating on or off manually or define up to two switch-on times.

If you switch the auxiliary heating on manually or via the switch-on times, residual heat utilisation (→ page 110) will be switched off automatically.

Forced switch-off

In auxiliary heating mode, use the battery disconnect switch only in cases of danger. If the heater is switched off without run-on, it may be damaged.

In vehicles used for transporting hazardous goods, you must switch off the heater before entering a danger zone (e.g. a refinery).

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 engine 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.

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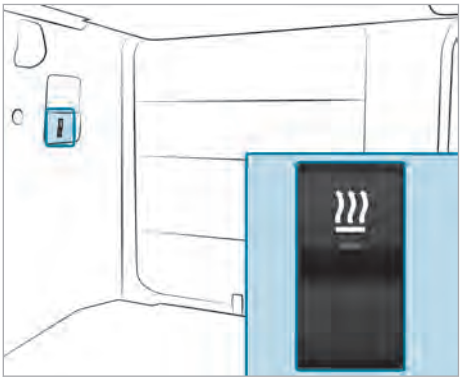
Switching immediate heating mode on/off



Additional button on the bed/berth switch panel (example: vehicle without stationary air conditioning system)

▶ **To switch on/off:** press the button under the Climate controlmenu in the multimedia system (→ page 108).

or

▶ Press the button on the bed/berth switch panel.
When the indicator lamps on the and buttons light up, the auxiliary heating is switched on.

▶ Set the temperature, airflow, air distribution and air vents according to your needs.
The automatic climate control will switch to automatic mode automatically.

ⓘ The blower can start up with a delay depending on the coolant temperature.

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.

ⓘ In vehicles for the transport of hazardous goods with engine preheating, engine preheating can be switched on only with immediate heating mode.

▶ **To switch on engine preheating:** switch on immediate heating mode.

▶ Press the button under the Climate control menu in the multimedia system.
Engine preheating will switch off automatically with the auxiliary heating.

Setting the switch-on time

⚠ **DANGER** Risk of fatal injuries if the vehicle is parked in unsuitable locations with a pre-selected switch-on time for auxiliary heating

If you have pre-selected a switch-on time, the auxiliary heating will switch on automatically.

If sufficient ventilation is not assured, toxic exhaust gases may build up, especially carbon monoxide. That is the case in enclosed spaces, for example.

If highly flammable substances or flammable materials are nearby, there is a risk of fire and explosion.

▶ If the vehicle is parked in these or similar conditions, always disable the pre-selected 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.

▶ In the multimedia system, select the Programmed times menu item from the Climate control menu (→ page 108).

▶ Select the New clim. ctrl setting function.

▶ Set the desired values in the Time, Repeat and Temperature menu items.

▶ In the Function menu item, select for the stationary heater or and for the stationary heater with engine preheating.

▶ Press the button.
A new air conditioning control will now have been created.

The chosen settings can be seen on the button of the corresponding air conditioning control in the Programmed times menu.

▶ **To switch on/off:** press the button of the desired air conditioning control.
When the air conditioning control is switched on, the indicator lamp on the button will light up in red.

When the air conditioning control is switched on, the yellow indicator lamp on the quick access button below the multimedia display will light up.

The selected climate control function will switch on automatically at the switch-on times set.

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Electric stationary air conditioning system

Information about the stationary air conditioning system

The stationary air conditioning system cools the interior air according to the set temperature independently of the engine.

You operate the stationary air conditioning system via the Climate control menu in the multimedia system (→ page 108) or via the bed/berth switch panel (→ page 113). You can switch the stationary air conditioning system on or off manually (immediate cooling mode) or define switch-on times.

The operating time of the stationary air conditioning system depends on the following factors:

- Outside temperature and sunlight
- Set vehicle interior temperature
- State of charge and age of the batteries
- Operation of other electrical consumers
- Driving cycle

The stationary air conditioning system can operate for up to eight hours. As the batteries age, the operating time of the stationary air conditioning system will reduce. The stationary air conditioning system is supplied with voltage not from separate, auxiliary batteries, but rather exclusively from the batteries belonging to the vehicle. In order to maintain the ability of the vehicle to start and the service life of the batteries, the power output of the stationary air conditioning system will automatically be reduced in increments or the system switched off. After it has switched off automatically, the stationary air conditioning system can be switched on again only after a journey time that is sufficient to charge the batteries. In short-distance driving, the charging phases are too short to charge the batteries sufficiently to operate the stationary air conditioning system. In this case, the stationary air conditioning system can be used only to a limited extent. If the auxiliary climate control cannot be switched on due to an insufficient battery charge, an event window stating this will appear on the multimedia system display.

Observe the instructions on care and maintenance of the batteries (→ page 329).

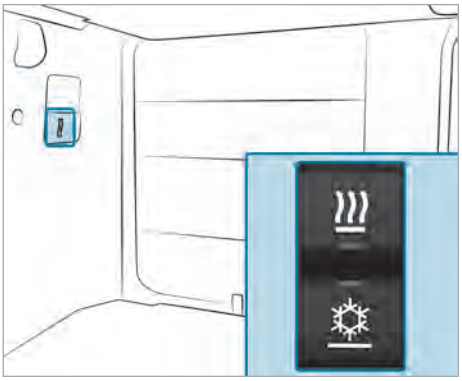
ⓘ When you are driving, cool the cab to a pleasant temperature in advance. When outside temperatures are very high, minimise the use of other electrical consumers in the cab before and during operation of the stationary air conditioning system.

If you shut the window curtains and move the seat backrests forwards, thermal radiation will be limited and the stationary air conditioning system made more effective.

The control for the stationary air conditioning system will feed fresh air into the cooled interior air as needed. This means that you do not have to open the windows during an overnight stop or during longer idle times. After it is switched on, the blower of the stationary air conditioning system will operate in automatic mode, which you can switch off if necessary. In automatic mode, the stationary air conditioning system will regulate the airflow automatically. If the temperature of the outside air is sufficient for cooling the interior air in automatic mode, the stationary air conditioning system will switch to fresh air mode. This will extend the operating time, as it will spare the batteries.

If you switch the stationary air conditioning system on manually or via the switch-on time, the auxiliary heating (→ page 110) and the residual heat utilisation (→ page 110) will automatically be switched off.

Switching immediate cooling mode on/off



Additional button on the bed/berth switch panel (example: vehicle with auxiliary heating)

▶ **To switch on/off:** Press the [ ] button under the Climate control menu in the multimedia system (→ page 108).

or

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- Press the [ ] button on the bed/berth switch panel.
  If the indicator lamp on the [ ] button lights up, the stationary air conditioning system is switched on.

  The airflow is automatically regulated.
- If necessary, set the airflow manually in the climate control menu.
  Only the first six blower settings can be selected.

ⓘ When the engine is started, the stationary air conditioning system will switch off automatically.

Setting the switch-on time

- In the multimedia system, select the Programmed times menu item from the Climate control menu (→ page 108).
- Select the New clim. ctrl setting function.
- Set the desired values in the Time, Repeat and Temperature menu items.
- In theFunction menu item, select [ ] for the stationary air conditioning system.
- Press the [ ] button.
  A new air conditioning control will now have been created.

  The chosen settings can be seen on the button of the corresponding air conditioning control in the Programmed times menu.
- **To switch on/off:** press the button of the desired air conditioning control.
  When the air conditioning control is switched on, the red indicator lamp on the button will light up.

  When the air conditioning control is switched on, the yellow indicator lamp on the quick access button [ ] below the multimedia display will light up.

  The stationary air conditioning system will switch on automatically at the switch-on times set.
- For optimum air distribution in the cab, open the centre and side air vents.
  When the indicator lamps on the [ ] button in the multimedia system and on the additional button on the bed/berth light up, the stationary air conditioning system is switched on.

The stationary air conditioning system will switch off automatically after around two hours or when the engine is started.

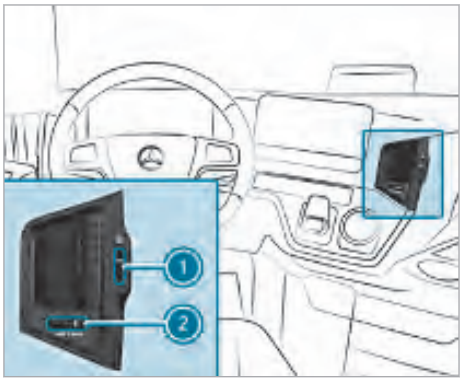
Air vents

Notes

Rigid air vents are used to ventilate the entire cab, while it is also possible to ventilate only specific areas such as the windscreen or footwell. Via the adjustable centre and side air vents, you can ventilate the driver cockpit and the front passenger area independently of one another. Always keep all air vents and vent grilles in the cab free so that the air can flow into the cab unhindered. For virtually draught-free ventilation, move the slides of the centre and side air vents to the middle and the vertical adjustment wheel of the driver cockpit centre air vent to the very top.

Adjusting the air vents

Centre air vents



Centre air vent in driver cockpit (example)

- Turn adjustment wheel ② to the **I** position to open and to the left to close.
- Turn adjustment wheel ② past the **I** position.
  The centre air vent should be completely open and the vertical blades adjusted according to the direction of rotation.
- Turn adjustment wheel ① upwards or downwards as far as the first detent position.
  The horizontal blades should be adjusted according to the direction of rotation.

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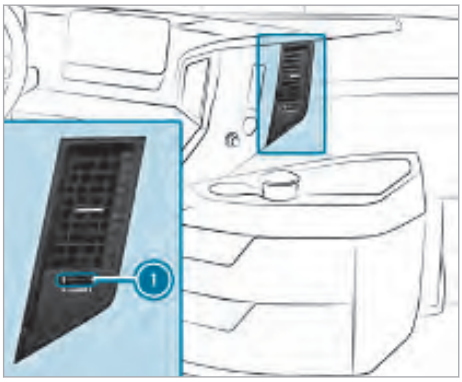
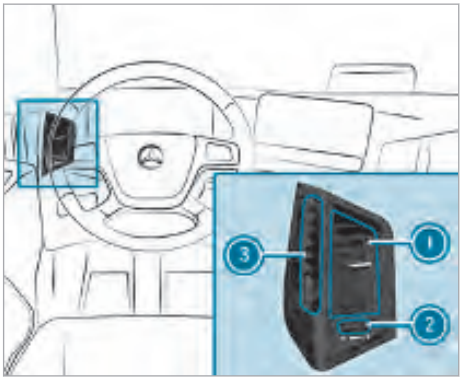
▶ Turn adjustment wheel ① upwards beyond the first detent position.
The horizontal blades fan out steadily. The airflow is then widely distributed as it emerges from the centre air vent.



Centre air vent in front passenger area (example)

▶ Turn adjustment wheel ① to the **I** position to open the centre air vent and to the **0** position to close it.

Side air vents



Side air vent in driver cockpit (example)

▶ Turn adjustment wheel ② to the left to open side air vent ① and to the **0** position to close it.

If adjustment wheel ② is turned fully outwards beyond the detent position to the position, the demister vent ③ will be opened.

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Instrument cluster

Notes on the instrument cluster

WARNING Risk of distraction from information systems and communications equipment

If you operate information and communication equipment integrated in the vehicle when driving, you will be distracted from the traffic situation. This could also cause you to lose control of the vehicle.

- ▶ Only operate this equipment when the traffic situation permits.
- ▶ If you cannot be sure of this, stop the vehicle whilst paying attention to road and traffic conditions and operate the equipment with the vehicle stationary.

WARNING Risk of accident due to an instrument cluster malfunction

If the instrument cluster has failed or malfunctioned, you may not recognise function restrictions applying to safety relevant systems.

The operating safety of your vehicle may be impaired.

- ▶ Park the vehicle safely as soon as possible and notify a qualified specialist workshop.

Observe the legal requirements for the country you are currently in while operating the instrument cluster.

Multimedia cockpit rev counter

NOTE Engine damage due to maximum engine speed being exceeded

If you exceed the maximum permissible engine speed, a warning tone will sound.

- ▶ Avoid driving in the red engine speed range (danger zone).

Instrument cluster (example)

1. Economical operating range (green)
2. Operating range of engine brake
3. Danger zone, danger of overrev (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 event window of the on-board computer.

Reduce the vehicle speed with the service brake or shift to a higher gear.

The indicator lamp on the instrument cluster will go out.

General driving instructions for the rev counter:

- Keep an eye on the rev counter while driving and stay within the economical operating range 1.

  In some situations, it may make sense to operate the engine outside the economical operating range, e.g. on uphill gradients or when overtaking.
- If you drive the vehicle within the economical operating range 1, you will achieve low fuel consumption and reduced wear.
- In engine braking mode, drive in the engine speed range 2. The maximum engine braking effect will be achieved just before the 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.

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ⓘ Observe the information about an economical driving style in the [ECO support] menu on the instrument cluster. The on-board computer can help you to optimise the way you drive and develop a fuel-saving driving style.

Interactive multimedia cockpit rev counter

! NOTE Engine damage due to maximum engine speed being exceeded

If you exceed the maximum permissible engine speed, a warning tone will sound.

▶ Avoid driving in the red engine speed range (danger zone).

Instrument cluster (example)

1. Economical operating range (green)
2. Operating range of engine brake
3. Danger zone, danger of overrev (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 event window of the on-board computer.

Reduce the vehicle speed with the service brake or shift to a higher gear.

The [⊙] indicator lamp on the instrument cluster will go out.

General driving instructions for the rev counter:

- Keep an eye on the rev counter while driving and stay within the economical operating range 1.

  In some situations, it may make sense to operate the engine outside the economical operating range, e.g. on uphill gradients or when overtaking.
- If you drive the vehicle within the economical operating range 1, you will achieve low fuel consumption and reduced wear.
- In engine braking mode, drive in the engine speed range 2. The maximum engine braking effect will be achieved just before the 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.

ⓘ Observe the information about an economical driving style in the ECO support menu on the instrument cluster. The on-board computer can help you to optimise the way you drive and develop a fuel-saving driving style.

Multimedia cockpit AdBlue® gauge

Example: instrument cluster

The AdBlue® gauge is only available on vehicles with BlueTec® exhaust gas aftertreatment.

The AdBlue® reducing agent is required for reducing engine emissions.

The operating permit is 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.

In the [Range/consumption] menu of the instrument cluster, the range of your vehicle can be displayed based on current tank content.

If the AdBlue® level has dropped to approximately 10% of the tank capacity, a corresponding event window appears with the [⛽] symbol in the instrument cluster. Top up the AdBlue® tank in good time (→ page 284).

BlueTec®4 vehicles and BlueTec®5 vehicles: if you do not observe the yellow event window and

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you drive until the AdBlue® tank is empty, engine output may be reduced.

BlueTec®6 vehicles: if you do not observe the yellow event window and the AdBlue® level drops further to approximately 2.5% engine output may be reduced.

When the AdBlue® tank has run dry, the event is stored and is signalled by the indicator lamp when starting the engine as an emissions-related fault (→ page 121). In addition, speed may be limited to approximately 20 km/h.

Interactive multimedia cockpit AdBlue® gauge

Example: instrument cluster

The AdBlue® gauge is only available on vehicles with BlueTec® exhaust gas aftertreatment.

The AdBlue® reducing agent is required for reducing engine emissions.

The operating permit is 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.

In the Range/consumption menu of the instrument cluster, the range of your vehicle can be displayed based on current tank content.

If the AdBlue® level has dropped to approximately 10% of the tank capacity, a corresponding event window appears with the symbol in the instrument cluster. Top up the AdBlue® tank in good time (→ page 284).

BlueTec®4 vehicles and BlueTec®5 vehicles: if you do not observe the yellow event window and you drive until the AdBlue® tank is empty, engine output may be reduced.

BlueTec®6 vehicles: if you do not observe the yellow event window and the AdBlue® level drops further to approximately 2.5% engine output may be reduced.

When the AdBlue® tank has run dry, the event is stored and is signalled by the indicator lamp when starting the engine as an emissions-related fault (→ page 121). In addition, speed may be limited to approximately 20 km/h.

Multimedia cockpit fuel display

Instrument cluster (example)

If the fuel level has dropped to approximately 14% of the tank capacity, the fuel display will enter the reserve area. The instrument cluster will display a corresponding event window with the symbol.

In the Range/consumption menu of the instrument cluster, the range of your vehicle can be displayed based on current tank content.

Interactive multimedia cockpit fuel display

Instrument cluster (example)

If the fuel level has dropped to approximately 14% of the tank capacity, the fuel display will enter the reserve area. The instrument cluster will display a corresponding event window with the symbol.

In the Range/consumption menu of the instrument cluster, the range of your vehicle can be displayed based on current tank content.

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Multimedia cockpit time and outside temperature

Example: instrument cluster

You should pay special attention to road conditions when temperatures are around freezing point.

Bear in mind that the outside temperature display indicates the measured air temperature and not the road surface temperature.

Changes in the outside temperature will be displayed after a short delay.

Switch the ignition on. The display on the speedometer will show the time ① and outside temperature ②.

Multimedia cockpit interactive time and outside temperature

Instrument cluster (example)

You should pay special attention to road conditions when temperatures are around freezing point.

Bear in mind that the outside temperature display indicates the measured air temperature and not the road surface temperature.

Changes in the outside temperature will be displayed after a short delay.

Switch on the ignition. The display on the speedometer will show the time ① and outside temperature ②.

Multimedia cockpit odometer

Trip distance/total distance instrument cluster menu

Trip distance ① and total distance ② are shown by the km/total Odometer reading menu on the instrument cluster.

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Interactive multimedia cockpit odometer

Trip distance/total distance instrument cluster menu

Trip distance ① and total distance ② are shown by the Odometer reading menu on the instrument cluster.

Indicator lamp for engine diagnostics: vehicles without BlueTEC® exhaust gas aftertreatment

Warning/indicator lamp	Possible causes/consequences and ▶ Solutions
Engine diagnosis warning lamp	If there are no malfunctions, the indicator lamp will light up briefly during the instrument cluster's display check and then go out after the engine starts.

Indicator lamp for engine diagnostics: BlueTEC®4 vehicles and BlueTEC®5 vehicles

Warning/indicator lamp	Possible causes/consequences and ▶ Solutions
Engine diagnosis warning lamp	If there are no malfunctions, the indicator lamp will light up briefly during the instrument cluster's display check and then go out after the engine starts.
Engine diagnosis warning lamp	The indicator lamp is flashing. The on-board computer displays an event window. *AdBlue® has been used up or an emissions-related malfunction has been detected. Engine output may be reduced. ▶ Follow the instructions in the event window. ▶ Drive carefully to the nearest filling station and top up with AdBlue®(→ page 284). or ▶ Drive carefully to the nearest qualified specialist workshop and have the malfunction rectified immediately.

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Warning/indicator lamp	Possible causes/consequences and ▶ Solutions
Engine diagnosis warning lamp	The indicator lamp lights up. *The BlueTEC® exhaust gas aftertreatment is malfunctioning or has an emissions-related fault. The malfunction or fault could damage the BlueTEC® exhaust gas aftertreatment system. ▶ If the on-board computer displays an event window, observe the information. ▶ Have the BlueTEC® exhaust gas aftertreatment system checked immediately at a qualified specialist workshop.

Indicator lamp for engine diagnostics: BlueTEC®6 vehicles

Warning/indicator lamp	Possible causes/consequences and ▶ Solutions
Engine diagnosis warning lamp	The indicator lamp is flashing. *Once you have switched on the ignition, 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 engine is started (→ page 122).
Engine diagnosis warning lamp	The indicator lamp lights up and remains lit after the engine is started. *The BlueTEC® exhaust gas aftertreatment is malfunctioning or has an emissions-related fault. The malfunction or fault could damage the BlueTEC® exhaust gas aftertreatment system. ▶ If the on-board computer displays an event window, observe the information. ▶ Have the BlueTEC® exhaust gas aftertreatment system checked immediately at a qualified specialist workshop.
Engine diagnosis warning lamp	The indicator lamp lights up. The on-board computer shows an event window and the [⇨] indicator lamp in the status area lights up. *An emissions-related malfunction has been detected. ▶ Follow the instructions in the event window. ▶ Have the BlueTEC® exhaust gas aftertreatment system checked immediately at a qualified specialist workshop. If you do not follow the instructions in the event window, the engine output may be reduced as per the message displayed: • After approximately 10 hours, e.g. if a low-grade diluted reducing agent is used or the metering is incorrect • After approximately 36 hours, e.g. if the exhaust gas recirculation or the security system is faulty In certain cases, engine output may be reduced even earlier.

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Warning/indicator lamp	Possible causes/consequences and ▶ Solutions
Engine diagnosis warning lamp	The indicator lamp lights up. Engine output is reduced. At the same time, the on-board computer shows an event window and the indicator lamp in the status area lights up. *You have not rectified a detected emissions-related malfunction. ▶ Follow the instructions in the event window. ▶ Drive carefully to the nearest qualified specialist workshop and have the malfunction rectified immediately. If you do not follow the instructions in the event window, speed may be limited as per the message displayed: • 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 • Approximately 100 hours after the first occurrence of a malfunction, e.g. if the exhaust gas recirculation or the security system is faulty In certain cases, speed may be limited even earlier.
Engine diagnosis warning lamp	The indicator lamp lights up. The speed is limited to approximately 20 km/h. The on-board computer also shows the indicator lamp in the status area. *AdBlue® has been used up or a detected emissions-related malfunction has not been rectified. ▶ Follow the instructions in the event window. ▶ Drive carefully to the nearest filling station and top up with AdBlue®(→ page 284). or ▶ Drive carefully to the nearest qualified specialist workshop and have the malfunction rectified immediately. The MOT approval will be invalidated if you continue to use the vehicle.

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's status display. It may take several journeys to complete the system check.

If there is low-quality or diluted reducing agent in the AdBlue® tank, you must empty the tank and then refill it with AdBlue®/DEF 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 277).

Status display for the BlueTec®6 exhaust gas aftertreatment

In BlueTEC®6 vehicles, the status of the BlueTEC® exhaust gas aftertreatment will be signalled for a quick on-site check by authorities.

There are three successive signalling phases shown by the indicator lamp. Signalling will start after you have switched on the ignition and end when the engine starts.

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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 five seconds.

In the third phase, the indicator lamp will indicate whether any emissions-related malfunctions have been detected.

If no emissions-related malfunctions are detected, the indicator lamp will light up briefly and then go out for approximately five seconds. This flashing sequence will be repeated until the engine is started.

If an emissions-related malfunction is detected, the indicator lamp will flash three times and then go out for approximately five seconds. This flashing sequence will be repeated until the engine is started. The indicator lamp will remain lit for approximately 15 seconds after the engine is started.

In the following cases, the indicator lamp will light up and remain lit after the engine is started:

- A serious emissions-related malfunction has been detected.
- An emissions-related malfunction was detected more than 200 hours ago and is still present.

On-board computer

Notes/overview

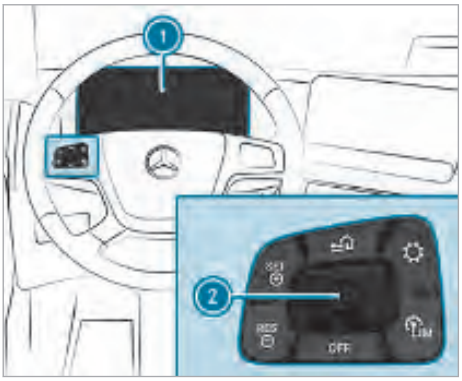
WARNING Risk of distraction from information systems and communications equipment

If you operate information and communication equipment integrated in the vehicle when driving, you will be distracted from the traffic situation. This could also cause you to lose control of the vehicle.

▶ Only operate this equipment when the traffic situation permits.

▶ If you cannot be sure of this, stop the vehicle whilst paying attention to road and traffic conditions and operate the equipment with the vehicle stationary.

You must observe the legal requirements for the country in which you are currently driving when operating the on-board computer.



On-board computer (example)

1 Instrument cluster

2 Navigates/confirms/selects on the on-board computer

Main menu and back button

You can operate the on-board computer via the left-hand button group on the multifunction steering wheel.

The on-board computer will provide you with information when you are driving, such as the following:

- Fuel consumption
- Trip time
- Operating statuses
- Maintenance due dates
- Malfunctions
- Causes of malfunctions
- Action to be taken

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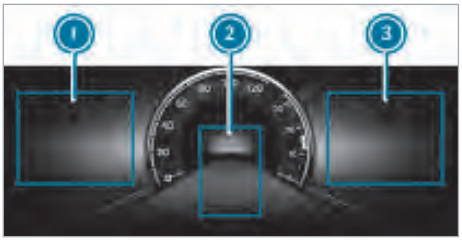
Menus at a glance

Multimedia cockpit

Instrument cluster (example)

1. Menu display
- Brake pressure
- Distance
- Trip computer
- Tachograph
- Assistance
- Range/consumption
- Eco Support
- Telephone
- Audio
- Oil level
- Navigation
- Coolant temperature

Interactive multimedia cockpit



Instrument cluster (example)

1. Menus on left
   Brake pressure
   Coolant temperature
   Trip computer
   Range/consumption
   Oil level
2. Menus on the tachograph
   Distance
   Assistance
3. Menus on right
   Tachograph
   Eco Support
   Telephone
   Audio
   Navigation

You can use the button group on the left of the multifunction steering wheel to navigate through the menus and open/close individual menus (→ page 123)

ⓘ The number and order of the menus depends on your vehicle's equipment and the type of vehicle.

On-board computer event window

Notes on event windows

Safety notes

If you ignore warning and indicator lamps and the event window, you will not be able to 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 limited. Have the affected system checked and repaired at a qualified specialist workshop. Always observe the warning lamps and event windows and take the corresponding action.

Operating information, fault messages and warnings are automatically displayed in an event window by the on-board computer. In addition to the event window, an indicator lamp may light up in the status area (→ page 153).

Depending on the priority of the message, the on-board computer will display the event window in different colours:

- Grey event window for a malfunction/notification of low priority(→ page 124)
- Yellow event window for a malfunction/notification of medium priority(→ page 129)
- Red event window for a malfunction of high priority(→ page 145)

Grey event window

With a malfunction/notification of low priority, the on-board computer will display a grey event window. Observe the information and instructions in the event window. You can drive on.

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BlueTEC® exhaust gas aftertreatment

Display messages	Possible causes/consequences and ▶ Solutions
Engine speed increase	* The "HC burn-off" feature reduces deposits of hydrocarbons in the catalytic converter. This is performed at increased engine speeds. You cannot cancel the process when the message appears. The message disappears automatically when the process is complete. "HC burn-off" does not regenerate the diesel particulate filter.
Regeneration disabled	* Diesel particulate filter regeneration is disabled and the fill level of the diesel particulate filter is raised. ▶ In order to enable automatic regeneration of the diesel particulate filter, deactivate the regeneration block as soon as possible (→ page 276).
Manual regeneration not possible	* Supplementary text : Requirements for manual regeneration have not been fulfilled. Please observe the Operating Instructions. Diesel particulate filter regeneration is not possible. At least one requirement has not been fulfilled. ▶ Observe the activation conditions and requirements for manual regeneration of the diesel particulate filter (→ page 277).

Transmission and clutch

Display messages	Possible causes/consequences and ▶ Solutions
Clutch under heavy strain	* The clutch is under heavy load but not overloaded. You should pull away only in first gear. ▶ Keep the pulling-away or manoeuvring procedure as brief as possible.
Press shunting switch for longer	* You have pressed the switch for manoeuvring mode too briefly. ▶ Press the switch again.
Press shunting switch faster.	* If the event window turns off again, you have pressed the switch for manoeuvring mode for too long. If the event window stays on, the switch is malfunctioning. If the event window turns off again: ▶ Press the switch again. If the event window stays on: ▶ Have the switch checked at a qualified specialist workshop.

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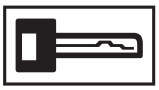
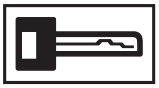
Driving systems

Display messages	Possible causes/consequences and ▶ Solutions
Active Brake Assist cannot be activated	* ABS may be switched off. There may be a fault in Active Brake Assist or a fault with the vehicle's brake system. WARNING! If Active Brake Assist cannot be activated, you will not receive any collision warnings. The vehicle will not brake automatically in critical situations. There is a risk of accident if you do not adapt your driving style. ▶ Pay particular attention to the traffic situation. ▶ If necessary, use the service brake to brake the vehicle. ▶ Have the Active Brake Assist system checked at a qualified specialist workshop.
Emergency braking finished	* Active Brake Assist has triggered an emergency braking manoeuvre (full brake application) and the emergency braking manoeuvre has been completed. ▶ Remove the vehicle as quickly as possible from the danger zone, paying attention to road and traffic conditions as you do so. ▶ Switch off the engine. ▶ Apply the parking brake. ▶ Make sure that the vehicle is in proper working order and that the load is secured properly.
Sideguard Assist inoperative	* Supplementary text [▸≡] : Stop vehicle and clean sensor The sensor is dirty. Sideguard Assist is unavailable. WARNING! If Sideguard Assist is unavailable, you will not receive any warnings from Sideguard Assist. There is a risk of an accident. ▶ Stop the vehicle, paying attention to road and traffic conditions, and clean the sensor.

Electrical system and key

Display messages	Possible causes/consequences and ▶ Solutions
 Use replacement key	* ▶ Use the replacement key.
 Key not recognised	* The key is currently undetected. The key must be in the cab. ▶ Change the location of the key in the vehicle. If the key is still not detected: ▶ Hold the key next to the start/stop button and start the engine.

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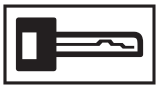
Display messages	Possible causes/consequences and ▶ Solutions
 Press and hold EMERGENCY OFF button for 3s.	* If you have briefly pressed the start/stop button while driving, the event window will appear on the display. In an emergency situation, you can switch off the engine while the vehicle is in motion by pressing and holding the start/stop button. WARNING! Driving characteristics will change significantly when the engine is not running. There is a risk of an accident. ▶ If you want to switch the engine off, press and hold the start/stop button for roughly three seconds. The engine will switch off.
 Hold key next to Start/Stop button	* Key detection is malfunctioning. ▶ Change the location of the key in the vehicle. ▶ Hold the key next to the start/stop button and start the engine.
 Energy-saving mode active	* Supplementary text : Electrical consumers are switched off In addition to the event window, the indicator lamp lights up grey in the status area. The engine is switched off and the battery charge level is low. The following electrical consumers will automatically be deactivated: • Audio equipment • 24 V sockets • 12 V socket • Cigarette lighter • Seat heating • Switch 1 for non-MB body (e.g. load compartment lamp) • Stowage compartment lamp above the windscreen • Ambient living area light • Electric stationary air conditioning system • Reading lamps • Night lighting • Rear stowage compartment lighting • Wireless charging (mobile phone) • USB charging function • Subwoofer • 12 V connection point for body manufacturer • Opening function of the sliding or tilting roof • Heating for outside mirror • Heating for compressed-air drier • Lamps for berth

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Display messages	Possible causes/consequences and ▶ Solutions
	In the following functions, the duration of actuation will be shortened: • Automatic activation of the interior lighting • Switch-off delay time of the exterior lighting ▶ If necessary, start the engine. When you start the engine, the electrical consumers will be available again.

Semitrailers

Display messages	Possible causes/consequences and ▶ Solutions
Coupling level reached	* In addition to the event window, the indicator lamp lights up red in the status area. The semitrailer has been detected during reversing. The semitrailer coupling is unlocked. ▶ Continue the coupling procedure by reversing slowly.

Operating fluids and maintenance

Display messages	Possible causes/consequences and ▶ Solutions
	* The washer fluid level in the washer fluid reservoir for the windscreen washer/headlamp cleaning system has fallen to approximately one litre. ▶ Top up the washer fluid reservoir (→ page 324).
Air filter	* Supplementary text: 12.08.2018 3000 km (example) A service is due soon. ▶ Schedule the service appointment at a qualified specialist workshop.
Air filter Maintenance due (Example)	* In addition to the event window, the indicator lamp lights up grey in the status area. A service is due. ▶ Have the maintenance work carried out at a qualified specialist workshop.
Fully refuel the main tank first	* The main tank has run dry. 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. ▶ First, completely fill up the main tank on the left-hand side of the vehicle (→ page 282). ▶ Then fill up the additional fuel tank.

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Engine and cooling

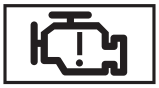
Display messages	Possible causes/consequences and ▶ Solutions
Radiator shutters inoperative (Example)	* The upper or lower air regulation system is malfunctioning, e.g. due to foreign objects blocking the engine radiator. ▶ Stop the vehicle, paying attention to road and traffic conditions, and switch off the engine. ▶ Check the upper and lower air regulation system for foreign objects and dirt and remove the foreign objects or dirt as necessary. If no foreign objects or dirt can be found or the event window is shown again: ▶ Manually open the radiator shutters and lock them in place (⟶ page 346). ▶ Have the air regulation system checked at a qualified specialist workshop.

Yellow event window

In the event of a malfunction/notification of medium priority, the on-board computer will display a yellow event window.

The on-board computer will display a yellow event window if, for example, due maintenance work has not been performed. The on-board computer will also display a yellow event window for special operating statuses, e.g. if the diesel particulate filter is saturated or if the clutch is under heavy load. Observe the information and instructions in the event window.

BlueTEC®4/BlueTEC®5 exhaust gas aftertreatment

Display messages	Possible causes/consequences and ▶ Solutions
AdBlue reserve	* Supplementary text [▸≡] : Please top up AdBlue. The AdBlue® level has dropped to approximately 10%. ▶ Top up the AdBlue® tank immediately (⟶ page 284). Otherwise, engine output may be reduced.
AdBlue empty	* Supplementary text [▸≡] : Please top up AdBlue. The AdBlue® level has dropped to approximately 0%. Engine output will be reduced the next time the engine is started. ▶ Adapt your driving style accordingly. ▶ Top up the AdBlue® tank immediately (⟶ page 284).
 Engine power reduced	* Supplementary text [▸≡] : Please top up AdBlue. The AdBlue® level has dropped to approximately 0%. Engine output will be reduced. ▶ Adapt your driving style accordingly. ▶ Top up the AdBlue® tank immediately (⟶ page 284).

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BlueTec®6 exhaust gas aftertreatment

Display messages	Possible causes/consequences and ▶ Solutions
AdBlue reserve	* Supplementary text : Please top up AdBlue. The AdBlue® level has dropped to approximately 10%. ▶ Top up the AdBlue® tank immediately (→ page 284). Otherwise, engine output may be reduced and speed may be limited to approximately 20 km/h.
AdBlue reserve	* Supplementary text : Please top up with AdBlue. Risk of reduction in engine power The indicator lamp in the status area also lights up. The AdBlue® level has dropped to approximately 7.5%. ▶ Top up the AdBlue® tank immediately (→ page 284). Otherwise, engine output may be reduced and speed may be limited to approximately 20 km/h.
AdBlue very low	* Supplementary text : Please top up with AdBlue. Reduction in engine power after stopping The indicator lamp in the status area also lights up. The AdBlue® level has dropped to approximately 2.5%. ▶ Top up the AdBlue® tank immediately (→ page 284). Otherwise, engine output will be reduced the next time the vehicle comes to a standstill and speed may be limited to approximately 20 km/h.
AdBlue empty	* Supplementary text : Please top up with AdBlue Risk of limit speed The indicator lamp in the status area also lights up. The AdBlue® level has dropped to approximately 0%. Engine output will be reduced. ▶ Adapt your driving style accordingly. ▶ Top up the AdBlue® tank immediately (→ page 284). Otherwise, the vehicle speed may be limited to approximately 20 km/h.
Engine power reduced	* Supplementary text : Please top up with AdBlue Risk of limit speed The indicator lamp in the status area also lights up. The AdBlue® level has dropped to approximately 2.5%. Engine output will be reduced. ▶ Adapt your driving style accordingly. ▶ Top up the AdBlue® tank immediately (→ page 284). Otherwise, the vehicle speed may be limited to approximately 20 km/h.
Limit speed	* Supplementary text : Please top up AdBlue. The indicator lamp in the status area also lights up. The AdBlue® level has dropped to approximately 0%. The speed is limited to approximately 20 km/h.

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Display messages	Possible causes/consequences and ▶ Solutions
	▶ Adapt your driving style accordingly. ▶ Top up the AdBlue® tank immediately (→ page 284).

Diesel particulate filter

Display messages	Possible causes/consequences and ▶ Solutions
Diesel particulate filter: raised fill level	* Supplementary text : Please start regeneration Please observe the Operating Instructions Indicator lamp in the instrument cluster also lights up yellow. Regeneration of the diesel particulate filter is necessary. Depending on the operating status, do the following within the next four hours: ▶ deactivate regeneration lockout (→ page 276) and drive on a motorway or take a country drive until the indicator lamp goes out. or ▶ start manual regeneration (→ page 277).
Diesel particulate filter full	* Supplementary text : Start regeneration immediately Please observe the Operating Instructions Indicator lamp in the instrument cluster also lights up yellow. Regeneration of the diesel particulate filter is necessary. Depending on the operating status, do the following within the next 30 minutes: ▶ deactivate regeneration lockout (→ page 276) and drive on a motorway or take a country drive until the indicator lamp goes out. or ▶ start manual regeneration (→ page 277).
Diesel particulate filter full	* Supplementary text : Start regeneration immediately Please observe the Operating Instructions Indicator lamp in the instrument cluster also flashes yellow. Regeneration of the diesel particulate filter is necessary immediately and it can be started for the last time manually. ▶ Start manual regeneration straight away (→ page 277). The diesel particulate filter may otherwise only be able to be cleaned or replaced at a qualified specialist workshop.

Operating fluids and maintenance

Display messages	Possible causes/consequences and ▶ Solutions
	* The fuel has dropped to the reserve level. ▶ Refill the fuel tank (→ page 280).

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Display messages	Possible causes/consequences and ▶ Solutions
Engine Maintenance due immediately (Example)	* The [ ] indicator lamp will light up yellow on the status area as well as the event window. A maintenance due date has been exceeded by a significant amount of time. This could result in damage to the vehicle and its major assemblies. It could also result in increased wear. ▶ Have the maintenance work carried out immediately at a qualified specialist workshop.

Compressed-air system, engine and cooling system

Display messages	Possible causes/consequences and ▶ Solutions
Condensation in compressed-air reservoir	* The compressed-air dryer is malfunctioning. ▶ Have the compressed-air dryer checked at a qualified specialist workshop.
Transmission/clutch reserve pressure too low	* The reservoir pressure in the transmission/clutch is too low. WARNING! The gears can no longer be changed properly. There is a risk of an accident. ▶ Park the vehicle safely as soon as possible. ▶ Apply the parking brake. ▶ Let the engine run until the event window goes out and the reservoir pressure has reached an adequate level. ▶ If the malfunction occurs regularly, have the compressed-air system checked at a qualified specialist workshop.
Drive control faulty	* Supplementary text [ ] : Visit workshop. The electronic drive control is malfunctioning. ▶ Observe the instructions in the event window.
Engine faulty	* One of the following systems is malfunctioning: • engine • engine cooling • engine management • fuel injection system ▶ Have the systems checked at a qualified specialist workshop.
Engine cooling faulty	* The poly-V-belt may be damaged or the tension of the poly-V-belt may not be sufficient. ▶ Have the poly-V-belt checked at a qualified specialist workshop.

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Display messages	Possible causes/consequences and ▶ Solutions
Coolant temperature too high	* The coolant temperature is too high. Engine power output is automatically reduced. ▶ Reduce the speed. ▶ Shift to a lower gear. or ▶ Stop the vehicle, paying attention to road and traffic conditions. ▶ Switch off the engine. ▶ Remove objects that could block the air supply to the radiator, e.g. paper which has blown onto the grille.
Engine protection: engine power reduced	* The coolant temperature is too high. Engine power output is automatically reduced. ▶ Reduce the speed. ▶ Shift to a lower gear. or ▶ Stop the vehicle, paying attention to road and traffic conditions. ▶ Switch off the engine. ▶ Remove objects that could block the air supply to the radiator, e.g. paper which has blown onto the grille.
Coolant level too low	* Supplementary text : Top up coolant. The coolant level has dropped below the normal filling level. The yellow event window is shown when the engine is cold and the ignition is switched on. ▶ Top up the coolant (→ page 322). ▶ If the coolant level drops again, immediately have the cooling system checked at a qualified specialist workshop.
Coolant pressure regulation faulty	* The electrical connector or the hose fitting on the coolant expansion reservoir is loose. The turquoise cap on the coolant expansion reservoir is not tight. ▶ Check the electrical connector and the hose fitting on the coolant expansion reservoir (→ page 322). ▶ If you detect any leakage, have the engine cooling system checked at a qualified specialist workshop.

Transmission and clutch

Display messages	Possible causes/consequences and ▶ Solutions
Transmission faulty	* Supplementary text : Visit workshop. The gearshift system has a malfunction. Continuing the journey is possible with restrictions. ▶ Have the transmission checked at a qualified specialist workshop.

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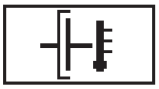
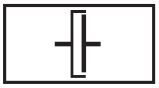
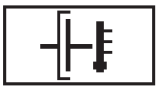
Display messages	Possible causes/consequences and ▶ Solutions
 Transmission faulty (only vehicles with automatic transmission)	* Supplementary text [▸≡] : Visit workshop. WARNING! The automatic transmission is malfunctioning. Continuing the journey is possible with restrictions. Depending on the fault, a specialist workshop can provide assistance for limited continued driving by specifying fault codes. You can display the fault codes either via the on-board computer in the Diagnosis menu window or via the touch-key gearshift of the automatic transmission. Display of fault codes via the touch-key gearshift: ▶ press the [△] and [▽] buttons on the touch-key gearshift twice at the same time. The display of the touch-key gearshift shows the 5-digit fault codes one after the other. ▶ To display the next fault code, press the MODE button. A maximum of five fault codes can be stored. ▶ To exit the fault code display, press the [△] and [▽] buttons of the automatic transmission at the same time. or ▶ Shift the automatic transmission to neutral position.
 Transmission: oil temperature too high	* Supplementary text [▸≡] : Visit workshop. The permissible operating temperature of the transmission or retarder has been reached. The temperature of the transmission oil or coolant is too high. The cause can be a low or too high oil level in the transmission. If the oil temperature in the transmission continues to rise, the transmission can be damaged. ▶ Switch off the retarder. ▶ Stop the vehicle as soon as possible, taking into account the road and traffic conditions. ▶ Apply the parking brake and shift the automatic transmission to neutral position. ▶ Leave the engine running for two to three minutes at a speed of 1200 to 1500 rpm. ▶ Switch off the engine. ▶ If the oil temperature does not drop, check the oil level in the automatic transmission (⟶ page 327). ▶ If the event message continues to be displayed, contact a qualified specialist workshop and have the fault rectified.
 Clutch faulty	* Supplementary text [▸≡] : Visit workshop. WARNING! The clutch is malfunctioning. Continuing the journey is possible with restrictions. ▶ Have the clutch checked at a qualified specialist workshop.
 Clutch under heavy strain	* The permissible operating temperature of the clutch has been reached. Further load can result in clutch damage. ▶ Shift into a lower gear to manoeuvre or pull away.

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Display messages	Possible causes/consequences and ▶ Solutions
	▶ Finish the pulling off or manoeuvring process as quickly as possible. Otherwise the clutch will be overloaded.
Clutch plate oil temperature	* Additional text: 180 °C (example) The oil temperature in the fluid coupling is too high. ▶ Shift to a lower gear. The engine speed increases and the dry clutch is closed.
Retarder: oil temperature too high	* The oil temperature in the retarder is too high. ▶ Shift to a lower gear. The engine speed and the engine braking effect increase.
Transmission in off-road reduction ratio	* When off-road gear is engaged, you drive faster than approximately 50 km/h. The temperature in the retarder is too high. ▶ When off-road gear is engaged, drive at low engine speed or engage the on-road gear.

Trailers/semitrailers

Display messages	Possible causes/consequences and ▶ Solutions
Wheel brake overload	* Supplementary text : Adapt your driving style. The temperature of one of the drum brakes / disc brakes on the trailer/semitrailer is too high. The drum brake / disc brake may overheat. WARNING! The vehicle's driving and braking characteristics may change. Also observe the information in the separate operating instructions provided by the trailer/semitrailer manufacturer. There is a risk of an accident. ▶ Drive on carefully. ▶ Shift to a lower gear. ▶ Brake the vehicle with the continuous brake. ▶ Depress the brake pedal only if the continuous brake cannot decelerate the vehicle sufficiently. ▶ Have the brake system checked at a qualified specialist workshop.
Check tyre pressure	* The tyre pressure is too low in at least one of the trailer/semitrailer tyres. Driving/braking characteristics may change. Observe the information in the separate operating instructions provided by the trailer/semitrailer manufacturer. There is a risk of an accident.

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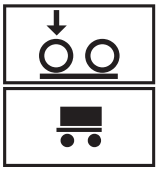
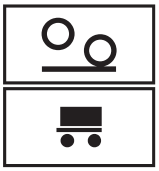
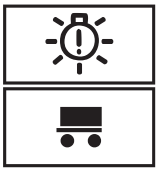
Display messages	Possible causes/consequences and ▶ Solutions
	▶ Stop the vehicle without steering or braking suddenly. Pay attention to the traffic conditions. ▶ Check the tyre pressure and correct if required.
 Starting-off aid active	* The starting-off aid on the trailer/semitrailer is activated. ▶ Read the separate operating instructions issued by the trailer/semitrailer manufacturer.
 Additional axle raised	* The leading/trailing axle on the trailer/semitrailer is raised. ▶ Read the separate operating instructions issued by the trailer/semitrailer manufacturer.
 Note trailer height.	* The indicator lamp will light up yellow on the instrument cluster as well as the event window. The level control system for the trailer/semitrailer is not at driving level. WARNING! The vehicle's driving and braking characteristics may change during driving. There is a risk of accident if you do not adapt your driving style. Be aware of underpass headroom. Also comply with the information in the separate operating instructions provided by the trailer/semitrailer manufacturer. ▶ Set the level control system for the trailer/semitrailer to driving level; see the separate operating instructions provided by the trailer/semitrailer manufacturer.
 Turn signal faulty (Example)	* The turn signal light on the trailer/semitrailer is faulty. ▶ Replace the corresponding bulb; see the separate operating instructions issued by the trailer/semitrailer manufacturer.

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Braking and driving systems

Display messages	Possible causes/consequences and ▶ Solutions
 Brakes, axle 1 Maintenance due immediately (Example)	* The [ ] indicator lamp shown with [ ] lights up yellow in the status area as well as the event window. The service work due has not been performed. The wear limit of the brakepads and/or brake discs has been exceeded. **⚠ WARNING** Risk of accident due to restricted braking power When the brake pads have reached their wear limit, the braking power may be restricted. ▶ Drive on carefully. ▶ Have the brake system checked immediately at a qualified specialist workshop. ▶ Visit a qualified specialist workshop.
 Brake pads completely worn	* Supplementary text [ ] : Visit workshop. The wiring for the trailer/semitrailer is not connected or the service work due has not been performed on the trailer/semitrailer. The wear limit of the brakepads and/or brake discs of the trailer/semitrailer has been exceeded. **⚠ WARNING** Risk of accident due to restricted braking power When the brake pads have reached their wear limit, the braking power may be restricted. ▶ Drive on carefully. ▶ Have the brake system checked immediately at a qualified specialist workshop. Also observe the information in the separate operating instructions provided by the trailer/semitrailer manufacturer. ▶ Have the trailer/semitrailer wiring checked immediately at a qualified specialist workshop. or ▶ Have the brakepads on the trailer/semitrailer replaced immediately at a qualified specialist workshop.
 Driving and braking characteristics changed	* Supplementary text [ ] : Visit workshop. In addition, the [ ] warning lamp lights up yellow in the instrument cluster. The vehicle's brake system is malfunctioning. **⚠ WARNING** Risk of an accident due to a brake system malfunction If the brake system is malfunctioning, braking characteristics may be impaired. ▶ Drive on carefully.

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Display messages	Possible causes/consequences and ▶ Solutions
	▶ Have the brake system checked immediately at a qualified specialist workshop.
Braking effect limited	* Supplementary text [▸≡] : Adapt your driving style. The temperature of one of the disk brakes on the towing vehicle is too high. WARNING! The disk brake may overheat. Driving/braking characteristics may change. There is a risk of an accident. ▶ Drive with even greater care. ▶ Shift to a lower gear. ▶ Brake the vehicle with the continuous brake. ▶ Only depress the brake pedal if the continuous brake cannot decelerate the vehicle sufficiently.
ESP not available	* Supplementary text [▸≡] : Visit workshop. In addition, the [warning lamp] warning lamp lights up in the instrument cluster. Stability Control Assist is malfunctioning. ⚠ **WARNING** Risk of skidding as a result of an ESP malfunction If ESP® is malfunctioning, ESP® no longer stabilises the vehicle. ▶ Drive on carefully. ▶ Have ESP® checked at a qualified specialist workshop.
ESP deactivated Set normal level	* In addition, the [warning lamp] warning lamp lights up in the instrument cluster. If the chassis is not at driving level while driving, Stability Control Assist is deactivated. WARNING! Driving/braking characteristics may change. There is a risk of an accident if you do not adapt your driving style. ▶ Set the driving level (→ page 263).
Distance sensor dirty	* Supplementary text [▸≡] : Stop vehicle and clean sensor. Active Brake Assist and distance control faulty. WARNING! If Active Brake Assist and the distance control assistant are inoperative, you will not receive any collision warnings. The vehicle will not brake automatically in critical situations. There is a risk of an accident. ▶ Clean the distance sensor cover in the front bumper using water (→ page 318). Do not use any dry, rough or hard cloths and do not scrub or scratch.

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Display messages	Possible causes/consequences and ▶ Solutions
 Active Brake Assist not available	* Supplementary text : Please have rectified at next maintenance. (example). WARNING! If Active Brake Assist is not available, you will not receive any collision warnings. In critical situations, the vehicle will not brake automatically. There is a risk of an accident if you do not adapt your driving style. ▶ If necessary, use the service brake to brake the vehicle. ▶ Have the Active Brake Assist system checked at a qualified specialist workshop.
 Camera's optical field of vision, dirty	* Supplementary text : Stop vehicle and clean the windscreen Lane Keeping Assist and Attention Assist unavailable (example). WARNING! The following driver assistance systems/driving safety systems could be impaired or no longer operational: • Lane Keeping Assist • Attention Assist • Adaptive Highbeam Assist • Traffic Sign Assist • Active Brake Assist • Distance control assistant • Active Drive Assist There is a risk of an accident. ▶ Clean the area of the windscreen where the camera is located (→ page 318).
 Lane Keeping Assist not available (Example)	* Supplementary text : Visit workshop Camera calibration faulty Lane Keeping Assist and Attention Assist unavailable WARNING! The following driver assistance systems/driving safety systems could be impaired or no longer operational: • Lane Keeping Assist • Attention Assist • Adaptive Highbeam Assist • Traffic Sign Assist • Active Brake Assist • Distance control assistant • Active Drive Assist There is a risk of an accident. ▶ Have the affected driver assistance system/driving safety system checked at a qualified specialist workshop.

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Display messages	Possible causes/consequences and ▶ Solutions
 Lane Keeping Assist not available (Example)	* Supplementary text ▸☰ : Visit workshop Lane Keeping Assist and Attention Assist unavailable WARNING! The following driver assistance systems/driving safety systems could be impaired or no longer operational: • Lane Keeping Assist • Attention Assist • Adaptive Highbeam Assist • Traffic Sign Assist • Active Brake Assist • Distance control assistant • Active Drive Assist There is a risk of an accident. ▶ Have the affected driver assistance system/driving safety system checked at a qualified specialist workshop.
 Lane Keeping Assist faulty (Example)	* Supplementary text ▸☰ : Visit workshop Lane Keeping Assist and Attention Assist unavailable WARNING! The following driver assistance systems/driving safety systems could be impaired or no longer operational: • Lane Keeping Assist • Attention Assist • Adaptive Highbeam Assist • Traffic Sign Assist • Active Brake Assist • Distance control assistant • Active Drive Assist There is a risk of an accident. ▶ Have the affected driver assistance system/driving safety system checked at a qualified specialist workshop.
 Lane Keeping Assist faulty	* Supplementary text ▸☰ : Visit workshop Lane Keeping Assist, left speaker malfunctioning or Visit workshop Lane Keeping Assist, right speaker malfunctioning WARNING! The left or right speaker is malfunctioning. If a speaker is malfunctioning on one side, Lane Keeping Assist will issue the acoustic warning from the functioning speaker, not necessarily corresponding to the affected side. It is possible that in this situation, an acoustic warning may sound on the side opposite to the affected side of the vehicle. There is a risk of an accident. ▶ Have Lane Keeping Assist checked at a qualified specialist workshop.

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Display messages	Possible causes/consequences and ▶ Solutions
 Sideguard Assist faulty	* Sideguard Assist is malfunctioning. WARNING! If Sideguard Assist is malfunctioning, you may not necessarily receive a warning from Sideguard Assist. There is a risk of an accident. ▶ Have Sideguard Assist checked at a qualified specialist workshop.
 Attention Assist: take a break?	* ATTENTION ASSIST has detected tiredness or increasing lapses in concentration. A warning tone will also sound. ▶ Confirm the warning by pressing the OK button. ▶ If necessary, take a break. During long journeys, take regular breaks in good time.
 Steering characteristics changed	* Supplementary text : Do not steer when the vehicle is at a standstill. Steer carefully when the vehicle is moving at walking pace. or Please have rectified at next maintenance. The power steering has detected a malfunction. The feel of the steering may change. If you steer abruptly when manoeuvring, the steering may go into emergency operation mode. ▶ Stop the vehicle, paying attention to road and traffic conditions. ▶ Switch the ignition off. ▶ Start the engine. ▶ If the fault is displayed again or continues to be displayed: have the vehicle checked at a qualified specialist workshop.
 Do not turn the steering wheel to the stop	* Supplementary text : Active steering wheel return inoperative or Please have rectified at next maintenance. A fault has occurred in the steering control unit. The vehicle's driving characteristics (feel) may change. The steering wheel will not return to the straight-ahead position. Do not turn the steering wheel to the stop. Otherwise, the steering could overheat. ▶ Stop the vehicle, paying attention to road and traffic conditions. ▶ Switch the ignition off. ▶ Start the engine. ▶ If the fault is displayed again or continues to be displayed: have the vehicle checked at a qualified specialist workshop.
 Leading/trailing axle centred	* The steerable additional axle is malfunctioning and is centred automatically. It is deactivated and no longer steers actively. ▶ Drive on carefully and stop at the next available opportunity. Adjust your driving style to the changed handling and steering characteristics. ▶ Stop the vehicle and switch off the engine.

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Display messages	Possible causes/consequences and ▶ Solutions
	▶ Start the engine after approximately ten seconds. The event window goes out. The steerable additional axle is reactivated. ▶ If the event window does not disappear: have the steerable additional axle checked at a qualified specialist workshop.
 Deactivate shunting level.	* You are driving faster than approximately 20 km/h at shunting level. If you drive faster than approximately 40 km/h a warning tone also sounds. WARNING! The vehicle's driving and braking characteristics may change. There is a risk of accident if you do not adapt your driving style. ▶ Deactivate shunting level (⟶ page 265). or ▶ Reduce the speed.

Lighting system, electrical system and key

Display messages	Possible causes/consequences and ▶ Solutions
 Battery charge level cannot be detected	* Supplementary text : Visit workshop Energy saving mode, battery charge level warning and alternator management unavailable 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. ▶ If electrical consumers are switched on when the engine is switched off, be mindful of the electricity consumption.
 Battery charge level too low Start engine.	* Supplementary text : Please start engine and/or charge battery. In addition to the event window, three short warning tones will sound and the indicator lamp in the status area will light up yellow. The engine is switched off and the battery charge level is too low. ▶ Start the engine or ▶ Charge the battery (⟶ page 334). ▶ Switch off any electrical consumers that are not needed, e.g. audio equipment, refrigerator box and climate control.
 Instrument cluster display and controls faulty	* The CAN connection to the instrument cluster has failed. The display of the on-board computer can no longer display information important for the operational and road safety of the vehicle. ▶ Drive with even greater care. ▶ Have the instrument cluster checked at a qualified specialist workshop.

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Display messages	Possible causes/consequences and ▶ Solutions
	* All the vehicle's exterior lighting is electronically monitored. If the event window is displayed, a bulb has failed. The event window will contain information about the fault location and the fault remedy, e.g. Replace light bulb. Left dipped beam faulty or Visit workshop. Left dipped beam faulty If the "Replace light bulb" event window is shown: ▶ Replace the corresponding bulb (→ page 84). If you do not switch off the lighting system before you change the bulb, you must reset the event window afterwards. To do so, switch the relevant lighting or, if necessary, the ignition off and on again. or ▶ Consult a qualified specialist workshop in the case of LED lights and xenon bulbs. If the "Consult a workshop" event window is displayed: ▶ Visit a qualified specialist workshop.
Incorrect key	* You are using an incorrect key. ▶ Use the correct key.
Please replace key.	* Supplementary text : Please visit a workshop and have the key replaced. The key must be replaced. ▶ Consult a qualified specialist workshop.
Please replace ignition key battery.	* The key's battery is flat. ▶ Change the battery (→ page 47).

Tyres

Display messages	Possible causes/consequences and ▶ Solutions
Tyre pressure monitor inoperative	* The indicator lamp will light up yellow in the status area as well as the event window. The tyre pressure monitoring system is faulty. ▶ Visit a qualified specialist workshop.
Tyre pressure monitor faulty	* Supplementary text : Failure, tyre pressure monitor for one/multiple tyre(s). The indicator lamp lights up yellow in the status area as well as the event window. The tyre pressure monitoring system on one or more tyres has failed. No signal is received by the tyre pressure sensors, e.g. due to a source of radio interference.

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Display messages	Possible causes/consequences and ▶ Solutions
	▶ Drive on. As soon as the cause is rectified, the tyre pressure monitor is reactivated and the tyre pressure level is displayed again. ▶ If the tyre pressure monitoring system is not automatically activated after a long journey, have the tyre pressure monitor checked in a qualified specialist workshop.
Tyre pressure sensor faulty	* The [(!)] indicator lamp lights up yellow in the status area as well as the event window. The tyre pressure sensor is malfunctioning on one of the tyres. ▶ Have the tyre pressure sensor replaced at a qualified specialist workshop.
Tyre pressure sensor battery low	* Supplementary text [▸≡] : Replace tyre pressure sensor The [(!)] indicator lamp lights up yellow in the status area as well as the event window. The battery of a tyre pressure sensor is discharged. ▶ Have the tyre pressure sensor replaced at a qualified specialist workshop.
Tyre temperature too high	* Supplementary text [▸≡] : Reduce speed drastically. The [(!)] indicator lamp will light up yellow in the status area as well as the event window. WARNING! The temperature in one or more tyres has risen significantly while driving. • The brakes may have overheated. • The tyre pressure is too low. Driving/braking characteristics may change. There is a risk of an accident. ▶ Drive on slowly. The tyre temperature is lowered by the airflow. ▶ If the tyre temperature has fallen, have the tyres and brakes checked and the cause of the problem rectified at a qualified specialist workshop.
Tyre pressure too low	* Supplementary text [▸≡] : Check and correct tyre pressure. The [(!)] indicator lamp will light up yellow in the status area as well as the event window. The tyre pressure in one or more of the tyres is too low. ▶ Check the tyre pressure and correct if required.
Tyre pressure too high	* Supplementary text [▸≡] : Check and correct tyre pressure.. The [(!)] indicator lamp will light up yellow in the status area as well as the event window. The pressure in one or more tyres has risen significantly while driving.

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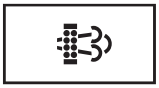
Display messages	Possible causes/consequences and ▶ Solutions
	▶ Stop the vehicle without steering or braking suddenly. Pay attention to the traffic conditions. ▶ Check the tyre pressure and, if necessary, correct it.

Red event window

For a malfunction of high priority, the on-board computer will show a red event window.

The on-board computer will show a red event window for issues such as low brake reservoir pressure. Immediately stop the vehicle while paying attention to the traffic conditions and contact a qualified specialist workshop. Observe the information and instructions in the event window.

BlueTEC® exhaust gas aftertreatment

Display messages	Possible causes/consequences and ▶ Solutions
 Diesel particulate filter full	* Supplementary text [▸≡] : Stop vehicle. Consult service centre. Regeneration is no longer possible. The [⇶] indicator lamp will also light up red on the instrument cluster. The diesel particulate filter has reached its soot saturation limit. Engine performance will be reduced and manual regeneration will no be longer possible. ▶ Clean the diesel particulate filter as soon as possible or have it replaced.

Compressed-air system

Display messages	Possible causes/consequences and ▶ Solutions
 Brake supply pressure in circuit 1 too low (Example)	* In addition, the [(!)] warning lamp lights up red in the instrument cluster. The reservoir pressure in brake circuit 1 [(1)] or 2 [(2)] is too low. If the reservoir pressure in the suspension fluid reservoir and the trailer's brake circuit is too low, the event window shows the [(!)] symbol. Possible causes: • too much compressed air has been consumed • there is a leak in the compressed-air system WARNING! The operating and road safety of the vehicle are jeopardised. There is a risk of an accident. ▶ Park the vehicle safely as soon as possible. ▶ Apply the parking brake.

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Display messages	Possible causes/consequences and ▶ Solutions
	▶ Leave the engine running. The compressed-air system is charged. If the warning lamp in the instrument cluster goes out: ▶ Continue the journey. If the warning lamp in the instrument cluster does not go out: ▶ Check the compressed-air brake system for leaks (→ page 204). ▶ If the compressed-air brake system is not leaking, but the warning lamp does not go out: have the compressed-air brake system checked at a qualified specialist workshop.

Engine and cooling

Display messages	Possible causes/consequences and ▶ Solutions
Engine oil pressure low	* Supplementary text : Stop vehicle. Switch off engine. In addition to the event window, the indicator lamp in the status area lights up red. The oil pressure in the engine is too low. The engine operating safety is at risk. ▶ Safely park the vehicle as soon as possible. ▶ Switch off the engine. ▶ Apply the parking brake. ▶ Check the oil level in the engine and top up oil (→ page 326). ▶ Notify a qualified specialist workshop.
Coolant temperature too high	* Supplementary text : Stop vehicle. Switch off engine. In addition to the event window, the indicator lamp in the status area lights up red. ▶ Park the vehicle safely as soon as possible. ▶ Switch off the engine. ▶ Apply the parking brake. ▶ Let the engine cooling system cool down.
Coolant level too low	* Supplementary text : Top up coolant Coolant temperature not reliable In addition to the event window, the indicator lamp in the status area lights up. The coolant temperature display cannot be relied up as long as the indicator lamp is on. The coolant level has dropped at least three litres below the normal level. The engine operating safety is at risk. ▶ Safely park the vehicle as soon as possible. ▶ Switch off the engine. ▶ Apply the parking brake. ▶ Top up the coolant (→ page 322).

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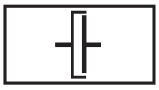
Display messages	Possible causes/consequences and ▶ Solutions
	▶ Have the engine cooling system checked for leak tightness at a qualified specialist workshop.

Transmission and clutch

Display messages	Possible causes/consequences and ▶ Solutions
 Clutch faulty	* Supplementary text [▸≡] : Stop vehicle. Contact service centre. WARNING! The transmission no longer shifts gear. The supply pressure in the transmission/clutch circuit may be too low. ▶ Park the vehicle safely as soon as possible. ▶ Apply the parking brake. ▶ If Transmission/clutch reserve pressure too low is displayed in the event message: leave the engine running until there is sufficient supply pressure in the transmission/clutch circuit again. The event message Transmission/clutch reserve pressure too low goes out. ▶ Switch off the engine. ▶ Run the engine again after about ten seconds. ▶ If the event message Clutch faultyStop vehicle. Contact service centre. is displayed again: activate emergency operation mode. ▶ If it is not possible to activate backup mode: contact a qualified specialist workshop.

Semitrailers

Display messages	Possible causes/consequences and ▶ Solutions
 Open semitrailer coupling.	* The [⚙] indicator lamp lights up red in the status area as well as in the event window. If the on-board computer displays a warning and a warning tone sounds, the fifth wheel kingpin was detected during coupling/uncoupling and the monitored fifth wheel coupling is not engaged. WARNING! The semitrailer can become decoupled. There is a risk of an accident. ▶ During uncoupling: continue the procedure. ▶ During coupling: check the locking mechanism of the monitored fifth wheel coupling. or ▶ Couple up the semitrailer again.
 Driving level below coupling level	* The [⚙] indicator lamp lights up red in the status area as well as in the event window. If the on-board computer displays a warning and a warning tone sounds, the semitrailer is no longer detected during reversing. The monitored fifth wheel coupling has not been engaged yet. ▶ Correct the coupling level until the on-board computer displays the grey Coupling level reached event window.

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Display messages	Possible causes/consequences and ▶ Solutions
Check semitrailer coupling.	* Supplementary text : Check semitrailer coupling: open if needed. The indicator lamp lights up red in the status area as well as in the event window. If the on-board computer displays a warning and a warning tone sounds, the monitored fifth wheel coupling is engaged and the semitrailer has not been detected. WARNING! The semitrailer can become decoupled. There is a risk of an accident. ▶ Check the locking mechanism on the monitored fifth wheel coupling.
Check semitrailer coupling.	* The indicator lamp lights up red in the status area as well as in the event window. If the on-board computer displays a warning and a warning tone sounds, the monitored fifth wheel coupling is engaged and the semitrailer has not been detected. WARNING! The semitrailer can become decoupled. There is a risk of an accident. ▶ Check the locking mechanism on the monitored fifth wheel coupling. or ▶ Couple up the semitrailer again.
Semitrailer coupling sensor faulty	* The indicator lamp lights up red in the status area as well as in the event window. The sensor on the fifth-wheel coupling is malfunctioning. The state of the monitored fifth wheel coupling has not been correctly detected. Observe the supplementary text regarding the malfunction/remedy in the red event window, e.g. Stop vehicle and clean sensor. WARNING! The semitrailer can become decoupled. There is a risk of an accident. ▶ Clean the sensor; see the manufacturer's operating instructions. ▶ Check the locking mechanism on the monitored fifth wheel coupling.

Braking and driving systems

Display messages	Possible causes/consequences and ▶ Solutions
	* WARNING! Active Brake Assist warns you of a risk of collision with the vehicle in front. There is a risk of an accident.

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Display messages	Possible causes/consequences and ▶ Solutions
	When an automatic collision warning is being given, you must brake the vehicle using the service brake in the following situations: • the on-board computer displays the warning in a red event window • an intermittent warning tone sounds ▶ Pay particular attention to the traffic situation. ▶ Brake the vehicle using the service brake.
Engage parking brake.	* The distance control assistant has stopped the vehicle. The parking brake was not applied and one of the following actions was performed: • The driver left the driver's seat. • The driver's door was opened. • The engine was switched off. WARNING! The distance control assistant function is no longer keeping the vehicle stationary. The parked vehicle could roll away. You could endanger yourself and others. There is a risk of an accident. ▶ Apply the parking brake.
Engage parking brake.	* You have not applied the parking brake. You have parked the vehicle with a gear engaged and the parking brake released. After the engine has been switched off, the transmission automatically shifts to neutral. WARNING! The parked vehicle could roll away. You could endanger yourself and others. There is a risk of an accident. ▶ Apply the parking brake.
Engage parking brake.	* Vehicles with a parameterisable special module (PSM): the parking brake is not applied. The parking brake has not been applied before engaging power take-off. WARNING! The parked vehicle could roll away. You could endanger yourself and others. There is a risk of an accident. ▶ Apply the parking brake before engaging power take-off.
Increased brake force and pedal travel	* Supplementary text : Stop vehicle. Contact service centre. In addition, the warning lamp lights up red in the instrument cluster. Full braking power may not be available. WARNING! Driving and braking characteristics are affected. The operating and road safety of the vehicle are jeopardised. There is a risk of an accident. ▶ Carefully bring the vehicle to a standstill and park it safely.

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Display messages	Possible causes/consequences and ▶ Solutions
	▶ Apply the parking brake. ▶ Consult a qualified specialist workshop.
Power steering: function not assured	* Supplementary text : Stop vehicle or start engine. In addition, the warning lamp lights up red in the instrument cluster. The vehicle rolls, although the engine is not switched on. ▶ Stop the vehicle. or ▶ Start the engine.
Power steering: function not assured	* Supplementary text : Stop vehicle Check hydraulic steering during shunting Consult service centre In addition, the warning lamp lights up red in the instrument cluster. Steering operates in emergency operation mode. WARNING! The hydraulic power steering has failed. There is a risk of an accident. ▶ Stop the vehicle safely as soon as possible. ▶ Switch the ignition off. ▶ Start the engine. ▶ If the fault is displayed again or continues to be displayed: consult a qualified specialist workshop.
Power steering: function not assured	* Supplementary text : Stop vehicle. Contact service centre. In addition, the warning lamp lights up red in the instrument cluster. A fault has occurred in the electric power steering. WARNING! Power steering is not ensured continuously. There is a risk of an accident. ▶ Stop the vehicle safely as soon as possible. ▶ Switch the ignition off. ▶ Start the engine. ▶ If the fault is displayed again or continues to be displayed: consult a qualified specialist workshop.
Power-steering assistance overheated	* Supplementary text : Stop vehicle. Switch off engine. In addition, the warning lamp lights up red in the instrument cluster. The steering gear has overheated. ▶ Stop the vehicle safely as soon as possible. ▶ Switch the ignition off. ▶ Let the steering gear cool down. ▶ Start the engine. ▶ If the fault is displayed again: consult a qualified specialist workshop.

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Display messages	Possible causes/consequences and ▶ Solutions
 Steer. characteristics of add. axle changed	* Supplementary text : Visit workshop. The steerable additional axle is malfunctioning and only steers passively. Stability Control Assist may also have been deactivated as a result. If Stability Control Assist is deactivated, the yellow event window displays ESP not available. In extreme driving conditions, e.g. when braking hard on a slippery or uneven carriageway, the steerable additional axle may deactivate itself. It will then only steer passively. On vehicles with a height-adjustable trailing axle, it is no longer possible to lower the additional axle while the vehicle is moving. WARNING! If Stability Control Assist is deactivated due to a faulty steerable additional axle, the vehicle's stability is decreased. There is a risk of an accident. ▶ Drive on carefully and stop at the next available opportunity. Adjust your driving style to the changed handling and steering characteristics. ▶ Stop the vehicle and switch off the engine. ▶ Start the engine after approximately ten seconds. The event window goes out. The steerable additional axle is reactivated. ▶ If the event window does not disappear: have the steerable additional axle checked at a qualified specialist workshop.

Electrical system

Display messages	Possible causes/consequences and ▶ Solutions
 Overvoltage	* Supplementary text : Stop vehicle. Switch off engine. Consult workshop. The charge in the batteries is too high. WARNING! The vehicle's driving characteristics may change. The operating and road safety of the vehicle are jeopardised. ▶ Stop the vehicle safely as soon as possible. ▶ Switch the ignition off. ▶ Consult a qualified specialist workshop.
 Undervoltage	* Supplementary text whilst driving : Stop vehicle Driving charact. changed. Supplementary text when stationary : If possible, charge the battery If the fault persists, contact service. WARNING! The vehicle's driving and braking characteristics may change. There is a risk of accident if you do not adapt your driving style. ▶ Stop the vehicle. ▶ Charge the battery (→ page 334).

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Display messages	Possible causes/consequences and ▶ Solutions
	If the malfunction persists: ▶ Consult a qualified specialist workshop.
 Alternator faulty	* Supplementary text [▸≡] : Discharging battery Stop vehicle Contact service In addition to the event window, the [⊟] indicator lamp lights up red in the status area. The alternator is faulty or the poly-V-belt has torn. WARNING! The vehicle's driving and braking characteristics may change. There is a risk of accident if you do not adapt your driving style. ▶ Have the alternator/poly-V-belt checked at a qualified specialist workshop immediately.
 Key not recognised	* The key cannot be detected and may no longer be in the vehicle. If you switch off the engine and the key is no longer in the vehicle, the following is no longer possible: • the engine can no longer be started • the vehicle cannot be locked via the central locking ▶ Ensure that the key is in the vehicle. If the key detection function has a malfunction due to a strong radio signal source: ▶ Hold the key next to the start/stop button and start the engine.

Tyres

Display messages	Possible causes/consequences and ▶ Solutions
 Flat tyre	* Supplementary text [▸≡] : Change tyre. The [(!)] indicator lamp lights up red in the status area as well as the event window. The tyre pressure has suddenly dropped in one or more tyres. A warning tone will also sound. WARNING! The driving and braking characteristics are affected. There is a risk of an accident. ▶ Stop the vehicle without steering or braking suddenly. Pay attention to the traffic conditions. ▶ If necessary, change the wheel (→ page 348). **Cement mixer vehicle with single tyres:** the vehicle is designed in such a way that, in the case of a flat tyre 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 for the purposes of changing a wheel. ▶ Check the scale of the damage to the wheel (tyre and disk wheel). ▶ **If a faulty tyre presents a danger to other road users:** do not continue the journey.

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Display messages	Possible causes/consequences and ▶ Solutions
	▶ Replace the wheel immediately (→ page 348). or ▶ **If a faulty tyre does not present a danger to other road users:** continue driving until the next suitable place to pull over. ▶ Drive at a maximum of 40 km/h on straight stretches of road. ▶ On bends, drive at a maximum of 15 km/h.
Tyre pressure too low	* Supplementary text : Check and correct tyre pressure. The indicator lamp lights up red in the status area as well as in the event window. The tyre pressure in one of the tyres is too low. WARNING! The driving and braking characteristics are affected. There is a risk of an accident. ▶ Stop the vehicle without steering or braking suddenly. Pay attention to the traffic conditions. ▶ Check the tyre pressure and correct if required.
Locked wheel	* Supplementary text : Stop vehicle and release locked wheel The indicator lamp lights up red in the status area as well as in the event window. At least one wheel is blocked. A warning tone will also sound. WARNING! The driving characteristics are affected. There is a risk of an accident. ▶ Stop the vehicle. Pay attention to the traffic conditions. ▶ Check the affected wheel position and release the blocking if necessary.

Overview of indicator lamps in the status area

Safety notes

If you ignore warning and indicator lamps, 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 limited. Have the affected system checked and repaired at a qualified specialist workshop. Always observe the warning and indicator lamps and take the corresponding action.

Overview

Status area on the instrument cluster (multimedia cockpit)

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Status area on the instrument cluster (interactive multimedia cockpit)

If there is a fault, warning or operating information, a warning lamp or indicator lamp will light up in the status area (1) of the instrument cluster. The warning lamp/indicator lamp will light up in a different colour depending on the priority of the fault, warning or operating information. The warning lamp/indicator lamp may also light up in addition to an event window.

- Work lamps
- Preglow system
- Driver's airbag (→ page 37)
- Seat belt warning (→ page 37)
- Engine oil pressure too low; see corresponding event window
- Oil level too low
- Coolant level too low
- Emissions-relevant malfunction in the BlueTEC® exhaust gas aftertreatment or low AdBlue® supply
- (grey) Energy-saving mode active
- (yellow) Battery charge level too low
- (red) Alternator faulty
- Maintenance due date; see corresponding event window
- Fluid coupling (→ page 226)
- Leading axle (→ page 266)
- Trailing axle (→ page 266)
- Starting-off aid(→ page 266)
- Steerable additional axle centred (→ page 267)
- Steering angle disparity in steerable additional axle (→ page 267)
- Hydraulic auxiliary drive
- Off-road gear transfer case
- Monitored semitrailer coupling (→ page 287)
- Monitored semitrailer coupling (→ page 287)
- Monitored semitrailer coupling malfunction (→ page 287)
- Semitrailer coupling; refill grease reservoir (see separate Owner's Manual)
- Cargo liftgate (see separate Owner's Manual)
- Tipper operation
- Power take-off(→ page 306)
- Continuous brake malfunction (→ page 212)
- Tyre pressure monitor warning message; see corresponding event window
- Tyre pressure monitor
- Frequent-stop brake (→ page 209)
- ABS equipment shown with , or for towing vehicle and/or trailer/semitrailer(→ page 205)
- Trailer/semitrailer brake system malfunction (→ page 205)
- Brake pads/lining wear shown with for tractor vehicle or shown with for trailer/semitrailer

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Overview and operation

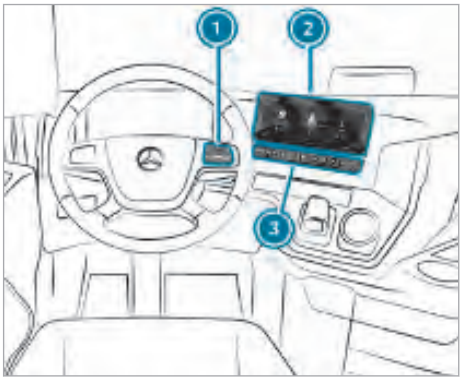
Overview of the multimedia system

⚠ **WARNING** Risk of distraction from information systems and communications equipment

If you operate information and communication equipment integrated in the vehicle when driving, you will be distracted from the traffic situation. This could also cause you to lose control of the vehicle.

- ▶ Only operate this equipment when the traffic situation permits.
- ▶ If you cannot be sure of this, stop the vehicle whilst paying attention to road and traffic conditions and operate the equipment with the vehicle stationary.

You must observe the legal requirements for the country in which you are currently driving when operating the multimedia system.



You can operate the multimedia system with the following central control elements:

- Touch Control ①
  Operation takes place using cursor control.
- Multimedia system display ②
- Buttons on operating strip ③

Many applications are available. These can be called up via the home screen or using the buttons on operating strip ③.

Quick-access in the home screen and in the applications serves to select functions more quickly.

Notes on the multimedia system display

Observe the notes on caring for the interior.

Automatic temperature-control switch-off: if the temperature is too high, the brightness is subsequently reduced. The multimedia system display may then switch off completely for a while.

ⓘ Wearing polarised sunglasses may impair or limit your ability to read the multimedia system display.

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Home screen overview

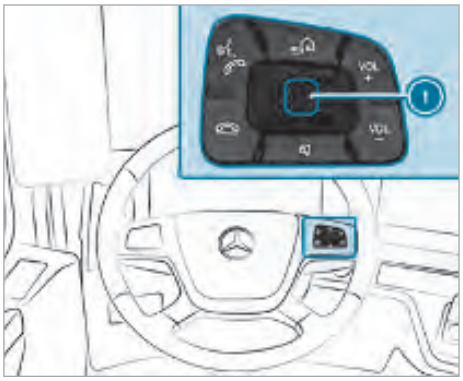
1. Calls up the home screen
2. Connection status with the telematics server
3. Time
4. Calls up the virtual switch
5. Favourites
6. Calls up an application using the symbol
7. Name of the application, beneath the current selection or information
8. Number of applications and currently selected display area
9. Display of the temperature set for the climate control

The following menus are available:

- Climate control
- Vehicle functions
- Status
- Lights
- Navigation
- Telephone
- Radio
- Media
- Connect
- Sound

Touch Control

Operating Touch Control (multimedia system)



Right-hand button group on the multifunction steering wheel

1. To navigate in the multimedia system: swipe over the Touch Control
   To confirm/select
   Home screen and back button (multimedia system)
   Vol. + Increases the volume
   Vol. − Decreases the volume
   Mutes
   Ends/rejects a call
   Makes/accepts a call
   Activates the voice control system

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- **To select a menu item:** swipe up, down, left or right on Touch Control ①.
- Press Touch Control ①.
- **To open a menu or list:** press Touch Control ①.
- **To close a menu or list:** press the button.
- **To move the digital map:** swipe in any direction.

Setting the sensitivity for the Touch Control
Multimedia system:
→ ▸▸ Operation ▸▸ Settings ▸▸ Display & operation ▸▸ Controls ▸▸ Touch Control sensitivity

- Select Fast, Medium or Slow.

Switching acoustic operating feedback for the Touch Control on/off
Multimedia system:
→ ▸▸ Operation ▸▸ Settings ▸▸ Display & operation ▸▸ Controls

The function is supported by the selection in a list.

- Select Acoustic operating feedback.
- Set Normal, Loud or Off.
  If the function is activated you will hear a clicking sound when scrolling in a list. When the beginning or end of the list is reached you will hear another clicking sound.

Operating the touchscreen

Tapping

- **To select a menu item or entry:** tap on a symbol or an entry.
- **To enter characters with the keyboard:** tap on a button.

Single-finger swipe

- **To navigate in menus:** swipe up, down, left or right.
- **To move the digital map:** swipe in any direction.

Two-finger swipe

- **To zoom in and out of the map:** move two fingers together or apart.
- **To turn the map:** turn anti-clockwise or clockwise using two fingers.

Touching, holding and moving

- **To move the map:** touch the touchscreen and move your finger in any direction.
- **To set the volume on a scale:** touch the touchscreen and move the finger to the left or right.

Touching and holding

- **To call up a global menu in the applications:** touch the touchscreen and hold until the OPTIONS menu appears.

Applications

Calling up applications using the operating strip

① Lowers/increases the temperature of the climate control
② Climate control
③ Operation
④ Status
⑤ Lights
⑥ Navigation
⑦ Telephone
⑧ Radio/media
⑨ Volume

- **To call up an application:** press the desired button.

Calling up applications using the home screen

The home screen is shown in the multimedia system display when you start the vehicle.

- Select the application by swiping and tapping.

or

- **In any display:** press the button on the Touch Control.

or

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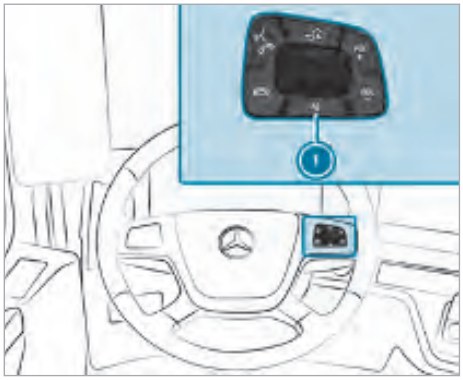
- Briefly press the [⌂] symbol in the multimedia system display (→ page 156).
  The applications are displayed.
- Select the application by swiping and tapping.

Changing the arrangement of applications on the home screen

- Call up the home screen.
- Touch and hold an application on the touchscreen until symbols appear.
- Tap on [◀] or [▶] and move the application in the menu.
- Tap on [✓].

Switching the sound on/off

Switching sound off/on at the multifunction steering wheel

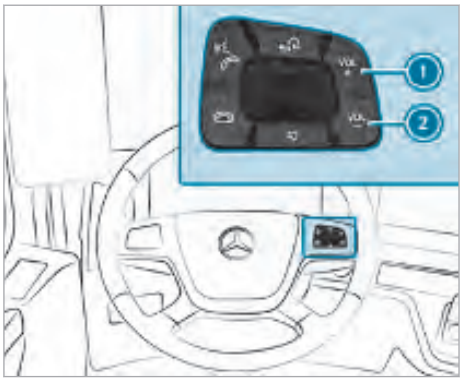


- **To mute:** press button 1.
  The [🔇] symbol appears in the status line of the display.
- **To switch on:** press button 1 or change the media source.

ⓘ Please note that you can switch the sound on or off in the menu currently active, e.g. radio, media.

Adjusting the volume

On the multifunction steering wheel



- **To increase the volume:** press button 1.
  The volume of the current radio or media source is set. The volume of other audio sources can be adjusted separately.
- **To reduce the volume:** press button 2.
  The volume of the current radio or media source is set. The volume of other audio sources can be adjusted separately.

Adjust the volume in the following situations:

- during a traffic announcement
- during a navigation announcement

  The volume of the current media source changes in accordance with the volume of the navigation announcement.

  The function is available in the following cases:

  - An iPhone® is connected via Apple CarPlay® or a mobile phone is connected via Android Auto with the multimedia system.
  - A mobile phone is connected via Android Auto or an iPhone® is connected via Apple CarPlay® with the multimedia system.
  - A navigation application is available on the mobile phone.

Favourites

Overview of favourites

Favourites offer you quick access to frequently used applications. It is possible to create 20 favourites in total.

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You can select favourites from categories or you add favourites directly from an application.

Calling up favourites

▶ Tap on ★.
The favourites are displayed.

ⓘ A maximum of five favourites can be saved at the same time.

Adding favourites

Selecting favourites from categories

▶ Tap on ★.
The favourites are displayed.

▶ Select + Create favourite.
The categories are displayed.

▶ Select the category.
The favourites are displayed.

▶ Select a favourite.
The favourite is stored at the next available position.

▶ **All position in the favourites are occupied:** confirm the message shown with OK.
A list shows all the favourites.

▶ Select a favourite which should be overwritten.

Adding a favourite from an application

Examples for adding from an application are:

- Saving a contact
- Storing radio stations
- Adding a media source

▶ **To save a contact as a global favourite:** select a contact.
The details are displayed.

▶ Press on a telephone number until the OPTIONS menu is shown.

▶ Select Save as favourite.
The contact is added as a favourite.

▶ **To store a radio station as a global favourite:** set a radio station.

▶ Press on a radio station until the OPTIONS menu is shown.

▶ Select Save as favourite.
The radio station is added as a favourite.

Renaming favourites

▶ Tap on ★.
The favourites are displayed.

▶ Press on a favourite until the OPTIONS menu is shown.

▶ Select Rename.

▶ Enter the name.

▶ Select OK.

Moving favourites

▶ Tap on ★.
The favourites are displayed.

▶ Press on a favourite until the OPTIONS menu is shown.

▶ Select Move.

▶ Move the favourite.

▶ Select OK.

Deleting favourites

▶ Tap on ★.
The favourites are displayed.

▶ Press on a favourite until the OPTIONS menu is shown.

▶ Select Delete.

▶ Select Yes.

Entering characters

Using the character input function

⚠ **WARNING** Risk of distraction from information systems and communications equipment

If you operate information and communication equipment integrated in the vehicle when driving, you will be distracted from the traffic situation. This could also cause you to lose control of the vehicle.

▶ Only operate this equipment when the traffic situation permits.

▶ If you cannot be sure of this, stop the vehicle whilst paying attention to road and traffic conditions and operate the equipment with the vehicle stationary.

You must observe the legal requirements for the country in which you are currently driving when operating the multimedia system.

Character entry can be carried out with these control elements:

- Touch Control
- Touchscreen (multimedia system display)

Character entry takes place by cursor control when using the Touch Control.

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Character input can be started with a control element and resumed with another.

▶ When the keyboard is shown, enter the characters on the control element by swiping and pressing or by tapping (touchscreen).

You can use the character input function in the following situations, for example:

- Renaming a favourite
- Entering a telephone number

Entering characters on the touchscreen
Requirements:

- An online connection is required for some functions.

Using the keyboard

1. Input line
2. Shows suggestions during input (if available)
3. Deletes an entry
4. Deletes
   Pressing briefly deletes the last character entered
   Pressing and holding deletes the entry
5. Accepts an entry
6. Enters a space
7. Changes the keyboard language
8. Switches to digits and special characters (level 2)
   ABC: switches to letters (level 1)
9. Tapping switches between upper-case and lower-case letters
   Pressing and holding switches to upper-case letters permanently

▶ Call up the character entry to rename a favourite, for example (→ page 159).
The keyboard is shown.

▶ Press briefly on a character key.
The character is entered in input line 1. Suggestions are shown in 2.

▶ **To select a suggestion:** select one of the entries.

▶ If available, display additional suggestions with [<] or [>].

▶ Resume character input.

▶ **To enter an alternative character:** press and hold a character.

▶ Select the character.

▶ **To end character input:** press the [↩] button.

ⓘ The available editing functions depend on the editing task, the language set and the character level.

Setting the keyboard for character entry
Multimedia system:

→ [⌂] ▸▸ Operation ▸▸ Settings ▸▸ Display & operation ▸▸ Controls ▸▸ Keyboards

▶ Confirm Select keyboards.
Select the keyboard language in the list.

Notes on personalisation

With the "Personalisation" function, various driver-specific settings are stored.

With the help of the driver card/Fleetboard DriverCard (FB Card), up to six drivers can be identified. The function is only available for vehicles with the Multimedia cockpit and European digital tachograph or Fleetboard DriverCard (FB Card).

The settings are stored automatically without input from the respective driver. When a driver change based on the driver card is recognised, the Loading profile... message appears and the driver-specific settings are restored again.

The following settings are stored:

- Sensitivity of the steering wheel buttons
- Display settings
- Selected drive program
- PPC system settings (Predictive Powertrain Control)

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- PPC on/off
- EcoRoll on/off

If a driver does not insert their driver card into the tachograph for more than four hours or the ignition has been switched off for that period, in some cases the settings are reset to minimum values (see the following table).

This is most likely to happen when the settings selected by the driver have a negative impact on the fuel consumption. If the driver has selected settings which are more economical than the minimum value for fuel consumption in the following table, then the settings will be maintained.

Stored settings:

Setting	Reset value for extended absence
Selected drive program	Aeconomy/Aeconomy +[1]
EcoRoll on/off	EcoRoll on
PPC on/off	PPC on
PPC Interurban on/off	PPC Interurban on
Upper speed tolerance	2 km/h (enquiry via pop-up)
Downhill speed tolerance	0 km/h (enquiry via pop-up)
Lower speed tolerance	4 km/h, if lower value is set
Cornering speed factor	Level 3, if higher value is set
Start of deceleration before route events	Level 3, if lower value is set
	1 For the Fire and Fleet drive programs the reset values are Fire or Fleet.

Note on the "Upper speed tolerance" and "Downhill speed tolerance" settings: if the value set by the driver is different from the reset value, the value currently set is shown when the engine is started (pop-up) and can be confirmed by the driver.

If the driver does not confirm the value settings shown then the default values are restored automatically.

System settings

Display

Configuring display settings

Requirements:

- The vehicle is standing still.

Multimedia system:

→ [⌂] ▸▸ Operation ▸▸ Settings ▸▸ Display & operation

Styles

▶ Select Classic or Advanced (only in combination with a multimedia system).

Display brightness

▶ Select Display brightness.

▶ Select a brightness value.

Switching the display off/on

▶ **To switch off:** select Display off.

▶ **To switch on:** select a menu on the operating strip.

Activating/deactivating the assistance view of Distance Assist DISTRONIC

▶ **To deactivate:** switch off Assistance view during distance control [◐].

▶ **To activate:** switch on Assistance view during distance control [●].

Time and date

Automatically setting the date and time
Requirements:

- **If a tachograph or a GPS device is available:** Manual time adjustment is not available as an option.

ⓘ If a tachograph or a GPS device is available in the vehicle, you can only change the time zones. The time and date are set automatically when your vehicle is equipped with a tachograph of GPS device.

Multimedia system:

→ [⌂] ▸▸ Operation ▸▸ Settings ▸▸ Display & operation ▸▸ Time and date

▶ Deactivate Manual time adjustment [◐]. The time and date are set automatically for the selected time zone and summer time option.

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ⓘ The correct time is a requirement for the following functions:

- Route guidance with time-dependent traffic routing
- Calculation of the expected time of arrival
- Alarm function

Setting the time zone
Requirements:

- **To set the time zone manually:** the Automatic time zone function is deactivated.

Multimedia system:
→ ⌂ ▸▸ Operation ▸▸ Settings ▸▸ Display & operation ▸▸ Time and date

Setting the time zone manually

▶ Select Time zone:.

The list of countries is displayed.

ⓘ If several time zones are available in a country these will be shown after selection of the country.

▶ Select a country and time zone if required. The time zone set will be shown after Time zone:.

Setting the time zone automatically

▶ Activate Automatic time zone.

Setting the time and date format
Multimedia system:
→ ⌂ ▸▸ Operation ▸▸ Settings ▸▸ Display & operation ▸▸ Time and date ▸▸ Set format

▶ Set the date and time format ●.

Setting the time and date manually
Requirements:

- The Manual time adjustment function is switched on.
- **For setting the date manually:** no GPS or tachograph is installed in the vehicle.

Multimedia system:
→ ⌂ ▸▸ Operation ▸▸ Settings ▸▸ Display & operation ▸▸ Time and date

Setting the time

▶ Select Set time.

▶ Set the time.

ⓘ In vehicles with GPS the time is set automatically via the selected time zone.

Setting the date

▶ Select Set date.

▶ Set the date.

ⓘ In vehicles with GPS the date cannot be set even if the time is adjusted manually. The date is set automatically via the selected time zone.

Setting the alarm clock

The ALARM menu shows buttons for up to 15 alarm clocks in a carousel. If the maximum number of alarm clocks has not yet been reached, new alarm clocks can be added using the plus sign on the right-hand side. When the maximum number of alarm clocks has been reached, the "Plus" button is not shown.

Pressing a button switches between the active and inactive status of an alarm clock.

An alarm clock is activated in the following cases:

- A button for an inactive alarm clock is pressed.
- A new alarm clock is set up.

An alarm is deactivated in the following cases:

- A button for an active alarm clock is pressed.
- An alarm clock for which no day for repetition has been selected will be triggered once.

Multimedia system:
→ ⌂ ▸▸ Operation ▸▸ Timer control ▸▸ ALARM

▶ Press the "Plus" button.
An alarm clock with the preset values is set.

▶ Open Edit.
The corresponding button is shown in the display.

An alarm clock shows the following information:

- whether the alarm clock is active or inactive
- the time set
- the weekdays for which the repeat is set:
  - if all the active weekdays are consecutive, then Mon to Fri is shown, for example.

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Monday is taken as the first day of the week.
  - if the active weekdays do not follow directly, all active weekdays are shown separated by a comma.
  - if only two consecutive weekdays are activated, the days are separated by a comma.
  - if no weekdays are activated, the button shows no repeat information.
- a symbol for sound with two possible options: Radio and Standard Sound
- a symbol for the alarm light: if the alarm light is switched off, no symbol is shown

Connectivity

Bluetooth®

Function of Bluetooth®

Bluetooth® technology is a standard for short-range wireless data transfer up to approximately 10 m.

You can use Bluetooth® to connect your mobile phone to the multimedia system and use the following functions, for example:

- Hands-free system with access to the following options:
  - Contacts (→ page 182)
  - Call lists (→ page 183)
- Listening to music via Bluetooth® audio

Bluetooth® is a registered trademark of Bluetooth Special Interest Group (SIG) Inc.

ⓘ Bluetooth® is not available in all countries.

Activating/deactivating Bluetooth®

Multimedia system:

→ [⌂] ▸▸ Settings ▸▸ Connectivity ▸▸ Wi-Fi & Bluetooth

▶ Activate or deactivate Bluetooth®.

Wi-Fi

Wi-Fi connection overview

The existing Wi-Fi network in the vehicle serves only for the use of the Remote Truck app. You cannot connect with the network apart from with these applications.

The following connection options are available:

- Wi-Fi connection

  The Wi-Fi connection to a Wi-Fi-capable device, e.g. the customer's mobile phone or a tablet PC is established.

It is possible to use the following methods to establish a connection:

- WPS PIN

  Connect to a secure Wi-Fi network using a PIN.

Activating/deactivating Wi-Fi

Multimedia system:

→ [⌂] ▸▸ Settings ▸▸ Connectivity ▸▸ Wi-Fi & Bluetooth

▶ Activate or deactivate Wi-Fi.

Setting Wi-Fi encryption

Multimedia system:

→ [⌂] ▸▸ Settings ▸▸ Connectivity ▸▸ Wi-Fi encryption

▶ Select Wi-Fi encryption.

▶ Select WPA2 or WAPI.

Switching the offline mode on/off

Multimedia system:

→ [⌂] ▸▸ Settings ▸▸ Connectivity ▸▸ Offline

▶ Activate or deactivate Offline.

Connectivity

Switching transmission of the vehicle position on/off

Multimedia system:

→ [⌂] ▸▸ Settings ▸▸ Connectivity ▸▸ Wi-Fi & Bluetooth

▶ Select Transmit vehicle position.

▶ Activate or deactivate the function.

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Calling up the device manager
Requirements:

- The Bluetooth® connection on the Bluetooth® device is active.

Multimedia system:
⟶ ⌂ ▸▸ Settings ▸▸ Connectivity ▸▸ Device manager

If two Bluetooth® devices are connected with the multimedia system at the same time, these are shown in the device manager.

▶ Select Device manager.

Activating/deactivating remote vehicle control
Requirements:

- A mobile phone is connected to the multimedia system via Wi-Fi (⟶ page 163).
- The Remote Truck app is installed on the mobile phone .

Multimedia system:
⟶ ⌂ ▸▸ Operation ▸▸ Settings ▸▸ Connectivity ▸▸ Remote online devices ▸▸ Connect new device

▶ Activate or deactivate Vehicle hotspot.

System language

Notes on the system language
This function allows you to determine the language for the menu displays and the navigation messages. The selected language affects the characters available for entry. The navigation announcements are not available in all languages. If a language is not available, the navigation announcements will be in English.

Setting the system language
Multimedia system:
⟶ ⌂ ▸▸ Settings ▸▸ System ▸▸ Language

▶ Set the language.

ⓘ If you are using Arabic map data, the text information can also be shown in Arabic on the navigation map.

Setting the units

Multimedia system:
⟶ ⌂ ▸▸ Settings ▸▸ System ▸▸ Units

▶ Select Units.
Select the desired measuring unit from the list, e.g. km or mi.

Resetting the multimedia system (reset function)

Multimedia system:
⟶ ⌂ ▸▸ Settings ▸▸ System ▸▸ Reset

Personal data is deleted, for example:

- Station presets
- Connected mobile phones

A prompt appears again asking whether you really wish to reset.

▶ Select Yes.
The multimedia system is reset to the factory settings.

Sound

Calling up the sound menu
Multimedia system:
⟶ ⌂ ▸▸ Operation ▸▸ Settings ▸▸ Display & operation

The following functions are available:

- Equaliser
- Balance and Fader
- Auto. volume adjustment

▶ Select a function.

Adjusting treble, mid-range and bass settings
Multimedia system:
⟶ ⌂ ▸▸ Operation ▸▸ Settings ▸▸ Display & operation

▶ Set TREBLE, MID or BASS.

Activating/deactivating automatic volume adjustment
Multimedia system:
⟶ ⌂ ▸▸ Operation ▸▸ Settings ▸▸ Display & operation ▸▸ Auto. volume adjustment

Automatic volume adjustment compensates for differing volumes when changing between audio sources.

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▶ Activate or deactivate Auto. volume adjustment.

Adjusting the balance/fader
The availability of this function depends on the vehicle equipment.

Multimedia system:

→ [⌂] ▸▸ Operation ▸▸ Settings ▸▸ Display & operation ▸▸ Balance and Fader

Adjusting the balance

▶ Move the volume distribution in the displayed grid between the right and left sides of the vehicle.
The volume is distributed between the left and right speakers in the vehicle.

Setting the fader

▶ Move the volume distribution in the displayed grid between the front and rear sections of the vehicle.
The volume is distributed between the front and rear speakers in the vehicle.

Initiating system activation

Multimedia system:

→ [⌂] ▸▸ Settings ▸▸ System ▸▸ System activation

CarPlay certificate list

▶ Select System activation.

Navigation

Notes on navigation

⚠ **WARNING** Risk of distraction from operating integrated communication equipment while the vehicle is in motion

If you operate communication equipment integrated in the vehicle when driving, you will be distracted from the traffic situation. This could also cause you to lose control of the vehicle.

▶ Only operate this equipment when the traffic situation permits.

▶ If you cannot be sure of this, stop the vehicle whilst paying attention to road and traffic conditions and operate the equipment with the vehicle stationary.

You must observe the legal requirements for the country in which you are currently driving when operating the system.

The navigation system calculates the route to the destination without taking into account, for example:

- traffic lights
- stop signs and right-of-way signs
- parking and stopping restrictions
- road narrowing
- other road and traffic controls and regulations

The navigation system may provide incorrect navigation announcements if reality does not correspond with the data on the digital map, for example a route may have been diverted or the direction of a one-way street may have changed.

For this reason, you must always observe road and traffic rules and regulations during your journey. Traffic regulations always take precedence over the system's navigation announcements.

Information on GPS reception

Position finding and route guidance take place using GPS (**G**lobal **P**ositioning **S**ystem). Correct functioning of the navigation system depends, amongst other things, on GPS reception. In certain situations, GPS reception may be impaired, there may be interference or there may be no reception at all, e.g. in tunnels or multi-storey car parks.

You will find information on the GPS status in the Fleetboard portal under "Information" .

Navigation menu

Calling up the navigation system menu
Multimedia system:

→ [⌂] ▸▸ Navigation

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▶ Alternatively: press the NAVI button.
The map appears. The current vehicle position is shown.

▶ Select ①.
The navigation menu is shown.

Overview of the navigation menu

① To search for an address, a position or a POI
② To navigate to a home location
③ To call up previous destinations
④ To change or delete the current route
⑤ To display saved locations
⑥ To display saved routes
⑦ To search for a parking area
⑧ To sort buttons in the main menu
⑨ To call up the help menu, e.g. the card version, the serial number of the device, legal notes
⑩ Calls up the settings
⑪ To start recording of the route currently being driven
⑫ To report a radar camera
⑬ To search for filling stations

Calling up submenus

ⓘ When a location or a route is selected on the map, the submenu is available.

▶ Select ①.

Destination entry

Entering a destination

① Input line
② To select search area
③ To switch to map or route view (cancel search)
④ To scroll through the list
⑤ To show the keypad
⑥ To switch between list view and map view
⑦ POI categories or POI results list
⑧ Address results list

▶ Enter characters using the keypad.
Results matching the current entry appear on results lists ⑦ and ⑧.

You have the following options for finding a destination:

- on the whole map
- near the current vehicle position
- in a location or a town
- along the route
- near the next destination
- according to longitude and latitude

Selecting a destination from addresses

▶ Call up the navigation system menu.

▶ Select Search.
An input menu appears.

▶ Enter the desired address.

▶ Select the desired location from the results list.

▶ **To select a junction:** select Junction.

▶ **To show the location on the map:** select Display on the map.

▶ **To calculate a route:** select Drive.

▶ **To start route guidance:** select Let's go...
The route view appears as soon as the vehicle sets off.

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Selecting a destination from points of interest

- ▶ Call up the navigation system menu.
- ▶ Select Search.
  An input menu appears.
- ▶ Enter a POI or a type of POI.
- ▶ Select the POI or a POI type from the results list.
- ▶ **After selecting a point of interest type:** select the point of interest from the results list.
  The destination appears on the map.
- ▶ **To calculate a route:** select Drive.
  The route to the destination appears on the map.
- ▶ **To start route guidance:** select Let's go...
  The route view appears as soon as the vehicle sets off.

Selecting a destination from previous destinations

- ▶ Call up the navigation system menu.
- ▶ Select Previous destinations.
  A list of previous destinations appears.
- ▶ Select a destination from the list.
- ▶ **To calculate a route:** select Drive.
- ▶ **To start route guidance:** select Let's go...
  The route view appears as soon as the vehicle sets off.

Selecting a destination on the map

- ▶ Search for a destination on the map by moving and zooming.
- ▶ Select the destination on the map.
  The address nearest to the selected point appears.
- ▶ **To calculate a route:** select Drive. The route to the destination appears on the map.
- ▶ **To start route guidance:** select Let's go...
  The route view appears as soon as the vehicle sets off.

Selecting a destination from geo-coordinates

- ▶ Call up the navigation system menu.
- ▶ Select Search.
  An input menu appears.
- ▶ Select the button for the search area.
- ▶ Select Longitude and latitude.
  An input menu appears.
- ▶ Enter the geo-coordinates.
  The results appear in the results list.
- ▶ Select a destination from the results list.
  A menu appears.
- ▶ **To calculate a route:** select Drive.
  The route to the destination appears on the map.
- ▶ **To start route guidance:** select Let's go...
  The route view appears as soon as the vehicle sets off.

Selecting a destination from a mapcode

The following types of entries are possible:

- international, e.g. "H6SL. TR10"
- country-specific, e.g. "GBR 8MH.51"
- country-specific alternatives, e.g. "GBR 28.Y6VH" or "GBR LDGZ.VXR"

- ▶ Call up the navigation system menu.
- ▶ Select Search.
  An input menu appears.
- ▶ Enter a mapcode.
  The results are displayed in the results list.
- ▶ Select a destination from the results list.
  A menu appears.
- ▶ **To calculate a route:** select Drive.
  The route to the destination appears on the map.
- ▶ **To start route guidance:** select Let's go...
  The route view appears as soon as the vehicle sets off.

Selecting a destination from saved destinations

- ▶ Call up the navigation system menu.
- ▶ Select My locations.
  The list of saved destinations appears.
- ▶ Select a destination from the list.
  The destination appears on the map.
- ▶ **To calculate a route:** select Drive.
  The route to the destination appears on the map.
- ▶ **To start route guidance:** select Let's go...
  The route view appears as soon as the vehicle sets off.

Selecting a destination from saved routes

- ▶ Call up the navigation system menu.
- ▶ Select My routes.
  The list of saved routes appears.

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- ▶ Select a route from the list.
  The route appears on the map.
- ▶ **To calculate a route:** select Drive.
  The route to the destination appears on the map.
- ▶ **To start route guidance:** select Let's go...
  The route view appears as soon as the vehicle sets off.

Searching for parking areas

- ▶ Call up the navigation system menu.
- ▶ Select Park.
  Route active: the map appears with parking areas near to the destination.

  No route active: the map appears with parking areas near to the current vehicle location.
- ▶ Select a parking area.
  The name of the parking area appears on the map.
- ▶ **To calculate a route:** select Drive.
  The route to the destination appears on the map.
- ▶ **To start route guidance:** select Let's go...
  The route view appears as soon as the vehicle sets off.

Searching for filling stations

- ▶ Call up the navigation system menu.
- ▶ Select Filling station.
  Route active: the map appears with filling stations near to the destination.

  No route active: the map appears with filling stations near to the current vehicle location.
- ▶ Select a filling station.
  The name of the petrol station appears on the map.
- ▶ **To calculate a route:** select Drive.
  The route to the destination appears on the map.
- ▶ **To start route guidance:** select Let's go...
  The route view appears as soon as the vehicle sets off.

Saving a destination

Notes about "My locations"

In addition to the saved destinations, "My locations" contains the following information:

- home location
- previous destinations
- place of work
- marked locations

Saving a destination under "My locations"

- ▶ Call up the navigation system menu.
- ▶ Select My locations.
- ▶ Select Add.
- ▶ Select a destination on the map.

or

- ▶ Select Search.
  The input menu appears.
- ▶ Enter a destination and select from the results list.
  The destination appears on the map.
- ▶ Select Set.
- ▶ If desired, change the name of the destination.
- ▶ Select Finished.
  The destination is saved under "My locations".

  Saved destinations are marked with a star on the list and on the map.

Saving a home location

- ▶ Call up the navigation system menu.
- ▶ Select My locations.
- ▶ Select Add home location.
  The map appears.
- ▶ Select the home location on the map.

or

- ▶ Select Search.
  The input menu appears.
- ▶ Enter the home location and select from the results list.
  The home location appears on the map.
- ▶ Select Set.
  The location is saved as a home location.

  The home location is marked with a house symbol on the list and on the map.

Saving a workplace

- ▶ Call up the navigation system menu.
- ▶ Select My locations.
- ▶ Select Add workplace.
  The map appears.
- ▶ Select the workplace on the map.

or

- ▶ Select Search.
  The input menu appears.

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- Enter the workplace and select from the results list.
  The workplace appears on the map.
- Select Set.
  The location is saved as a workplace.

Deleting a destination

Deleting a destination from the list of previous destinations

- Call up the navigation system menu.
- Select My locations.
- Select Previous destinations.
- Select Edit lists.
- Select a destination.
  A minus sign appears next to the destination.
- Select Delete.
  The destination is deleted from the list of previous destinations.

Deleting a destination from the list of previous destinations

- Call up the navigation system menu.
- Select My locations.
- Select Previous destinations.
- Select Edit lists.
- Select a destination.
  A minus sign appears next to the destination.
- Select Delete.
  The destination is deleted from the list of previous destinations.

Planning a route

- **To specify the starting point:** enter the desired starting point.
  The location appears on the map.
- Call up the submenu.
- Select Use as starting point.

ⓘ Alternatively, a starting point can be selected directly from the map by pressing and holding the desired position. A plus sign appears.

- **To specify the destination:** select the desired destination.
  The destination appears on the map.
- Select Drive.
  The route is calculated.
- **To select the current position as the starting point:** select the starting point on the route.
- Call up the submenu.
- Select Remove starting point.
  The route is recalculated with the current vehicle position as the starting point.
- **To convert the starting point into an intermediate destination:** select the starting point in the route.
- Call up the submenu.
- Select Convert into a stop.
- **To specify an intermediate destination:** enter the desired intermediate destination.
  The destination appears on the map.
- Select Add to "Current route".
  The intermediate destinations are added to the route in the order they are entered.

Saving a route

Saving the current route

- Call up the navigation system menu.
- Create a route.
- Select Current route.
- Select Add to "My routes".
  An input menu appears.
- Change the name of the route if desired.
- Select Finished.
  The route is saved under "My routes".

Saving changes to a route

- Call up the navigation system menu.
- Create a route.
- Select Current route.
- Select Save changes to route.
  Changes to routes saved under "My routes“ are saved.

Deleting intermediate destinations

- Select the map view.
  The route appears on the map.
- Select the intermediate destination to be deleted from the route bar.
  The map zooms in on the intermediate destination.

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- Select Delete this stop.
  The route is recalculated without the intermediate destination.

Deleting a route

- Call up the navigation system menu.
- Select My routes.
  The list of saved routes appears.
- Select Edit lists.
- Select a route.
  A minus sign appears next to the route.
- Select Delete.
  The route is deleted.

Current route

Cancelling the active route

- Call up the navigation system menu.
- Select Current route.
- Select Delete route.
  The active route is deleted. The map view appears.

Changing the route options

Adding an intermediate destination

- Call up the navigation system menu.
- Select Current route.
- Select Add stop.
- Enter the intermediate destination.
  The intermediate destination appears on the map.
- Select Add.

Changing the order of intermediate destinations

- Call up the navigation system menu.
- Select Current route.
- Select Sort stops.
  The starting point, destination and all intermediate destinations appear on the map.
- Select the starting point.
- Select the intermediate destinations one by one in the desired order.
  Flags appear at the intermediate destinations.
- Select the destination last.
  The route appears on the map.

Deleting intermediate destinations

- Select the map view.
  The route appears on the map.
- Select the intermediate destination to be deleted from the route bar.
  The map zooms in on the intermediate destination.
- Select Delete this stop.
  The route is recalculated without the intermediate destination.

Displaying alternative routes

- Create a route.
- Call up the navigation system menu.
- Select Current route.
- Select Find alternative routes.
  Up to three alternative routes appear on the map. The difference between the driving time or distance compared to the original route is displayed for each route.
- **To select an alternative route:** select the desired route from the map.
- Select Let's go.
  Route guidance begins.

  The route view appears as soon as the vehicle sets off.

Avoiding closed roads

- Call up the navigation system menu.
- Select Current route.
- Select Avoid closed roads.
  If an alternative route excluding the closed road is available, the alternative route appears on the map. The difference between the driving time or distance compared to the original route is displayed for the route.
- **To select an alternative route:** select the route shown on the map.
- Select Let's go.
  Route guidance begins.

  The route view appears as soon as the vehicle sets off.
- **To keep the original route:** select the button.

Displaying the route list

Multimedia system:

→ [⌂] ▸▸ Navigation ▸▸ [⚲]

- Select Route list.
  The list shows the route sections. The current vehicle position is marked on the map.

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The current vehicle position is shown with the following information:

- The symbol for the current vehicle position.
- The name of the road you are currently driving on.
- The road number of the road you are currently driving on.

The route list is updated during the journey.

▶ **To show the route sections:** swipe up or down on the control element.
The route section is shown on the map.

Showing destination information for the route
Requirements:

- A destination is entered.

Multimedia system:

→ ⌂ ▸▸ Navigation ▸▸ ⚲

▶ Select Route view.
When route guidance is active, the destination and intermediate destinations are shown, if these have been entered and not yet been passed.

The route can include up to four intermediate destinations.

▶ Select a destination or an intermediate destination.

The following information is displayed:

- Remaining driving distance
- Arrival time
- Remaining journey time
- Name, destination address
- Phone number (if available)
- Web address (if available)

Driving to the starting point of a route
You can use this function to drive from the current vehicle position to the starting point of a saved route. The starting point is changed to an intermediate destination.

▶ Call up the navigation system menu.
▶ Select Current route.
▶ Select Drive to route.

Current route

Changing the route type

▶ Call up the navigation system menu.
▶ Select Current route.
▶ Select Change route type.
▶ Select a route type.
The route is recalculated with the selected route type.

Setting further route options

▶ Call up the navigation system menu.
▶ Select Current route.
▶ Select Avoid toll roads.
▶ Select an option.

During route guidance

Route overview
When a route has been calculated, the complete route appears as an overview on the map.

1. Destination
2. Traffic disruption
3. Intermediate destination
4. Route bar
5. Current vehicle position
6. Planned route
7. Calls up the navigation system menu
8. Map zoom
9. Switches between north orientation and heading orientation

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Overview of displays during route guidance (route overview)

1. Switches between 2D and 3D view
2. Next change of direction and distance to change of direction
3. Next road
4. Current road
5. Current vehicle position
6. Current vehicle speed
7. Speed limit (when available)
8. Calls up the navigation system menu

Overview of displays on the route bar

Example of a wider route bar

1. Current distance to destination, estimated time of arrival at the destination and current journey time to destination
2. Total delay on the route
3. Filling stations on the route
4. Traffic disruption (alternately type of traffic disruption and delay in minutes)
5. Progress bar
6. Intermediate destination

ⓘ The progress bar shows a simplified view of the vehicle's current location on the route. The progress bar also shows intermediate destinations and traffic messages on the route. Only the next 50 km will be displayed for stretches longer than 50 km. To display the entire route, the progress bar can be moved.

Overview of lane recommendations

1. Recommended lane (highlighted in colour)
2. Lane not recommended (grey)

If the digital map contains the corresponding data, lane recommendations for upcoming changes of direction can be displayed before motorway exits and junctions.

Notes on route restrictions

When the vehicle type is set to "Bus" or "Truck" in the vehicle profile, route restrictions will be displayed in the route view during the journey. Streets with restricted access are marked in colour. Streets with restricted access on the route appear as a dotted line on the map.

ⓘ Observe all the traffic signs at all times. Pay particular attention to signs with restrictions that refer to the dimensions and weight of the vehicle. The route can contain restrictions.

Information on quick-access

With quick access, you can mark the location, avoid closed roads or display the current vehicle position and the longitude and latitude. To open the quick access menu, select the symbol for the current vehicle position or the speed display.

Traffic

Notes on Live Traffic Information

Live Traffic Information is a subscription service which shows real-time traffic information. In selected European markets, this service is available to you free of charge for three years upon activation of Live Traffic Information. Subsequently, the service can be extended for a fee. You will find information on the subscription status in the Fleetboard portal under "Information" .

Live Traffic Information is not available in all countries or regions. Further information can be found at http://www.tomtom.com.

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Activating Live Traffic Information
When you switch on the navigation system, a prompt appears asking if you would like to activate and use Live Traffic Information.

▶ **To activate Live Traffic Information:** select Yes.
The function is activated.

▶ **To not activate Live Traffic Information:** select No.
The prompt will appear again the next time the navigation system is switched on.

Showing traffic information on the map

① Traffic disruption on the route in the direction of travel
② Traffic disruption on the route in the opposite direction of travel
③ Traffic disruption symbols

ⓘ The traffic disruption symbols display the type of traffic disruption and the delay in minutes. The colours display the speed of the traffic in relation to the speed limit. Red indicates the slowest speed.

▶ **To display information about the traffic disruption:** select the traffic disruption on the map or on the route bar.
The traffic disruption appears zoomed in on the map.

The following information about the traffic disruption is displayed:

- type of traffic disruption, e.g. accident
- severity of the traffic disruption: slow, heavily congested or stopped traffic
- duration of delay
- length of the traffic disruption

Navigation settings

Calling up navigation settings

① Calls up navigation settings
② Calls up the info menu
③ Activates and deactivates night mode
④ Activates and deactivates voice instructions

▶ **To call up the navigation settings:** call up the navigation system menu.

▶ Select navigation settings ①.
The navigation settings menu appears.

▶ **To call up the info menu:** call up the navigation system menu.

▶ Select info menu ②.
The info menu appears.

▶ **To activate and deactivate night mode:** call up the navigation system menu.

▶ Select ③.
Night mode is activated or deactivated.

▶ **To activate and deactivate voice instructions:** call up the navigation system menu.

▶ Select ④.
Voice instructions are activated or deactivated.

Creating a vehicle profile
Settings in the vehicle profile will be taken into account during route calculation when possible. Depending on local conditions, the navigation system may not always be able to include all settings for route calculation.

▶ Call up the navigation system menu (→ page 165).

▶ Call up the navigation settings (→ page 173).

▶ Select My vehicle.

▶ **To set a vehicle type:** select Type of vehicle.
A list of possible types of vehicle appears.

▶ Select a vehicle type from the list.
The current settings of the type of vehicle appears.

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▶ Select the settings and adjust according to the vehicle.

ⓘ When the value "0" is set, the respective settings for the route restrictions are not taken into account.

▶ **To set dangerous goods:** select Dangerous goods.
A list of possible dangerous goods settings appears.

▶ Select a setting.
The active settings are highlighted in colour.

Adjusting the display

Setting automatic switching

When the setting is active, the display automatically switches to the night view when it is dark.

▶ Call up the navigation system menu (→ page 165).

▶ Call up the navigation settings (→ page 173).

▶ Select Appearance.

▶ Select Display.

▶ Select Switch to night view when dark.
The active setting is highlighted in colour.

Adjusting arrival information on the route bar

You can set which arrival information appears on the route bar and whether the information is displayed for the destination or for the next intermediate destinations.

▶ Call up the navigation system menu (→ page 165).

▶ Call up the navigation settings (→ page 173).

▶ Select Appearance.

▶ Select Route bar.

▶ Select Arrival information.

▶ Select a setting.
The active setting is indicated by the dot.

Adjusting route information on the route bar

You can set which route information appears on the route bar, e.g. petrol stations.

▶ Call up the navigation system menu (→ page 165).

▶ Call up the navigation settings (→ page 173).

▶ Select Appearance.

▶ Select Route bar.

▶ Select Route information.

▶ Select a setting.
The active settings are highlighted in colour.

Displaying the time

When this function is active, the current time appears at the bottom of the route bar.

▶ Call up the navigation system menu (→ page 165).

▶ Call up the navigation settings (→ page 173).

▶ Select Appearance.

▶ Select Route bar.

▶ Select Display current time.
The active setting is highlighted in colour.

Displaying a wider route bar

When this function is active, a wider route bar appears. The wider route bar contains additional route information, e.g. journey time and distance from a traffic jam.

▶ Call up the navigation system menu (→ page 165).

▶ Call up the navigation settings (→ page 173).

▶ Select Appearance.

▶ Select Route bar.

▶ Select Display wider route bar when possible.
The active setting is highlighted in colour.

Adjusting the route view

The following settings are available:

- Display current street names: when this setting is active, the name of the road you are currently driving on appears on the route bar.
- Route display style: set whether the route view is displayed in 2D or 3D.

▶ Call up the navigation system menu (→ page 165).

▶ Call up the navigation settings (→ page 173).

▶ Select Appearance.

▶ Select Route view.

▶ Select a setting.

Adjusting the automatic zoom

The following settings are available:

- Zoom into the next turn: when this setting is active, all turns and junctions on the route will be zoomed into on the route view.
- Based on street type: when this setting is active, all turns and junctions on the route may or may not be zoomed in on, depending on the type of the street.
- None: when this setting is active, turns and junctions are not zoomed in.

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- ▶ Call up the navigation system menu (→ page 165).
- ▶ Call up the navigation settings (→ page 173).
- ▶ Select Appearance.
- ▶ Select Automatic zoom.
- ▶ Select a setting.
  The active setting is indicated by the dot.

Selecting the voice of the voice messages

- ▶ Call up the navigation system menu (→ page 165).
- ▶ Call up the navigation settings (→ page 173).
- ▶ Select Voices.
- ▶ Select Select voice.
- ▶ Select a voice.
  The active setting is indicated by the dot.

Instruction settings

The following settings are available:

- Read out instructions about the route ahead: when this setting is active, changes of direction are read out.

- ▶ Call up the navigation system menu (→ page 165).
- ▶ Call up the navigation settings (→ page 173).
- ▶ Select Voices.
- ▶ Select the desired settings.
  Active settings are highlighted in colour.

Changing maps

- ▶ Call up the navigation system menu (→ page 165).
- ▶ Call up the navigation settings (→ page 173).
- ▶ Select Maps.
- ▶ Select a map.
  The active setting is indicated by the dot.

Setting the route planning method

Selecting the fastest route

The following settings are available:

- Always take the fastest route: when a faster route is available, navigation automatically recalculates the route.
- Ask me so that I can choose: when a faster route is available, navigation asks whether the faster route should be used.
- Do not ask: navigation does not use a faster route.

- ▶ Call up the navigation system menu (→ page 165).
- ▶ Call up the navigation settings (→ page 173).
- ▶ Select Route planning.
- ▶ Select a setting.
  The active setting is indicated by the dot.

Setting the route planning type

The following settings are available:

- Fastest route: the navigation calculates a route with the shortest possible journey time.
- Shortest route: the navigation calculates a route with the shortest possible distance.
- Most environmentally-friendly route: the navigation calculates a route with the most economical distance possible.
- Avoid motorways: the navigation calculates a route without motorways.

- ▶ Call up the navigation system menu (→ page 165).
- ▶ Call up the navigation settings (→ page 173).
- ▶ Select Route planning.
- ▶ Select a setting.
  The active setting is indicated by the dot.

Selecting route options

Multimedia system:

→ [⌂] ▸▸ Navigation
▸▸ [⚲] ▸▸ Avoidance options

Avoiding areas

- ▶ Select Avoid areas .

Avoiding motorways, ferries, tunnels, motorail trains, unpaved roads

- ▶ Switch on [●○] the avoid option.

Using toll roads

- ▶ Select Use toll roads.
- ▶ Switch the Cash or card payment and Electronic payment options on or off.
  The route takes into account roads that require the payment of a usage fee (toll) corresponding with the payment type selected.

These route options are not available in every country.

The selected route options cannot always be taken into account. Therefore, a route may include a ferry, for instance, even though the avoid Ferries option is enabled. A message then

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appears and you will hear a corresponding message.

Using routes requiring a special toll sticker

- Select Use routes requiring a special toll sticker.
- Activate All .

or

- Switch on the countries that should be taken into account.
  The route takes into account roads in the selected countries which require you to pay a time-based fee (vignette). A vignette allows for the use of a route network for a limited time period.

Alternative for calling up route types

- Select .
- Select Navigation.
- Select .
- Select Additional.
- Select Avoid areas.

Sounds and warnings

Setting the warning type

The following settings are available:

- Read out warnings: when this setting is active, spoken warnings and warning sounds are issued during the journey.
- Warning sounds: when this setting is active, warning sounds are issued during the journey.
- Only visual: when this setting is active, no warning sounds and spoken warnings are issued during the journey.

- Call up the navigation system menu (→ page 165).
- Call up the navigation settings (→ page 173).
- Select Sounds and warnings.
- Select Warning type.
- Select the desired setting.
  The active setting is indicated by the dot.

Setting safety warnings

The following settings are available:

- Always: when the vehicle approaches an area of danger, navigation issues a warning.
- Only when driving fast: when the vehicle approaches an area of danger and exceeds the maximum permissible speed, navigation issues a warning.
- Never: the navigation does not issue a warning.

- Call up the navigation system menu (→ page 165).
- Call up the navigation settings (→ page 173).
- Select Sounds and warnings.
- Select Radar cameras and hazards.
  A list of hazard types appears.
- Select a type of hazard.
- Select the desired setting.
  The active setting is indicated by the dot.

Setting reading out of traffic warnings

- Call up the navigation system menu (→ page 165).
- Call up the navigation settings (→ page 173).
- Select Sounds and warnings.
- Select Read out traffic warnings.
  The active setting is highlighted in colour.

Setting the units

- Call up the navigation menu Calling up the navigation menu(→ page 165).
- Call up the navigation settings Calling up navigation settings(→ page 173).
- Select Units.
- Select the desired setting.
  The active setting is indicated by the dot.

Calling up the info menu

1 Calls up navigation settings
2 Calls up the info menu

The following settings are available:

- Tour: a short introduction to the use of the navigation appears
- Info: information about the navigation system appears, for instance, the software status

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- ▶ Call up the navigation menu Calling up the navigation menu(→ page 165).
- ▶ Call up the navigation settings Calling up navigation settings(→ page 173).
- ▶ Select info menu ②.
- ▶ Select the desired option.

Notes on new navigation maps

When you download the current software update, you receive new map material, updated features and performance improvements.

New information and updates can be found here:

- Information about new map updates: http;//www.mercedes-benz-trucks.com
- The current software update to download: http://www.fleetboard.com/naviupdate
- The installation handbook: http://www.fleetboard.com/manual

Telephony

Telephony

Telephone menu overview

① Bluetooth® device name of the connected mobile phone
② Battery status of the connected mobile phone
③ Signal strength of the mobile phone network
④ Calls up an application using the symbol
⑤ Name of the application, e.g. call list, contacts
⑥ Device manager
⑦ Options
⑧ Connects a device
⑨ Numerical pad

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⑩ Call list
⑪ Contact search

The Bluetooth® interface is available to you for telephony. The mobile phone is connected directly via the multimedia system.

Symbols ① to ③ are not shown until after a mobile phone has been connected to the multimedia system. The symbols depend on your mobile phone and your mobile phone network provider.

Bluetooth® profile overview

Bluetooth® profile of the mobile phone	Function
PBAP (**P**hone **B**ook **A**ccess **P**rofile)	Contacts are automatically displayed in the multimedia system
HFP (**H**ands **F**ree **P**rofile)	Voice control is active
BTA (**BTA**udio)	
AVRCP (Player)	

Telephony operating modes overview

The following types of telephone mode are available:

- A mobile phone is connected to the multimedia system via Bluetooth® (→ page 178).

ⓘ The Bluetooth®-audio functions can only be used with the primary mobile phone (→ page 190).

ⓘ Bluetooth®-audio functions are not available if a CarPlay or Android Auto session is active.

Notes on telephony

⚠ **WARNING** Risk of distraction from operating integrated communication equipment while the vehicle is in motion

If you operate communication equipment integrated in the vehicle when driving, you will be distracted from the traffic situation. This could also cause you to lose control of the vehicle.

▶ Only operate this equipment when the traffic situation permits.

▶ If you cannot be sure of this, stop the vehicle whilst paying attention to road and traffic conditions and operate the equipment with the vehicle stationary.

⚠ **WARNING** Risk of an accident from operating mobile communication equipment while the vehicle is in motion

Mobile communications devices distract the driver from the traffic situation. This could also cause the driver to lose control of the vehicle.

▶ As the driver, only operate mobile communications devices when the vehicle is stationary.

▶ As a vehicle occupant, only use mobile communications devices in the areas intended for this purpose, e.g. in the rear passenger compartment.

You must observe the legal requirements for the country in which you are currently driving when operating mobile communication equipment in the vehicle.
Further information can be obtained from a Mercedes-Benz service centre or at: http://www.mercedes-benz.com/connect.

Information on telephony

Call disconnection may occur when the vehicle is in motion in the following situations:

- An area may have insufficient network coverage.
- You move from one transmitter/receiver area (cell) into another and no voice channels are free.
- The SIM card used is not compatible with the network available.
- You are using a mobile phone with "Twincard" and the second SIM card is already logged in to the network.

The multimedia system supports better speech quality calls in HD Voice®. This is conditional upon HD Voice® being supported by the participants' mobile phones and network providers.

Depending on the quality of the connection, the voice quality may fluctuate.

Connecting a mobile phone
Requirements:

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- Bluetooth® is activated on the mobile phone (see the manufacturer's operating instructions).
- Bluetooth® is activated on the multimedia system (→ page 163).

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ ✱

Searching for a mobile phone

▶ Select Connect new device.

Connecting a mobile phone (authorisation using Secure Simple Pairing)

▶ Select a mobile phone.

ⓘ For iPhone®: you have the option of connecting the mobile phone via Apple CarPlay® with the multimedia system (→ page 163).

▶ A code is displayed in the multimedia system and on the mobile phone.

▶ **If the codes match:** confirm the code on the mobile phone.

ⓘ For older mobile phone models, enter a one to sixteen-digit number code on the mobile phone and on the multimedia system for authorisation.

ⓘ Up to 15 mobile phones can be authorised on the multimedia system.
Authorised mobile phones are reconnected automatically.

ⓘ The connected Primary mobile phone can also be used as Bluetooth® audio equipment (→ page 190).

Connecting a second mobile phone (two phone mode)
Requirements:

- At least one mobile phone is already connected to the multimedia system via Bluetooth®.

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ ✱

▶ Select Connect new device.

▶ Select the mobile phone.

▶ Select With <Mobile phone>.
The selected mobile phone is connected to the multimedia system.

Functions of the mobile phone in two phone mode

Overview of functions

Functions of the mobile phone in the foreground	Functions of the mobile phone in the background
Full range of functions	Incoming calls

Interchanging mobile phones (two phone mode)
Multimedia system:

→ ⌂ ▸▸ Phone

▶ Select ⧉.

After interchanging the mobile phones in one of the submenus, the mobile phone in the foreground is replaced by the mobile phone in the background.

Changing the function of a mobile phone
Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ ✱

Activating a function

▶ Select a grey symbol in the line of a mobile phone.
The corresponding function is activated.

Deactivating a function

▶ **A function is active:** select the coloured symbol in the line of a mobile phone.
The mobile phone is disconnected from the multimedia system.

▶ **Several functions are active:** select a coloured symbol in the line of a mobile phone.
The corresponding function is deactivated.

Replacing mobile phones
Multimedia system:

→ Phone ▸▸ ✱

▶ **No authorised mobile phone available:** select Connect new device.

▶ Select a mobile phone.

▶ **Newly authorised mobile phone:** confirm the number code on the mobile phone.

Using in two phone mode

▶ Select With <Mobile phone>.
A newly authorised mobile phone is connected with the selected mobile phone in two phone mode.

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If the mobile phone has already been authorised and connected in single telephone mode, it will be connected in future with the selected mobile phone in two phone mode.

If the mobile phone was previously connected with another mobile phone, this connection is cancelled.

Disconnecting/de-authorising a mobile phone

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ ✱

- Select ••• in the line of the mobile phone.
- **To disconnect:** select Disconnect.
  If applicable, the mobile phone will be automatically reconnected when the vehicle is next started.
- **To de-authorise:** select Deauthorise.

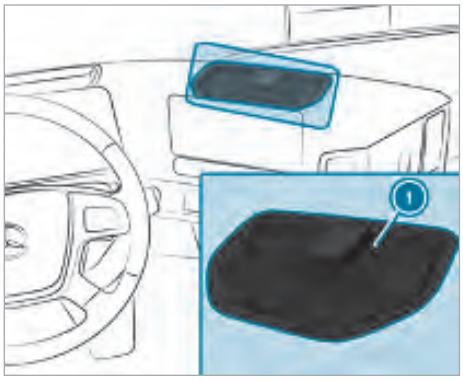
Information on Near Field Communication (NFC)

With NFC you can exchange data over short distances without physical contact or (re-)connect a mobile phone with the multimedia system.

Using the mobile phone with Near Field Communication (NFC)

Requirements:

- NFC is activated on the mobile phone (see the manufacturer's operating instructions)
- The mobile phone's screen is switched on and unlocked (see the manufacturer's operating instructions)



- **To connect a mobile phone:** hold the NFC area of the mobile phone (see manufacturer's operating instructions) on charging mat ① or place the mobile phone on it.
- Follow the additional prompts on the media system display to connect the mobile phone. Connect the mobile phone in single telephone mode (→ page 178). Connect the mobile phone in two phone mode (→ page 179).
- **To replace a mobile phone:** hold the NFC area of the mobile phone (see manufacturer's operating instructions) on mat ① or place the mobile phone on it.
- Follow the additional prompts on the media system display to replace the mobile phone in one or two phone mode (→ page 179).
- If required, confirm the prompts on your mobile phone (see the manufacturer's operating instructions).

ⓘ If your mobile phone supports wireless charging, it will be automatically charged via NFC when it is connected or replaced. A requirement for this is that the mobile phone is on the charging mat.

If you want to charge a mobile phone without connecting it to the multimedia system, lay it on the mat without beforehand unblocking the screen.

Further information can be found at: http://www.mercedes-benz.com/connect.

Setting the reception and transmission volume

Requirements:

- A mobile phone is connected (→ page 178).

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ ✱

This function ensures optimal language quality.

- Select ••• in the line of the mobile phone.
- Select Reception volume and Transmission volume.
- Set the volume.

Further information on the recommended reception and transmission volume: http://www.mercedes-benz.com/connect.

Setting the ringtone

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ ⚙

- Select Ringtones.
- Set the ringtone.

ⓘ If the mobile phone supports the transfer of the ringtone, you will hear the ringtone of the mobile phone instead of that of the vehicle.

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Starting/ending mobile phone voice recognition
Requirements:

- The mobile phone in the foreground is connected with the multimedia system (→ page 178).

Starting mobile phone voice recognition

▶ Press and hold the button on the multifunction steering wheel for at least one second.
You can now use the mobile phone voice recognition.

To end mobile phone voice recognition

▶ Press the or button on the multifunction steering wheel.

ⓘ If a mobile phone is connected via the smartphone integration, the voice recognition of this mobile phone is started or stopped.

Calls

Telephone operation
Multimedia system:

→ ▸▸ Phone

Making a call by entering the numbers

▶ Select .
▶ Enter a number.
▶ Select .
The call is made.

Accepting a call

▶ Select Accept.

Rejecting a call

▶ Select Reject.

Ending a call

▶ Select beenden (End) .

Putting a call on hold and rejecting a call

▶ Select Call on hold.
The call is put on hold or rejected.

Depending on the mobile phone, behaviour when rejecting a call may vary (see manufacturer's operating instructions).

▶ When the call is on hold: select Reject.
The call is rejected.

Activating functions during a call

The following functions are available during a call:

- End call beenden (End)
- Microphone
- Numerical (show to send DTMF tones)
- Transfer to (an active call in hands-free mode is transferred over to the telephone)

▶ Select a function.

Putting an active call on hold

▶ Tap on the contact or the call.
The call is put on hold.

ⓘ The call on hold can be ended any time or reactivated by tapping again.

Conducting a call with several participants
Requirements:

- There is an active call (→ page 181).
- Another call connection has been established.

Switching between calls

▶ **To switch call:** select Switch calls wechseln (Switch calls).
▶ Select the contact.
The selected call is active. The other call is on hold.

Activating a call on hold

▶ Select the contact for the call on hold.

Ending the active call

▶ Select End call beenden (End).

ⓘ On some mobile phones, the call on hold is activated as soon as the active call is ended.

Accepting/rejecting a waiting call
Requirements:

- There is an active call (→ page 181).

If there is an incoming call while a call is being conducted, a notification is shown.

Depending on the mobile phone and the mobile phone network provider you will hear a knocking sound.

In addition, you will hear an acoustic signal in two phone mode, if the call is incoming on the other (still not active) mobile phone.

▶ Select Accept.
The incoming call is active.

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The previous call is put on hold if only one mobile phone is connected with the multimedia system.

If, during a call, you accept another call on the other phone when in two phone mode, the existing call will be ended.

The previous call is put on hold.

▶ Select Reject.

ⓘ The function and behaviour depend on your mobile phone network provider and mobile phone (see the manufacturer's operating instructions).

Contacts

Information about the contacts menu

The contacts menu contains all contacts from existing data sources, e.g. mobile phone or memory card.

Depending on the data source you have the following number of contacts:

- Permanently stored contacts: 3000 entries
- Contacts loaded from the mobile phone: 5000 entries per mobile phone

You can perform the following tasks from the contacts menu:

- Operate the telephone, e.g. call a contact (→ page 182)
- Navigate
- Additional options

If a mobile phone is connected to the multimedia system (→ page 178) and automatic calling up (→ page 182) is activated, the mobile phone's contacts are displayed automatically.

Based on frequently used contacts as well as incoming and outgoing calls the multimedia system can show suggestions . These will be shown at the top of the contact list.

Downloading mobile phone contacts

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ ⚙

▶ Select the connected mobile phone.

▶ Select Contacts & Call list.

Automatically

▶ Activate Synchronise contacts automatically: ⊙.

Manually

▶ Deactivate Synchronise contacts automatically: ⊙.

▶ Select Synchronise contacts.

Calling a contact

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ 👥

▶ Select 🔍 Search contacts .

▶ Enter characters into the search field.

▶ Select the contact.

▶ Select the telephone number.
The number is dialled.

Editing the format of a contact's name

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ ⚙

▶ Select Name format.

The following options are available:

- Surname, first name
- Surname First name

▶ Select an option.

Overview of importing contacts

Contacts from various sources

Source	Requirements:
Bluetooth® connection	Bluetooth® is activated in the multimedia system and on the respective device (see the manufacturer's operating instructions).

Importing contacts into the contacts menu

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ ⚙
▸▸ Import contacts

▶ Select an option.

Calling a mobile phone contact

Multimedia system:

→ ⌂ ▸▸ Phone ▸▸ 👥

▶ Select 🔍 Search contacts .

▶ Enter characters into the search field.

▶ Select the contact.

▶ Select the telephone number.
The number is dialled.

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Saving a contact as a favourite
Multimedia system:
→ ⌂ ▸▸ Phone ▸▸ Contacts

- Press and hold on the desired contact in the phone book.
  The contacts are saved as global favourites and appear on the home screen.

Deleting favourites in the telephone menu overview
Multimedia system:
→ ⌂

- Tap on ★.
  The favourites are displayed.
- Press on a favourite until the Options menu is shown.
- Select Delete.
- Select Yes.

Deleting all favourites

- Tap on ⌂ in the media display.
- Select Phone.
- Select ⚙.
- Select the connected phone.
- Select Delete all favourites.
- Select OK.

Call list

Overview of the call list
Depending on whether your mobile phone supports the Bluetooth® PBAP profile or not, it can have different affects on the appearance and functions of the call list.

If the Bluetooth® PBAP profile is supported this has the following affects:

- The call lists from the mobile phone are shown in the multimedia system.
- When connecting the mobile phone, you may have to confirm the connection for the PBAP Bluetooth® profile.

If the Bluetooth® PBAP profile is not supported this has the following affects:

- The multimedia system generates a call list itself as soon as calls are made in the vehicle.
- This list is not synchronised with the call lists on the mobile phone.

Based on frequently used contacts as well as incoming and outgoing calls the multimedia system can show suggestions . These will be shown at the top of the call list.

Making a call from the call list
Multimedia system:
→ ⌂ ▸▸ Phone

- Select Call list.
- Select an entry.
  The call is made.

Calling up additional options in the call list
Multimedia system:
→ ⌂ ▸▸ Phone

- Select Call list .
- For previously stored contacts: select > in the line of an entry.
  The search results are displayed.
- For contacts who have not been stored: select ☎.

Selecting options for suggestions in the call list
Requirements:

- Call list has entries, such as incoming or missed calls, for example.

Multimedia system:
→ ⌂ ▸▸ Phone

- Select Call list.
  The following options are available:
  - Save as favourite
  - Do not suggest
- Select an option.

Deleting the call list
Multimedia system:
→ ⌂ ▸▸ Phone ▸▸ ⚙

- Select the connected mobile phone.
- Select Delete call list.
- Select Yes.

ⓘ This function is only available if your mobile does not support the PBAP Bluetooth® profile.

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Apple CarPlay®

Overview of Apple CarPlay®

WARNING Risk of distraction from information systems and communications equipment

If you operate information and communication equipment integrated in the vehicle when driving, you will be distracted from the traffic situation. This could also cause you to lose control of the vehicle.

- Only operate this equipment when the traffic situation permits.
- If you cannot be sure of this, stop the vehicle whilst paying attention to road and traffic conditions and operate the equipment with the vehicle stationary.

You must observe the legal requirements for the country in which you are currently driving when operating the multimedia system.

iPhone® functions can be used via the multimedia system using Apple CarPlay®. They are operated using the touchscreen, Touch Control or the Siri® voice-operated control system. You can activate the voice-operated control system by pressing and holding the button on the multifunction steering wheel.

Only one mobile phone at a time can be connected via Apple CarPlay® to the multimedia system.

The availability of Apple CarPlay® may vary according to the country.

Please note when using Apple CarPlay® that this is not suitable for route planning in commercial vehicles.

The service provider is responsible for this application and the services and content connected to it.

Information on Apple CarPlay®

Only one route guidance can be active at a time. If route guidance is active using Apple CarPlay®, it is closed if route guidance is started on the multimedia system. If route guidance is active using the multimedia system, it is closed if route guidance is started via Apple CarPlay®.

Connecting an iPhone® via Apple CarPlay®

Requirements:

- The multimedia system is equipped with the function.
- The current version of your device's operating system is being used (see the manufacturer's operating instructions).
- The full range of functions for Apple CarPlay® is only available with an Internet connection.

▶ Connect the iPhone® to the USB port on the multimedia system using a suitable cable (→ page 189).

▶ If no other device is connected with the system via Bluetooth®: confirm the data protection provisions.

▶ If another device is connected via Bluetooth® or Apple CarPlay® with the system: tap on the Tap here to start Apple CarPlay for:<Mobile phone> message.

or

▶ Select the iPhone® in the device list under the application.
The previous connection via Bluetooth® or Apple CarPlay® is disconnected. The device newly connected via cable is active.

ⓘ Alternative: If Apple CarPlay® is already active (e.g. when music is being played or the navigation system is being used), you can call up the application using the RADIO MEDIA, NAVI MAP or TEL buttons.

Accepting/rejecting the data protection provisions

A message with the data protection provisions appears.

▶ Select Decline & end__Accept & start.

ⓘ When the Apple CarPlay® connection is active, you can switch Start automatically on or off.

Exiting Apple CarPlay®

▶ Press the button.

ⓘ If Apple CarPlay® was not displayed in the foreground before disconnecting, the application starts in the background when reconnected. You can call up Apple CarPlay® in the main menu.

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Calling up Apple CarPlay® sound settings
Requirements:

- The iPhone® is connected to the multimedia system via the USB port using a suitable cable (→ page 189).

Multimedia system:

Smartphone ▸▸ Apple CarPlay ▸▸

▶ Select Sound settings.

Ending Apple CarPlay®

▶ **To end the connection of Apple CarPlay®(cable):** disconnect the connection via the connecting cable between the iPhone® and multimedia system.

ⓘ Mercedes-Benz recommends disconnecting the connecting cable only when the vehicle is stationary.

Android Auto

Android Auto overview

⚠ **WARNING** Risk of distraction from information systems and communications equipment

If you operate information and communication equipment integrated in the vehicle when driving, you will be distracted from the traffic situation. This could also cause you to lose control of the vehicle.

▶ Only operate this equipment when the traffic situation permits.

▶ If you cannot be sure of this, stop the vehicle whilst paying attention to road and traffic conditions and operate the equipment with the vehicle stationary.

You must observe the legal requirements for the country in which you are currently driving when operating the multimedia system.

Mobile phone functions can be used with Android Auto using the Android operating system on the multimedia system. It is operated using the touchscreen or the voice-operated control system. You can activate the voice-operated control system by pressing and holding the button on the multifunction steering wheel.

Only one mobile phone at a time can be connected via Android Auto to the multimedia system.

The availability of Android Auto and Android Auto apps may vary according to the country.

Please note that Android Auto is not permitted for route planning in commercial vehicles. It is still possible to use the maps via Android Auto. Instead, route guidance can be started using the multimedia system without restriction.

The service provider is responsible for this application and the services and content connected to it.

Information on Android Auto

While using Android Auto, various functions of the multimedia system, for example the media source Bluetooth® audio, are not available.

Only one route guidance can be active at a time. If route guidance is active on the multimedia system, it is closed when route guidance is started on the mobile phone. If route guidance is started using Android Auto and route guidance is already active on Apple CarPlay®, this is ended and vice versa.

Connecting a mobile phone via Android Auto
Requirements:

- The first activation of Android Auto on the multimedia system must be carried out when the vehicle is stationary for safety reasons.
- The mobile phone supports Android Auto from Android 5.0.
- The Android Auto app is installed on the mobile phone.
- In order to use the telephone functions, the mobile phone must be connected to the multimedia system via Bluetooth® (→ page 178).

  If there was no prior Internet connection, this is established with the use of the mobile phone with Android Auto.
- The mobile phone is connected to the multimedia system via the USB port using a suitable cable (→ page 189).
- The full range of functions for Android Auto is only possible with an Internet connection.

Multimedia system:

Smartphone ▸▸ Android Auto ▸▸ Start Android Auto

Accepting/rejecting the data protection provisions

For the initial start of the application: a message with the data protection provisions appears.

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▶ Select Accept and install.

ⓘ When the Android Auto connection is active, you can switch Start automatically on or off.

Exiting Android Auto

▶ Press the [⌂] button.

ⓘ Android Auto starts automatically when the mobile phone is connected with the system using a cable. If Android Auto was not displayed in the foreground before disconnecting, the application starts in the background when reconnected. You can call up Android Auto in the main menu.

Calling up the Android Auto sound settings

Multimedia system:

→ [⌂] ▸▸ Smartphone ▸▸ Android Auto ▸▸ [⚙]

▶ Select Sound settings.

Ending Android Auto

▶ Disconnect the connecting cable between the mobile phone and multimedia system.

ⓘ Mercedes-Benz recommends disconnecting the connecting cable only when the vehicle is stationary.

Vehicle data transmitted with Android Auto and Apple CarPlay™

Overview of transferred vehicle data

When using Android Auto or Apple CarPlay®, certain vehicle data is transferred to the mobile phone. This enables you to get the best out of selected mobile phone services. Vehicle data is not directly accessible.

The following system information is transmitted:

- Software release of the multimedia system
- System ID (anonymised)

The transfer of this data is used to optimise communication between the vehicle and the mobile phone.

To do this, and to assign several vehicles to the mobile phone, a vehicle identifier is randomly generated.

This has no connection to the vehicle identification number (VIN) and is deleted when the multimedia system is reset (→ page 164).

The following driving status data is transmitted:

- Transmission position engaged
- Distinction between parked, standstill, rolling and driving
- Day/night mode of the instrument cluster

The transfer of this data is used to alter how content is displayed to correspond to the driving situation.

The following position data is transmitted:

- Coordinates
- Speed
- Compass direction
- Acceleration direction

This data is only transferred while the navigation system is active, in order to improve it (e.g. so it can continue functioning when in a tunnel).

Radio

Switching on the radio

Multimedia system:

→ [⌂] ▸▸ Radio

▶ Alternatively: press the [RADIO MEDIA] button.
The radio display appears. You will hear the last station played on the last frequency band selected.

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Radio overview

1. Active frequency band
2. Station name or set frequency
3. Track, artist and radio text
4. Options
5. Full screen/DAB slideshow
6. Mute
7. Station list
8. Search

Setting the frequency band

Multimedia system:

→ [⌂] ▸▸ Radio

▶ Select a frequency band.

Selecting a radio station

Multimedia system:

→ [⌂] ▸▸ Radio

▶ Swipe to the left or right on the control element.

Calling up the radio station list

Multimedia system:

→ [⌂] ▸▸ Radio

▶ Select [≡].
The station list appears.

▶ Select a station.

Searching for radio stations using station names or direct frequency entry

Multimedia system:

→ [⌂] ▸▸ Radio

▶ Select [≡].

▶ Select [🔍].

▶ Enter a station name or frequency.

▶ Select a station.

Storing radio stations

Multimedia system:

→ [⌂] ▸▸ Radio

▶ Select a radio station.

Memory slots are available in station presets

▶ Select [+].

or

▶ Press and hold on the radio station.

Replacing the entry in the station preset

▶ Press and hold on the entry in the station preset.

▶ Select Yes.

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Editing station presets

Multimedia system:

→ ⌂ ▸▸ Radio

Moving stations:

- Press and hold on a saved station.
- Select Move.
- Move the station to the new position.

Deleting a station:

- Press and hold on a station.
- Select Delete.

Replacing a station:

- Press and hold on a station.
- Select Replace radio station.

Activating/deactivating the frequency fix function

Multimedia system:

→ ⌂ ▸▸ Radio ▸▸ ⚙

- Select Frequency fix to switch on or off.
  If the function is activated, the set frequency is kept even if the reception is poor.

Switching traffic announcements on/off

Multimedia system:

→ ⌂ ▸▸ Radio ▸▸ ⚙

- Activate or deactivate Traffic announcements.

Setting the traffic information service volume increase

Multimedia system:

→ ⌂ ▸▸ Radio ▸▸ ⚙ ▸▸ Sound

- Select Other sound settings.
- Select Navigation and traffic announcements.
- Select Traffic announc. vol. increase.
- Adjust the value.
- To accept the value: select ‹.

Display radio text

Multimedia system:

→ ⌂ ▸▸ Radio ▸▸ ⚙

- Activate or deactivate Display radio text information.

Media

Information about media mode

Information about supported formats and data storage media

WARNING Risk of distraction when handling data storage media

If you handle a data storage medium while driving, your attention is diverted from the traffic conditions. This could also cause you to lose control of the vehicle.

- Only handle a data storage medium when the vehicle is stationary.

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The multimedia system supports the following formats and data storage media:

Permissible file systems	FAT32, exFAT, NTFS
Permissible data storage media	USB devices, iPod®/iPhone®, MTP devices, Bluetooth® audio equipment
Supported formats	**Audio:** MP3, WMA, AAC, WAV, FLAC, ALAC

ⓘ Observe the following notes:

- Up to 50,000 supported files can be managed by the multimedia system.
- Data storage medium up to 2 TB are supported (32 bit directory).
- Due to the large variety of available music files regarding encoders, sampling frequencies and bit rates, playback cannot be always be guaranteed.

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- It cannot be guaranteed that all USB devices can be played back due to the wide variety of USB devices available.
- Copy-protected music files or DRM (Digital Rights Management) encrypted files cannot be played back.
- MP3 players must support Media Transfer Protocol (MTP).

Information on copyright protection and trademarks

Audio files that you create or reproduce yourself for playback are generally subject to copyright protection. In many countries, reproductions, even for private use, are not permitted without the prior consent of the copyright holder. Make sure that you know about the applicable copyright regulations and that you comply with these.

Overview of the media menu

1. Previous track or fast rewind
2. Next track or fast forward
3. Album cover
4. Active analogue external media source
5. Track and artist
6. Current track number/track in playback list and active data storage medium
7. Repeat
8. Settings
9. Connects a device
10. Timeline
11. Controls playback
12. Categories
13. Music search
14. Random playback

Connecting data storage media with the multimedia system

Connecting USB devices

NOTE Damage caused by high temperatures

High temperatures can damage USB devices.

▶ Remove the USB device after use and take it out of the vehicle.

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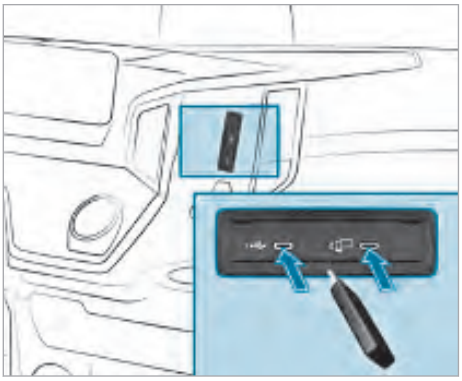

The multimedia connection unit is on the co-driver's side of the multimedia display and is equipped with two type C USB ports.

▶ Connect the USB device to the USB port.

ⓘ USB splitters are not supported by the multimedia system.

ⓘ When connecting several Apple® devices at the same time, take note of the order in which they are connected. The multimedia system only connects with the device that is connected first. Additional Apple® devices connected at the same time will only be supplied with power.

Searching for and authorising the Bluetooth® audio equipment
Requirements:

- Bluetooth® is activated on the multimedia system and audio equipment (→ page 163).
- The audio equipment supports the Bluetooth® audio profiles A2DP and AVRCP.
- The audio equipment is "visible" for other devices.

Multimedia system:
↳ ⌂ ▸▸ Media ▸▸ Bluetooth ▸▸ ✱

Authorising a new Bluetooth® audio device

▶ Select Connect new device.
Detected equipment is displayed in the device list.

▶ Select an audio device.
Authorisation starts. A code is displayed on the multimedia system and on the mobile phone.

ⓘ The selected BTA device is set as the Primary Phone.

▶ If the codes are identical, confirm on the audio equipment.

▶ Select Only as Bluetooth audio device.
The Bluetooth® audio equipment is connected with the multimedia system.

Connecting previously authorised Bluetooth® audio equipment

▶ Select a Bluetooth® audio device from the list.
The connection is established.

Starting media playback

Requirements:

- A data storage medium is connected to the multimedia system.

Multimedia system:
↳ ⌂ ▸▸ Media

▶ Select USB or Bluetooth as the media source.

Controlling media playback

Multimedia system:
↳ ⌂ ▸▸ Media

▶ **To pause playback:** select ❚❚.

▶ **To continue playback:** select ▶.

▶ **To repeat a track:** select ⮌.
For repeating there are the following options:
- **Select once:** the active playlist is repeated.
- **Select twice:** the current track is repeated.
- **Select three times:** repeat is deactivated.

▶ **To play back tracks in random order:** select ⤮.

▶ **To scroll back and forth through tracks:** tap on the desired position on the timeline.

▶ **To select the next track:** select ▷|.

▶ **To select the previous track :** select |◁.

▶ **To scroll through tracks quickly:** press and hold on |◁ or ▷|.

▶ **To show the current track list:** select the track image shown.

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Additional options for setting media playback

Multimedia system:

→ [⌂] ▸▸ Media

Calling up additional options

▶ Select [☆].
The additional options are shown.

The following options are available:

- Play similar tracks

  Select during playback of a track in order to create a playlist with similar tracks.
- Surprise mix

  A playlist with randomly selected tracks is created.
- Add to favourite songs

  The current track is added to the favourite songs.
- Delete from favourite songs

  The current track is removed from the favourite songs.

▶ Select an option.

Media search

Information about the search function in categories

Under [♫] you can search through all available media files. There are several categories available for selection. The categories shown depend on the connected device and data format.

Available categories with Bluetooth® audio equipment:

- Current tracklist

  The folders and categories of the connected device are shown.

Available categories with audio files:

- Current tracklist
- Playlists
- Folder
- Albums
- Artists
- Tracks
- Music genres
- Year
- Composers
- Podcasts (Apple® devices)
- Audiobooks (Apple® devices)

ⓘ The categories are available as soon as the entire media content has been read in and analysed.

Starting a search in categories

Multimedia system:

→ [⌂] ▸▸ Media ▸▸ [♫]

▶ Select a category.

▶ Select [🔍] and enter a search term.

Sorting results shown or playing back all media found

▶ Select [•••].

▶ **To play back all results found in the category:** select Play all.
If, for example, the album category is active, all albums found by the desired artist will be played back.

▶ **To sort results alphabetically:** select Sort from A-Z.

▶ **To sort results in reverse alphabetical order:** select Sort from Z-A.

ⓘ The available options depend on the selected category and the connected device.

Using the keyword search

Multimedia system:

→ [⌂] ▸▸ Media

You can look for content using the keyword search with free text input.

▶ Select [🔍].
A keyboard for character entry appears.

▶ Enter the term searched for.

ⓘ The search begins with the first character entered. The more characters entered the more concrete the search results become.

▶ Select the desired entry from the result list. If the selected result is an album, song or a playback list then playback is started. If the selected result is a new category then this is opened in the search.

Searching for a track according to mood

Multimedia system:

→ [⌂] ▸▸ Media ▸▸ [♫]

Using the My Music search, you can find music tracks suitable for a mood.

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▶ Select Mood.

A grid with the following moods appears:

- Positive
- Calm
- Dark
- Energetic

▶ Slide the control into the required position.
Tracks are searched for that match the mood specified.

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Information about Truck Data Center 7

The Truck Data Center 7 is the vehicle computer from Mercedes-Benz.

A valid framework agreement with a respective service booking is required for use of the Mercedes-Benz connectivity services. The Truck Data Center 7 is a requirement for using Mercedes-Benz connectivity services.

Fleetboard connectivity services

Using Truck Data Center 7 it is possible to transfer all data generated by the vehicle and driver.

The following functions are available:

- **Operational analysis and reports** assists in reducing fuel consumption and wear and tear. Values such as speed, braking characteristics and average total fuel consumption point out potential improvements for a more economical driving style. This information can be summarised in the form of monthly reports, including an evaluation.
- **Mapping and journey recording** presents vehicle data on a digital street map which can be retraced exactly.
- **Driver card and mass storage device download** allows the driver card and mass storage device to be downloaded automatically from the vehicle (a digital tachograph is required to carry out the driver card and mass storage device download).
- **Time recording** provides an overview of the current driving and rest periods of drivers.
- **Messaging** facilitates communication between the driver and logistics.
- **Trailer services** links data on the truck and trailer to one another.
- **Mercedes-Benz Truck app portal** offers apps for the control of logistics processes.

Sending a Service Call message

If there is an active framework agreement with an activated vehicle computer, a Service Call can be sent to the headquarters using the Truck Data Center 7 computer.

→ ⌂ ▸▸ Operation ▸▸ Switch

▶ Switch the ignition lock to the drive position.

ⓘ Once the multimedia system is switched on it takes around two minutes before the Truck Data Center computer is operational.

▶ **To send a Service Call message/to conduct telediagnosis:** press the SERVICE CALL virtual button.
The indicator lamp on the multimedia system flashes red once.

The Truck Data Center 7 computer generates the data which is to be sent; this takes about three minutes. Leave the ignition switched on while the data is being sent. Once the service message has been successfully sent, the indicator lamp goes out and a message appears in the instrument cluster. The telediagnosis data is now available to Mercedes-Benz Service.

▶ Turn the ignition lock to position 0.

▶ Consult a Mercedes-Benz Service (Customer Assistance Centre or national organisation).

If the indicator lamp lights up red for approximately four seconds, the Service message was not sent. In this case:

▶ Change the vehicle location.

▶ Send the Service message again.

Reading out the Fleetboard DriverCard

If the Truck Data Center 7 is equipped with a concealed vehicle computer, the Fleetboard DriverCard is read out via the Near Field Communication (NFC) bracket.

You can use the Fleetboard DriverCard for unambiguous identification of the driver. Avoid touching the contact surface points of memory chip with your fingers. Otherwise, errors could occur when reading the memory chip.

Fleetboard DriverCard with memory chip and NFC symbol

1. FleetBoard DriverCard memory chip
2. Near Field Communication symbol (NFC symbol)

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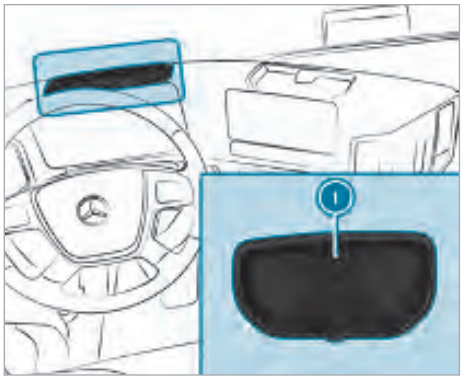

▶ Turn the ignition lock to position 2.

Before beginning the journey/trip:

▶ **To insert the driver card:** place Fleetboard DriverCard with the lettering and memory chip facing down in bracket 1.
When the card is placed correctly in the bracket, the symbol can be seen in the instrument cluster.

ⓘ If the driver card is not placed correctly the FleetBoard DriverCard not recognised message appears in the instrument cluster.

After the end of the journey/trip:

▶ **To remove the driver card:** remove the FleetBoard DriverCard from the bracket.

ⓘ The transfer of driver card data via NFC can be disrupted by metallic objects or by a mobile phone. Place the mobile phone in the stowage space intended for this purpose above the multimedia system display.

Free and open source software

Information on licences for the free and open source software used in your device can be found on this website: http://www.fleetboard.com/license.

Notes on Truck Data Center 7 Support

For questions about your Truck Data Center 7 computer contact the Mercedes-Benz Uptime and Fleetboard Support:

Telephone

Germany/international	+49 711 17 91 999
Austria	+43 1 36 02 77 30 24
Belgium	+32 2 62 00 453
Czech Republic	+420 22 53 76 440
Denmark (in English)	+45 35 15 80 32
Finland (in English)	+358 98 17 10 433
France	+33 1 70 48 90 88
Hungary	+36 1 32 85 340
Italy	+39 02 38 59 13 48
Luxembourg	+352 27 30 21 76
Norwegian (in English)	+47 23 50 01 19
Poland	+48 22 58 44 282
Romania	+402 165 507 34
Slovakia	+421 2 50 11 20 11
Spain	+34 91 37 53 353
Sweden (in English)	+46 85 19 92 272
Switzerland	+41 22 56 75 124
The Netherlands	+31 20 72 19 232
Lithuania	+370 52143095

Address Daimler Fleetboard GmbH, HPC: Z309, 70546 Stuttgart, Germany

Internet http://www.fleetboard.com

E-mail support@fleetboard.com

Mercedes-Benz connectivity services

Mercedes-Benz Uptime

Mercedes-Benz Uptime offers the ability to plan visits to the workshop and vehicle availability. In addition, the fully automatic telediagnosis continuously checks the status of the vehicle systems and reacts in time to critical statuses as well as to maintenance and repair requirements. In this way, breakdowns and malfunctions can be reduced and planned visits to the workshop can be efficiently clustered. You can obtain further information at www.uptime-info.mercedes-benz.com or at a Mercedes-Benz service center.

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Mercedes-Benz Remote Online

With Remote Online a connection is established with vehicle's own Wi-Fi network. It is the interface for using vehicle-related applications via mobile end devices (BYOD). For access to the Wi-Fi network, the mobile end device must be authorised once via the multimedia system. In addition, a vehicle-related application such as the Remote Truck app, for example, is required. This can be obtained in the App Store (Apple®) or Play Store (Android). The range of the connection extends approx. 25m.

Mercedes-Benz Truck app portal

The Mercedes-Benz Truck app portal makes the truck fleet more efficient by making apps available on the Multi-Touch display to optimise logistics processes. It is possible for the fleet manager to equip individual trucks or the whole fleet with apps according to their requirements. In this way, not only is the driver's daily routine made more convenient but also efficiency and effectiveness are increased.

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Notes on driver assistance/driving safety systems

Please note that if you fail to adapt your driving style or if you are inattentive, the driver assistance systems and driving safety systems described here can neither reduce the risk of an accident nor override the laws of physics. Driving assistance systems and driving safety systems are merely aids designed to assist driving. You are responsible for the distance to the vehicle in front, for vehicle speed, steering and for braking in good time.

You should always adapt your driving style to suit prevailing road and weather conditions and drive carefully.

Driving

Notes on preparing for a journey

Please note that all electronic security systems in the vehicle only 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.

⚠ **WARNING** 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 sudden braking or a sudden change 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.

⚠ **WARNING** 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 jeopardises 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 fit the floor mats securely and as prescribed in order to ensure that there is always sufficient room for the pedals.
- ▶ Do not use loose floor mats and do not place floor mats on top of one another.

⚠ **WARNING** Risk of an accident due to an uneven load

If you load the vehicle unevenly, driving characteristics such as steering and braking behaviour may be severely impaired.

- ▶ Load the vehicle evenly.
- ▶ Secure the load so that it cannot slip.

The vehicle's driving, braking and steering characteristics vary with the type, weight and centre of gravity of the load.

Preparing for a journey

Visual and function check on the vehicle exterior

The following checks should be performed on the towing vehicle and on the trailer/semitrailer before starting a journey:

- ▶ Check the vehicle for leaks.
- ▶ Make sure that the licence plate number, vehicle lighting, turn signal and brake lamps are not dirty or damaged.

ⓘ The lamp check function can assist in checking the vehicle lighting:

- vehicles with an electronic key (→ page 42)
- vehicles with the "Remote Online" function (→ page 103)

- ▶ Check that the contour markings of all attachments and add-on equipment are in good condition.
- ▶ Check wheels and tyres (→ page 373).

Observe the following points while doing this:

- general condition
- visible damage and cracks
- tyre pressure
- tyre tread depth
- the wheels are secure

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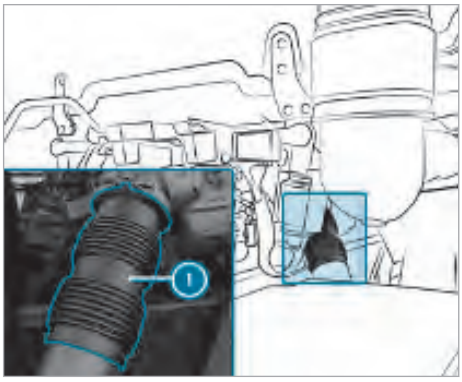

Example: decoupling element between the engine and the exhaust pipe

- Check the decoupling element of exhaust system (1) for visible damage, e.g. cracks.
  The decoupling element is a wear part and must be checked regularly.

  BlueTec®4 vehicles and BlueTec®5 vehicles: the decoupling element must be replaced immediately if there is damage.

  BlueTec®6 vehicles: the decoupling element must be replaced immediately if there is 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 folding/extendible steps before driving.
- Fold the folding underride guard to the 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 snow and accumulations of ice from the towing vehicle and trailer/semitrailer (→ page 301).
- Make sure that cables and compressed-air lines are connected correctly (→ page 290).
- Make sure that the semitrailer/trailer coupling is locked and secured correctly.
  Observe the separate operating instructions issued by the manufacturer for the operation, care and maintenance of the semitrailer/trailer coupling.

Have all faults and damage rectified. If necessary, have the causes determined and rectified at a qualified specialist workshop.

Activating driving systems

- Activate Stability Control Assist (→ page 229) or activate ASR (→ page 228).
- Vehicles with level control: set the driving level (→ page 263).

Checking the emergency equipment/first-aid kit (hard case)

ⓘ There is an overview of emergency equipment and first-aid kits in the "Breakdown assistance" section (→ page 337).

- Check the following emergency equipment to make sure that it is accessible, complete and ready for use:
  - Safety vest
  - Warning triangle
  - Warning lamp
  - First-aid kit
  - Fire extinguisher
- At regular intervals, check that the first-aid kit is usable. 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.

You must observe the legal requirements for the country in which you are currently driving when carrying emergency equipment.

Checking the vehicle lighting

- Switch on the ignition.
  If a bulb on the towing vehicle is faulty, the on-board computer displays a corresponding event window. In the case of a bulb failure, the event window displays [☼] and [🚚] for the towing vehicle.
- Check the vehicle lighting, turn signal lamps and brake lamps 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 42).

or

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- Check the vehicle lighting using the Truck App (→ page 103).
- Replace the defective bulbs (→ page 84).

Checking the fuel/AdBlue® level

- Check the fuel level/AdBlue® level shown on the fuel display (→ page 118) and on the AdBlue® gauge (→ page 117).
- If necessary, refuel and top up AdBlue® (→ page 280).

Checking the engine oil level

- 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.

Notes on the ignition lock

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

If children are left unattended in the vehicle, they could:

- Open doors, thereby endangering other persons or road users.
- Get out and be struck by oncoming traffic.
- Operate vehicle equipment and become trapped, for example.

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

- Releasing the parking brake.
- Changing the transmission position.
- Starting the vehicle.

- Never leave children unattended in the vehicle.
- When leaving the vehicle, always take the key with you and lock the vehicle.
- Keep the vehicle key out of reach of children.

⚠ **WARNING** Risk of accident when switching off the ignition when driving

If you switch off the ignition while driving, safety functions are restricted or no longer available. This may affect the power steering system and the brake force boosting, for example.

You will then need to use considerably more force to steer and brake.

- Do not switch off the ignition while driving.

⚠ **WARNING** Risk of accident due to inadvertent turning of the key in the ignition lock

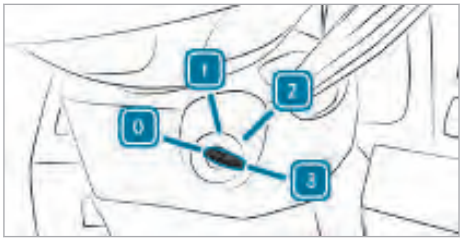
If you attach large or heavy objects to the key, the key could inadvertently turn in the ignition lock while the vehicle is in motion.

This could cause the engine to be switched off, for example.

- Do not attach any large or heavy objects to the key.
- Remove a key ring if it is cumbersome before you insert the key in the ignition lock.

For vehicles with an electronic ignition lock, also observe the information about the radio operating permit (→ page 11).

Key positions of the mechanical ignition lock



Ignition lock on the steering column

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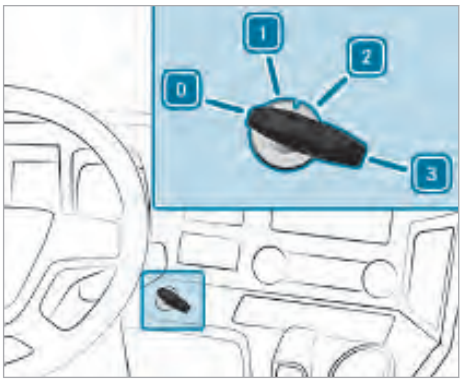


Ignition lock on the cockpit

0 Insert/remove the vehicle key

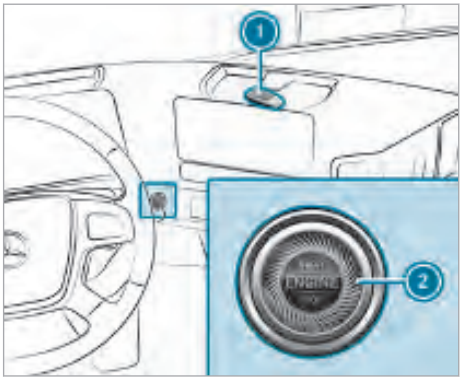
1 Steering wheel unlocked/radio position

2 Drive position

3 Start position

Vehicles with the ignition lock on the steering column: when you remove the key in position 0, the steering is locked.

Switch positions of the electronic ignition lock



Example: electronic ignition lock

1 Key

2 Start/Stop button

The ignition lock has the following switch positions:

0 The ignition and the display of the instrument cluster are off.

1 Radio position - power supply for certain consumers.

2 Drive position - the ignition is switched on.

3 Start position

If you press start/stop button 2 when the brake is not depressed, the ignition lock is switched to the next relevant switch position. If you press the start/stop button in switch position 2, the ignition lock switches to switch position 0.

If you press start/stop button 2 while the engine is running and the vehicle is stationary, the engine is switched off.

Radio position/power supply

Requirements:

- the key is in the vehicle.
- the key battery is charged.

To switch the ignition lock to the radio position, you must press button 2 once. In the radio position, the power supply is switched on for some consumers.

The power supply is switched off again if one of the following conditions is met:

- you open the driver's door/co-driver's door.
- you press button 2 twice.

Ignition

Requirements:

- the key is in the vehicle.
- the key battery is charged.

To switch on the ignition, you must press button 2 twice. When the ignition is switched on, the indicator lamps in the instrument cluster light up.

The ignition is switched off again if one of the following conditions is met:

- you do not start the vehicle within 30 minutes.
- you press button 2 once.

ⓘ If the ignition is switched off automatically, vehicle lighting switched on by the automatic driving lights is also switched off. If necessary, switch on the vehicle lighting manually (→ page 75).

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 ignition switched on and take key 1 out of the vehicle with you. This means you can leave and lock the cab when the ignition is switched

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on, for example. The ignition run-on function is limited to a duration of a maximum of 30 minutes. The ignition lock then switches to position 0 and the ignition switches off.

Engine run-on

WARNING Risk of accident due to unintentional roll-starting of the vehicle

If you use the engine run-on function, the vehicle can roll-start unintentionally when crawler mode is switched on and the pulling-away gear is engaged.

When the engine run-on function is used:

- Shift the transmission to neutral position.
- 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 key 1 out of the vehicle with you. This means, for example, that you can lock the cab and operate power take-off or the level control system in work mode.

Starting the engine

Requirements:

- the key is in the vehicle.
- the key battery is charged.

DANGER Risk death caused by exhaust gases

Combustion engines emit poisonous exhaust gases such as carbon monoxide. Inhaling these exhaust gases is hazardous to health and leads to poisoning.

- Never leave the engine or, if present, the auxiliary heating running in an enclosed space without sufficient ventilation.

NOTE Engine damage due to oil pressure that is too low

If the oil pressure in the engine is too low, the on-board computer displays the symbol in the red event window. A warning tone also sounds.

The engine operating safety is at risk.

- Switch off the engine immediately.

Observe the notes and instructions regarding this event message in the "Red event message" section in the chapter "On-board computer and displays".

- Press and hold the brake or apply the parking brake.
- Switch on the ignition.
  The display check of the instrument cluster starts. The display check in the instrument cluster shows which equipment is available and if there are malfunctions.

  The immobiliser is deactivated and the engine can be started. If an invalid key is used, the on-board computer displays an event window. In this case, use a valid replacement key.

  Vehicles with Mercedes PowerShift: the on-board computer shows the transmission setting and the automatic drive program (e.g. A, A economy, A power, A offroad, A fleet or A fire-sv).
- Check the engine oil level.
- Shift the transmission to neutral position.
- Deactivate the power take-off (→ page 307).
- Switch off the cargo liftgate, see separate Operating Instructions.
- Vehicles with engine preheating: preheat the engine at outside temperatures below -20 °C before starting the engine (→ page 110).
- 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.
- Release the start/stop button or the key when the engine starts normally. The idle speed will be regulated automatically.

The idle speed is increased at very low outside temperatures or during diesel particulate filter regeneration.

The starting procedure is interrupted automatically depending on the equipment:

- after approx. 60 seconds on vehicles with OM 936 engine.
- after approx. 40 seconds on vehicles with OM 470, OM 471 and OM 473 engines.

On vehicles with OM 460 engine, the starting procedure has to be interrupted after 20 seconds and repeated after around a minute.

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After three starting procedures, take a break of about three minutes.

If the vehicle does not start and the Hold key next to Start/Stop button message appears in the instrument cluster, you can start the vehicle in emergency operation mode.

Starting 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, have the vehicle key checked at a qualified specialist workshop.
- If the vehicle does not start, consult a qualified specialist workshop.

Safety inspections

Checking the reservoir pressure in the compressed-air brake system

WARNING Risk of accident through leaks in the compressed-air brake system

It is not possible to brake the vehicle if the compressed-air brake system has a leak or if there is insufficient reservoir pressure.

- Do not pull away until the required reservoir pressures have been reached.
- In the event of loss of pressure while driving, immediately bring the vehicle to a halt in accordance with the traffic conditions.
- Secure the vehicle using the parking brake.
- Consult a qualified specialist workshop immediately.

- Check the compressed-air brake system for leaks (→ page 204).
- Start the engine.
- Leave the engine running until the warning lamp in the instrument cluster goes out.
- Call up the menu window Reservoir pressure in the instrument cluster and check the current reservoir pressure.
- Observe the event windows and the indicator lamps in the status area of the on-board computer/instrument cluster for the reservoir pressure and the compressed-air brake system.

Checking supply pressure in transmission/clutch circuit

WARNING Risk of accident if the pressure is too low

In the event of pressure loss or insufficient reservoir pressure in the transmission/clutch circuit, you can no longer change gears

- Do not set the vehicle in motion, or if it is moving then stop it immediately in accordance with the traffic regulations.
- Secure the vehicle against rolling away, e.g. with the parking brake.
- Contact a qualified specialist workshop immediately to have the compressed-air system repaired.

The supply pressure in the transmission/clutch circuit is only filled after brake circuits 1 and 2. If the supply pressure in the transmission/clutch circuit is too low, the on-board computer shows the yellow event window Transmission/clutch reserve pressure too low.

- Start the engine.
- Leave the engine running until the event window Transmission/clutch reserve pressure too low in the on-board computer goes out.

Checking the function of the compressed-air dryer

WARNING Risk of accident through condensation levels that are too high

If the condensation level in the compressed-air reservoirs is too high, the braking effect can be reduced or the compressed-air brake system can fail.

- Check the compressed-air system for condensation before starting a journey.
- If the condensation level is high, have the compressed-air brake system checked as soon as possible at a qualified specialist workshop.

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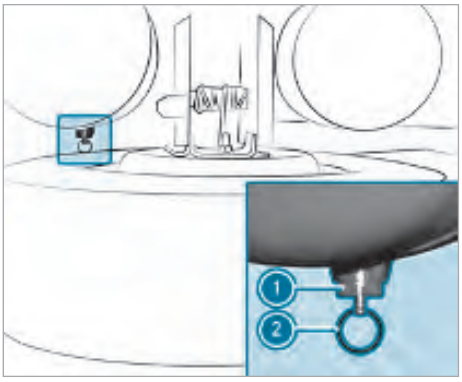

Drain valve on the compressed-air reservoir

- ▶ Start the engine.
- ▶ Check the reservoir pressure in the compressed-air brake system.
- ▶ If the instrument cluster/on-board computer shows the red Brake supply pressure in circuit 1 too low and/or Brake supply pressure in circuit 2 too low event window: let the engine run until the red event windows go out.
  The compressed-air system is charged.
- ▶ Switch off the engine.
- ▶ Pull ring ② on drain plug ① and drain off the condensation.
- ▶ 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 the system detects that the number of regeneration phases performed is insufficient, the yellow Condensation in compressed-air reservoir event window is displayed in the instrument cluster/on-board computer.

Checking the vehicle height

> ⚠ **WARNING** Risk of accident due to lowered or raised chassis
>
> **Vehicles with level control system:** driving with a lowered or raised chassis may greatly impair braking and handling characteristics. Additionally, the maximum permitted vehicle height may be exceeded when the chassis is raised.
>
> ▶ Set the driving level before pulling away.

If the yellow indicator lamp lights up in the instrument cluster, the chassis is not at driving level.

- ▶ Set the driving level (→ page 263).
  The indicator lamp goes out in the instrument cluster.

Notes on pulling away

> ! **NOTE** Damage due to oil pressure being too low
>
> 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** Overloading power-steering
>
> Damage or malfunctions may be caused to the steering by holding the steering wheel at the steering stop for too long or turning the steering wheel too forcefully, e.g. if the wheels are resting on the curb.
>
> ▶ Do not hold the steering wheel on full lock for longer than ten seconds.
>
> ▶ Do not turn the steering wheel too forcefully if the wheels are resting on an object.

You should pay special attention to road conditions when temperatures are around freezing point.

Changes in the outside temperature will be displayed after a short delay.

Vehicles with an automated manual transmission and without a fluid coupling: 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 idling speed. You can find information on crawler mode in the "Automated manual transmission" section (→ page 218).

Vehicles with a fluid coupling: always pay attention to the information about pulling away in the "Fluid coupling" section (→ page 226).

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When the vehicle is stationary and the transmission is in neutral, the engine has delayed throttle response.

If the drive wheels spin when pulling away, switch on the starting-off aid (→ page 266).

Perform a brake test when starting the journey. Pay attention to the traffic situation while doing this.

Warm up the engine quickly by driving at moderate engine speeds. Depending on the outside temperature, after approximately 10 to 20 minutes the engine will reach its operating temperature of approximately 85 to 100 °C. You can utilise the full engine power output once the engine has reached normal operating temperature.

Notes on stopping and switching off the engine

WARNING Risk of fire caused by hot exhaust system parts

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

- Park the vehicle so that no flammable material can come into contact with hot vehicle components.
- In particular, do not park on dry grassland or harvested grain fields.

WARNING Risk of accident on uphill and downhill gradients

On uphill and downhill gradients, the parking brake might not be sufficient to secure the vehicle.

A vehicle with trailer/semitrailer or a loaded vehicle can roll away.

- In the check position, check whether the parking brake alone is sufficient to hold the complete vehicle.
- Always secure the towing vehicle and trailer/semitrailer with the parking brake and additionally with wheel chocks.

WARNING Risk of accident when switching off the ignition when driving

If you switch off the ignition while driving, safety functions are restricted or no longer available. This may affect the power steering system and the brake force boosting, for example.

You will then need to use considerably more force to steer and brake.

- Do not switch off the ignition while driving.

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

If children are left unattended in the vehicle, they could:

- Open doors, thereby endangering other persons or road users.
- Get out and be struck by oncoming traffic.
- Operate vehicle equipment and become trapped, for example.

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

- Releasing the parking brake.
- Changing the transmission position.
- Starting the vehicle.

- Never leave children unattended in the vehicle.
- When leaving the vehicle, always take the key with you and lock the vehicle.
- Keep the vehicle key out of reach of children.

Ensure that you observe the safety notes in the "Children in the vehicle" section (→ page 38).

You can find information on crawler mode in the "Automated manual transmission" section (→ page 218).

Vehicles with automated manual transmission:

After the vehicle has been stopped with crawler mode activated, the vehicle begins to crawl again in the following cases:

- the transmission is not shifted into neutral
- the parking brake is not applied
- the service brake is released again

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Let the engine idle for approximately two minutes before switching it off in the following situations:

- the vehicle has been driven for a prolonged period with the fluid coupling 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:

▶ Stop the vehicle.

▶ Apply the parking brake.

▶ Shift the transmission to neutral position.

Switching off the engine

▶ Press and release the start/stop button.

▶ Safeguard the vehicle against rolling away; use chocks if necessary.

Brakes

Notes on brake system

If the brake system is defective, braking behaviour may change or the brake system may fail. 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 brake system checked and repaired at a qualified specialist workshop.

Always pay attention to the information in the yellow (→ page 129) or red (→ page 145) event windows, which are shown by the on-board computer if the brake system is malfunctioning. In addition, an indicator lamp lights up in the status area of the instrument cluster/on-board computer and a warning tone may sound. Braking behaviour may change. The pedal travel and pedal force required to brake the vehicle may increase. 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)

The electronic control is able to relieve the load on the service brake by activating the continuous brake, depending on the vehicle load and the weather conditions.

The control system harmonises the braking processes of the towing vehicle and the trailer/semi-trailer to ensure braking of the entire tractor/trailer combination, continuously balancing the braking force at individual wheels according to weight distribution. This means the vehicle and trailer combination has improved braking characteristics. On vehicles with disc brakes on all axles, the electronic control system monitors the temperature of the disc brakes.

If the electronic control detects malfunctions, a corresponding event window appears in the on-board computer.

If you brake hard (emergency braking) from a speed greater than approximately 50 km/h, the hazard warning lamps are switched on automatically. The hazard warning lamps flash at a higher frequency.

The hazard warning lamps automatically switch off again if you cancel emergency braking or the vehicle comes to a standstill after emergency braking, then pulls away again.

If the vehicle comes to a standstill after emergency braking, the hazard warning lamps continue to flash at the normal frequency.

Checking the compressed-air brake system for leaks

⚠ **WARNING** Risk of accident through leaks in the compressed-air brake system

It is not possible to brake the vehicle if the compressed-air brake system has a leak or if there is insufficient reservoir pressure.

▶ Do not pull away until the required reservoir pressures have been reached.

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- ▶ In the event of loss of pressure while driving, immediately bring the vehicle to a halt in accordance with the traffic conditions.
- ▶ Secure the vehicle using the parking brake.
- ▶ Consult a qualified specialist workshop immediately.

ⓘ 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 safeguard the vehicle against rolling away.
- ▶ Release the parking brake.
- ▶ Switch on the ignition.
- ▶ Call up the Reservoir pressure menu window in the on-board computer.
- ▶ Run the engine until the display shows a reservoir pressure of at least 11 bar.
- ▶ Switch off the engine.
  The parking brake is automatically applied.
- ▶ Switch on the ignition.
- ▶ Release the parking brake again.
- ▶ Call up the Reservoir pressure menu window in the instrument cluster/on-board computer again.
- ▶ Depress the brake pedal and keep it in this position.
- ▶ After a brief moment, read off the reservoir pressure.
- ▶ Read off the reservoir pressure once again after approximately one minute.

If no significant loss of pressure can be detected in the Reservoir pressure menu window after this minute, the compressed-air brake system is free from leaks.

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 by a qualified specialist workshop.

Brake system trailer/semitrailer notes

The [ⓘ] indicator lamp for the trailer/semitrailer brake system can light up in two different colours in the instrument cluster.

Depending on the colour in which the [ⓘ] indicator lamp lights up, observe the following notes.

The [ⓘ] indicator lamp in the status area of the instrument cluster lights up yellow:

- The trailer's/semitrailer's brake system is malfunctioning.
- Driving/braking characteristics may change.
- Also observe the information in the separate operating instructions provided by the trailer/semitrailer manufacturer.
- Drive with even greater care.
- Have the brake system checked as soon as possible at a qualified specialist workshop.

The [ⓘ] indicator lamp in the status area of the instrument cluster lights up red:

- The trailer's/semitrailer's brake system is malfunctioning or the trailer/semitrailer is automatically braked.
- Driving/braking characteristics may change.
- Also observe the information 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 Brake System)

Function of ABS

ABS controls the braking pressure so that the wheels do not lock under braking. This means that the vehicle can still be steered while braking.

ABS is operational from walking pace, regardless of road surface conditions. If the road is slippery, ABS intervenes even if you only brake gently.

ⓘ **Vehicles with engaging all-wheel drive (VG 3000):** always deactivate ABS when driving off-road.

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ABS display check

WARNING Risk of skidding if ABS malfunctions

If ABS is malfunctioning, the wheels could lock when braking. The steerability and braking characteristics are thus severely impaired.

- Drive with even greater care.
- Have 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 ignition, the [ABS] indicator lamp is not displayed in the status area of the instrument cluster/on-board computer.
- The display is still lit for three seconds after switching on the ignition.
- The display is lit after the vehicle is started.

When you switch on the ignition, the [ABS] indicator lamp for ABS equipment lights up grey for approximately three seconds in the status area (→ page 153). In addition, the [ABS], [ABS] or [ABS] indicator lamps for towing vehicles and/or trailers/semitrailers light up.

If the electronic control detects ABS faults, a corresponding event window appears in the instrument cluster. A coloured indicator lamp for the affected ABS equipment also lights up in the status area as described above.

Braking with anti-lock protection

WARNING Risk of accident as a result of locked brakes

The wheels of the trailer/semitrailer may lock when braking and the tractor/trailer combination may become unstable if:

- the trailer/semitrailer does not have ABS
- ABS of the trailer/semitrailer 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 except in emergency situations.

ⓘ Even if Stability Control Assist is activated the wheels of the trailer/semitrailer can still lock when braking.

Anti-lock protection improves the directional stability and the steerability of the vehicle or tractor/trailer combination during braking.

If ABS is deactivated or if there is a malfunction in the vehicle's brake system, Active Brake Assist is automatically deactivated.

- **When ABS is intervening:** continue to depress the brake pedal until the braking situation is over.
  When ABS is intervening, the continuous brake is switched off. The [ABS] indicator lamp in the instrument cluster remains on.
- **During maximum full-stop braking:** depress the brake pedal with force.
  Under certain conditions, the hazard warning lights switch on automatically.

If you want to drive the towing vehicle with a trailer/semitrailer with ABS or an electronic brake system:

- Connect a control cable to the socket or to the ABS plug (→ page 290).

If you want to drive the semitrailer truck without a semitrailer or with a semitrailer without ABS:

- Insert the control cable into the blank socket.

Deactivating/activating ABS

WARNING Risk of skidding when ABS is deactivated

If ABS is deactivated, the wheels may lock when braked.

As a result, the vehicle can no longer be steered.

- Always leave ABS on when driving on roads and firm surfaces.

ABS is automatically activated when you start the engine.

If ABS is deactivated, it may be possible to achieve shorter braking distances when driving off-road or on unpaved roads, e.g. on soft ground.

Only ABS on the towing vehicle can be deactivated.

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▶ On the multimedia system, press the [ABS OFF] button in the Controls menu under the Switch menu item.
When the [(ABS)] indicator lamp in the instrument cluster lights up, ABS is deactivated.

Function of BAS (Brake Assist System)

⚠ **WARNING** Risk of an accident caused by a malfunction in BAS (Brake Assist System)

If BAS is malfunctioning, the braking distance in an emergency braking situation is increased.

▶ Depress the brake pedal with full force in emergency braking situations. ABS prevents 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

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

If children are left unattended in the vehicle, they could:

- Open doors, thereby endangering other persons or road users.
- Get out and be struck by oncoming traffic.
- Operate vehicle equipment and become trapped, for example.

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

- Releasing the parking brake.
- Changing the transmission position.
- Starting the vehicle.

▶ Never leave children unattended in the vehicle.

▶ When leaving the vehicle, always take the key with you and lock the vehicle.

▶ Keep the vehicle key out of reach of children.

⚠ **WARNING** Risk of accident on uphill and downhill gradients

On uphill and downhill gradients, the parking brake might not be sufficient to secure the vehicle.

A vehicle with trailer/semitrailer or a loaded vehicle can roll away.

▶ In the check position, check whether the parking brake alone is sufficient to hold the complete vehicle.

▶ Always secure the towing vehicle and trailer/semitrailer with the parking brake and additionally with wheel chocks.

In the control position, the vehicle or tractor/trailer combination can only be held via the towing vehicle's spring-loaded brake cylinders.

You can find further information about the parking brake on the trailer/semitrailer in the manufacturer's operating instructions.

Using the electronic parking brake

Example: electronic parking brake

1 [(P)] Electronic parking brake lever

2 [(P)] Electronic parking brake button

Depending on equipment, a lever version with electric independent trailer brake is possible.

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If the [symbol] symbol appears on lever (1):

▶ Observe the notes in the section on the electric independent trailer brake (→ page 209).

Applying the electronic parking brake manually

Requirements:

- The vehicle is standing still.

▶ Press the [(P)] button.

or

▶ Pull lever (1) past the detent.
The parking brake is applied.

The indicator lamp on the [(P)] button will light up red.

The [(P)] indicator lamp in the instrument cluster lights up red.

Releasing the electronic parking brake manually

Requirements:

- The engine is running or the ignition is switched on.
- The pressure in brake circuits 1 and 2 is sufficient.

▶ Depress the brake or accelerator pedal.

▶ Press the [(P)] button.
The parking brake is released.

The indicator lamp in the [(P)] button will go out.

The [(P)] indicator lamp in the instrument cluster goes out.

Applying the electronic parking brake automatically

Requirements:

- The vehicle is standing still.
- The engine is running or the ignition is switched on.

▶ Switch off the engine.

or

▶ Switch the ignition off.
The parking brake is automatically applied.

The indicator lamp in the [(P)] button lights up red.

The [(P)] indicator lamp in the instrument cluster lights up red.

Releasing the electronic parking brake automatically

Requirements:

- The engine is running or the ignition is switched on.
- The pressure in brake circuits 1 and 2 is sufficient.
- The doors are closed.

▶ Shift from transmission position [N] to [D] or [R].
The HOLD function of the electronic brake system is activated.

The [HOLD] 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 [HOLD] indicator lamp in the instrument cluster goes out.

Testing the parking brake

Requirements:

- The pressure in brake circuits 1 and 2 is sufficient.
- The parking brake is applied.
- Lever (1) is in the starting position.

▶ Pull lever (1) past the detent and hold.
The test position of the parking brake is activated.

The Performing check position event window appears in the display.

ⓘ 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/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 lever (1) no further than the locking point.
The parking brake is applied depending on the lever position.

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If the pressure in the suspension fluid reservoir is < 6.5 bar the (P) indicator lamp lights up in the instrument cluster/on-board computer.

Activating workshop mode of the electronic parking brake

If you activate workshop mode of the electronic parking brake, all automatic parking brake functions are deactivated.

- Press and hold the (P) button.
- Switch the ignition off.
  Workshop mode of the electronic parking brake is activated.

  A corresponding event message is displayed in the instrument cluster.

If you are driving faster than 30 km/h with workshop mode activated, workshop mode is deactivated.

Electric independent trailer brake

Function and notes

The independent trailer brake can be used independently of the service and parking brake of the towing vehicle. The independent trailer brake only brakes the wheels on the trailer/semitrailer. Pull the trailer retarding brake lever to perform adaptive braking on downhill gradients. This prevents the tractor/trailer combination from jack-knifing. If the independent trailer brake is not sufficient, reduce speed with the service brake or the continuous brake.

⚠ **WARNING** Risk of accident through improper use of the independent trailer brake

If the independent trailer brake is used incorrectly, e.g. as a substitute for the continuous brake, the trailer/semitrailer brake may overheat or lock. The vehicle is then no longer safe or roadworthy.

- Only use the independent trailer brake for short-term adaptive braking.

Electric independent trailer brake lever

ⓘ Depending on equipment, a lever variant with auxiliary brake function of the electronic parking brake is possible. In this case, the (P) symbol is shown on lever 1. Observe the notes in the section on the electronic parking brake (→ page 207).

Frequent-stop brake

Notes on the frequent-stop brake

⚠ **WARNING** Risk of accident if frequent-stop brake pressure is too low

When securing the vehicle against rolling away with the frequent-stop brake, the brake pressure may be too low.

The vehicle could roll away even though the frequent-stop brake is activated.

- Never leave the driver's seat with the frequent-stop brake activated and be prepared to apply the brakes.
- If the vehicle begins to roll, apply the service brake.

⚠ **WARNING** Risk of accident with frequent-stop brake activated in winter

If you brake in wintry road conditions while the frequent-stop brake is activated, the wheels may lock shortly before stopping. Even if you take your foot off the brake pedal, the wheels remain locked.

The vehicle may skid or slip away, e.g. on uphill or downhill gradients.

- Never activate the frequent-stop brake in wintry conditions.

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WARNING Risk of accident with frequent-stop brake deactivated

If you do not stop the vehicle using the service brake, e.g. when rolling to a stop, the frequent-stop brake will not be activated. The vehicle may roll away.

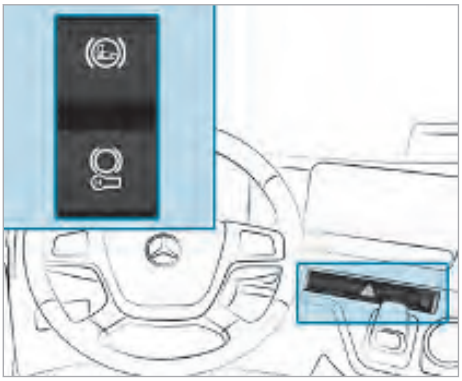
▶ Always brake the vehicle to a standstill using the service brake in order to activate the frequent-stop brake.

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 204).

If you switch the ignition off while the frequent-stop brake is applied, the frequent-stop brake will remain applied. An event window is shown in the instrument cluster/on-board computer and a warning tone sounds.

Vehicles with automated manual transmission: when you activate the frequent-stop brake, crawler mode is deactivated automatically. You can find information on crawler mode in the "Automated manual transmission" section (→ page 218).

Activating/deactivating the frequent-stop brake



Example: frequent-stop brake switch

Activating

▶ Press the lower section of the switch. The indicator lamp in the status area lights up.

Deactivating

▶ Press the upper section of the switch.

or

▶ Press the / switch into the centre position.
The indicator lamp in the status area goes out.

Using the hill holder

WARNING Risk of accident with hill holder activated in winter

If you brake in wintry road conditions with the hill holder activated, the wheels may lock shortly before stopping. Even if you take your foot off the brake pedal, the wheels remain locked. The vehicle may skid or slip away, e.g. on uphill or downhill gradients.

▶ Never activate the hill holder in wintry conditions.

WARNING Risk of accident with hill holder deactivated

If you do not stop the vehicle using the service brake, e.g. when coasting to a stop, the hill holder will not be activated. The vehicle may roll away.

▶ Always brake the vehicle to a standstill using the service brake in order to activate the hill holder.

The hill holder assists you when driving on uphill or downhill gradients. The hill holder prevents the vehicle from rolling and facilitates controlled pulling away.

▶ In the multimedia system, in the Controls menu, under the Switch menu item, press the button.

If the hill holder is activated and you press 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.

ⓘ One second before the brake is released by the hill holder, a warning tone sounds.

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Vehicles with automated manual transmission: if you do not depress the brake pedal while the vehicle is stationary and the hill holder is active, a warning tone sounds. The hill holder is deactivated and the [⊛] indicator lamp in the instrument cluster goes out.

Vehicles with manual transmission: if you do not depress the accelerator, clutch or brake pedal while the vehicle is stationary and the hill holder is active, a warning tone sounds. The hill holder is deactivated and the [⊛] indicator lamp in the instrument cluster goes out. When your vehicle's brake pedal is depressed until the vehicle is stationary 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 brake 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 in the instrument cluster goes out.

The hill holder must be reactivated after an ignition cycle.

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/on-board computer then displays the Crawler mode cancelled event window. A warning tone sounds and the transmission control disengages the clutch. In this case, depress the brake pedal to bring the vehicle to a halt or depress the accelerator pedal to pull away again.

Using the HOLD function

Requirements for activating the HOLD function:

- The vehicle is stationary.
- The engine is running.
- The electronic parking brake is released.
- The transmission is in position [N] or the clutch is disengaged.
- The hill holder function is activated (→ page 210).

The HOLD function holds the vehicle without needing to continue applying the brakes, e.g. 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 gradients 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.

⚠ **WARNING** Risk of accident when exiting the vehicle while HOLD function is activated

If the vehicle is only being braked via the HOLD function, and you exit the vehicle, the vehicle can roll away in the following situations:

- if there is a malfunction in the system or in the power supply.
- if the HOLD function is deactivated by depressing the accelerator pedal, e.g. by a vehicle occupant.

▶ Secure the vehicle from rolling away with the parking brake before you exiting.

▶ **To activate the HOLD function:** depress the brake pedal and, after a short period, quickly depress the brake pedal further.
The [HOLD] indicator lamp lights up in the instrument cluster.

▶ Release the brake pedal.

ⓘ If, instead of the [HOLD] indicator lamp, the [⊛] indicator lamp of the hill holder is shown in the instrument cluster, observe the notes in the "Hill holder" section (→ page 210).

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 gear engaged.
- The electronic parking brake is applied.
- The engine is switched off.

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- A system error occurs.
- The power supply is too low.

ⓘ **Vehicles with automated manual transmission:** after deactivation of the HOLD function, the activated crawler mode does not cause automatic crawling (→ page 218).

Continuous brake

Notes on the continuous brake

⚠ **WARNING** Risk of skidding and/or accident when using the continuous brake on slippery road surfaces

If you activate the continuous brake or shift to a lower gear on a slippery road surface in order to increase the engine's braking effect, the drive wheels may lose traction.

▶ Do not activate the continuous brake and do not shift to a lower gear in order to increase the engine's braking effect on a slippery road surface.

⚠ **WARNING** Risk of skidding and accidents in the event of a retarder malfunction

In the event of a retarder or retarder control malfunction, the handling and braking characteristics could change.

The vehicle could brake in an uncontrolled way. The wheels could lock and thereby lose traction. The vehicle could start to skid.

Acceleration of the vehicle could be slower than desired while overtaking. Overtaking takes longer and may have to be aborted.

▶ Drive particularly carefully or stop in accordance with the traffic conditions.

▶ Have the retarder checked and repaired immediately at a qualified specialist workshop.

▶ Always pay attention to the warning lamps and display messages and observe the described corrective action.

The engine brake and retarder are used as a continuous brake.

You can utilise the engine's braking effect, particularly on long downhill gradients, if you observe the following points:

- activate the continuous brake
- shift to a lower gear in good time

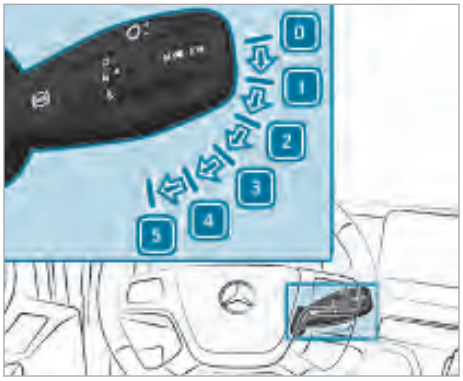
The continuous brake can be activated automatically in the following situations:

- after several brake applications, the vehicle electronics detect that the vehicle is loaded and you then depress the brake pedal
- cruise control, limiter or distance control assistant intervene in overrun mode

Engine brake
The effectiveness of the engine brake depends on the engine speed. A high engine speed results in more effective engine braking. Observe the effective engine braking range marked on the rev counter (→ page 116). At very low outside temperatures, the engine brake has limited or no effect after the engine 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.

Activating/deactivating the continuous brake
If the continuous brake is deactivated and the [⊛] indicator lamp in the instrument cluster does not go out, 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 vehi-

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cles without BlueTec® exhaust gas aftertreatment with two brake stages (1 – 2).

If the ignition is switched on and the indicator lamp flashes in the instrument cluster, the multifunction lever is not in position 0.

▶ **To activate:** pull the multifunction lever to the desired brake stage. The indicator lamp in the instrument cluster lights up.

The braking effect of the continuous brake is lowest in position 1 and highest in position 5.

▶ **To deactivate:** push the multifunction lever to position 0. The indicator lamp in the instrument cluster goes out.

When ABS (Anti-lock Braking System) intervenes, the continuous brake is deactivated. The indicator lamp in the instrument cluster remains on.

Manual transmission

Changing gear

⚠ **WARNING** Risk of accident if the pressure is too low

In the event of pressure loss or insufficient reservoir pressure in the transmission/clutch circuit, you can no longer change gears

▶ Do not set the vehicle in motion, or if it is moving then stop it immediately in accordance with the traffic regulations.

▶ Secure the vehicle against rolling away, e.g. with the parking brake.

▶ Contact a qualified specialist workshop immediately to have the compressed-air system repaired.

! **NOTE** Damage to the transmission, engine or clutch by selecting reverse gear

Please observe the following notes.

Otherwise, you can damage the transmission, engine or clutch:

▶ Do not drive at too low or too high an engine speed.

▶ Only engage reverse gear when the engine is idling and the vehicle is stationary.

▶ During gear changes, make sure that the engine speed does not increase into the red danger zone of the rev counter.

▶ When the gear change is complete, release the gearshift lever. Do not rest your hand or arm on the gearshift lever.

▶ If a warning tone sounds when shifting down, the maximum permissible engine speed has been exceeded. Do not shift into the lower gear, but into a higher gear. The power-assisted gear shifting is switched off to protect the transmission synchronisation. This means you need to apply more effort when changing gear.

The engine only accepts throttle with a delay in the following cases:

- if the vehicle is stationary.
- if the engine is running.
- if the transmission is in neutral position.

In order to support a driving style that improves the fuel economy as much as possible, the on-board computer displays a gearshift recommendation in the form of an arrow. Shift the gears up ↑ or down ↓ according to the gear recommendation.

Changing gear

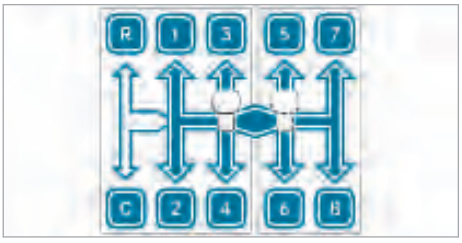
▶ Depress the clutch pedal.

▶ Change shift range if necessary.

▶ Shift into the desired gear with the gearshift lever, without using excessive force.

▶ **Shifting into reverse:** overcome the point of resistance by pushing the gear lever into the reverse gear gate with a slight lateral tap of the hand against the gear lever.

Function of the 9-speed transmission



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The 9-speed transmission is a manual transmission that is operated by hand. The manual transmission features a double-H shift arrangement.

In neutral position, the gearshift lever is in the shift track between 3rd and 4th gear or 5th and 6th gear.

The transmission is divided into the following shift ranges:

- the low shift range "L" with the following gears:
  - reverse gear R
  - crawler gear C
  - gears 1 to 4
- the high shift range "H" with gears 5 to 8

Change shift range

NOTE Damage to the transmission due to changing the shift range

Changing the shift range from the fast to the slow group at too high a speed can damage the transmission.

The following limit speeds must be observed when changing:

▶ when driving in the off-road gear of the transfer case, do not drive faster than 20 km/h when changing.

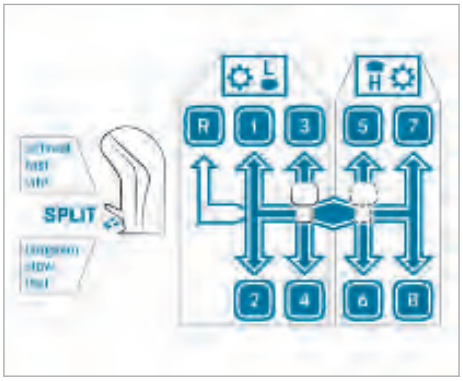
▶ when driving in the on-road gear or in vehicles without transfer cases, do not drive faster than 25 km/h.

▶ Depress the clutch pedal.

▶ Overcome the pressure point of the gearshift lever between the shift ranges with a slight lateral tap of the hand against the gearshift lever.

▶ Wait about one second before changing to the desired gear, without using excessive force.

Function of the 16-speed transmission



The 16-speed transmission is a manual transmission that is operated by hand. The transmission features a double-H shift arrangement.

The additional reduction allows you to select a total of 16 forward gears and 2 reverse gears.

In neutral position, the gearshift lever is in the shift track 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
- splitter boxes with the switch on the front of the gearshift lever

Gear change possibilities

You can shift gears depending on the nature of the work performed:

- slow splitter box, e.g. for off-road use
- fast splitter box, e.g. for on-road use
- alternately slow and fast splitter boxes, e.g. with a laden vehicle

Change shift range

NOTE Damage to the transmission due to changing the shift range

Changing the shift range from the fast to the slow group at too high a speed can damage the transmission.

The following limit speeds must be observed when changing:

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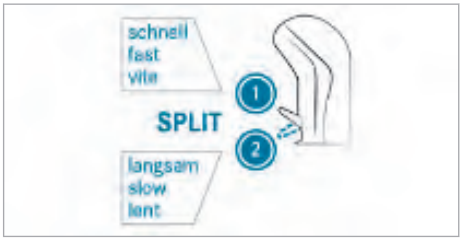
- when driving in the off-road gear of the transfer case, do not drive faster than 20 km/h when changing.
- when driving in the on-road gear or in vehicles without transfer cases, do not drive faster than 25 km/h.

- Depress the clutch pedal.
- Overcome the pressure point of the gearshift lever between the shift ranges with a slight lateral tap of the hand against the gearshift lever.
- Wait about one second before changing to the desired gear, without using excessive force.

Changing splitter box



The splitter box allows you to select a slow or fast ratio of the selected gear without changing the gear itself.

- Set the splitter switch to the upper position for the fast splitter group (1) or to the lower position for the slow splitter group (2).
- Depress and hold the clutch pedal until the splitter box is engaged.
- Release the clutch pedal.

Automated transmissions

Function of the multifunction lever and gear display (automated manual transmission)

WARNING Risk of accident if the pressure is too low

In the event of pressure loss or insufficient reservoir pressure in the transmission/clutch circuit, you can no longer change gears

- Do not set the vehicle in motion, or if it is moving then stop it immediately in accordance with the traffic regulations.
- Secure the vehicle against rolling away, e.g. with the parking brake.
- Contact a qualified specialist 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 idling speed.

Mercedes PowerShift has eight, twelve or sixteen forward gears and two or four reverse gears.

The transmission control controls the clutch and transmission actuation during driving operation, e.g. in the following cases:

- when pulling away
- when manoeuvring
- when changing gear
- when stopping

Multifunction lever

(1) Select direction of travel:
- D Drive/forwards(→ page 220)
- N Neutral position(→ page 220)
- R Reversing(→ page 223)

(2) Select drive program (→ page 217):
- A Automatic drive program with the drive and vehicle-specific shift program
- M Manual drive program

(3) – Manual downshift, in the automatic (→ page 221)/manual (→ page 222) drive program

(4) + Manual upshift, in the automatic (→ page 221)/manual (→ page 222) drive program

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Gear display

1. Direction of travel and/or selected gear
2. Gearshift recommendation (shift up ⬆/down ⬇) or preselected gear (flashing)
3. drive program

Possible displays (example:)

1–16	1st to 16th gear
N	Neutral position
N1	Slow splitter box
N2	Fast splitter box
E	Neutral position in EcoRoll mode
R1–R4	1st to 4th reverse gear
A	Automatic drive program
A economy A power A fleet A offroad A municip A economy+ A heavy A fire–sv	Automatic drive program with drive and vehicle-specific shift program
M	Manual drive program

Drive programs and drive functions

Function of automatic and manual drive program (automated manual transmission)

Automatic

The transmission control shifts the gears depending on the following variables:

- engine speed
- accelerator pedal position
- operation of the continuous brake
- vehicle load condition
- gradient of the road surface

You can switch EcoRoll mode and crawler mode on and off in the standard drive program A in the multimedia system in the Controls menu under the Settings, Assistance systems menu item..

For vehicles without fluid coupling and with the **offroad** shift program, switch the crawler mode for off-road driving on or off (→ page 219) 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:

- the performance-oriented dynamic driving mode with relatively high engine speeds – **power**
- the fuel-efficient driving mode – **economy**
- the performance-oriented driving mode on light off-road terrain and on construction sites with relatively high engine speeds – **offroad**
- the performance-oriented dynamic driving mode with relatively high engine speeds and a high gross combination weight – **heavy**
- the fleet mode – **fleet**
- the waste collection vehicle mode – **municip**
- the dynamic driving mode with optimum acceleration during emergency and alarm drives by fire engines – **fire-sv**.

In the shift programs of **power, offroad, heavy** and **fire-sv**, the automatic transmission only shifts up to the next gear at relatively high engine speeds.

In the **offroad** shift program, the crawler mode, for on-road driving is switched off automatically.

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For vehicles without fluid coupling, you can switch on (→ page 219) the crawler mode for off-road driving with the button.

In the **heavy** shift program, the transmission does not shift up automatically when you kick down and hold the accelerator pedal beyond the pressure point.

The economy shift program has the following features:

- EcoRoll mode is always switched on.
- the adjustable speed in the TEMPOMAT 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 about 85 km/h.
- the automatic drive program is always active, except in gears one to six and in reverse.

The municip shift program has the following features:

- EcoRoll mode is deactivated.
- crawler mode is deactivated.
- the acoustic clutch overload warning is deactivated.

The economy+ shift program has the following characteristics:

- EcoRoll mode is always switched on.
- the adjustable speed in the TEMPOMAT 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 on-board computer.

In particularly difficult driving conditions, switch to the manual drive program. In this way, you can avoid unwanted interruptions in the tractive power which can occur during automatic gear changes.

Selecting drive program

For vehicles with the **fleet** shift program, the manual drive program can only be activated up to 6th gear (for 12-speed transmissions). It is not possible to choose between the shift programs.

After the engine is started, the **economy/economy+** drive program is always activated. 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 engine 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.

▶ **Switching on manual drive program:** give the A/M button a long press ①.
The display shows the manual drive program M, the selected gear and a gearshift recommendation.

▶ **Switching on automatic:** briefly press the A/M button ①.
The display shows the automatic A drive program, the selected and preselected gears.

▶ **Switching over the automatic shift program:** briefly press the A/M button ①.
When the display shows A, the standard gearshift program is switched on. When the display shows e.g. A economy or A power, the drive-specific shift program is switched on.

If the transmission control does not detect a higher power request in the A power shift program for longer than ten minutes, the transmission control automatically switches to the

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standard shift program for lower fuel consumption.

Function of the EcoRoll mode/crawler mode

EcoRoll mode

The EcoRoll mode enables driving with improved fuel economy. If you do not depress the accelerator pedal while driving, the transmission control shifts to neutral position depending on the driving situation. The display then shows E.

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 apply the service brake.
- you switch on the continuous brake.
- the TEMPOMAT or the distance control assistant brakes or accelerates.
- the limiter is active and the set limit speed has been exceeded.
- you exceed the speed set with the TEMPOMAT by more than about 6 km/h (standard setting) or the speed tolerance you set.
- you exceed the programmed maximum speed by about 4 km/h.
- you leave a certain engine speed or vehicle speed range.
- the gross combination weight is very high.

In the gearshift programs of **power, heavy, municip, offroad** and **fire—sv**, EcoRoll mode is always switched off and cannot be switched on. In standard drive program A and in the other gearshift programs, EcoRoll mode is always activated once the engine is started.

You can switch EcoRoll mode on and off in the standard drive program A in the multimedia system in the Controls menu under the Settings, Assistance systems menu item.

ⓘ You cannot switch off the EcoRoll mode in the **economy** and **fleet** shift programs.

EcoRoll mode is active above speeds of approximately 35 km/h.

ⓘ With EcoRoll mode switched on, slightly increased steering forces can occur on the multifunction steering wheel in certain driving situations, e.g. 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 roll along at idle speed when the accelerator pedal is not depressed. After creeping forwards, the vehicle will continue to roll at idle speed until you stop the vehicle with the service brake or the crawler mode is deactivated/cancelled.

Creeping forwards and rolling at idle speed take place in all permissible start-off gears. You can manually change gear and thus, e.g. in traffic jams, adjust the rolling speed to the traffic.

In the following cases, crawling mode is automatically deactivated:

- you shift the transmission to neutral position N for more than about two seconds.
- you activate the rocking free drive function.
- The parking brake is applied.
- the distance control assistant controls the speed.
- the idle speed is greater than approximately 700 rpm.
- Active Brake Assist intervenes.
- there is a risk that the clutch will be 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 with the accelerator pedal.

When crawler mode reaches its functional limits, it is automatically cancelled.

Crawler mode is automatically cancelled in the following situations:

- the vehicle does not start moving, e.g. due to an unexpectedly high motion resistance.
- the wheels spin, e.g. on a slippery road surface.
- the motion resistance when crawling/coasting at idle speed exceeds a certain functional limit.

If crawler mode has been cancelled automatically, the on-board computer displays the event window Crawler mode cancelled. A warning tone sounds and the transmission control opens the clutch. In this case, depress the brake pedal to bring the vehicle to a halt or depress the accelerator pedal to pull away again. If you do not depress the brake or the accelerator pedal,

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crawler mode will be deactivated. It is not available again until the accelerator pedal has been depressed again.

For vehicles without a driven front axle, crawler mode is designed for driving on roads. You can switch the crawler mode for on-road driving on and off in the Controls menu under the Settings, Assistance systems menu item.

In the **offroad** shift program, crawler mode for on-road driving is always switched off. You can switch the crawler mode for off-road driving on and off (→ page 219) in all permissible start-off gears using the button.

In the standard drive program A and in the other shift programs, the crawler mode for on-road driving is always switched on after the engine starts.

With all-wheel drive vehicles, crawler mode is always switched off after the engine starts.

If you switch on the corresponding crawler mode, it is activated after the first pulling away. During the first crawl processes after activation, the maximum possible torque of crawler mode is not yet available.

If you change over to the manual drive program, the current crawler mode remains active. After changing back to the automatic drive program, the crawler mode assigned to the drive and shift program is activated. It is possible that it will not be available again until the accelerator pedal has been used for pulling away again.

Switching crawler mode on/off (all-wheel drive vehicles)

The crawler mode specially for off-road and all-wheel drive vehicles is always switched off after the engine starts. The indicator lamp on button lights up.

▶ **Switch on:** select the start-off gear.

▶ Press the button.
The indicator lamp in the button goes out.

▶ Depress the accelerator pedal and pull away.
Crawler mode is activated.

ⓘ If you do not pull away immediately after pressing the button, the indicator lamp in the button lights up again. Crawler mode then remains switched off.

▶ **To deactivate:** press the lower section of the button again.
The indicator lamp on the button will light up.

In the following cases, the system automatically switches to crawler mode:

- a gear is engaged above the permissible start-off gears.
- 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 weight

The dry clutch can be overloaded and damaged in rocking mode due to a very high gross combination weight.

▶ Do not use rocking mode if the gross combination weight is very high.

You can use the rocking free drive function to rock the vehicle out of a hollow in all permissible pulling-away gears. After the rocking free drive function is switched on, the transmission control automatically switches to the manual drive program. When you release the accelerator pedal while rocking free, the dry clutch suddenly opens and the vehicle rolls back. When you depress the accelerator pedal again, the dry clutch closes immediately and the vehicle pulls away.

After engaging the pulling-away gear, switch the rocking free drive on or off via the multimedia system in the Controls menu, under the Switch menu item.

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In all-wheel drive vehicles, switch the rocking free drive function on or off after engaging the pulling-away gear with the button.

The rocking free drive function switches off automatically in the following circumstances:

- you drive faster than about 8 km/h.
- you shift into a gear above the permissible pulling-away gears.
- vehicles with a fluid coupling: the on-board computer shows the event window Clutch under heavy strain.

Switching rocking free on/off (all-wheel drive vehicles)

▶ Press the button at the top.
When the indicator lamp in the button lights up, the rocking free drive function is switched on.

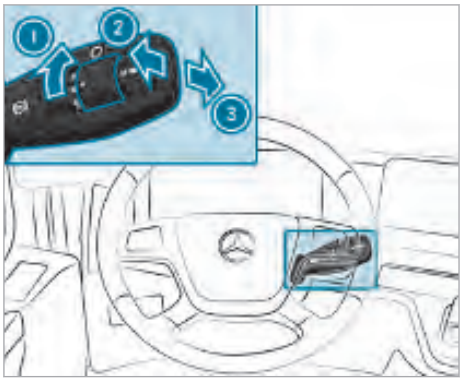
Notes on pulling away and stopping (Automated transmissions)

Depending on the transmission, different start-off gears can be selected. With the 8-speed transmission, the 1st-2nd gear, with the 12-speed transmission, the 1st-6th gear and with the 16-speed transmission, the 1st-8th gear can be selected .

If the clutch is heavily loaded, pulling away is only possible in 1st gear. In the **municip** and **heavy** shift program, the highest gear that can be used for pulling away is 2nd gear (→ page 124).

Pulling away and stopping (automated manual transmissions)

Pulling away



▶ Start the engine.

▶ Turn the direction switch to position D (drive/forwards) 1.
In all drive programs, the transmission control shifts 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.
In order to provide a higher torque, the engine speed in 1st gear can be increased to about 1100 rpm when pulling away by depressing the accelerator pedal fully. The engine speed is increased automatically and as required for pulling away.

Changing the start-off gear

▶ pull the multifunction lever briefly upwards (shift up) 2 or push it briefly downwards (shift down) 3.
The transmission control shifts up or down one gear. When the selected gear appears on the display, the gear change is complete.

or

▶ Vehicles with 12/16-speed transmission: give the multifunction lever a long pull upwards (shift up) 2 or a long push downwards (shift down) 3.
Vehicles with 12–speed transmission: the transmission control shifts up or down to the 1st, 3rd or 6th gear. When the display shows 1, 3 or 6, the gear change is complete.

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Vehicles with 16-speed transmission: the transmission control shifts up or down to the 1st, 4th or 8th gear. When the display shows 1, 4 or 8, the gear change is complete.

ⓘ If the service brake is released after the first time stopping, the vehicle begins to crawl. (→ page 218)

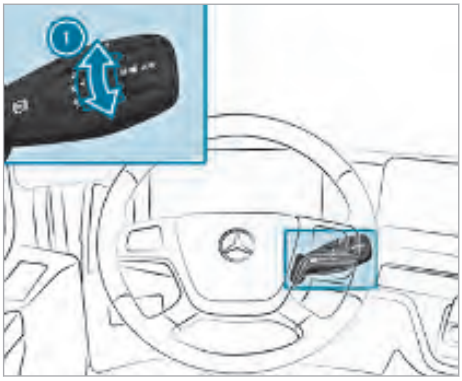
Stopping

▶ Depress the brake pedal.
The transmission control shifts down to a suitable start-off gear according to the driving situation and shortly before standstill.

When the service brake is released again after stopping, the vehicle crawls forwards again.

Selecting neutral position

A warning tone sounds if the vehicle is stationary for about nine minutes with the engine running and a gear selected. N flashes in the display. After another minute, the transmission control automatically selects neutral position.



During relatively long stops, e.g. at traffic lights or before switching off the engine, shift the transmission to neutral position.

▶ depress the brake pedal or apply the parking brake.

▶ Turn the direction of travel selection switch to N position (neutral) ①.
When the display shows N1 or N2, the gear change is complete.

Driving in the automatic drive program

Acceleration

The shift timing point can be actively influenced by the accelerator pedal position:

▶ **little throttle:** early upshifts.

▶ **lots of throttle:** later upshifts.

▶ **use kickdown:** maximum upshift delay or extremely early downshift.

ⓘ The kickdown function is limited in the **economy** and **fleet** shift programs.

When the continuous brake is engaged on an uphill gradient and a gearshift is performed, the transmission control limits the gear change depending on the vehicle weight and the gradient.

Use kick-down

The kickdown serves to accelerate the vehicle to the maximum extent.

If necessary, e.g. on relatively steep uphill gradients, the pull-away performance can be increased using the kickdown function. When pulling away in 1st gear, the kickdown function enables an increased pulling-away engine speed.

▶ Depress the accelerator pedal beyond the point of resistance as far as it will go.
The transmission control shifts to a lower gear if required.

▶ Ease off on the accelerator pedal once the desired speed is reached.
The transmission control shifts up again.

Decelerating

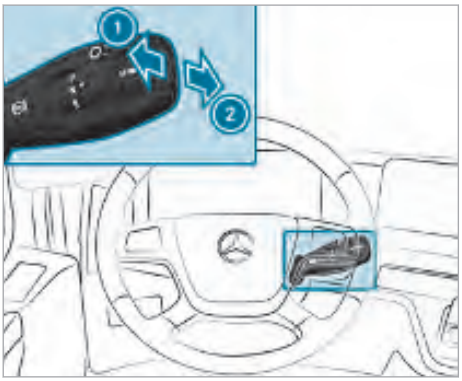
▶ Release the accelerator pedal.

▶ Depress the brake pedal.

or

▶ activate the continuous brake
The transmission control automatically shifts down according to the driving situation.

Selecting gear manually



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Another gear can also be selected manually. The automatic transmission functions do not change as a result.

Gear changes while driving are only possible at suitable engine speeds or at suitable driving speed. If these speeds are not reached or the driving speed is too high, a warning tone sounds. The gear is not selected. The transmission control only selects permissible gears.

▶ pull the multifunction lever briefly upwards (shift up) ① or push it briefly downwards (shift down) ②.
The transmission control shifts up or down one gear. When the selected gear appears on the display, the gear change is complete.

or

▶ Pull the multifunction lever briefly upwards (shift up) ① or push it briefly downwards (shift down) ② as often as the number of gears which are to be shifted.
The transmission control shifts up or down several gears. When the selected gear appears on the display, the gear change is complete.

or

▶ Give the multifunction lever a long pull upwards (shift up) ① or a long push downwards (shift down) ②.
The transmission control determines the suitable gear (target gear) for the selected shift direction depending on the vehicle load. The transmission control shifts up or down into a suitable gear, but at least one gear. When the selected gear appears on the display, the gear change is complete.

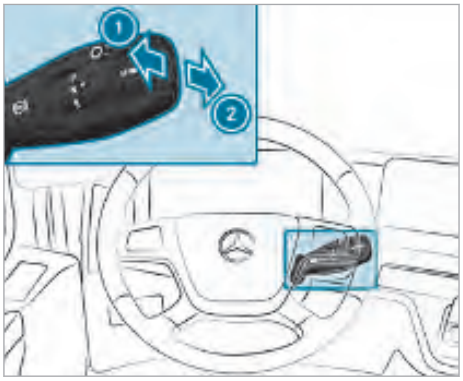
Driving in the manual drive program (automated manual transmissions)

In the manual drive program, you must initiate the gear changes yourself.

In particularly difficult driving conditions, switch to the manual drive program to avoid undesirable interruptions in the tractive power which may occure during automatic gear changes.

In order to support a driving style that improves the fuel economy as much as possible, the on-board computer displays a gearshift recommendation in the form of an arrow. Shift the gears up ↑ or down ↓ according to the gearshift recommendation.

Gear changes while driving are only possible at suitable engine speeds or at suitable driving speed. If these speeds are not reached or the driving speed is too high, a warning tone sounds. The gear is not selected.



▶ Pull the multifunction lever briefly upwards (shift up) ① or push it briefly downwards (shift down) ②.
The transmission control shifts up or down one gear. When the selected gear appears on the display, the gear change is complete.

or

▶ Pull the multifunction lever briefly upwards (shift up) ① or push it briefly downwards (shift down) ② as often as the number of gears which are to be shifted.
The transmission control shifts up or down several gears. When the selected gear appears on the display, the gear change is complete.

or

▶ Give the multifunction lever a long pull upwards (shift up) ① or a long push downwards (shift down) ②.
The transmission control determines the suitable gear (target gear) for the selected shift direction depending on the vehicle load.

The transmission control shifts up or down into a suitable gear, but at least one gear. When the selected gear appears on the display, the gear change is complete.

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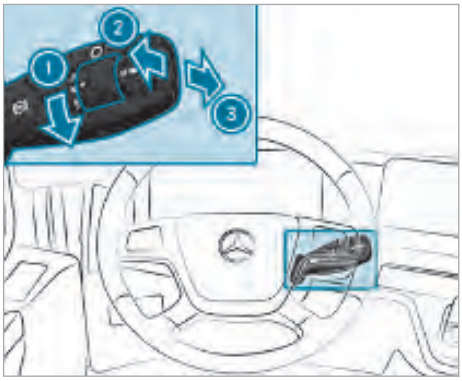
Engaging reverse gear



To pull away from the neutral position, you can only shift into 1st or 2nd reverse gear.

When shifting into reverse gear, the manual drive program is activated. You can switch to the automatic shift program.

When the vehicle is stationary and in neutral position:

- ▶ depress the brake pedal or apply the parking brake.
- ▶ turn the direction switch to position R (reversing) ①.
  When the display shows R 1, the gear change is complete.
  Vehicles with a reverse warning device: the reverse warning device sounds.

Engaging reverse gear

- ▶ Pull the multifunction lever briefly upwards (shift up) ②.
  When the display shows R 1, the gear change is complete.
- ▶ Release the brake pedal or the parking brake and depress the accelerator pedal slowly.

During reversing, the individual reverse gears can be shifted up or down one after the other:

- ▶ Pull the multifunction lever briefly upwards (shift up) ② or push it briefly downwards (shift down) ③.
  The gear change is complete when the display shows the next higher or next lower reverse gear.

Shifting reverse gears while driving is only possible at suitable engine speeds or at suitable driving speed. If these speeds are not reached or the driving speed is too high, a warning tone sounds. The selected reverse gear is not selected. The transmission control only selects permissible reverse gears.

When the vehicle is stopped with 2nd, 3rd or 4th reverse gear engaged, the transmission control shifts to 1st reverse gear.

Automatic transmission

Overview of touch-key gearshift and gear display

! NOTE Damage to the gearbox due to rolling in neutral position

In neutral position, avoid allowing the vehicle to roll for a relatively long distance.

If the continuous brake (engine brake/retarder) is switched on, the engine speed for a downshift is higher than when the continuous brake is switched off.

Allowing the wheels to roll for a relatively long distance, e.g. during towing, causes transmission damage.

- ▶ Only allow the vehicle to roll in the neutral position of the transmission for a short time.

Observe the event messages of the on-board computer which indicate special operating statuses and help to avoid damage to the automatic transmission.

The automatic transmission is equipped with a touch-key gearshift. The touch-key gearshift is next to the driver's seat on the engine tunnel.

The individual gears are selected automatically depending on the following parameters:

- Shift range
- Speed
- accelerator pedal position
- drive program
- engine brake and/or retarder

You can limit or extend the shift range at any time.

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Touch-key gearshift and gear display

1. Shift range and gear display
2. MODE button
3. Extend shift range [△]
4. Limit shift range [▽]
5. Drive position [D]
6. Neutral position [N]
7. Reverse gear [R]

Information on the shift ranges

The display 1 shows the selected shift range on the left and the selected gear on the right, e.g. [5] [1].

Button	Shift range
[R]	**Reverse gear** Only shift to reverse gear when the vehicle is stationary and the engine is idling.
[N]	**Neutral position** The power transmission from the engine to the drive axle is separated. When you release the service and parking brakes, the vehicle can be moved freely. When the neutral position is selected, the indicator lamp [⚙] in the instrument cluster lights up.
[D]	**Drive position** The automatic transmission automatically shifts up five or six forward gears. The drive position provides optimum driving characteristics in almost all operating circumstances.
[△] [▽]	You can manually limit or extend the shift ranges with the [▽] and [△] buttons when driving on uphill or downhill gradients.

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 is designed for a comfortable, economic driving style and makes driving on slippery road surfaces easier.

After the engine is started, the standard **Economy** drive program is always active.

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, which is always active after the engine is started.

▶ **to change the drive program:** press the MODE button 2.
The display 1 only shows the active drive program if it is not the standard drive program.

Pulling away and stopping the vehicle

Pulling away

▶ Depress the brake pedal.

▶ Press the [D] or [R] button.
Vehicles with reverse warning device: if reverse gear is engaged, a warning tone sounds.

▶ Release the brake pedal when the indicator lamp [⚙] in the instrument cluster goes out.

▶ Depress the accelerator pedal.

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ⓘ When the automatic transmission has cooled down (transmission oil temperature below -5°C), the electronic management system only engages the reverse gear or 2nd forward gear. When the transmission oil temperature exceeds -5°C again, all gears can be selected again.

Stopping

NOTE Transmission damage caused by rolling in neutral position

If the vehicle rolls for a relatively long time in neutral position (e.g. when towing), this can lead to transmission damage.

If the continuous brake (engine brake/retarder) is switched on, the engine speed for a downshift is higher than when the continuous brake is switched off.

▶ Only allow the vehicle to roll for a short time in neutral position.

If you stop briefly, e.g. at traffic lights:

▶ maintain the shift position and hold the vehicle with the service brake.

If you remain stopped for a relatively long time with the engine running:

▶ switch to neutral position.
The [N] indicator lamp in the instrument cluster lights up.

Driving tips

Acceleration

The shift timing point can be actively influenced by the accelerator pedal position:

▶ accelerate less strongly for early upshifts.

▶ accelerate more strongly for late upshifts.

▶ kickdown for maximum upshift delay or extremely early downshifts.

Kickdown

The kickdown serves to increase the driving performance and to accelerate the vehicle as much as possible, if necessary.

▶ Depress the accelerator pedal beyond the pressure point as far as it will go. The automatic transmission shifts to a lower gear, depending on the engine speed.

▶ Ease off on the accelerator pedal once the desired speed is reached. The automatic transmission shifts up again.

Driving on uphill or downhill gradients

NOTE Danger of engine damage if the limiting speed is exceeded

If the shift range is limited, the engine speed can exceed the limiting speed.

Exceeding the limiting speed for a relatively long time can lead to engine damage.

▶ If the shift range is limited, do not allow the engine speed to enter the red danger zone of the rev counter.

▶ When driving on extremely steep uphill or downhill gradients, select a shift range with high engine and engine braking power in good time.

Manoeuvring and rocking free

When manoeuvring in confined spaces:

▶ dosed braking to regulate the driving speed.

▶ accelerate slowly and evenly.

ⓘ At low speed, you can change between drive position [D] and reverse gear [R] without braking. This helps, for example, when manoeuvring quickly or rocking free in snow or slush.

Operation

Displaying the axle load

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 provide only an approximate guide. The values cannot be used for official purposes. In order to avoid inaccuracies in the measurement, make sure that the vehicle is uniformly laden. 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 horizontally.

▶ Apply the parking brake.

▶ Set the driving level (→ page 263).

▶ Select the Status menu and Axles menu item in the multimedia system.
The axle load of the individual axes and the gross vehicle weight are displayed.

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Using fluid coupling

The fluid coupling (turbo retarder clutch) provides support when pulling away and braking (primary retarder).

The oil temperature rises when the vehicle is driven with the fluid coupling in clutch mode. If the oil temperature is too high, an event message is displayed and a warning tone sounds.

▶ Shift to a lower gear to reduce the oil temperature.

If the event message and the warning tone do not go out:

▶ brake and stop the vehicle, taking into account the road and traffic conditions.

▶ Apply the parking brake.

▶ Shift the transmission to neutral position.

▶ Leave the engine running at about 1200 rpm for about a minute.

If the event message and the warning tone do not go out:

▶ have the fluid coupling checked at a qualified specialist workshop.

Pulling away

ⓘ You should primarily use the automatic operating mode when pulling away. The Mercedes PowerShift gearshift automatically determines the optimum gear and shift point. The dry clutch opens or closes depending on the motion resistance. At low engine speed, pulling away is possible with maximum torque (about 1200 rpm). Only when manoeuvring mode is switched on does the vehicle creep forwards automatically and coast after the service brake has been released (→ page 227).

ⓘ The transmission does not change gears if clutch mode is active when pulling away.

Level stretches

▶ Engage a gear.

▶ Depress the accelerator pedal and release the parking brake.
The [ ] indicator lamp in the instrument cluster lights up.

The fluid coupling 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 gradients

The pulling away behaviour depends on the following points:

- the gradient of the road surface
- the gross combination weight
- the speed at which the accelerator pedal is depressed

▶ Apply the parking brake or engage the hill holder.

▶ Switch on automatic operating mode. The electronic management system changes gears exactly and quickly.

▶ Engage a gear.

▶ Depress the accelerator pedal and release the parking brake.
The [ ] indicator lamp in the instrument cluster lights up.

The fluid coupling 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

The hydromove drive function allows you to drive down inclines slowly, in a controlled manner. The vehicle can then be moved forwards or backwards on an uphill gradient using only the accelerator. This is particularly of benefit when operating the vehicle with a trailer containing a heavy load, as it is not necessary to change gear or depress the service brake. To do this, a start-off gear must be selected for the direction opposite to your desired direction of travel. The drive function is always automatically activated when you start the engine. The drive function is only automatically deactivated in the offroad shift program.

The hydromove drive function can be activated or deactivated in the multimedia system under the Controls menu and the Switch, Assistance systems menu item.

▶ Stop the vehicle using the service brake.

▶ Depress the brake pedal.

▶ Activate the hydromove drive function in offroad mode.

▶ If you want to reverse down a gradient slowly: turn the multifunction lever to [D] (→ page 215).

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- If you want to drive forward down a gradient slowly: turn the multifunction lever to R (→ page 215).
- To descend slowly: release the service brake. Do not depress the accelerator pedal.
- To descend more quickly: depress the accelerator pedal slightly.
- To slow down and stop: continue to depress the accelerator pedal.
- To drive back up an uphill gradient: depress the accelerator pedal further.
  If there is sufficient power, the vehicle will continue to drive up the incline.

Using manoeuvring mode

On vehicles with a fluid coupling, manoeuvring mode allows you to manoeuvre more gently and precisely. You can also pull away 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. Manoeuvring mode does not deactivate automatically. When manoeuvring mode is active, the transmission does not change gear automatically. Deactivate manoeuvring mode to continue driving.

- **To activate:** stop the vehicle and leave the engine running.
- Depress the brake pedal.
- Press the button.
  The indicator lamp in the button lights up.
  The engine speed is limited to 1,300 rpm in manoeuvring mode and the transmission switches to manual drive program M.
- Select a suitable start-off gear based on the gross weight of the tractor/trailer combination. All start-off gears are available.
- Release the brake pedal.
  The vehicle is, depending on the load and gradient, either held or will roll down the uphill gradient with the brakes applied.

ⓘ When manoeuvring mode is active, it is only possible to change gears when the vehicle is stationary and the brake pedal is depressed.

- **To deactivate:** press the lower section of the button again.

or

- Depress the accelerator pedal past the pressure point to the stop (kickdown).
  The indicator lamp in the button goes out.

Notes on axle and wheel loads

NOTE Damage due to the permissible gross weight being exceeded

If the permissible gross vehicle weight is exceeded, the following vehicle parts could be damaged:

- tyres
- vehicle frame
- axles

▶ Observe the permissible gross weight.

NOTE Damage due to the permissible axle and wheel load being exceeded

If the permissible axle and wheel load is exceeded, the following vehicle parts could be damaged:

- tyres
- vehicle frame
- axle

▶ Observe the permissible axle and wheel loads.

Avoid one-sided wheel loads. The difference between wheel loads must not exceed 4% of the existing axle load.

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Observe the maximum permissible axle load when tipping and when rolling away or setting down platform-type swap bodies/containers. Do not exceed the values in the body/equipment mounting directive.

Observe the information about attachments, add-on equipment, installations and conversions (→ page 6).

While driving, pay regular attention to the indicator and warning lamps and the displays on the on-board computer.

Function of ASR (acceleration skid control)

ASR considerably improves traction, i.e. power transmission between the tyres and the roadway, and therefore also improves the vehicle's driving stability. ASR assists with pulling away and accelerating, particularly on slippery surfaces.

If the drive wheels spin on one or both sides of the vehicle, ASR is activated automatically.

If the drive wheels spin on one side, ASR brakes them automatically.

If the drive wheels spin on both sides, ASR automatically reduces the engine's power output.

If ASR intervenes, this has the following effects:

- The [TC] or [ESP] indicator lamp flashes in the instrument cluster.
- Cruise control cannot be activated.

If cruise control has already been activated, it will remain active. It is not however possible to accelerate or decelerate using cruise control.

If you switch on the ignition, the [TC] or [ESP] indicator lamp lights up in the instrument cluster and goes out again after approximately two seconds.

ASR is activated.

If the [TC] or [ESP] indicator lamp does not go out, ASR has a malfunction. Have the fault rectified at a qualified specialist workshop.

Deactivating/activating ASR

⚠ **WARNING** Risk of skidding if ASR is deactivated

If you deactivate ASR, ASR cannot carry out vehicle stabilisation when pulling away and accelerating.

▶ ASR should only be deactivated in the following situations.

1 ASR OFF button

ⓘ Vehicles with Stability Control Assist have no [ASR OFF] button. Traction control (ASR function) is part of Stability Control Assist (→ page 229). 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 loose surfaces, e.g. gravel

▶ **For vehicles with several driven axles:** if the roadway is slippery, engage the differential lock (→ page 229).

▶ **To deactivate/activate:** press the [ASR OFF] button.
When the [TC] or [ESP] indicator lamp in the instrument cluster lights up, ASR is deactivated.

Function of Stability Control Assist

Stability Control Assist monitors handling and traction, i.e. power transmission between the tyres and the roadway. If it detects that the vehicle is deviating from the direction desired by the driver, one or more wheels are braked to stabilise the vehicle. The engine output may also be modified to keep the vehicle on the desired course within physical limits. Stability Control Assist can also stabilise the vehicle during braking or in critical driving situations, e.g. sudden swerving or fast cornering.

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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.

When the engine is running and the [ ] indicator lamp in the instrument cluster lights up permanently, Stability Control Assist is malfunctioning. Have Stability Control Assist checked at a qualified specialist workshop.

Regardless of the vehicle load or road surface conditions, Stability Control Assist reduces the risk of the following situations:

- the tractor/semitrailer combination or drawbar combination start skidding
- the tractor/semitrailer combination or drawbar combination jack-knifing
- the tractor/semitrailer combination or drawbar combination tipping

Stability Control Assist stabilises a tractor/semitrailer combination or drawbar combination with a maximum of two trailers/semitrailers using the following automatic control interventions:

- engine output reduction
- targeted braking of individual wheels on the towing vehicle
- targeted braking of the trailer/semitrailer
- braking the entire tractor/semitrailer combination or drawbar combination

When driving with more than two trailers/semitrailers, the Stability Control Assist must be deactivated.

Deactivating/activating Stability Control Assist

WARNING Risk of skidding and accident by deactivating Stability Control Assist

If you deactivate Stability Control Assist, Stability Control Assist does not stabilise the vehicle.

▶ Only deactivate Stability Control Assist in the situations described in the following.

ⓘ When you start the engine, 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. Activate Stability Control Assist as soon as the situations previously described are no longer present.

If you drive with more than two trailers/semitrailers, you must deactivate Stability Control Assist. Otherwise, malfunctions or faults can occur as a result.

① Stability Control Assist OFF button (example)

▶ Press the [ ] button.
If the [ ] indicator lamp in the instrument cluster lights up, Stability Control Assist is deactivated.

Using differential locks

WARNING Risk of accident with differential lock engaged

If you switch on the automatic drive program when driving off-road or with the differential lock engaged, the electronic management system may intervene when this is undesired.

Due to the interruption in the tractive power, the vehicle can roll back on uphill gradients, for example.

▶ Always drive carefully and be ready to brake.

▶ Switch to the manual drive program in particularly demanding driving situations.

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WARNING Risk of accident when differential lock is disengaged on a firm surface

If you engage differential locks when driving on a firm, high-traction surface, the steerability of the vehicle is severely restricted. You could lose control of the vehicle, especially when engaging on a bend.

- Always disengage the differential locks immediately on a firm, high-traction surface.

WARNING Risk of skidding when ABS is deactivated

If ABS is deactivated, the wheels may lock when braked.

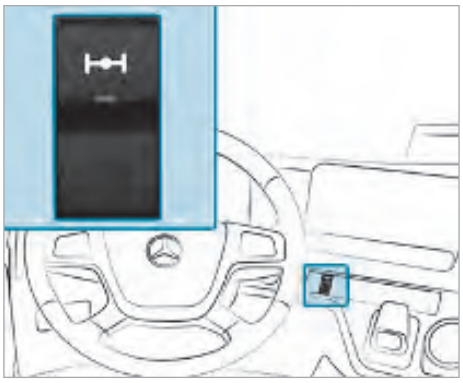
As a result, the vehicle can no longer be steered.

- Always leave ABS on when driving on roads and firm surfaces.

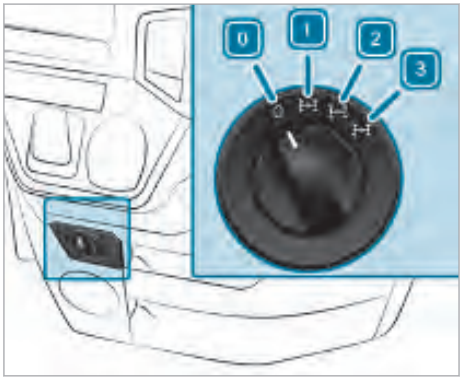
NOTE Damage to the differential locks due to improper use

The following points should be observed when using differential locks, to avoid damage:

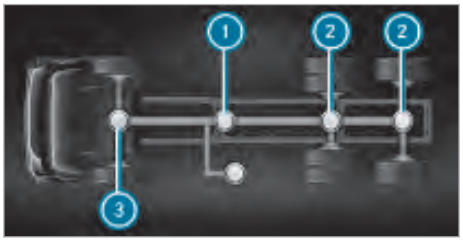
- do not engage differential locks when the driven wheels are spinning.
- do not engage differential locks when the accelerator or brake pedal is depressed.
- Switch on the differential lock only when the vehicle is stationary or moving at walking pace.
- after switching on the differential locks, pull away slowly.
- do not drive on a high-grip road surface when the differential locks are engaged.
- Do not drive faster than 50 km/h when the differential locks are engaged.



Rear differential lock switch (example)



Differential lock control knob (example)



Differential locks display (example)

0 Differential lock off

1 ① Shift position and display of interaxle differential lock, axle through drive

2 ② Shift position and display of interwheel differential locks, rear axles

3 ③ Shift position and display of interwheel differential locks, front axles

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ⓘ Vehicles with one differential lock have one switch, vehicles with several differential locks have a control knob.

If the interaxle differential lock is engaged and ABS is switched on during off-road driving, there can be interruptions in the tractive power in switch positions [1] or [2].

The status of the differential locks is displayed in the Status menu, Axles menu item of the multimedia system.

When the differential lock is engaged, the display shows the associated status display ○ in yellow. When the differential lock is disengaged, the display shows the associated status display ○ in grey. If the status display flashes, the differential lock is not yet engaged/disengaged. The engagement/disengagement conditions have not been met, e.g. different wheel speeds. The differential lock is engaged automatically as soon as all engagement conditions are met.

Engage the differential locks, e.g. on slippery road surfaces or off-road, to improve traction.

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 interaxle differential locks and the engaging all-wheel drive are deactivated and the circle in the display flashes. When ABS braking regulation ceases, the interaxle differential locks and the all-wheel drive are engaged again.

▶ Vehicles with an automated manual transmission: select the manual drive program to avoid undesired gear changes and interruptions in the tractive power (→ page 216).

To switch on: vehicles with one differential lock

▶ Stop the vehicle.

▶ Press the [⊢⊣] button at the top.
The indicator lamp on button [⊢⊣] lights up.

The indicator lamp [⊢⊣] in the instrument cluster lights up.

An event message with the current status of the differential locks is displayed in the instrument cluster.

To switch off: vehicles with one differential lock

▶ Press the [⊢⊣] button.
The indicator lamp in the [⊢⊣] goes out.

An event message with the current status of the differential locks is displayed in the instrument cluster.

To switch on: vehicles with several differential locks

ⓘ The individual differential locks can only be selected one after the other.

▶ Stop the vehicle.

▶ Turn the control knob of the differential locks to position [1].
The interaxle differential locks in the axle through drive/transfer case are engaged.

The [⊢⊣] indicator lamp in the instrument cluster lights up.

Vehicles with engaging all-wheel drive: the indicator lamp [TO] lights up.

▶ Turn the control knob of the differential locks to position [2].
The interwheel differential locks on the rear axles are engaged.

▶ Turn the control knob of the differential locks to position [3].
The interwheel differential locks on the front axles are engaged.

The indicator lamp [ABS] lights up.

To switch off: vehicles with several differential locks

ⓘ **Vehicles with engaging all-wheel drive (code G4E):** if possible, disengage the interaxle differential lock while still on loose ground and not on a high-grip road surface. Otherwise, disengaging the interaxle differential lock can lead to a wind-up shock and a noticeable jolt in the cab. Different tyre diameters between the front and rear axles can also lead to a noticeable wind-up shock when the interaxle differential lock is disengaged. Avoid a difference of more than 3% between the tyre diameters of the front and rear axles.

▶ Turn the switch of the differential locks to position [0].
When switching from position [3] to position [2]: the indicator lamp [ABS] goes out.

The differential locks are disengaged. The differential lock indicators in the display go out.

The [⊢⊣] indicator lamp in the instrument cluster goes out.

Vehicles with engaging all-wheel drive: the indicator lamp [TO] goes out.

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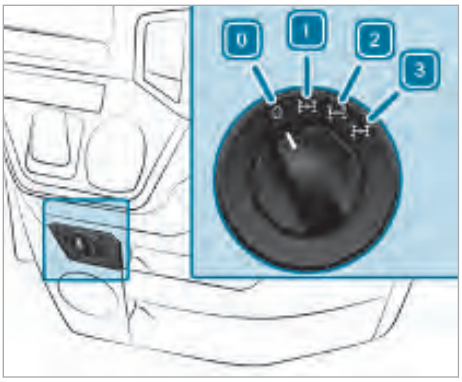
- If the status display ○ flashes, briefly change the speed, e.g. pull away, brake or change the direction of travel.
  Do not continue driving, otherwise the differential may be damaged.
- If the yellow status display ○ does not go out when the interaxle differential locks are disengaged, stop the vehicle and reverse for a short distance.

When the differential locks are engaged and the vehicle is driven faster than 50 km/h, the current engagement position of the differential locks is shown again in the display.

- Deactivate the differential locks or drive slower than 50 km/h.

Engaging/disengaging front axle transfer case

Engaging the front axle



Differential lock control knob (example)

To improve traction, the front axle can be engaged,e.g. on slippery road surfaces or off-road.

The status of the selectable front axle is displayed in the Status menu, Axles menu item of the multimedia system.

When the front axle is engaged, the associated status display ○ lights up yellow. When the front axle is not engaged, the display shows the associated status display ○ in grey. If the status display ○ is flashing, the front axle is not yet engaged/disengaged. The engagement/disengagement conditions have not been met, e.g. different wheel speeds. The front axle is engaged/disengaged as soon as all shift conditions have been met. When the front axle is engaged, the interaxle differential lock of the transfer case is engaged. 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 interaxle differential locks are deactivated, the front axle is disengaged and the display flashes. When ABS braking regulation ceases, the interaxle differential locks and the front axle are engaged again.

- Stop the vehicle.
- Turn the switch of the differential locks to position 1.
  The front axle and the rear axles are driven and the interaxle differential locks are engaged. There is no rotational speed compensation between the front axle and the rear axles.

Disengaging the front axle

- Stop the vehicle.
- Turn the switch of the differential locks to position 0.
  Only the rear axles are driven. The interaxle differential locks are deactivated.

ⓘ The 2 and 3 positions are the functions of the differential lock (→ page 229).

Engaging/disengaging transfer case off-road gear

! NOTE Damage to the retarder due driving fast in the off-road gear

Driving at excessive speed with the off-road gear selected can damage the retarder.

- Do not exceed a speed of 50 km/h.

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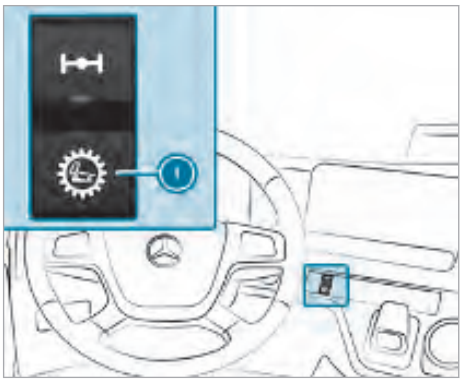

① Off-road gear button (example)

Engage the off-road gear to increase the power at the driven axles when driving off-road.

The off-road gear is selected when all engagement conditions are met. The instrument cluster then displays the symbol.

If the off-road gear is disengaged and the on-road gear is engaged again, the display goes off.

Even if all engagement conditions are met, changing gear can take up to three seconds for vehicles with a manual transmission. When off-road gear is engaged, the shift range for upshifts is automatically limited for vehicles with an automated manual transmission. If the interaxle differental lock is engaged and ABS is switched on during off-road driving, there can be interruptions in the tractive power in switch positions 1 or 2.

▶ Vehicles with automatic manual transmission: select the manual drive program to avoid undesired gear changes and interruptions in the tractive power in particularly demanding driving situations (→ page 216).

Engaging off-road gear

▶ Stop the vehicle.

▶ Shift the transmission to neutral position.

▶ Vehicles with automatic transmission: shift the transmission to neutral position N.

▶ Press the button.
When all gearshift conditions are met, the off-road gear is selected and the instrument cluster shows the symbol.

Disengaging off-road gear

▶ Stop the vehicle.

▶ Shift the transmission to neutral position.

▶ Vehicles with automatic transmission: shift the transmission to neutral position 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

WARNING Risk of injury due to accelerating force during off-road driving

When driving off-road on uneven surfaces, the force of the vehicle's acceleration affects your body from all directions.

You could, for example, be thrown from your seat.

▶ Always wear a seat belt when driving off-road.

The hydraulic auxiliary drive drives the front axle depending on the shift and drive program selection up to a maximum vehicle speed of 25 km/h according to your needs. This makes it easier to pull away on uphill gradients and when off-road. Avoid spinning the rear wheels. If necessary, first engage the differential lock on the rear axle.

Switch on the hydraulic auxiliary drive only off-road.

The Stability Control Assist and ASR (anti-slip control) are deactivated during activation of the hydraulic auxiliary drive.

The following indicator lamps light up when the hydraulic auxiliary drive is active:

- Stability Control Assist
- ASR (acceleration skid control system) or

When you switch on the hydraulic auxiliary drive, this has the following effects:

- crawler mode is automatically deactivated (→ page 218).
- the rocking free drive function cannot be switched on (→ page 219).

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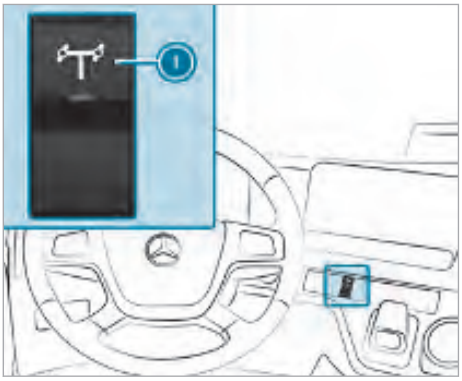
Switching the hydraulic auxiliary drive on/off



① Hydraulic auxiliary drive button

The hydraulic auxiliary drive can only be engaged if the following conditions are met:

- The engine is running.
- 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.

The hydraulic auxiliary drive is only engaged actively and as required when the following driving systems are switched off:

- TEMPOMAT cruise control (→ page 236)
- Distance control assistant(→ page 238)

When the TEMPOMAT or the distance control assistant is switched on, the hydraulic auxiliary drive switches to standby mode.

▶ Vehicles with a gross combination wegith of more than 40 t: Select the manual drive program to avoid undesired gear changes and interruptions in the tractive power in particularly demanding driving situations (→ page 216).

To switch on

▶ Press the button.
If the indicator lamp in the button flashes, the activation conditions (e.g. the hydraulic oil temperature) have not been fulfilled.

The hydraulic auxiliary drive is automatically activated as soon as the following activation conditions are met:

- the service brake is released.
- the driving speed is less than 15 km/h.
- the accelerator pedal is depressed.

If the activation conditions are fulfilled, 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.

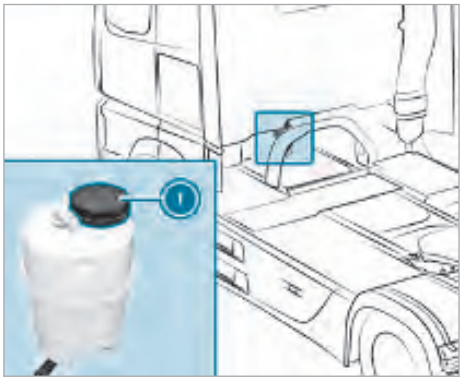
To switch off

▶ 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.

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 ignition is switched off.
- there is a fault that impairs safety or function.

Checking the oil level of the hydraulic auxiliary drive



Before commencing your journey, the oil level should be checked with the hydraulic system cold, at an oil temperature of about 20 °C.

▶ Park the vehicle horizontally.

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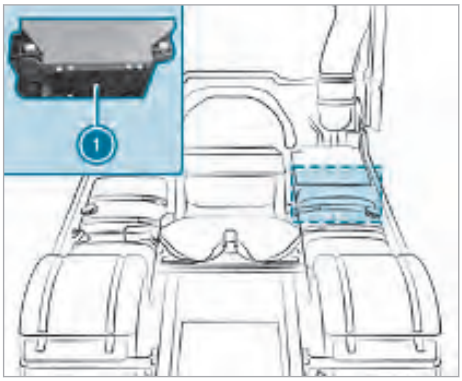
- Apply the parking brake.
- Switch off the engine.
- Turn cap (1) anti-clockwise and remove it.
- Pull out the oil dipstick, wipe it with a clean, lint-free cloth and reinsert it.
- Pull out the oil dipstick again, check the oil level and correct if necessary.
- Slide in the oil dipstick, put on the cap and tighten it as far as it will go.

Cleaning radiator/fan of the hydraulic auxiliary drive



Clean the radiator (1) and its fan regularly to avoid malfunctions.

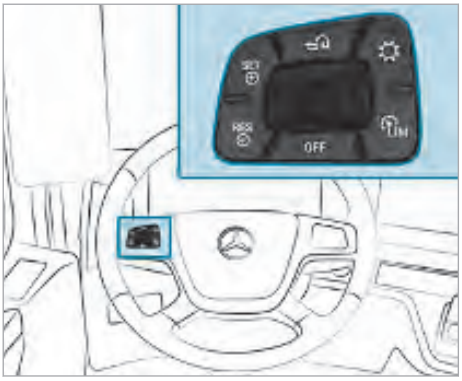
ⓘ Observe the instructions for external cleaning (→ page 315).

- Clean the radiator (1) and the fan 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

Limiter

Overview of limiter



LIM	Press and briefly hold the button: selects cruise control/the distance control assistant Press and hold the button for a few seconds: selects the limiter
SET ⊕	Activates and sets the current limit speed/increases the set limit speed
⊖ RES	Activates and calls up the stored limit speed/decreases the set limit speed
OFF	Deactivates the limiter

The LIM symbol in the on-board computer shows the status of the limiter by colour:

- Grey symbol: the limiter is selected, but not activated.
- White symbol: the limiter is active and is restricting the vehicle speed to the set limit speed.

Activating/deactivating the limiter

Requirements:

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 gradients, the limiter automatically brakes the vehicle with the continuous brake. If the set speed is exceeded, the LIM symbol in the on-board computer flashes. If the limiter cannot be activated, the on-board computer displays the - - - km/h message in grey.

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Selects the limiter

▶ Press and hold the [LIM] button.
The on-board computer shows the [LIM] symbol in grey.

Activating while driving

▶ Select the limiter.
▶ Drive at the desired speed and briefly press the [SET] button.
The limiter is activated and the current vehicle speed is stored as the limit speed.

or

▶ Briefly press the [RES] button. The limiter is activated and assumes the stored limit speed.
The on-board computer shows the [LIM] symbol and the set limit speed in white.

Increasing/decreasing the limit speed

You can change the settings of the limit speed while driving.

▶ Activate the limiter.
▶ **To adjust in 1 km/h increments:** briefly press the [RES] or [SET] button repeatedly until the desired speed is shown in the on-board computer.

or

▶ **To adjust in 5 km/h increments:** press and hold the [RES] or [SET] button until the desired speed is shown in the on-board computer.

Driving

You can exceed the set limit speed, e.g. when overtaking:

▶ Briefly depress the accelerator pedal beyond the pressure point (kickdown).
The set limit speed is still shown and the [LIM] symbol flashes in the on-board computer.
▶ When overtaking is completed, briefly release the accelerator pedal and depress it again.
The limiter again restricts the vehicle speed to the set limit speed.

Deactivating

The limit speed remains stored if you deactivate the limiter.

▶ Press the (OFF) button.
The on-board computer shows the [LIM] symbol in grey.

or

▶ Using the [LIM] button, select cruise control or the distance control assistant.
The on-board computer shows the [ ] or [ ] symbol and the set speed in grey.

Cruise control

Overview of cruise control

⚠ **WARNING** Risk of accident due to unknown stored speed

If you call up the stored speed and it deviates from the current speed, the vehicle accelerates or brakes.

If you do not know the stored speed, the vehicle may unexpectedly accelerate or brake.

▶ 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 speeds

The engine will be damaged if you drive with the engine in the overrevving range.

▶ Do not drive with the engine in the overrevving range.

Do not use cruise control in the following situations:

- in traffic conditions that do not allow you to drive at a constant speed (e.g. heavy traffic or winding roads).
- on slippery roads, braking or accelerating can cause the drive wheels to lose traction and the vehicle could then skid.
- when there is poor visibility, e.g. due to fog, heavy rain or snow.

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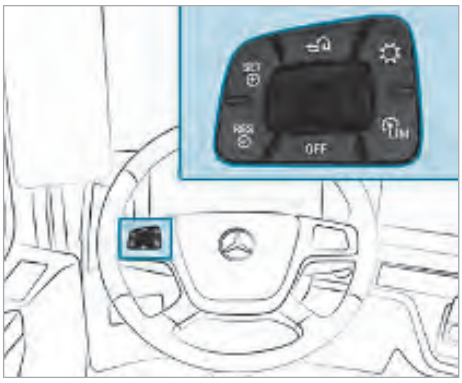

LIM Press and briefly hold the button: selects cruise control/the distance control assistant

Press and hold the button for a few seconds: selects the limiter

SET Activates and sets the current limit speed/increases the set limit speed

RES Activates and calls up the stored limit speed/decreases the set limit speed

OFF Deactivates cruise control

The symbol in the on-board computer shows the status of cruise control by colour:

- grey symbol: cruise control is selected, but not activated
- white symbol: cruise control is activated and maintains the set speed

Activating/deactivating cruise control
Requirements:

Cruise control maintains the set speed of the vehicle for you. 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 cruise control cannot be activated, the on-board computer displays the --- km/h message in grey.

Cruise control is automatically deactivated in the following situations:

- you are driving at less than 10 km/h.
- you shift the transmission to neutral for more than five seconds.

If cruise control is deactivated automatically, a warning tone sounds.

Selecting cruise control

▶ Press the LIM button repeatedly until the on-board computer shows the symbol in grey.

Activating while driving

▶ Select cruise control.

▶ Drive at the desired speed and briefly press the SET button.
Cruise control is activated and the current speed is stored.

or

▶ Briefly press the RES button.
Cruise control is activated and assumes the stored speed.

The on-board computer shows 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/reducing the speed

You can change the speed setting while driving.

▶ Activate cruise control.

▶ **To adjust in 0.5 km/h increments:** press the RES or SET button repeatedly until the desired speed is shown in the on-board computer.

or

▶ **To adjust in 5 km/h increments:** press and hold the RES or SET button until the desired speed is shown in the on-board computer.

Driving tips

Cruise control maintains the set speed more smoothly in the A economy and A fleet drive programs. For this reason, the driving speed and the set speed may differ slightly under certain circumstances. This leads to lower fuel consumption. In the A economy and A fleet drive programs, the speed can be set to a maximum of 85 km/h, and in the A economy + drive program, 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 decelerate using the continuous brake. Cruise control remains activated.

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If you reset the continuous brake lever, but do not deactivate it, the vehicle will only accelerate on inclines 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 gradient without adjusting the speed, cruise control sets an engine speed lower than the overrev. 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.

Overtaking
It is possible to exceed the set speed, e.g. when overtaking:

▶ Depress the accelerator pedal.

▶ When the overtaking manoeuvre is finished, release the accelerator pedal again.
Cruise control adjusts the vehicle's speed to the set speed.

Deactivating
The speed remains stored if you deactivate cruise control.

▶ Press the OFF button.

or

▶ When cruise control accelerates the vehicle, depress the brake pedal.
The on-board computer shows the [ ] symbol and the set speed in grey.

or

▶ Press and hold the [LIM] button to select the limiter.
The on-board computer shows the [LIM] symbol in grey.

or

▶ Select the distance control assistant with the [LIM] button.
The on-board computer shows the [ ] symbol and the set speed in white. The distance control assistant is activated.

Distance control assistant

Overview of the distance control assistant

⚠ **WARNING** Risk of accident due to restricted visibility of the distance control assistant

The distance control assistant does not react to the following:

- people or animals
- stationary obstacles on the road, e.g. stopping or parking vehicles
- oncoming vehicles and cross traffic

As a result, the distance control assistant may not warn you or intervene in these situations.

▶ Always observe the traffic conditions carefully and be ready to brake at all times.

ⓘ The distance control assistant reacts to obstacles on the road, such as stopping or parking vehicles, which have been detected by the camera and the radar sensor up to speeds of 50 km/h.

⚠ **WARNING** Risk of accident due to restricted detection by the distance control assistant

The distance control assistant cannot always clearly identify other road users and complex traffic situations.

In such cases, the distance control assistant can:

- accelerate or brake the vehicle unexpectedly
- intervene unexpectedly

▶ Drive on carefully and be ready to brake, particularly if the distance control assistant warns you.

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For vehicles operated in Ukraine: also observe the information on "Radio type approval for radar sensor system" (→ page 12).

The distance control assistant has been developed for journeys on motorways and high-speed major roads. The system is not intended for use in urban traffic, for example.

The system may be impaired or may not function in the following situations:

- if there is low visibility, 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, the sun or reflection from other vehicles (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 in the area of the camera is obscured, e.g. due to a faulty 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

The distance control assistant may not detect narrow vehicles driving in front, e.g. motorcycles or vehicles driving on a different line.

In particular, be aware of the following driving situations:

- cornering, entering and exiting bends
- your own vehicle driving on a different line or vehicles in front of you driving on a different line
- other vehicles changing lane
- vehicles turning off
- overtaking
- winding stretches of road
- obstacles and stationary vehicles

Regularly clean the distance sensor cover and the windscreen in the camera's field of vision (→ page 318).

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 distance control assistant before leaving the driver's seat and secure the vehicle using the parking brake.

Do not use the distance control assistant in the following situations:

- 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 the distance control assistant no longer detects a vehicle driving in front because it has turned off for example, the distance control assistant may accelerate to the stored speed. On a filter lane or a slip road, this speed may be too high.

PACC (Predictive Adaptive Cruise Control)

If the vehicle has PPC (Predictive Powertrain Control) , this can be controlled to increase the distance to the vehicle in front before lowering the vehicle, for instance. This should assist with an efficient and fuel-saving driving style.

The symbol in the instrument cluster shows the status of the distance control assistant by colour:

- grey symbol: the distance control assistant is selected, but not activated.
- white symbol: the distance control assistant is activated, but a vehicle in front has not been detected.
- white symbol with a blue vehicle inside the symbol: the distance control assistant is activated and a vehicle in front has been detected.

When a vehicle has been detected up ahead, the on-board computer also displays its speed and the distance to the detected vehicle.

ⓘ The Assistance menu in the instrument cluster also displays the speed of the detected vehicle and the distance to the detected vehicle.

Activating/deactivating the distance control assistant

Functions and activation conditions

The distance control assistant controls the speed and supports you in automatically maintaining the distance from a vehicle detected in front. If there is no vehicle in front, the distance control assistant operates in the same way as cruise control in the speed range between 15 km/h and 90 km/h.

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If a vehicle is detected in front, it operates in the speed range between 0 km/h and 90 km/h.

If the distance control assistant detects a vehicle in front driving at a slower speed, your vehicle is slowed and the specified distance selected by you is maintained.

The distance control assistant 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 a downhill gradient
- a slower vehicle in front has been detected

When the continuous brake slows the vehicle, the [ ] indicator lamp lights up in the instrument cluster.

The distance control assistant 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.

The distance control assistant cannot be activated or is deactivated automatically in the following situations:

- you are driving slower than 15 km/h on roads with more than a 10% downhill/uphill gradient.
- you are driving slower than 5 km/h and a vehicle in front has not been detected.
- you shift the transmission into neutral for more than approximately five seconds.
- you select the reverse gear.
- you deactivate ABS.
- the vehicle is stationary and you leave your seat.
- the vehicle is stationary and you open the driver's door.
- there is a malfunction in the brake system/electronic management system.
- the distance sensor initialisation is not yet complete.

If the distance control assistant is deactivated automatically, a warning tone sounds.

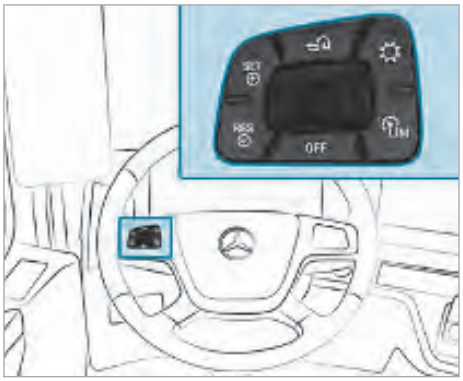
If the distance control assistant cannot be activated, the on-board computer displays the - - ,- km/h message in grey.

The distance control assistant remains activated in the following situations:

- you decelerate using the continuous brake
- the distance control assistant decelerates the vehicle using the continuous brake/service brake and you simultaneously depress the brake pedal

If your vehicle accelerates and you depress the brake pedal, the distance control assistant is deactivated automatically.

Selecting the distance control assistant



[LIM]	Press the button briefly: selects the distance control assistant/cruise control Press and hold the button for a few seconds: selects the limiter
[SET]	Activates and sets the current limit speed/increases the set limit speed
[RES]	Activates and calls up the stored limit speed/decreases the set limit speed
OFF	Deactivates the distance control assistant

▶ Press the [LIM] button repeatedly until the on-board computer shows the [ ] symbol in grey.

If you change from cruise control to the distance control assistant and the distance control assistant was activated earlier, the [ ] symbol appears in white in the on-board computer display. The distance control assistant is activated. The vehicle adapts its speed to that of the vehicle in front, but only up to the desired and set speed.

Activating while driving

At speeds below 15 km/h, you can only activate the distance control assistant if a vehicle in front has been detected.

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- Drive at a speed greater than 15 km/h.
- Select the distance control assistant.
- Briefly press the SET button.
  The distance control assistant is activated and the current speed is set.

or

- Briefly press the RES button.
  The distance control assistant is activated and the last stored speed is set.
  The on-board computer shows 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 the distance control assistant if a vehicle in front has been detected.

- Apply the electronic parking brake or apply the service brake.
- Select the distance control assistant.
- Briefly press the RES button.
  The distance control assistant is activated and the last stored speed is set.
  The on-board computer shows the symbol and the set speed in white.
- Release the electronic parking brake or the service brake. The distance control assistant prevents the vehicle from rolling away.

The electronic parking brake is automatically applied if you take any of the following actions at a standstill:

- switch off the engine
- switch the ignition off

Pulling away and stopping the vehicle

Pulling away

The distance control assistant's starting-off function provides support 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 is engaged
- the continuous brake is deactivated
- the electronic parking brake and the service brake are released

- To pull away, briefly depress the accelerator pedal.

or

- Press the RES 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 pull away on vehicles with a fluid coupling, you must depress the accelerator pedal permanently in order to complete the driving-off procedure.

Stopping

> ⚠ **WARNING** Risk of accident due to the distance control assistant still being active when you leave the driver's seat
>
> If you leave the driver's seat when the vehicle is being braked only by the distance control assistant, it could roll away in the following situations:
>
> - if there is a malfunction in the system or in the power supply.
> - if the distance control assistant is deactivated, e.g. by a vehicle occupant or from outside of the vehicle.
> - if the accelerator pedal is depressed, e.g. by a vehicle occupant.
> - if the RES button is pressed, e.g. by a vehicle occupant.
>
> - Before leaving the driver's seat, always deactivate the distance control assistant and secure the vehicle against rolling away.

If the distance control assistant 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/reducing the speed

You can only change the speed setting while driving.

- **To adjust in 0.5 km/h increments:** press the RES or SET button repeatedly until the desired speed is shown in the on-board computer.

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or

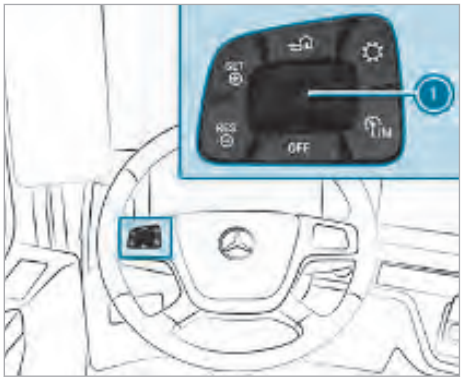
▶ **To adjust in 5 km/h increments:** press and hold the RES or SET button until the desired speed is shown in the on-board computer.

ⓘ By setting the speed tolerance, you define by how much the set speed may be exceeded (→ page 244).

Setting a specified distance to the vehicle in front

The specified distance for the distance control assistant can be set to five levels. If you restart the engine, the average specified distance is available for selection.

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 to open the specified distance display in the Instrument Display.

▶ Swipe button 1 to change the specified distance:
- Swipe bottom to top to increase the specified distance.
- Swipe top to bottom to reduce the specified distance.

The bar display shows the specified distance you have selected.

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.

▶ When the overtaking manoeuvre is finished, release the accelerator pedal again.
The distance control assistant adjusts the speed to the set speed.

ⓘ Observe the notes on particular driving situations under "Active Brake Assist" (→ page 248).

Deactivating

The speed remains stored if you deactivate the distance control assistant.

▶ Press the OFF button.

or

▶ When the distance control assistant accelerates the vehicle, depress the brake pedal.
The on-board computer shows the symbol and the set speed in grey.

or

▶ Select the limiter with the LIM button.
The on-board computer shows the LIM symbol in grey.

or

▶ Select cruise control with the LIM button (→ page 237).
The on-board computer shows the symbol and the set speed in white. Cruise control is activated.

Observe the conditions that lead to automatic deactivation of the distance control assistant.

PPC (Predictive Powertrain Control)

Overview of PPC (Predictive Powertrain Control)

⚠ **WARNING** Risk of accident despite route-based speed adjustment

Route-based speed adjustment might malfunction or be temporarily unavailable in the following situations:
- If the driver does not follow the calculated route
- If map data is not up to date or available
- In the event of roadworks
- In bad weather or road conditions
- If the accelerator pedal is depressed
- In the event of electronically displayed speed limitations

▶ Adjust the speed to the traffic situation.

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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 major roads. Within towns and in heavy traffic, PPC should not be used.

PPC

PPC uses topographic map data to optimise fuel consumption and to adjust output according to operating conditions.

PPC influences gear selection and adjusts the speed of cruise control (→ page 236) or the distance control assistant (→ page 238).

The following route events are taken into account by PPC:

- The speed adjustment facilitates better utilisation of momentum accumulated on downhill gradients.
- On uphill gradients, the power output is optimised and may be reduced before the top of the hill is reached.

You can activate/deactivate PPC via the Controls menu and the Settings, Assistance systems menu items in the multimedia system.

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:

- the cruise control speed is set in advance by PPC 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/deactivate PPC Interurban via the Controls menu and the Settings, Assistance systems menu items in the multimedia system.

PPC is active when the following conditions are met:

- PPC has been activated in the settings menu
- cruise control or the distance control assistant is active
- GPS reception is available
- map data is available

PPC is restricted in the following situations:

- the transmission is in the manual drive program
- you depress the accelerator or brake pedal
- the continuous brake is active
- the distance control assistant brakes the vehicle
- power take-off is engaged
- automatic speed adjustment is active

The on-board computer shows the status of PPC by colour:

- grey symbol: cruise control is deactivated.
- white symbol without PPC: cruise control is active, but PPC is not available or deactivated.
- white symbol with PPC: PPC is activated and cruise control is active.
- green symbol with PPCdisplay: PPC actively regulates the speed and gear selection in cruise control or for the distance control assistant.

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 roads, lane narrowing, wet road surfaces, snow or ice) or when driving with a trailer, the speed adjustment made by the system may not always be suitable. 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 journey, this can result in a malfunction of PPC in certain situations. In this case, PPC must be deactivated.

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Setting PPC (Predictive Powertrain Control)

- **To activate/deactivate:** activate or deactivate PPC in the multimedia system under the Controls menu and the Settings, Assistance systems menu item.
- **To set the speed tolerances/factors:** press the [⚙] button on the multifunction steering wheel repeatedly until the Cruise control input window is displayed in the instrument cluster.
- Change back and forth between the setting options by swiping up or down using the middle steering-wheel button on the left-hand control panel.
- Set the speed tolerances/speed factors by swiping right or left using the middle steering-wheel button on the left-hand control panel.

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 standard value for the upper speed tolerance is 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 specified at 2 km/h.

Setting the speed tolerance when driving down depressions in the road

- Select menu item ② to set the speed tolerance when driving down depressions in the road.
  The speed tolerance changes in 1 km/h increments from 0 km/h to 4 km/h.

  The standard value for the downhill speed tolerance is 0 km/h.

The higher you set the downhill speed tolerance, the greater the savings in fuel.

If cruise control is activated and the set speed is 50 km/h or less, the downhill speed tolerance is specified at 0 km/h.

Setting the lower speed tolerance

- Select menu item ③ to set the lower speed tolerance.
  The speed tolerance changes in five levels.

  Level two is set as standard.

The higher you set the lower speed tolerance, the greater the savings in fuel.

Setting the cornering speed factor

- Select menu item ④ to set the cornering speed factor.
  The speed factor changes in five levels.

  Level three is set as standard.

The higher the level set, the higher the vehicle speed when cornering.

Setting the start of deceleration before route events

- Select menu item ⑤ to set the start of deceleration.
  The start of deceleration changes in five levels.

  Level three is set as standard.

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 default values.

Active Brake Assist

Overview of Active Brake Assist

General notes

The term used in following sections, Active Brake Assist, also applies to Active Brake Assist 5.

Deactivate Active Brake Assist when towing.

For vehicles operated in Ukraine: also observe the information on "Radar sensor system radio type approval" (→ page 12).

If Active Brake Assist detects the risk of a collision with the vehicle in front, it issues an audible and visual warning. If you do not react and the risk persists, Active Brake Assist automatically

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initiates partial braking of the vehicle. If you do not react to the partial brake application, Active Brake Assist automatically initiates an emergency braking manoeuvre.

Active Brake Assist can have the following effects:

- ideally avoid a collision with the vehicle in front
- minimise 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

Within the system limits, Active Brake Assist 5 can also have the following effects:

- react to moving people with partial brake application and maximum full-stop braking
- react earlier to an obstacle in the path of your vehicle
- also at high speeds, avoid a collision with the vehicle in front or avoid an obstacle in the path of your vehicle

System limits

Active Brake Assist 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 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

Active Brake Assist 5 may also be impaired or may not function in the following situations:

- if there is glare, e.g. from oncoming traffic, direct sunlight or reflections (e.g. if the carriageway is wet)
- if the windscreen in the area of the camera is dirty, obscured or damaged, e.g. due to a faulty windscreen wiper or a sticker

In some circumstances, Active Brake Assist does not react correctly in the following situations:

- if vehicles move quickly into the sensor detection range
- on bends with tight radii

In some circumstances, Active Brake Assist 5 does not react correctly in the following situations:

- to stationary people
- to pedestrians that are obscured by other objects
- if the typical contour of a pedestrian does not stand out from the background
- if a pedestrian is no longer detected as such, e.g. due to special clothing or other objects
- to people or vehicles moving quickly within the detection range of the sensors
- to people in a tunnel

Active Brake Assist 5 can only react to pedestrians up to a speed of 50 km/h.

Important safety notes

⚠ **WARNING** Risk of a collision despite Active Brake Assist

Active Brake Assist will initially brake your vehicle with a partial application of the brakes if a danger of a collision is detected. A collision can result unless you also apply the brakes yourself.

Automatic maximum full-stop braking cannot always prevent a collision.

▶ Always apply the brakes yourself and try to take evasive action.

⚠ **WARNING** Risk of an accident as a result of limited perceptibility of road users and traffic situations with Active Brake Assist

Active Brake Assist cannot always recognise other road users and complex traffic conditions.

In such cases, Active Brake Assist may:

- give an unnecessary warning and then brake the vehicle
- neither give a warning nor intervene

▶ Drive on with care and be ready to brake, in particular if Active Brake Assist issues a warning.

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WARNING Risk of an accident as a result of limited perceptibility of Active Brake Assist

Active Brake Assist does not react:

- to people or animals
- to oncoming vehicles

As a result, Active Brake Assist might not warn you or intervene in these situations.

▶ Always observe the traffic situation carefully and be ready to brake.

ⓘ Active Brake Assist 5 can also react to people moving on the roadside.

If you fail to adapt your driving style or if you are inattentive, Active Brake Assist can neither reduce the risk of an accident nor override the laws of physics.

You are responsible for keeping a safe distance to the vehicle in front, for the vehicle speed, braking in good time and remaining in lane. You should always adapt your driving style to suit prevailing road and weather conditions.

Brake the vehicle using the service brake in the following situations:

- a red event window with the [ ] symbol appears in the on-board computer
- an intermittent warning tone sounds
- an intermittent warning tone sounds and automatic partial braking has been initiated

The following vehicles may not be detected by Active Brake Assist:

- narrow vehicles
- motorcycles
- vehicles driving on a different line

Read the safety notes on driving conditions that may lead to system restrictions (→ page 248).

Active Brake Assist may unexpectedly issue warnings or brake your vehicle in the following situations:

- in car washes
- there are stationary obstacles inside a tunnel
- on ferries
- in loading areas
- at tollgates
- in workshops

The following causes can lead to no visual and/or acoustic warnings being issued in a critical situation:

- Active Brake Assist has not recognised the danger of the situation
- Active Brake Assist is deactivated
- Active Brake Assist has failed

If a visual and/or acoustic warning is issued or a partial brake application is performed in a non-critical situation, suppress Active Brake Assist:

- by depressing the accelerator pedal
- by operating the direction switch (only when vehicles have been detected, not people)
- by deactivating Active Brake Assist (→ page 246)

You can cancel an emergency braking manoeuvre triggered by Active Brake Assist as follows:

- by depressing the accelerator pedal beyond the pressure point (kickdown)
- by deactivating Active Brake Assist (→ page 246)

Regularly clean the distance sensor cover and the windscreen in the camera's field of vision (→ page 318).

If the distance sensor cover or the windscreen in the camera's field of vision is dirty or icy, its functionality may be impaired.

Do not mount any detachable parts in front of the distance sensor or the camera, e.g. a crash guard, and do not paint or affix items in these areas. Otherwise, the operation of the distance sensor, the camera and thereby the operation of Active Brake Assist may be affected.

Deactivating/activating Active Brake Assist

When you start the engine, Active Brake Assist is automatically activated.

Active Brake Assist is deactivated automatically in the following situations:

- if there is a malfunction
- if ABS is deactivated or there is a malfunction in the brake system of the vehicle

▶ **To deactivate:** deactivate Active Brake Assist in the multimedia system in the Controls

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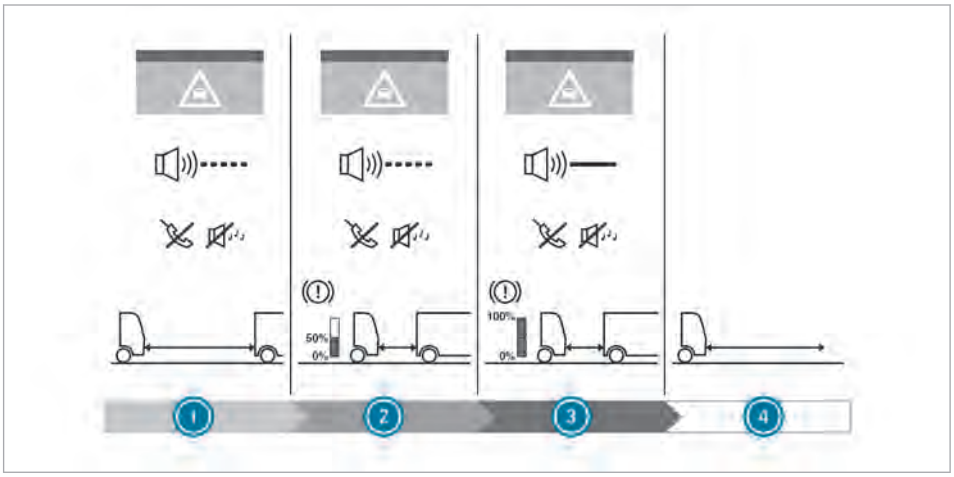
menu, under the Settings, Assistance systems menu item.
When the [OFF] indicator lamp in the instrument cluster lights up, Active Brake Assist is deactivated.

▶ **To activate:** activate Active Brake Assist in the multimedia system in the Controls menu, under the Settings, Assistance systems menu item.
When the [OFF] indicator lamp in the instrument cluster goes out, Active Brake Assist is activated.

Collision warning and emergency braking



1. Active Brake Assist warning
2. Active Brake Assist partial braking
3. Emergency braking (maximum full-stop braking)
4. 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/or hands-free system installed at the factory are automatically muted.

Warning (Active Brake Assist)

The [⚠] symbol appears in the red event window in the on-board computer. An intermittent warning tone sounds.

Partial braking (Active Brake Assist)

The [⚠] symbol appears in the red event window in the on-board computer. An intermittent warning tone sounds. In addition, Active Brake Assist slows the vehicle with automatic partial braking. Active Brake Assist brakes the vehicle with around 50% of the vehicle's maximum braking power.

Emergency braking (Active Brake Assist)

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. At speeds greater than 50 km/h rapid flashing of the hazard warning lights (emergency braking flashing) is activated to warn following traffic.

The [⚠] symbol appears in the red event window in the on-board computer. A continuous warning tone sounds. In addition, Active Brake Assist slows the vehicle with an automatic emergency braking manoeuvre (maximum full-stop braking).

After an emergency braking procedure has been performed, the Emergency braking finished message appears in the grey event window in the on-

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board computer. The hazard warning lights automatically change to slow flashing.

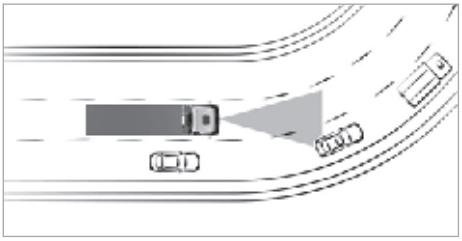
After emergency braking to at standstill, the vehicle is held by the HOLD function to prevent it from rolling away.

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.
- ▶ Stop the engine and apply the parking brake to prevent the vehicle from rolling away.
- ▶ Make sure that the vehicle is in proper working order and that the load is secured properly.

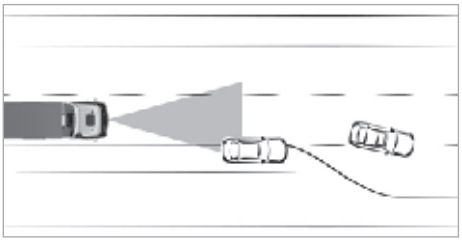
Information on specific driving situations

Cornering, entering and exiting bends



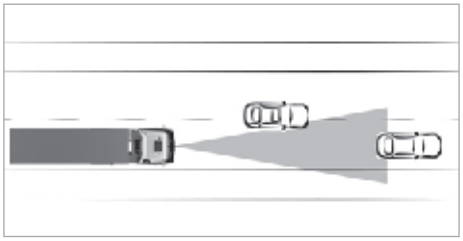
The ability of Active Brake Assist and the distance control assistant to detect vehicles on bends is limited. Active Brake Assist and the distance control assistant may unexpectedly issue warnings or brake your vehicle. The distance control assistant may also accelerate the vehicle unexpectedly.

Driving on a different line and stationary vehicles

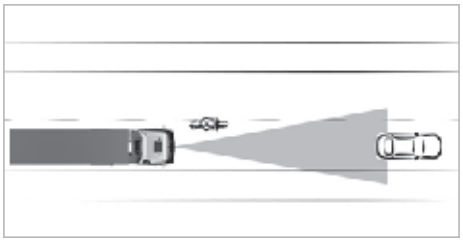


The ability of Active Brake Assist and the distance control assistant to detect vehicles driving on a different line or stationary vehicles is limited. Active Brake Assist and the distance control assistant may unexpectedly issue warnings or brake your vehicle. The distance control assistant may accelerate unexpectedly.

Other vehicles changing lane

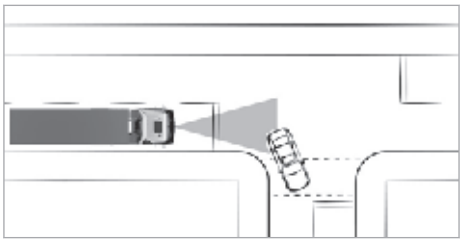


The ability of Active Brake Assist and the distance control assistant to detect vehicles pulling into your lane is limited. The distance to the vehicle in front entering your lane may then be too short. Active Brake Assist and the distance control assistant may unexpectedly issue warnings or brake your vehicle. The distance control assistant may also accelerate the vehicle 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. The distance control assistant may accelerate unexpectedly. Brake the vehicle. This will increase the distance to the vehicle in front.

Vehicles turning off



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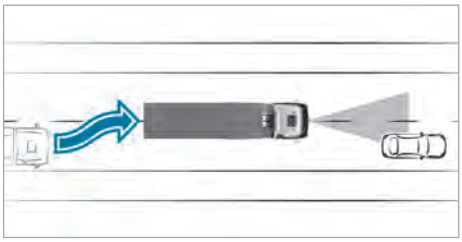
The ability of Active Brake Assist and the distance control assistant to detect vehicles turning off is limited. Active Brake Assist and the distance control assistant may unexpectedly issue warnings or brake your vehicle.

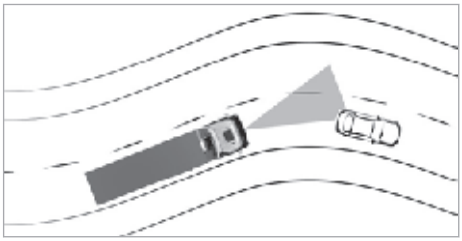
Overtaking



When you are overtaking, Active Brake Assist and the distance control assistant may in the following cases unexpectedly issue warnings or brake your vehicle if you:

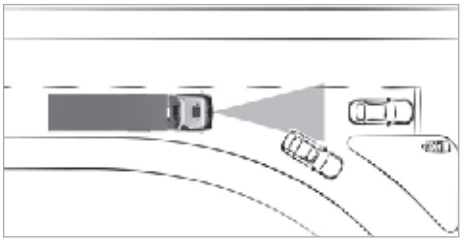
- drive too close to the vehicle in front
- are in the same lane as the vehicle in front

Winding stretches of road



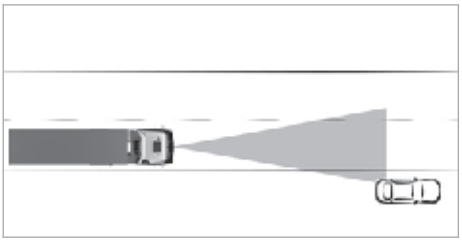
On winding stretches of road, Active Brake Assist and the distance control assistant cannot detect which lane the vehicle in front is driving in. Active Brake Assist and the distance control assistant may unexpectedly issue warnings or brake your vehicle. The distance control assistant may also accelerate the vehicle unexpectedly.

Obstacles and stationary vehicles



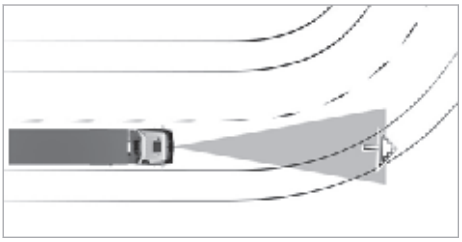
Active Brake Assist and distance control assistant may be too late detecting obstacles or stationary vehicles in front of the detected vehicle. Active Brake Assist and the distance control assistant may unexpectedly issue warnings or brake your vehicle. The distance control assistant may also accelerate the vehicle unexpectedly.

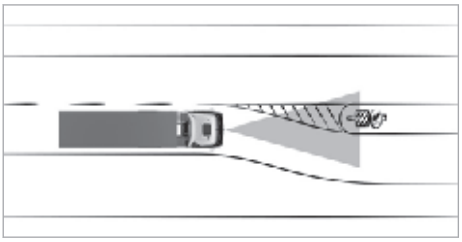
Vehicles parked at the roadside



Active Brake Assist and the distance control assistant may react to vehicles parked at the roadside. Active Brake Assist and the distance control assistant may unexpectedly issue warnings or brake your vehicle. The distance control assistant may also accelerate the vehicle unexpectedly.

Stationary objects





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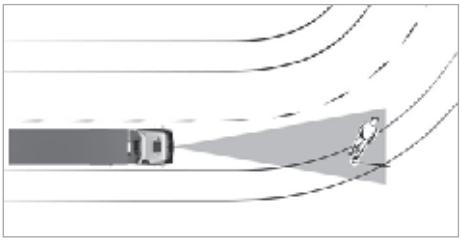
Active Brake Assist can also unexpectedly issue warnings and brake the vehicle if it detects stationary objects next to your lane. Examples of this are:

- Broken-down vehicles
- Road boundaries, e.g. roadside posts
- Signs
- Bridges
- Traffic islands
- Parked vehicles

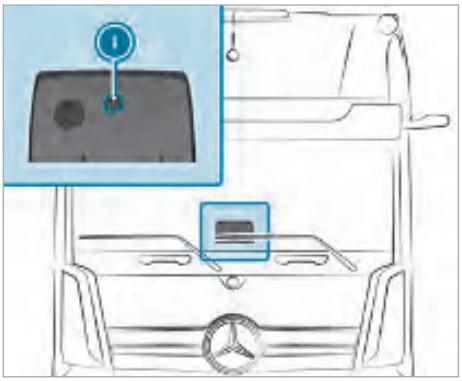
People



Active Brake Assist 5 may also unexpectedly issue a warning or brake for people moving at the roadside on a bend.

Traffic Sign Assist

Function of Traffic Sign Assist



ⓘ Traffic Sign Assist is not available in all countries.

Traffic Sign Assist detects traffic signs with multifunction camera ⓘ. 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 in iPPC and can, in the following situations, update the display without having detected a traffic sign:

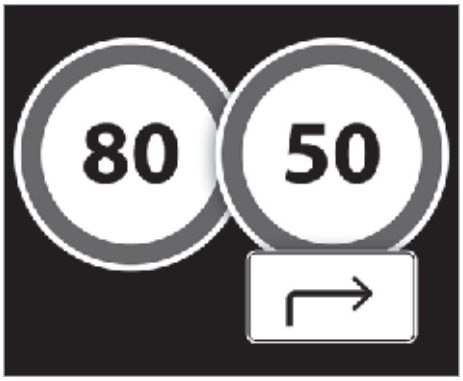
- When the vehicle changes roads, e.g. motorway exit or slip road.
- When the map indicates an updated limit speed.

ⓘ 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.

The camera also detects traffic signs with a restriction indicated by an additional sign (e.g. in wet conditions). These are taken into account in the display of the limit speed or displayed separately, if they cannot be matched.

Speed limits on slip roads



Speed limits which are detected on slip roads are displayed in the Instrument Display with an additional arrow symbol pointing to the right. The additional symbol is displayed even if the actual traffic sign does not have an additional arrow pointing to the right.

The permissible speed limit of the road you are currently driving on is shown at the same time on the left of the Instrument Display.

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 visual warning in the instrument cluster. The traffic sign lights up red.

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Display in the Instrument Display

1. Permissible speed
2. Alternative limit speeds, overtaking restrictions and warnings
3. Additional sign with restriction

If more than two traffic signs are detected by the system, Traffic Sign Assist selects the two most relevant traffic signs for the display.

System limits

The system may be impaired or may not function in the following situations:

- If the traffic signs are hard to detect, e.g. due to dirt or snow, or because they are covered, or due to insufficient lighting.
- If the information in the iPPC's digital map is incorrect or out-of-date.
- If the signs are ambiguous, e.g. traffic signs on construction sites, or in adjacent lanes or driveways.
- If there are dynamic signs, e.g. LED displays.
- If there are signs which do not meet the official requirements.
- If there is poor visibility, e.g. due to insufficient illumination of the road, highly variable shade conditions, or due to rain, snow, fog or heavy spray.
- If there is glare, e.g. 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, e.g. due to a faulty windscreen wiper or a sticker.
- If no or several unclear lane markings are present for one lane, e.g. in a construction area.
- After a major change in load with the ignition switched on. Restart the engine after a large 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 318). Therefore, switch on the windscreen wiper to clean the windscreen, for example, or remove snow and ice from the windscreen.

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.

Activating/deactivating Traffic Sign Assist

▶ **To activate/deactivate:** select the Controls menu and the Settings, Assistance systems menu item in the multimedia system.

▶ Activate/deactivate Traffic Sign Assist.

ⓘ When the engine is started, the last selected setting of Traffic Sign Assist is active.

Notes on Lane Keeping Assist

Notes

⚠ **WARNING** Risk of accident despite Lane Keeping Assist

Lane Keeping Assist cannot always clearly detect lane markings.

In such cases, Lane Keeping Assist can:

- give an unnecessary warning
- not give a warning

▶ Always pay particular attention to the traffic situation and keep within the lane, especially if Active Lane Keeping Assist alerts you.

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, e.g. from oncoming traffic, direct sunlight or reflections (e.g. if the carriageway is wet).
- 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, e.g. due to a faulty windscreen wiper or a sticker.

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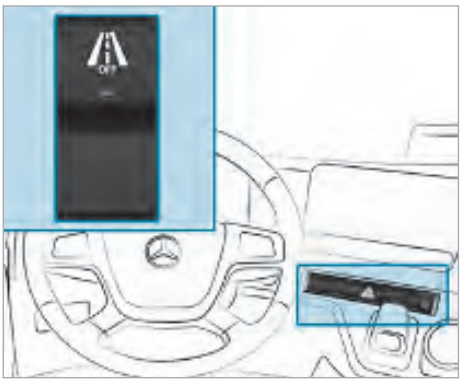
- if no or several, unclear lane markings are present for one lane, e.g. near roadworks.
- if the lane markings are worn, dark or covered, for example by dirt or snow.
- if the distance to the vehicle in front is too small and the lane markings thus cannot be detected.
- if the lane markings change quickly, 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 road surface.
- if attachments, e.g. a snow plough, restrict the camera's view of the road lane markings.
- after a significant change in load with the ignition switched on. Therefore, start the engine again after a significant change in load for Lane Keeping Assist to be available without any restrictions.

Keep the windscreen in the area of the camera free of dirt, snow or ice. Use the windscreen wipers or clean the windscreen by hand if required. Observe the "Notes on cleaning the vehicle exterior" (→ page 315) and "Cleaning sensors" (→ page 318) sections.

Overview



Example: Lane Keeping Assist button

The lane markings are displayed in the Assistance menu in the instrument cluster.

The lane markings in the instrument cluster show the status of Lane Keeping Assist in colour:

- grey lane markings: Lane Keeping Assist is deactivated or activated but not ready to issue warnings on the affected side of the vehicle.
- white lane markings: Lane Keeping Assist is activated and ready to issue warnings on the affected side of the vehicle.
- red lane markings: Lane Keeping Assist is activated and is issuing a warning on the affected side of the vehicle.
- blue lane markings (only vehicles with Active Drive Assist): lateral distance control is activated and ready to warn on the affected side of the vehicle. The Lane Keeping function is active (→ page 257).

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 roadway, it warns you that you may be leaving your lane unintentionally.

The following conditions must be fulfilled so that Lane Keeping Assist is ready to issue warnings:

- you are driving faster than approx. 60 km/h.
- the lane markings must appear in white in the on-board computer.

The following interventions are carried out when you drive over the lane marking unintentionally:

- the relevant lane marking is shown in red in the on-board computer.
- the volume of the audio equipment/hands-free system is reduced and an acoustic warning 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.
- a driving safety system intervenes, e.g. Active Brake Assist or Stability Control Assist.

The warnings are then suppressed for a certain time period.

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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
When you start the engine, Lane Keeping Assist is automatically activated.

If you press the button, Lane Keeping Assist is deactivated and the indicator lamp in the button lights up.

The instrument cluster then shows the lane markings in grey.

Notes on Attention Assist

Notes

Attention Assist may be impaired or inoperative in the following situations:

- when driving with Active Drive Assist activated (⟶ page 257).
- 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 in the area of the camera is obscured, e.g. due to a faulty windscreen wiper or a sticker.
- if no lane markings or several ambiguous lane markings are present for a lane, e.g. near roadworks.
- if the lane markings are worn, dark or covered, for example by dirt or snow.
- if there is glare, e.g. due to oncoming traffic, direct sunlight or reflections (e.g. if the carriageway is wet).
- on winding roads.
- the distance to the vehicle in front is too small and the lane markings thus can often not be detected.
- if attachments, e.g. a snow plough, restrict the camera's view of the road lane markings.
- after a significant change in load with the ignition switched on. Therefore, restart the engine after a significant change in load for Attention Assist to be available without any restrictions.

Make sure that the windscreen is always kept clean and unobstructed in the area of the camera (⟶ page 318). Therefore, switch on the windscreen wiper to clean the windscreen, for example, or remove snow and ice from the windscreen.

Overview
Attention Assist assists you during long, monotonous journeys, such as on motorways and trunk roads. Attention Assist is active at speeds above approximately 60 km/h.

If Attention Assist detects typical indicators 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, e.g. remaining in lane, steering characteristics
- journey-related parameters, e.g. length of journey

Attention Assist is restricted and a warning does not occur or is delayed in the following situations:

- if you are predominantly driving slower than 60 km/h
- if the markings on the road are missing 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 event window and Attention Assist: take a break?.
- Lane Keeping Assist is reactivated automatically.

During long journeys, take regular breaks in good time. If you do not take a break, Attention Assist can only warn you again after 15 minutes at the earliest. When you switch off the engine or the vehicle is stationary for some time, Attention Assist resets the detection sequence.

Deactivating/activating Attention Assist
After starting the engine, Attention Assist is always activated.

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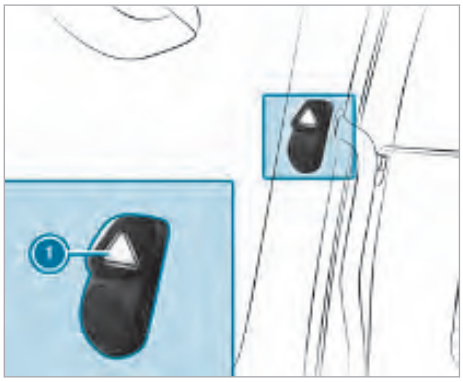
You can activate/deactivate Attention Assist in the multimedia system under the Controls menu, menu item Settings, Assistance systems.

Sideguard Assist

Function of Sideguard Assist



① Warning lamp in the A-pillar (example)

Sideguard Assist monitors the area to the right of the towing vehicle and trailer/semitrailer using two radar sensors. The radar sensors are installed on the wing bracket in front of the rear axle. Sideguard Assist provides assistance when turning and changing lanes to the co-driver's side. A warning lamp in the warning element on the A-pillar informs you that an object has been detected in the monitored area. A warning tone also sounds if there is a risk of collision.

Sideguard Assist is not active while reversing.

For vehicles operated in Ukraine: also observe the information on "Radar sensor system radio type approval" (→ page 12).

The trailer monitoring of Sideguard Assist is not active in the following situations and cannot be switched on or off:

- shortly after reversing
- shortly after coupling up

ⓘ Trailers with an ISO 11992-2 interface: if trailer information is set incorrectly, such as the length or number of axles, the trailer/semitrailer could malfunction. In such cases, trailer monitoring may issue unnecessary warnings or no warnings at all.
If you detect a trailer/semitrailer malfunction, contact the trailer manufacturer.
If it cannot be guaranteed that the trailer information is set correctly, or if the trailer/semitrailer has a special design, trailer monitoring can be temporarily deactivated (→ page 256).

ⓘ Trailers without an ISO 11992-2 interface: after coupling up a trailer/semitrailer it is necessary to perform a few right turns until the system has properly adjusted to the new trailer/semitrailer.

ⓘ You can find information on whether your trailer/semitrailer has an ISO 11992-2 interface in the operating instructions provided by the trailer/semitrailer manufacturer.

⚠ **WARNING** Risk of accident as a result of restricted detection by Sideguard Assist

When detection is restricted, Sideguard Assist may issue a warning too late or not at all.

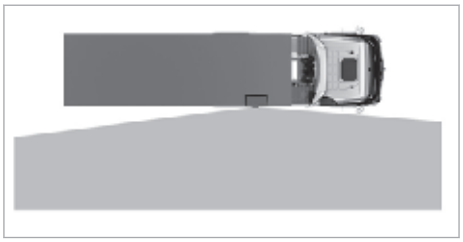
In these cases, the detection of obstacles may be especially restricted:

- dirty, icy or obscured sensors
- very wide lanes
- barriers or other road boundaries

▶ Always pay careful attention to the traffic situation and maintain a safe distance at the side of the vehicle.

Make sure that the area on the co-driver's side next to the towing vehicle and the trailer/semitrailer is free before you turn.

Warning range of the sensors



Warning range of the sensors

ⓘ Objects are not detected if they are located at an angle of approximately 6° between the vehicle and the monitoring range.

ⓘ For the warning range of the sensors detailed here, the maximum vehicle length is 18.75 m. Vehicles longer than this are not supported.

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Due to the system characteristics, warnings may be issued in error when driving close to crash barriers or similar solid boundaries.

Due to the system characteristics, warnings may be interrupted when you are driving alongside particularly long vehicles, for example lorries, for a prolonged time.

Depending on the situation and on the trailer/semitrailer, Sideguard Assist may issue a warning too early or not at all.

Make sure that the radar sensor cover is free from dirt, ice or slush. The radar sensors must not be painted or covered, e.g. by stickers or films.

If Sideguard Assist is malfunctioning, the on-board computer displays an event window. Objects in the monitoring range are then not indicated.

Have the function of the radar sensors checked at a qualified specialist workshop in the following cases:

- after a severe impact
- after damage to the side trim

Otherwise, Sideguard Assist does not work properly.

Sideguard Assist displays

Sideguard Assist is active when you switch on the ignition.

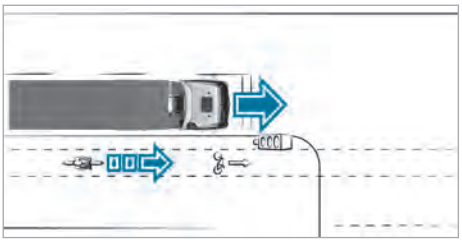
Information on the status of Sideguard Assist is shown in the Assistance menu of the instrument cluster. If you have coupled up a trailer/semitrailer, the grey indicator lamp lights up in the Assistance menu. If you have not coupled up a trailer/semitrailer, the grey indicator lamp lights up in the Assistance menu. If you have switched off the trailer monitoring of Sideguard Assist, the grey indicator lamp lights up in the Assistance menu.

ⓘ For vehicles with MirrorCam, the warning occurs via the warning lamp in the MirrorCam display on the respective side.

Example: assistance menu window

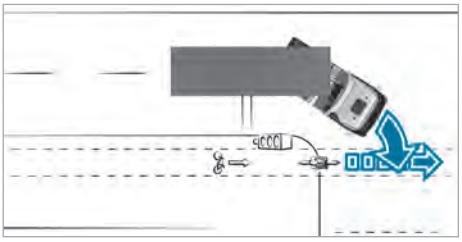
The indicator lamps are shown in the Assistance menu of the instrument cluster.

Warning when turning right



There is a moving object in the monitoring range of Sideguard Assist. The yellow warning lamp in the A-pillar lights up.

In addition, the indicator lamp lights up yellow in the Assistance menu of the instrument cluster.



There is a moving object in the monitoring range of Sideguard Assist. Sideguard Assist recognises when you steer or indicate to the right and set the vehicle in motion. There is a risk of collision. The red warning lamp in the A-pillar flashes for approximately two seconds. A warning tone will also sound. The red warning lamp in the A-pillar then lights up continuously while there is a risk of collision.

In addition, the indicator lamp lights up red in the Assistance menu of the instrument cluster.

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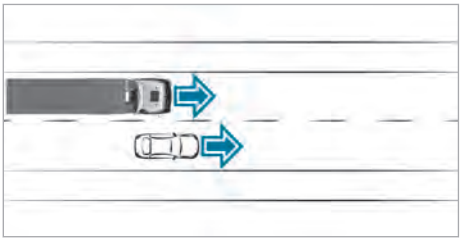
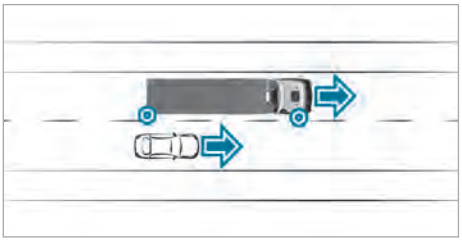
Warning when changing lanes



There is a moving object in the monitoring range of Sideguard Assist. The yellow warning lamp in the A-pillar lights up.

In addition, the ▲ indicator lamp lights up yellow in the Assistance menu of the instrument cluster.



When changing lane, a moving object is located in the danger zone. There is a risk of collision. If you indicate or steer to the right, the red warning lamp in the A-pillar flashes for approximately two seconds. A warning tone will also sound. The red warning lamp in the A-pillar then lights up continuously while there is a risk of collision.

In addition, the ▲ indicator lamp lights up red in the Assistance menu of the instrument cluster.

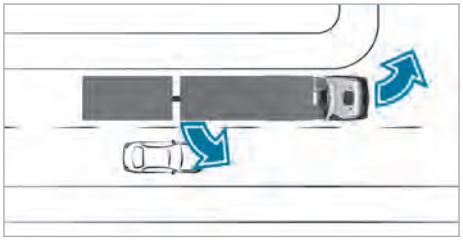
Warning for stationary obstacles when turning right

Sideguard Assist warns you about stationary obstacles in the towing vehicle's range of movement up to a maximum speed of 35 km/h.

If there is a risk of collision with a stationary obstacle when turning right, the red warning lamp in the A-pillar flashes for approximately two seconds. A warning tone will also sound. The red warning lamp in the A-pillar then lights up continuously while there is a risk of collision.

In addition, the ▲ indicator lamp lights up red in the Assistance menu of the instrument cluster.

Warning for stationary and moving objects when turning left



On vehicles with a rear overhang larger than 1.5 m, Sideguard Assist warns you about stationary and moving obstacles in the towing vehicle's range of movement up to a maximum speed of 36 km/h.

If there is a risk of collision with a stationary or moving obstacle due to the rear of the vehicle swinging out when turning left, the red warning lamp in the A-pillar flashes for approximately two seconds. A warning tone will also sound. The red warning lamp in the A-pillar then lights up continuously while there is a risk of collision.

In addition, the ▲ indicator lamp lights up red in the Assistance menu of the instrument cluster.

Deactivating Sideguard Assist

Sideguard Assist is automatically activated when the ignition is switched on.

- ▶ Select Sideguard Assist in the multimedia system under menu item Settings, Assistance systems in the Controls menu.
- ▶ Deactivate Sideguard Assist.
  The grey indicator lamp lights up in the Assistance menu window of the instrument cluster.

When Sideguard Assist is activated, trailer monitoring of Sideguard Assist can also be switched on/off in the multimedia system.

- ▶ Select Sideguard Assist on the multimedia system under menu item Settings, Assistance in the Controls menu.
- ▶ Switch trailer monitoring on/off.
  The setting is stored until the next time the trailer/semitrailer is changed.

Trailer Stability Assist

Function of Trailer Stability Assist

The Trailer Stability Assist function serves to prevent driving situations in which the tractor/trailer

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combination threatens to jackknife as a result of the trailer/semitrailer running on.

Such driving situations can occur in the following situations, for example:

- when driving on a bend in overrun mode
- when driving on a bend on a slippery roadway
- when the continuous brake is active

To prevent critical situations, Trailer Stability Assist stabilises the tractor/trailer combination through brief brake applications at the trailer/semitrailer.

A brake application by Trailer Stability Assist is shown to the driver by a flashing symbol in the instrument cluster.

Trailer Stability Assist is deactivated automatically if the temperature of the trailer brake is too high.

If the system is deactivated automatically, the indicator lamp in the button flashes and a corresponding event window is shown in the instrument cluster.

Switching TSA on/off

TSA button on the electric parking brake lever (example)

▶ **To switch on/off:** press the button. The function is switched on when the indicator lamp in the button is lit.

Active Drive Assist

Notes on Active Drive Assist

Active Drive Assist is only an aid. You are responsible for the distance to the vehicle in front, for vehicle speed, steering and for braking in good time.

You should always adapt your driving style to suit prevailing road and weather conditions and drive carefully.

For vehicles operated in Ukraine: also observe the information on "Radar sensor system radio type approval" (→ page 12).

Active Drive Assist (ADA) is designed to support drivers of long-distance vehicles with their longitudinal and lateral distance control duties.

For this purpose, ADA has comfort functions and includes the following systems:

- Distance control assistant
- Lane Keeping (LK)
- Lane Departure Protection (LDP)

ⓘ It is only possible to use Active Drive Assist when the distance control assistant is activated (→ page 238).

Longitudinal distance control function

The longitudinal distance control function of Active Drive Assist is taken over by the distance control assistant.

Read the notes on the distance control assistant (→ page 238).

Lateral distance control function

For the Active Drive Assist lateral distance control function, the standard Lane Keeping Assist has been supplemented with several functions.

For one, it includes a comfort function which assists the driver in keeping the vehicle between the lane markings (Lane Keeping).

The second function warns the driver acoustically in the event the lane is left unintentionally and guides the vehicle back into the lane with a steering intervention (Lane Departure Protection).

System limits

Active Drive Assist has been developed for journeys on motorways and high-speed major roads. When driving through roadworks, on country roads or in urban traffic, Active Drive Assist may be limited or unavailable. It is recommended to deactivate the system in these situations.

⚠ **WARNING** Risk of accident despite Active Drive Assist

Active Drive Assist cannot always clearly detect lane markings.

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In such cases, Active Drive Assist might:

- give an unnecessary warning
- not give a warning

▶ Always pay particular attention to the traffic situation and keep within the lane, especially if Active Drive Assist alerts you.

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, e.g. from oncoming traffic, direct sunlight or reflections (e.g. if the carriageway is wet).
- 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, e.g. due to a faulty windscreen wiper or a sticker.
- if no or several, unclear lane markings are present for one lane, e.g. near roadworks.
- if the lane markings are worn, dark or covered, for example by dirt or snow.
- if the distance to the vehicle in front is too small and the lane markings thus cannot be detected, e.g. due to a vehicle pulling into your lane.
- if the lane markings change quickly, e.g. lanes branch off, cross one another or merge.
- the road is narrow and winding.
- if there are highly variable shade conditions on the road surface.
- if attachments, e.g. a snow plough, restrict the camera's view of the road lane markings.
- if the radar sensors are dirty or covered.
- after a significant change in load with the ignition switched on. Therefore, restart the engine after a major change in load so that Active Drive Assist is available without limitation.

Keep the windscreen in the area of the camera free of dirt, snow or ice. Use the windscreen wipers or clean the windscreen by hand if required. Please note the sections "Notes on cleaning the vehicle exterior" (→ page 315) and "Cleaning sensors" (→ page 318).

Function of Lane Keeping (LK)

Continuous lane guidance is carried out by the Lane Keeping function.

The driver is then supported in keeping the vehicle between the lane markings through additional, small steering interventions.

Camera and radar signals are used to control this.

⚠ **WARNING** Risk of accident due to unexpected steering interventions by Active Drive Assist

A malfunction in the detection of lane markings and objects can occur.

This could cause unexpected steering interventions.

▶ Steer according to the traffic situation.

Driving with Lane Keeping

With the activation of the distance control assistant (→ page 239) the Lane Keeping function is activated automatically. The system is in passive mode. This is shown to the driver by the grey status display in the instrument cluster.

When the conditions for active steering are met, the system changes to active mode. This is shown to the driver by the blue status display in the instrument cluster.

The Lane Keeping function now assists the driver in keeping the vehicle in the middle of the detected lane with tangible steering interventions.

The driver has, at all times, the possibility of overriding the LK steering interventions by actively steering. With slight steering corrections by the driver, the function remains active. Abrupt corrective steering, e.g. in the event of swerving manoeuvres, is detected by the system. The system then switches to passive mode. This is signalled to the driver through a warning tone and the red Take control of steering immediately event window in the instrument cluster.

⚠ **WARNING** Risk of accident if Active Drive Assist unexpectedly stops functioning

If the system limits of Active Drive Assist are reached, there is no guarantee that the system will remain active or will keep the vehicle in lane.

▶ Always keep your hands on the steering wheel and observe the traffic carefully.

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▶ Always steer the vehicle paying attention to the traffic situation.

If, when driving with the Lane Keeping function activated, the conditions for active steering by the function are no longer fulfilled, for example if no lane markings are detected or present, the system changes to passive mode automatically. This is signalled to the driver by means of a warning tone and a red event window in the instrument cluster. When the conditions are met again, the system changes back to active mode automatically.

Status display

The driver is shown the current status of the system by the indicator lamp in the instrument cluster.

Example: Lane Keeping status display

Status display ① differentiates between the following system statuses:

- No display - function switched off
- Flashing grey - the system is malfunctioning. The function has been deactivated automatically.
  - If the problem continues after an ignition cycle, have the system checked at a qualified specialist workshop.
- Lit up grey - the function is switched on but passive
  - No lane markings detected
  - Lane too narrow or too wide
  - Bend too tight
  - Change of lane detected
  - Turn signal indicator operated
  - Driver intervention detected
  - Function deactivated due to driver inactivity
- Lit up blue - the function is switched on and active

Active Drive Assist is deactivated automatically if it malfunctions. The instrument cluster then displays the red event window Take control of steering immediately.

Hands On

The function requires that the driver always has their hands on the steering wheel so that they can correct the course or intervene to correct the lane at any time.

If the driver is inactive for a period of 15 seconds, a yellow event window with the warning symbol is shown in the instrument cluster.

After 30 seconds of inactivity, a red event window with the warning symbol is shown and a warning tone sounds which increases in intensity with time.

After 60 seconds of inactivity, an aggressive warning tone sounds and the Lane Keeping function changes to passive mode. The status display in the instrument cluster is then shown in grey.

The warning tone sounds until the driver puts their hands back on the steering wheel (at least five seconds).

If Lane Keeping function is switched to passive three times within one ignition cycle due to driver inactivity, it is deactivated. The instrument cluster then shows the yellow Highway-Pilot unavailable event window. If you scroll down using the steering wheel buttons, the Observe notes on taking control of steering Act. Drive Assist deact. for ignition sequence text is displayed.

If none of the described visual or acoustic warnings are issued despite the driver remaining inactive, the system must be checked at a qualified specialist workshop. In this case, pay particular attention and keep your hands on the steering wheel at all times.

Driver intervention

System steering interventions can always be overridden by the driver.

In the event of abrupt steering interventions by the driver, e.g. swerving manoeuvres or operating the turn signal indicator, the function switches to passive mode for a brief period.

Setting the target lane position

The driver has the option of moving the target lane position, to which the system steers the vehicle, by 5% of the lane width from the centre of the lane to the left or right.

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To change the setting, the button on the left button group on the multifunction steering wheel must be pressed until the Distance / lane position menu is shown in the instrument cluster.

Move the target lane position to the left or right using the steering wheel buttons. The target lane position set is shown on the instrument cluster.

Example: Distance/lane position menu

ⓘ When the ignition is switched off any displacement to the left or right of the target lane position is automatically reset to the centre of the lane (basic setting).

Deactivating/activating Lane Keeping

ⓘ The function can only be activated when the distance control assistant is activated (→ page 238).

ⓘ The Lane Keeping function is activated automatically after switching on the ignition.

The function can be deactivated/activated in the multimedia system in the Controls menu, under the Switch menu item by pressing the button.

The function is switched on when the indicator lamp in the button is lit.

Lane Departure Protection (LDP)

The Lane Departure Protection function is based on Lane Keeping Assist (→ page 251).

Lane Keeping Assist warns the driver if the lane is left unintentionally (driving across the lane markings) with an acoustic signal.

If the LDP function does not detect driver intervention after the beginning of the acoustic warning and the vehicle continues to move to the edge of a lane, LDP initiates a steering intervention which steers the vehicle back into the lane.

⚠ **WARNING** Risk of accident despite Lane Keeping Assist warning

A lane-correcting steering intervention cannot always bring the vehicle back into the original lane.

▶ Always steer yourself, especially if Lane Keeping Assist warns you or Active Drive Assist steers to correct the lane.

The acoustic warning and the detection of the lane markings are basic requirements for an active steering intervention.

After each LDP steering intervention, the Lane Keeping function remains deactivated for ten seconds. The driver must actively take over the lane guidance of the vehicle.

If several LDP steering interventions are carried out within a short time, the period of the acoustic warning extends each time.

The function is operational from a speed of approximately 60 km/h.

Status display

Select the Assistance menu in the instrument cluster.

The lane markings in the instrument cluster show the status of lateral distance control in colour:

- Grey: the LDP function is deactivated or activated but not ready to issue warnings on the affected side of the vehicle.
- White: the LDP function is activated and ready to issue warnings on the affected side of the vehicle.

  The Lane Keeping function is not active.
- Blue: lateral distance control is activated and ready to issue warnings on the affected side of the vehicle.

  The Lane Keeping function is active.
- Red: the LDW/LDP function is active and issues warnings on the affected side of the vehicle.

  Acoustic warning and/or active steering intervention by the system

Activating/deactivating Lane Departure Protection

When the ignition is switched on, LDP is activated automatically.

By pressing the button on the instrument panel, the function can be deactivated together with Lane Keeping Assist (→ page 251).

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The function is deactivated when the indicator lamp in the button is lit.

The instrument cluster then shows the lane markings in grey.

Level control system

Notes on the level control system

WARNING Risk of accident due to lowered or raised chassis

Driving with a lowered or raised chassis may greatly impair braking and handling characteristics. You may also exceed the permissible vehicle height when the chassis is raised.

▶ Set the driving level before pulling away.

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 yellow 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 event window.

When loading/unloading the vehicle with the ignition switched off, observe the information in the "Loading and unloading the vehicle when the ignition is switched off" section (→ page 263).

Vehicles with 8x4/4 or 8x2/4 axle configurations with air-sprung rear axle: when operating the vehicle without add-on equipment, make sure that the chassis frame is always fully raised. Otherwise, you could damage the air suspension bellows on the rear axle. Further information on 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 frame. Driving with a lowered chassis frame increases wear and tear on the vehicle and reduces driving comfort.

The level control system can be operated when the vehicle is stationary or when the vehicle is travelling at a speed of up to approximately 30 km/h.

Depending on the vehicle equipment there are the following options for operation of the level control system:

- the control panel on the driver's seat
- the external control panel on the vehicle body
- the Truck app (→ page 103)
- the buttons on the instrument panel
- the multimedia system

Switching the level control system operating unit on/off

When securing the control panel in the holder or behind the driver's seat, observe the following points:

- Do not trap the connecting cable in the driver's door.
- Do not trap the connecting cable on the driver's seat.

Example: control panel for fully air-sprung vehicles

1. Preselection to raise or lower the front axle
2. Preselection to raise or lower the entire vehicle
3. Preselection to set the driving level
4. Preselection to raise or lower the rear axle

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5 Buttons

▶ To activate the control panel, make a preselection for the front axle, rear axle, entire vehicle or driving level

◀ To activate the control panel, make a preselection for the front axle, rear axle, entire vehicle or driving level

▼ To activate the control panel, lower the chassis, set the driving level

▲ To activate the control panel, raise the chassis, set the driving level

STOP To activate the control panel, end raising or lowering operation

M1 M2 Press button briefly: to call up memory position M1 or M2 for chassis height
Press and hold button: to store memory position M1 or M2 for chassis height

▶ Apply the parking brake.

▶ Switch on the ignition.
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 engine running.
The compressed-air system is charged.

▶ Take the control panel out of the holder.

Activating the control panel

▶ Control panel on the outside of the driver's seat: briefly press the ▶, ◀, ▼, ▲ or STOP button.

or

▶ External control panel on the vehicle body: press the STOP button for approximately two seconds.

ⓘ The external control panel on the vehicle body can be activated and deactivated even if the key has been removed.

Deactivating the control panel

▶ External control panel on the vehicle body: press the STOP button again for approximately two seconds.

or

▶ External control panel on the vehicle body and on the outside of the driver's seat: wait approximately 60 seconds; do not press a button.

or

▶ Drive at a speed above approximately 30 km/h.
The control panel is automatically deactivated.

Raising or lowering the chassis with the control panel

⚠ **WARNING** Risk of entrapment from vehicle lowering

When lowering the vehicle, other people could 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 the vehicle is being lowered.

▶ Press the ▶ or ◀ button to select front axle 1, entire vehicle 2 or rear axle 4.
The LEDs for the selected preselection light up.

▶ Press the ▼ button to lower the chassis or the ▲ button to raise it.
If the chassis is not at driving level, the indicator lamp in the instrument cluster lights up. In addition, the on-board computer shows a yellow event window with ▲ or ▼ and Set driving level..

▶ Press the STOP button to interrupt/end the raising or lowering operation.

Storing/calling up the chassis height

▶ Select the Level control menu item in the multimedia system under the Controls menu.

Storing

▶ Raise/lower the chassis to the desired height.

▶ Press the M1 M2 button on the multimedia system for approximately two seconds for memory preset M1 or M2.
The current chassis height is stored under the corresponding M1 M2 button.

Calling up

▶ Briefly press the M1 M2 button for memory position M1 or M2.
The chassis will be raised/lowered automatically to the stored height. The instrument

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cluster shows an event window with [ ] or [ ] and Set driving level..

▶ Press the (STOP) button to interrupt/end the raising or lowering operation.

Setting the driving level

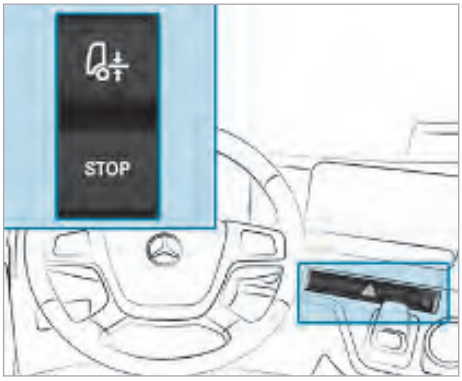
Using the control panel

▶ Press the [▸] or [◂] button to select driving level preselection (3).
The LEDs for driving level preselection (3) light up.

▶ Press the [▾] or [▴] button briefly.
The chassis will automatically be raised or lowered to the driving level. When the chassis is at driving level, the [ ] indicator lamp in the instrument cluster goes out.

▶ Press the (STOP) 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 is at driving level, the [ ] indicator lamp in the instrument cluster goes out.

▶ Press the [STOP] button to interrupt/end the raising or lowering operation.

Loading/unloading the vehicle when the ignition is switched off

! NOTE Shock absorber damage through spring action of the chassis frame

When swap bodies are removed, the shock absorbers could be damaged as a result of the sudden spring action of the chassis frame.

▶ Fully lower the chassis frame before removing swap bodies.

Store a constant chassis height for loading and unloading the vehicle.

▶ Vehicles with a trailing axle: lower the trailing axle (→ page 266).

▶ If required, raise/lower the chassis to the desired height.

▶ Run the engine until the pressure regulator cuts out.

▶ Press and hold the (STOP) button on the control panel.

or

▶ Press and hold the [STOP] button on the instrument panel.

▶ Switch off the engine.

▶ Vehicles with a mechanical ignition lock: remove the key from the ignition lock.

▶ Release the (STOP) button on the control panel.

or

▶ Release the [STOP] 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 the chassis being at an improper height

The vehicle may be damaged in the following situations:

- you start work before the chassis has been fully lowered
- you raise the chassis to driving level before work has finished

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▶ Select the vehicle level as required and wait until the chassis has reached the selected level.

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.

If you disengage power take-off, the vehicle remains lowered until you select a level.

Residual air bellow pressure regulation

Depending on the equipment, it is possible to readjust the residual air bellow pressure.

Vehicles with residual air bellow pressure readjustment: if residual air bellow pressure regulation is active, the air suspension pressure on each axle is constantly monitored and, if necessary, increased/decreased until it matches a parametrised value.

Vehicles without residual air bellow pressure readjustment: the air suspension pressure on the front axle is reduced until it matches a parametrised 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.

Automatic deactivation of the special functions

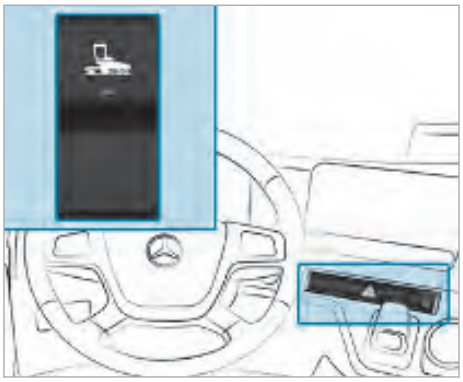
Special functions are deactivated in the following cases:

- The ignition is switched off.
- The STOP button on the operating unit is pressed.
- The STOP button on the instrument panel is pressed.
- The button on the instrument panel is pressed.

ⓘ If the ignition is switched on again after an automatic deactivation, the special functions will remain deactivated. A special function must, if necessary, be activated manually. Observe the body manufacturer's operating instructions when doing this.

Using road paver mode

Activating



In road paver mode, the level control system permanently regulates the driving level, regardless of operating conditions. This enables the level relative to the road paver mode to be maintained and forced lowering is deactivated.

ⓘ Observe the notes on road paver mode (→ page 269).

▶ Press the upper part of the button. The indicator lamp in the button flashes and the function is preselected.

▶ Engage power take-off (→ page 307). The symbol and an event message appear in the display. The function is activated when the indicator lamp in the button is lit.

Deactivating

▶ Press the STOP button on the control panel.

or

▶ Press the STOP button on the instrument panel.

or

▶ Increase vehicle speed to more than 10 km/h.

or

▶ Switch the ignition off. The message in the display and the indicator lamp in the button go out.

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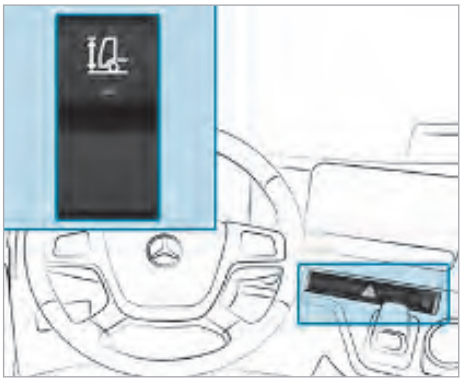
Using raised vehicle level (vehicles for transportation of bulk cargo)

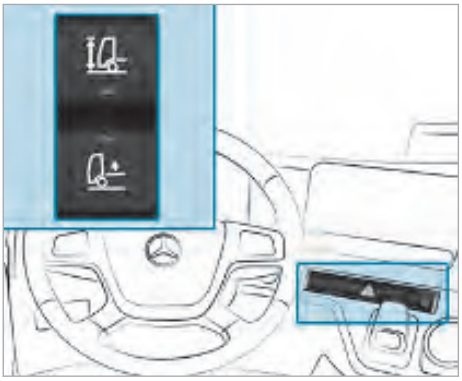


Raise the chassis while driving for improved ride comfort.

- **To raise the chassis to the raised driving level:** press the upper section of the button.
  The indicator lamp in the button and the indicator lamp in the instrument cluster light up.
- **To lower the chassis to the normal driving level:** press the upper section of the 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 shunting level



Example: raised driving level and shunting level button

At shunting level, it is possible to move the vehicle slowly when not at driving level. If the vehicle is at shunting level, the front and rear axles are raised above driving level. The rear axle is raised higher than the front axle.

ⓘ On car transporters, the rear axle is raised higher than the front axle. This is to prevent the car transporter from bottoming out to avoid damage.

The on-board computer shows a yellow event window if the speed is too fast at shunting level.

- Stop the vehicle.

or

- Drive at walking pace.
- **To activate shunting level:** press the lower section of the raised driving level and shunting level button (example).
  The indicator lamp in the button and the indicator lamp in the instrument cluster light up.

  In addition, the on-board computer displays the Shunting level active event window. The chassis lowers or rises to the shunting level.
- **To deactivate shunting level:** press the lower section of the button again.
  The indicator lamp in the button and the event window in the on-board computer go out. The chassis lowers or rises to driving level.

  When the chassis is lowered to the normal driving level, the indicator lamp in the instrument cluster goes out.

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Shunting level is deactivated automatically in the following cases:

- The chassis is lowered or raised manually.
- Raised or normal driving level is set.
- The STOP button on the control panel or the STOP button on the instrument panel is pressed.

Additional axles

Notes about starting-off aid

NOTE Damage to tyres and axles due to long use of the starting-off aid

The starting-off aid is only intended for short-term use when wheels are spinning on slippery road surfaces.

When the starting-off aid is switched on, the axle load of the rear axle increases.

Prolonged use can 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 the starting-off aid on/off

▶ **To switch on the starting-off aid:** in the Controls menu of the multimedia system, select the Switch menu item.

▶ Press the button in the multimedia system.
As long as the starting-off aid is switched on, the indicator lamp in the status area lights up yellow.

ⓘ If the starting-off aid has no time limit, stop the starting-off aid manually after a short time.

▶ **To stop the starting-off aid manually:** press the button again.

or

▶ Press the STOP button on the operating unit of the level control system (→ page 261).

Raising/lowering leading/trailing axles

ENVIRONMENTAL NOTE Reduction of rolling resistance by raising the leading/trailing axle

When the leading/trailing axle is raised, the rolling resistance is reduced.

▶ This reduces tyre wear and fuel consumption.

ⓘ 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 227) and on the vehicle identification plate (→ page 384).

In vehicles for large capacity transport, the trailing axle can only have its load reduce, it cannot be raised.

Vehicles with steerable 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 co-steer again.

▶ Switch on the ignition.

▶ If the supply pressure in the compressed-air system is too low, leave the engine running.

▶ If the vehicle is empty or only partially laden, raise the leading/trailing axle before pulling away.

▶ Vehicles with rear loading crane body: before raising the leading/trailing axle, refer to the operating manual of the body manufacturer.

▶ When loading or unloading the vehicle, lower the leading/trailing axle.

▶ **Raise/lower:** in the Controls menu of the multimedia system, Switch menu item, press the button.
When the leading/trailing axle is raised, the indicator lamp (trailing axle) or (leading axle) in the status area lights up yellow.

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Vehicles with four air-sprung axles: the trailing axle is lowered automatically when the parking brake is applied. This increases the braking effect. The yellow indicator lamp [Ⓟ] in the instrument cluster flashes for the short duration of the lowering.

If the trailing axle does not lower, the yellow indicator lamp [Ⓟ] flashes continuously when the ignition is switched on. After the key is removed from the ignition lock, the yellow indicator lamp [Ⓟ] flashes for another ten minutes and then goes out.

If the trailing axle does not lower, secure the vehicle specially against rolling away and have it checked immediately at a qualified specialist workshop.

Using steerable additional axle

To centre manually

NOTE Damage to tyres in vehicles with a steerable additional axle

If vehicles with a steerable additional axle are manoeuvred along kerbs or through narrow entrances, there is a risk that the tyres will be damaged.

▶ Centre the steering of the additional axle in these cases.

The electro-hydraulically controlled additional axle steers during forward and reverse driving in accordance with the steering movement. Co-steering reduces tyre wear. A steerable trailing axle additionally reduces the turning circle of the vehicle.

In extreme driving conditions, e.g. when braking hard on a slippery or uneven carriageway, the steerable additional axle may deactivate itself. It will then only steer passively. After the engine is restarted, the steering function of the additional axle will be automatically reactivated.

▶ Start the engine.

▶ In the multimedia system, in the Controls menu, under the Switch menu item, press the [⊢⊣] button.
The steering of the additional axle is centred. The wheels of the additional axle steer in a straight-ahead position.

When the indicator lamp [⊢⊣] in the instrument cluster lights up, the additional axle is centred.

To release the steering function

▶ Press the [⊢⊣] button again.
When the indicator lamp [⊢⊣] in the instrument cluster lights up, the steering function of the additional axle is activated. The additional axle co-steers again.

If the steerable additional axle is malfunctioning or no longer co-steers, the instrument cluster displays a corresponding event message and the indicator lamp [⊛!] in the instrument cluster lights up.

If the indicator lamp [⊢⊣] lights up grey in the instrument cluster, the steering angle disparity between the wheels of the front axle on full lock and the steerable additional axle is too large. For example, the vehicle was 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 steerable additional axle is picked up by turning the steering wheel. The additional axle co-steers again. The [⊢⊣] indicator lamp in the instrument cluster goes out.

or

▶ Pull away slowly.
The additional axle co-steers again. The [⊢⊣] indicator lamp in the instrument cluster goes out.

Driving tips

General driving tips

WARNING Risk of accident due to switching off the ignition when driving

If you switch off the ignition when driving, safety functions are restricted or no longer available. This can affect the power steering and brake boosting effect, for example.

You will then need to apply significantly more force when steering and braking.

▶ Do not switch off the ignition while driving.

WARNING Risk of accident on uphill and downhill gradients

On uphill and downhill gradients, the parking brake might not be sufficient to secure the vehicle.

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A vehicle with trailer/semitrailer or a loaded vehicle can roll away.

- In the check position, check whether the parking brake alone is sufficient to hold the complete vehicle.
- Always secure the towing vehicle and trailer/semitrailer with the parking brake and additionally with wheel chocks.

WARNING Risk of an accident due to an uneven load

If you load the vehicle unevenly, driving characteristics such as steering and braking behaviour may be severely impaired.

- Load the vehicle evenly.
- Secure the load so that it cannot slip.

The vehicle's driving, braking and steering characteristics vary with the type, weight and centre of gravity of the load.

Using an underride guard

DANGER Risk of fatal injuries due to underride guard being folded up while the vehicle is in motion

If the underride guard is folded up, a vehicle could become trapped underneath the chassis in the event of a rear-end collision.

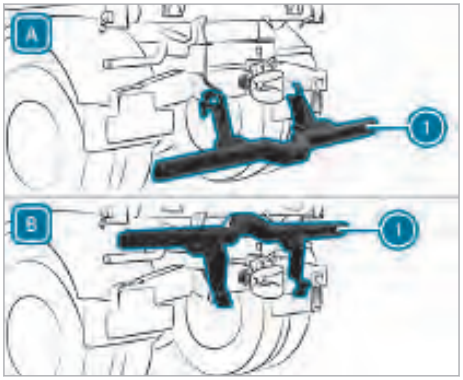
There is a risk of fatal injury for the occupants of the vehicle colliding from behind.

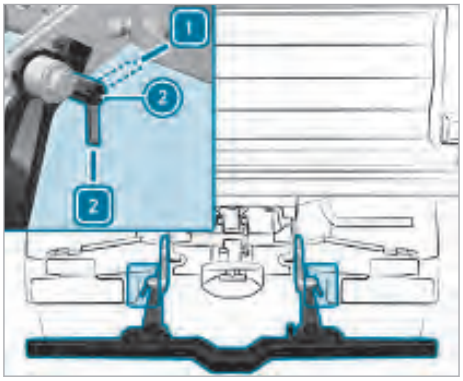
- Fold the underride guard down and lock it in place when driving on public roads.

If a higher angle of approach/departure is required during off-road driving:

- Fold up the underride guard.

Folding underride guard – tipper with steel suspension





A Road position

B Off-road position / road paver operation position

- Hold the underride guard ① in place.
- Swing both levers ② to 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 to position 1 and release the underride guard ①. The underride guard ① will be locked.

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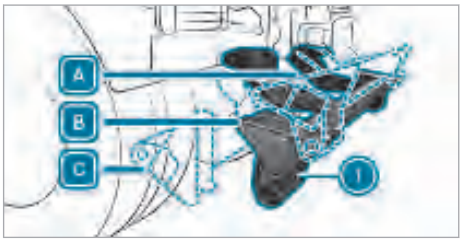
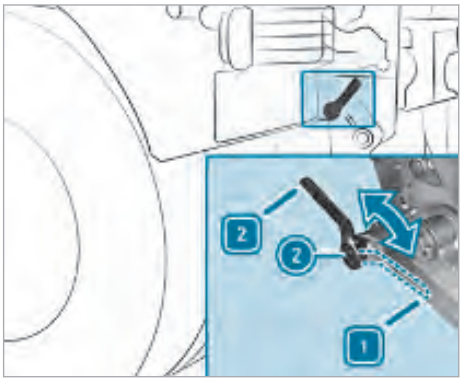
Folding underride guard – tipper with air suspension





Example: lever, left-hand side of the vehicle

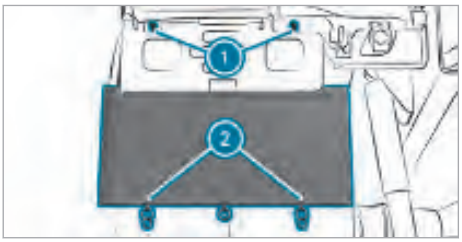
[A] Off-road position
[B] Road position
[C] Road paver operation position

- ▶ Hold the underride guard (1) in place.
- ▶ Swing both levers (2) to 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) to position [1] and release the underride guard (1).
  The underride guard (1) will be locked.

ⓘ If you swing the underride guard (1) into the road paver operation position [C], leave both levers (2) in position [2].

Road paver mode

Preparing road paver mode

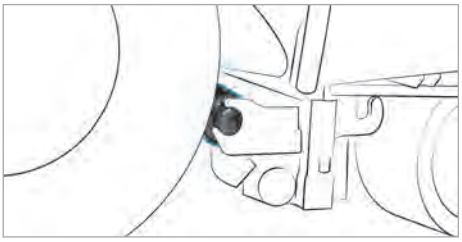


Example: mud flap, left-hand side of vehicle

- ▶ Set the underride guard to the road paver operation position.
- ▶ Swing both mud flaps (2) up over the licence plate bracket.
- ▶ Attach the rings of mud flaps (2) to hooks (1) on the licence plate bracket.

Notes on road paver mode

Tipper with steel suspension



Tipper with steel suspension in road paver mode (overrun mode)

In road paver mode, the roller of the road paver presses against the tyres. This causes the vehicle to be pushed forwards at the speed of the road finishing machine. Do not use the parking brake in overrun mode and only perform slight adaptive braking with the service brake.

Tipper with air suspension

⚠ **WARNING** Risk of being trapped between tyres and underride guard

When the underride guard is pressed against the tyres, persons could become trapped between the tyres and the underride guard.

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▶ Make sure that there is no-one in the area between the tyres and the underride guard.

NOTE Damage as a result of an engaged underride guard in road paver mode

The underride guard be able to swing freely during road paver operation to avoid damage to the vehicle frame and underride guard.

▶ Release 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 system to road paver mode (→ page 264).

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 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 261).

Driving off-road

Notes on driving off-road

WARNING Risk of injury due to accelerating force during off-road driving

When driving off-road on uneven surfaces, the force of the vehicle's acceleration affects your body from all directions.

You could, for example, be thrown from your seat.

▶ Always wear a seat belt when driving off-road.

WARNING Risk of fire due to flammable materials on 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 on unpaved roads or off-road, regularly check the vehicle underside.

▶ Remove trapped plants or other flammable material, in particular.

▶ If there is damage, consult a qualified specialist workshop immediately.

WARNING Risk of skidding when ABS is deactivated

If ABS is deactivated, the wheels may lock when braked.

As a result, the vehicle can no longer be steered.

▶ Always leave ABS on when driving on roads and firm surfaces.

When driving off-road, substances such as dirt, sand, mud and water or water mixed with oil may get into the brakes. This may lead to a reduction in braking effect or total brake failure, also as a result of increased wear. The braking characteristics will vary depending on the material that has got into the system. 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 specialist workshop. Adjust your driving style to the changed braking characteristics.

Driving off-road demands special driving skills and concentration. Furthermore, the driver must take special care when driving off-road and before driving on-road again. Please make sure you read this section thoroughly before attempting to drive the vehicle off-road. You will then understand the particular advantages your vehicle offers to enable you to always reach your destination safely. Mercedes-Benz recommends that you practice driving off-road in less demanding terrain. When driving on difficult terrain for the

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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 safely drive off-road:

- ABS deactivation (→ page 206)
- Differential locks (→ page 229)
- Transfer case (→ page 232)

Checklist before driving off-road

▶ Check the fuel and AdBlue® levels and top up if necessary (→ page 280).

▶ **Engine:** check the oil level and top up with oil if necessary (→ page 326). Before driving up or down extreme inclines or slopes, fill the oil to the maximum level.

ⓘ If you drive up or down extreme inclines or slopes, the on-board computer may display the [symbol] symbol. 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 the oil (→ page 327).

ⓘ Before driving up or down extreme inclines or slopes, fill the oil to the maximum level.

▶ **Vehicle tool kit:** check that the jack is working (→ page 337).

▶ Make sure that a wheel wrench, wooden underlay for the jack, a robust tow rope and a folding spade are carried in the vehicle.

▶ **Wheels and tyres:** check the tyre tread depth (→ page 373) and tyre pressure (→ page 375).

▶ **Driver's seat:** block the horizontal springing.

▶ **Mud flaps:** fold the mud flaps forward and attach them.

▶ **Folding underride guard:** fold the underride guard to the off-road position (→ page 268).

Rules for off-road driving

⚠ **WARNING** Risk of injury to the hands when driving over obstacles

If you drive over obstacles or in tyre ruts, the steering wheel may whip around and cause injuries to the hands.

▶ Steering wheel must always be held securely with both hands.

▶ When driving over obstacles, expect increased steering forces at short notice.

⚠ **WARNING** Risk of accident with differential lock engaged

If you switch on the automatic drive program when driving off-road or with the differential lock engaged, the electronic management system may intervene when this is undesired.

Due to the interruption in the tractive power, the vehicle can roll back on uphill gradients, for example.

▶ Always drive carefully and be ready to brake.

▶ Switch to the manual drive program in particularly demanding driving situations.

On gradients and inclines, always follow the line of fall and avoid changing gear. Drive up gradients without stopping until you are at the top of the hill. If your vehicle is unable to cope with the gradient, stop. Shift into reverse gear and allow the vehicle to slowly roll backwards.

Vehicles with an automated manual transmission: 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 idling speed (→ page 218). In particularly difficult driving conditions, switch to the manual drive program. This enables you to initiate the gear selection process manually, according to the driving conditions, and to avoid interruptions in the tractive power.

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 vehicle frame set to driving level (→ page 263). Raise the chassis frame only when necessary and always for a short time only, e.g. to drive over a steep hilltop. When you raise the vehicle frame, traction is impaired.

Also observe the following points:

- securely stow away all loose objects
- securely fasten the load

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- 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
- vehicles with automated manual transmission: select the **offroad** shift program or activate the manual drive program (→ page 216).
- deactivate Stability Control Assist (→ page 229).
- deactivate ABS (→ page 205).
- engage the differential lock if the traction is insufficient (→ page 229).
- vehicles with automated manual transmission: activate the rocking-free function to rock the vehicle free from a deep rut.
- always keep the engine running and in gear while driving
- 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 over unknown terrain where you can only see for a short distance. As a precaution, get out of the vehicle to take a look at the route to be taken first
- 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 inclines

⚠ **WARNING** Risk of accident if you do not keep to line of fall on inclines

If you drive at an angle or turn on an incline, the vehicle could slip sideways, tip and roll-over.

▶ Always drive on inclines in the line of fall (straight up or down) and do not turn.

ⓘ Do not shift the transmission into neutral on downhill gradients.

▶ If the vehicle is being driven up or down a slope and it begins to tilt, steer the vehicle into the line of the 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.

▶ Slowly depress the brake pedal if the engine's braking effect is insufficient when driving downhill.

Preparing for fording

A vehicle's fording capability depends on, among others, the following factors:

- the type of vehicle
- the frame height of the chassis
- the tyres

The fording depths listed below are only examples and are meant to give an overview. They apply to slow fording at a constant speed between 5 and max. 10 km/h.

If in doubt, or in the case of special-purpose vehicles, consult a Mercedes-Benz Service Centre before a possible fording.

Permissible fording depths for vehicles in road use without all-wheel drive:

- street vehicles with a low vehicle frame and 315/60 R 22.5 tyres, up to max. 200 mm
- construction vehicles with 315/80 R 22.5 tyres from 300 mm up to max. 500 mm
- other street vehicles with 315/80 R 22.5 tyres, up to max. 300 mm
- other street vehicles with oversize tyres, e.g. 12 R 24 or 14 R 20, up to max. 600 mm

Permissible fording depths for fording with all-wheel drive vehicles:

- without fording equipment, with 13 R 22.5 tyres, up to max. 700 mm
- with fording equipment, up to max. 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.

ⓘ 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

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water. As a precaution, have a closer look on foot.

- switch off the auxiliary heating (→ page 112)
- wait for the auxiliary heating run-on phase to end
- activate the regeneration lockout (→ page 276)

Driving through water

▶ Drive into the water at walking pace at a shallow point.

If driving at speed in water, the bow wave can damage car parts.

▶ Adapt your driving style to the unfamiliar environment.

▶ Drive through the water with a constant speed between 5 and max. 10 km/h.

▶ Do not declutch, change gear or stop while driving.

ⓘ Pulling away in water is difficult due to the strong resistance and the shallow bottom.

▶ Ensure that no bow wave forms while driving.

▶ Do not switch off the engine while in the water.

▶ If the engine 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 engine running for a few minutes.
The engine compartment is dried.

▶ Switch off the regeneration lockout (→ page 276).

▶ After ending off-road driving, observe the checklist for after off-road driving (→ page 273).

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 tyre ruts.

Checklist after driving off-road

! NOTE Damage due to parts of plants or branches

Parts of plants or branches which have become trapped could damage vehicle components.

The following parts of the vehicle could be damaged:

- fuel lines
- brake hoses
- axle joints
- drive shafts

▶ Remove parts of plants and branches which have become trapped immediately after driving off-road.

▶ Activate ASR (→ page 228) or Stability Control Assist (→ page 229).

▶ Switch on ABS (→ page 206).

▶ Disengage the differential lock (→ page 229).

▶ Vehicles with automated manual transmission: select a drive program for on-road driving (→ page 216).

▶ 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 375).

▶ Check whether parts of plants or branches have become trapped.

▶ Check the entire vehicle underside, brakes, steering, chassis and exhaust system for damage.

▶ Check the engine oil level.

▶ Fold the folding underride guard to the road position (→ page 268).

▶ Fold down the mud flaps.

▶ Observe the notes on cleaning after driving off-road or on construction sites.

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Information on cleaning after driving off-road or on construction sites

Observe the notes on cleaning the exterior (→ page 315) and notes on use of a high-pressure cleaner (→ page 314).

Foreign bodies that have become trapped can be expelled during the journey, e.g. stones in the tyre tread or between the wheels (twin tyres). This could cause other road users to be injured or vehicles, especially the windscreens, to be damaged.

Check the tyres for foreign bodies that have become trapped after every journey off-road or on a construction site and before journeys on public roads. Remove any trapped foreign bodies. Dirt and mud on the tyres and on the road surface reduce road adhesion, particularly if the road surface is wet. This could cause your vehicle to start to skid. Always clean your vehicle carefully after every journey off-road or on a construction site 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, brakepads, wheels and axle joints and check them for damage.
- lubricate the axle joints.
- test the brakes while paying attention to the road and traffic conditions.

Economical and environmentally-aware driving

Fuel consumption depends on the following factors:

- the vehicle version
- the operating conditions
- maintenance
- the fuel type in use
- driving resistance
- your driving style

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 tarpaulin
- drive train, major assemblies and the number of axles
- ratio of the major assemblies, e.g. transmission and axle reduction ratio
- additional assemblies, 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, the regeneration of the diesel particulate filter is carried

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out more frequently than at later stages in the vehicle's operating life as a result of the teach-in process.

Maintenance

The fuel consumption and major assembly wear depend on regular maintenance. Regular maintenance of the vehicle increases road safety and lowers fuel consumption. Keep to the maintenance intervals. Always have maintenance work carried out at a qualified specialist workshop.

Fuel type

The fuel grade also affects fuel consumption. 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 388).

Driving resistance

The principle forms of driving resistance are incline, rolling and aerodynamic resistance. Driving resistance changes depending on, for example, vehicle weight and vehicle speed. Remember that driving resistance increases with vehicle speed.

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 375)
- tyre type, e.g. summer or winter tyres, single or twin tyres
- tyre tread and tyre width, e.g. coarse tyre treads such as those on winter tyres increase fuel consumption
- load distribution, e.g. even load distribution increases not only driving safety, but also tyre life

  Observe the notes on the permissible wheel and axle loads (→ page 227) and the data on the vehicle identification plate (→ page 384).
- road and weather conditions, e.g. wet or soft road surfaces (snow or rain) increase fuel consumption

Aerodynamics

Air turbulence increases aerodynamic resistance and therefore fuel consumption. Air turbulence occurs in particular on additionally installed equipment, e.g. additional headlamps.

Set the wind deflector to the correct height of the add-on equipment/semitrailer (→ page 297).

With open loads, arrange the load so that there are no gaps.

Cover the load with a tarpaulin and lash down all tarpaulins on the tractor/trailer combination securely.

Fuel-saving driving styles

ENVIRONMENTAL NOTE

When the air conditioning system or the automatic climate control is switched on, fuel consumption will increase.

▶ Switch the function on only where necessary.

The ECO support menu item in the Status menu supports you in optimising your driving style and developing a fuel-saving driving style.

You can keep fuel consumption at low levels by adopting the following driving style:

- leave PPC switched on
- do not depress the accelerator when starting the engine
- avoid frequent cold starts
- do not warm up the engine while stationary
- switch off the engine when waiting in stationary traffic
- avoid frequent and heavy acceleration
- avoid adaptive braking by driving with foresight
- drive in an even and considered manner
- use cruise control (→ page 236) and the distance control assistant driving systems (→ page 238).
- maintain an economical engine speed (green area of the rev counter) (→ page 116)
- 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

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Notes on the diesel particulate filter

BlueTec® 6 vehicles are equipped with a diesel particulate filter.

WARNING Risk of fire caused by hot exhaust system parts

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

- Park the vehicle so that no flammable material can come into contact with hot vehicle components.
- In particular, do not park on dry grassland or harvested grain fields.

NOTE Damage due to hot exhaust gases

During automatic and manual regeneration, extremely hot exhaust gases escape from the tailpipe.

- Maintain a distance of at least a metre from other objects, e.g. parked vehicles.

Activate regeneration lockout if regeneration lasts longer than three hours during the journey (→ page 276).

If too many particles collect in the diesel particulate filter, the indicator lamp in the instrument cluster lights up. The on-board computer prompts you via an event window to start manual regeneration (→ page 277). Manual regeneration lasts 30 to maximum 60 minutes.

ⓘ If you drive the vehicle predominantly for short distances or in low-load operation, the regeneration duration may be considerably longer. This increases fuel consumption and can negatively affect the exhaust system functionality.

If you do not observe the event windows and their messages, the engine output may be reduced and it might be necessary to change the diesel particulate filter.

ⓘ When the Engine speed increase message appears in the on-board computer, the "HC-Burn-Off" function reduces hydrocarbon deposits in the catalytic converter.
This is performed at increased engine speeds. You cannot cancel the process when the message appears.
The message disappears automatically when the process is complete.
"HC-Burn-Off" is not a diesel particulate filter regeneration function.

Filter replacement

WARNING Risk of poisoning from soot particles

It is hazardous to health to inhale or touch soot particles.

Have the diesel particulate filter checked at a qualified specialist workshop.

Automatic regeneration

Automatic regeneration of the diesel particulate filter is performed when the green indicator lamp goes on in the instrument cluster.

Automatic regeneration is only performed while driving.

Automatic regeneration only starts when all operating conditions have been met, e.g. sufficiently high engine oil and coolant temperature. If an operating condition is no longer met during regeneration, the indicator lamp goes out and regeneration is cancelled. When all operating conditions are met again, regeneration starts automatically again. Therefore, avoid interrupting the journey when the indicator lamp is lit.

ⓘ The engine noise and the idle speed may change during regeneration.

Activating and deactivating regeneration lockout of the diesel particulate filter

Regeneration can be disabled if the increased exhaust gas temperatures that occur during regeneration are to be avoided.

This is necessary, for example, in the following cases:

- 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 activated, regeneration is deactivated even if the engine is started again. In this case the on-board computer displays the event window Regeneration locked.

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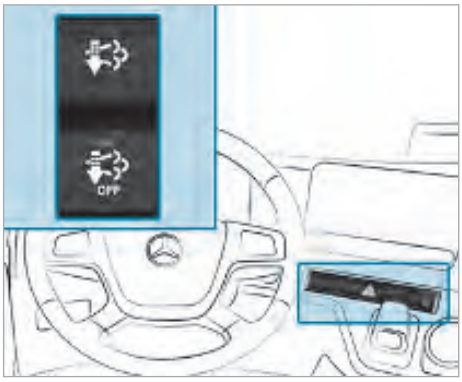
ⓘ Regeneration can be disabled via the multimedia system. Regeneration lockout is only activated or deactivated via the [OFF] button on the instrument panel on vehicles for transporting hazardous materials or with the **fire-sv** shift program.

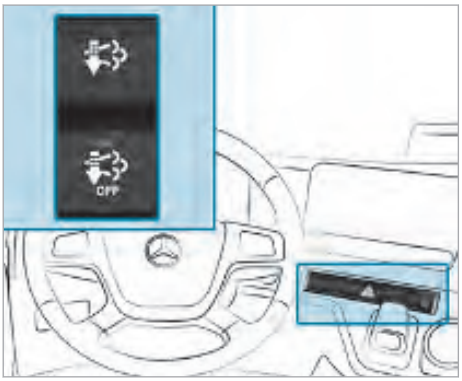
▶ In the multimedia system, in the Controls menu, Switch menu item, press the [OFF] button.
If the indicator lamp on the [OFF] button lights up, regeneration is disabled.



Vehicles with ADR classification or with the fire-sv shift program

▶ **To disable using the button:** press the lower button [OFF] on the instrument panel.
If the indicator lamp on the [OFF] button lights up, 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 lasts 30 to maximum 60 minutes.

Manual regeneration can only be started under the following conditions:

- when the on-board computer has prompted you to do so via a corresponding event window.
- when regeneration lockout is not activated.

ⓘ Manual regeneration can be started via the multimedia system. Manual regeneration is only started via the [OFF] button on vehicles for transporting hazardous materials or with the **fire-sv** shift program.

▶ Safely park the vehicle and leave the engine running.
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 to neutral position [N].

▶ Remove your foot from the accelerator pedal.

▶ In the multimedia system, in the Controls menu, under the Switch menu item, press the [OFF] button.

or

▶ Vehicles with ADR classification or the **fire-sv** shift program: press the [OFF] upper button for approximately three seconds..
The [OFF] indicator lamp in the instrument cluster lights up.

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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.

ⓘ The engine speed is increased and the engine noise may change during regeneration.

When regeneration is complete, the indicator lamp [ ] in the instrument cluster goes out and the engine speed decreases to the idle speed.

Regeneration is cancelled automatically in the following cases:

- the multifunction lever is set in position [D] or [R].
- The parking brake is released.
- regeneration lockout is activated.
- power take-off is activated.

After regeneration is cancelled, the engine speed decreases to the idle speed.

ⓘ 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 engine warm-up phase.

Under the following conditions, manual regeneration can only be started after a thawing time of up to 60 minutes:

- AdBlue® is frozen.
- the vehicle was parked without performing regeneration.

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 instructions on how to keep fuel consumption low can be found in the section on "Economic and environmentally aware driving" (→ page 274).

ⓘ Details about average fuel consumption is displayed by the instrument cluster in the [ ] Range/consumption menu.

AdBlue® consumption

AdBlue® consumption is up to 5.5% of the fuel consumption.

Engine oil consumption

On 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.

Limit speed

⚠ **WARNING** Tractor/trailer combination swerving due to increased speed

If the tractor/trailer combination swerves, you could lose control of the tractor/trailer combination.

The tractor/trailer combination may even overturn.

▶ On no account should you attempt to straighten up the tractor/trailer combination by increasing the speed.

▶ Reduce speed and do not counter-steer.

▶ If necessary, apply the brakes.

On vehicles with a limit speed, 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 restricted top speed is reached. Take this into account when overtaking.

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Reverse warning device

Notes on the reverse warning device

⚠ **WARNING** Risk of accident due to people or objects in the area in which you are manoeuvring

Other road users could fail to hear or ignore the warning tone of the reverse warning device. There is a risk of accident if you do not make sure that the area in which you are manoeuvring is free.

- ▶ While manoeuvring, make sure that there are no people or objects in the area in which you are manoeuvring.
- ▶ If necessary, a second person must assist you while you are manoeuvring.

The reverse warning device is a system designed to assist you in ensuring the safety of other road users. The reverse warning device cannot guarantee that there are no people or objects behind your vehicle.

The reverse warning device is an acoustic warning system that is integrated into one of the vehicle's tail lights. The reverse warning device is activated when you shift into reverse gear.

When using the reverse warning device described here, observe the legal requirements for the country you are currently in.

When you switch on the ignition and shift into reverse gear, the reverse warning device is activated and always set to loud volume.

Activating/deactivating the reverse warning device

- ▶ **To set the reverse warning device to low/loud volume or to deactivate it:** select theControls menu and the Switch menu item in the multimedia system.
  The symbol on the [ ] button will change depending on the actual system status.

Pressing the button changes the system status of the reverse warning device.

The different displays on the button have the following meanings:

- [ ] Reverse warning device deactivated
- [ ] Reverse warning device quiet
- [ ] Reverse warning device loud

If reverse gear is not engaged, a volume reduction in the reverse warning device remains active for approximately two minutes. The reverse warning device is then loud again.

The reverse warning device can be deactivated regardless of whether the reverse gear is engaged.

Vehicles with automatic activation of the hazard warning lights: when reverse gear is engaged, the hazard warning lights are switched on.

Reverse gear lock for 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 selection.

If the running boards in the rear area are loaded while reverse gear is engaged, a warning tone sounds and the engine switches off.

If the engine has been switched off by the reverse gear lock:

- ▶ Switch the ignition off.
- ▶ Apply the parking brake.
- ▶ Shift the transmission to neutral position.
- ▶ Restart the engine.

Acoustic warning

ⓘ If an acoustic warning sounds and the red event window with the [ ] symbol appears in the on-board computer, the operating safety of the engine is jeopardised.
Do not pull away, or stop the vehicle immediately, paying attention to road and traffic conditions. The engine could otherwise be damaged.

An acoustic warning sounds in the following cases:

- the driver's door is opened with the dipped-beam headlamps on and the ignition lock in radio position
- the driver's door is opened with the standing lights switched on and the ignition off
- you have not fastened the seat belt on the driver's seat
- the immobiliser is activated

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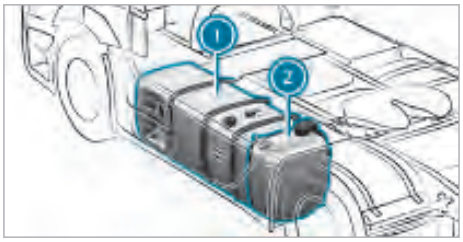
- you do not depress the brake pedal when the hill holder is activated and the vehicle is stationary
- the vehicle is stationary for approximately nine minutes with the engine running and a gear selected
- you select the reverse gear
- you switch off the ignition and remove the key when the frequent-stop brake is activated and the parking brake is released
- you exceed the maximum permissible engine speed
- the speed or engine speed is too high when making a gear change
- the ramp approach aid detects that an obstacle is too close
- the hazard warning lights are activated automatically (e.g. maximum full-stop braking)

An acoustic warning sounds in addition to the event window in the instrument cluster in the following cases:

- the distance control assistant warns you if there is a risk of crashing
- Active Brake Assist is activated and there is a risk of collision
- the coolant level is too low or the permissible coolant temperature (approximately 112 °C) is exceeded. The operating safety of the engine is jeopardised by this.
- there is a risk of overloading the clutch
- crawler mode has reached its operating limits and is automatically cancelled
- the sensor-monitored semitrailer coupling is not engaged or the semitrailer is no longer detected
- the tyre pressure monitoring system displays a tyre pressure loss warning
- you are driving faster than approximately 40 km/h with the shunting level activated
- the instrument cluster and/or the on-board computer is malfunctioning. Important operating information, maintenance information or indicator and warning lamps can no longer be displayed.

Refuelling

Fuel/AdBlue® tank



Example: fuel/AdBlue® tank
1 Fuel tank
2 AdBlue® tank

Fuel

Notes on fuels

WARNING Risk of injury from fuels

Fuels are poisonous and hazardous to your health.

- ▶ Do not swallow fuel or let it come into contact with skin, eyes or clothing.
- ▶ Do not inhale fuel vapour.
- ▶ Keep children away from fuel.
- ▶ Keep doors and windows closed during the refuelling process.

If you or other people come into contact with fuel, observe the following:

- ▶ Immediately rinse fuel off your skin with soap and water.
- ▶ If fuel comes into contact with your eyes, immediately rinse them thoroughly with clean water. Seek medical attention immediately.
- ▶ If you swallow fuel, seek medical attention immediately. Do not induce vomiting.
- ▶ Change immediately out of clothing that has come into contact with fuel.

WARNING Risk of fire or explosion from fuel

Fuels are highly flammable.

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- ▶ Fire, naked flames, smoking and creation of sparks must be avoided.
- ▶ Ensure that fuels do not come into contact with hot parts of the exhaust system.
- ▶ Switch off the ignition and auxiliary heating before carrying out work to the fuel system.
- ▶ Always wear protective gloves.

⚠ **WARNING** Risk of fire from fuel mixture

Vehicles with a diesel engine:

If you mix diesel fuel with petrol, the flash point of the fuel mixture is lower than that of pure diesel fuel.

While the engine is running, component parts in the exhaust system may overheat without warning.

- ▶ Never refuel using petrol.
- ▶ Never mix petrol with diesel fuel.

BlueTec®6 vehicles: refuel with commercially available sulphur-free fuel that complies with the European standard EN 590 as of 2010 with a sulphur content of max. 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
- bio-diesel fuels in accordance with DIN EN 14214 (FAME (Fatty Acid Methyl Ester) and UCOME (Used Cooking Oil Methyl Ester))

These types of fuel cause irreversible damage to the engine and the exhaust gas aftertreatment system BlueTec®6 and considerably reduce the expected service life.

BlueTec®4 vehicles and BlueTec®5 vehicles: the diesel fuel must comply with the European standard EN 590. This enables the engines to attain the specified performance as well as legally prescribed emission levels of the Euro 4 and 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
- bio-diesel fuel FAME (Fatty Acid Methyl Ester) > 7% by vol.
- bio-diesel fuel UCOME (Used Cooking Oil Methyl Ester)

Vehicles without BlueTec®exhaust gas aftertreatment: refuel only with commercially available sulphur-free diesel fuel that conforms to the European Standard EN 590 as of 2010 or a comparable national fuel standard. This enables the engines to attain the specified performance as well as legally prescribed emission levels of the Euro 3 Standard.

The following fuel types are not permitted:

- OM 460: sulphurous fuel with a sulphur content over 0.2% by weight (2,000 ppm)
- OM 473: sulphurous fuel with a sulphur content over 0.1% by weight (1,000 ppm)
- marine diesel fuel
- aviation turbine fuel
- heating oils
- bio-diesel fuel FAME (Fatty Acid Methyl Ester) > 7% by vol.
- bio-diesel fuel UCOME (Used Cooking Oil Methyl Ester)

! **NOTE** Damage to the engine caused by the wrong fuel

The engine and fuel system may be damaged by the wrong fuel.

Even small amounts of the wrong fuel could damage the fuel system and the engine.

- ▶ Do not refuel with petrol.
- ▶ Inform a qualified specialist workshop if you have refuelled with the wrong fuel.
- ▶ Have the fuel tank and fuel lines drained completely.

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NOTE Damage due to an admixture of special fuel additives

If special fuel additives are added to the diesel fuel or FAME fatty acid methyl ester, this could lead to:

- malfunctions
- damage to the catalytic converter
- engine damage

▶ Do not add any special fuel additives.

ENVIRONMENTAL NOTE Environmental damage due to improper handling of fuel

If fuels are handled improperly, they pose a danger to persons and the environment.

▶ Do not allow fuels to run into the sewage system, the surface waters, the ground water or into the ground.

NOTE Damage to the flap in the filler neck

If you use a passenger vehicle pump nozzle, the flap in the filler neck could be damaged.

If a passenger vehicle pump nozzle is inserted too far, this may result in a lug getting caught on the flap in the filler neck.

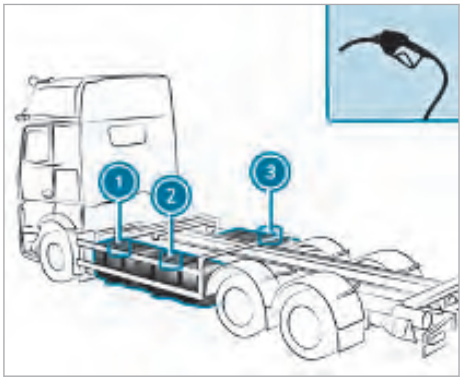
▶ Use truck pump nozzles to refuel.

▶ If you have to use a passenger vehicle pump nozzle: insert the pump nozzle into the filler neck so that only one of the pump nozzle lugs rest on the edge of the filler neck.

▶ If the passenger vehicle pump nozzle has become stuck, twist or tip the pump nozzle to release it.

You will find further information on fuel in the "Operating fluids" section (→ page 388).

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 on-board computer are not displayed correctly.

▶ First, fill up 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 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 additional fuel tank ③ on the right-hand side of the vehicle.

When the main tank has run dry, the on-board computer displays a corresponding Fully refuel the main tank first message.

Before filling the tank

NOTE Malfunction due to contaminated fuel

If you are using drums or canisters to refuel the vehicle:

▶ Filter the fuel before filling.

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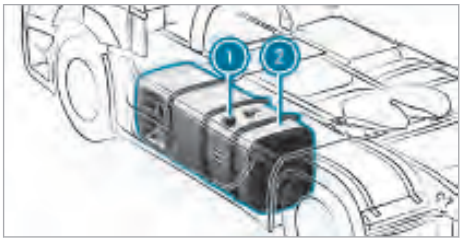


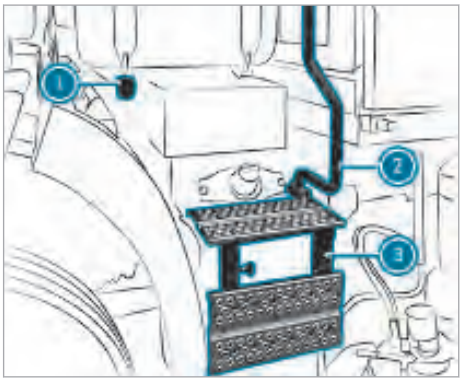
Example: fuel tank

- Switch off the engine.
- Apply the parking brake.
- Switch off the auxiliary heating (→ page 112).
- Switch the ignition off.
- Observe the filling order (→ page 282).
- Unlock cap ① on fuel tank ② with the mechanical key element.
- Observe the fuel grade (→ page 388).

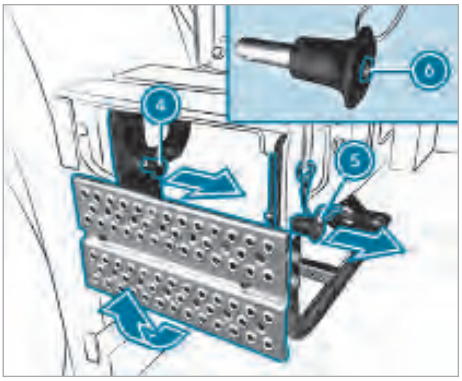
ⓘ Regularly check the fuel prefilter with heated water separator for condensation (→ page 344).

Using the folding ladder (Arocs street sweeper)

Folding out and locking



① Holder for pump nozzle
② Grab handle
③ Folding ladder



④ Locking mechanism
⑤ Detachable locking mechanism
⑥ Release knob

Use folding ladder ③ and grab handle ② to refuel the vehicle. Use folding ladder ③ only when it is fully folded out and both locking mechanisms are engaged.

- Press release knob ⑥ on detachable locking mechanism ⑤ and detach the locking mechanism.
- Pull locking mechanism ④ from the catch and hold it.
- Fold out the ladder in the direction of the arrow.
- Once the ladder is folded out, engage locking mechanism ④ in the catch.
- Press detachable locking mechanism ⑤ into the catch and let it engage.

Folding in and locking

- Press release knob ⑥ on detachable locking mechanism ⑤ and detach the locking mechanism.
- Pull locking mechanism ④ from the catch and hold it.
- Fold in the ladder.
- Engage locking mechanism ④ in the catch.
- Press detachable locking mechanism ⑤ into the catch and let it engage.

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AdBlue®

Notes on AdBlue®

NOTE Damage to the BlueTec® exhaust gas aftertreatment system

The BlueTec® exhaust gas aftertreatment could be damaged by the following:

- diesel fuel in AdBlue®
- impurities in AdBlue®
- additives in AdBlue®
- diluting AdBlue®

To avoid damage:

- ▶ Ensure that diesel fuel does not run into the AdBlue® tank.
- ▶ Always close the AdBlue® tank properly.
- ▶ Do not mix additives into AdBlue®.
- ▶ Do not dilute AdBlue®.
- ▶ Only use AdBlue® in accordance with DIN 70070/ISO 22241.

NOTE Paintwork damage due to AdBlue®

If AdBlue® comes into contact with painted surfaces or aluminium surfaces while refuelling, these surfaces could be damaged.

- ▶ Immediately rinse off the affected areas with plenty of water.

NOTE Damage due to overfilling of the AdBlue® tank

If the AdBlue® tank is overfilled, it could be destroyed at very low temperatures.

- ▶ Do not overfill the AdBlue® tank

NOTE Small amounts of ammonia vapour may be released when opening the AdBlue® tank

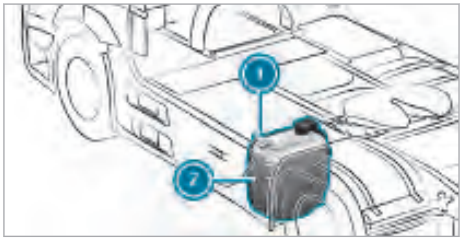
- ▶ Only fill the AdBlue® tank in well-ventilated areas.
- ▶ Do not let AdBlue® come into contact with skin, eyes or clothes.
- ▶ Keep AdBlue® away from children.

If you 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 have 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 as part of the maintenance work. Therefore, top up the tank regularly during vehicle operation or at the latest when the first event message is displayed in the on-board computer. You will find further information on AdBlue® in the "Operating fluids" section (→ page 391).

Before filling the tank



Example: AdBlue® tank

You can recognise AdBlue® tank 2 by blue cap 1. If the AdBlue® tank still contains sufficient AdBlue®, pressure compensation may result when unscrewing the cap. This may cause AdBlue® to leak. Therefore, unscrew the cap of the AdBlue® tank carefully. If AdBlue® spills out, immediately wash the affected area with plenty of water. A special filler neck prevents the AdBlue® tank from mistakenly being filled with diesel fuel.

- ▶ Switch off the engine.
- ▶ Apply the parking brake.
- ▶ Switch off the auxiliary heating (→ page 112).
- ▶ Unlock cap 1 on AdBlue® tank 2 with the separate key.

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ⓘ Depending on the vehicle's equipment, the cap of the AdBlue® tank can be locked for security reasons.

Always top up with at least 10% of the AdBlue® tank capacity. Topping up with smaller amounts could result in malfunctions.

Trailers/semitrailers

Notes about the trailer/fifth-wheel coupling

The trailer or 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.

If your semitrailer truck is equipped with a coupling ramp / coupling aid, the inclination gradient specified in ISO 1726 cannot be guaranteed for all distances between the rear axle and semitrailer coupling point. Note that the clearance between the semitrailer truck and the semitrailer may be restricted, and you should adapt your driving style accordingly. Always remove the mudguard centre parts before coupling up.

! **NOTE** Observe the following safety notes for driving with trailers/semitrailers:

- ▶ Attach a trailer/semitrailer only at an appropriate trailer/fifth wheel coupling.
- ▶ Ensure there is adequate clearance between the trailer/semitrailer and the towing vehicle.
- ▶ If the vehicle is being driven without a load, only one trailer without a load may be coupled up.
- ▶ Do not exceed the permissible axle loads.
- ▶ Comply with a minimum front axle load. This will ensure adequate steerability for the towing vehicle. Minimum front axle load – towing vehicle: 25% = 3-axle vehicles 30% = 2-axle vehicles (trailer lighter than or as heavy as the towing vehicle) 35% = 2-axle vehicles (trailer heavier than the towing vehicle)

If you drive with more than two trailers/semitrailers, you must deactivate Stability Control Assist. Otherwise, malfunctions or faults can occur as a result.

Activating/deactivating Stability Control Assist (→ page 229).

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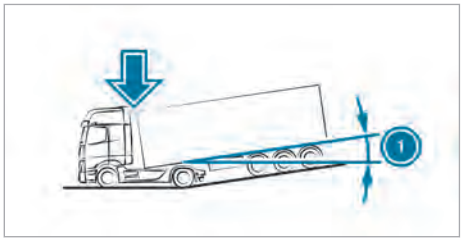
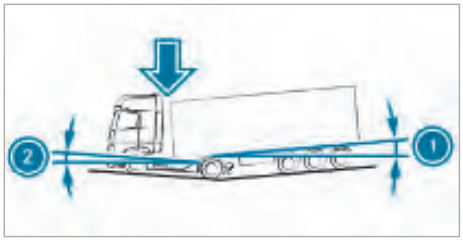
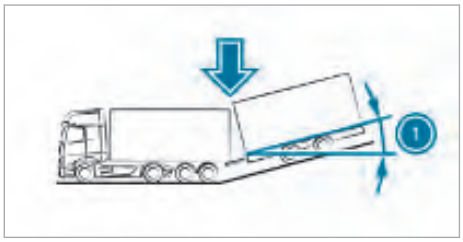
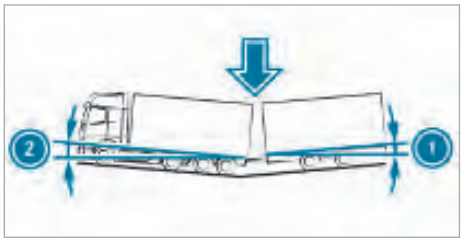
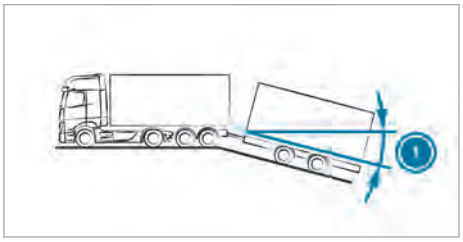
Articulation angles











When driving over depressions or elevations, please be aware that the articulation angle at the front 2 or rear 1 will change.

ⓘ If the tractor/trailer combination jack-knifes, the clearance between the towing vehicle and the trailer/semitrailer will be reduced.

The articulation angles are dependent 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

⚠ **WARNING** Risk of accident if the swivel angle is exceeded

If the swivel angle is exceeded during very tight cornering, the following can happen:

- The cable, compressed-air and hydraulic lines may break away.
- The trailer hitch and the trailer drawbar may be damaged.

This could cause you to lose control of the vehicle or the trailer. The trailer may even break away.

▶ Always pay attention to the swivel angle of the vehicle combination when cornering.

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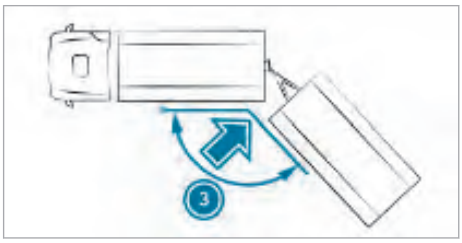

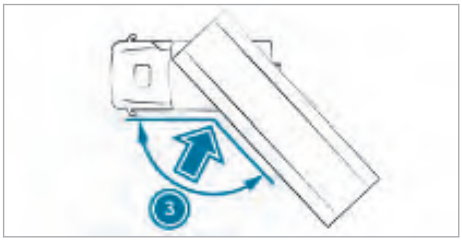

Towing vehicle and semitrailer (example)

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 up

Notes on coupling up

Note on tractor/trailer synchronisation (vehicles without EBS)

NOTE Increased brake wear

When a trailer or semitrailer is coupled up for the first time, a tractor/trailer synchronisation process should be performed.

Otherwise, increased brake wear may occur.

▶ Have tractor/trailer synchronisation carried out at a qualified specialist workshop.

Information on the fifth-wheel coupling

WARNING Risk of accident due to damaged or unlocked fifth-wheel coupling

If the fifth-wheel coupling is damaged or not correctly engaged, you could lose the semitrailer.

▶ Always check that the fifth-wheel coupling is free of damage and properly engaged after coupling up.

Ensure this even if the following conditions have been met:

- The vehicle is equipped with a monitored semitrailer coupling.
- The green indicator lamp in the status area of the on-board computer / instrument cluster lights up.

NOTE Damage to the fifth wheel kingpin or the monitored semitrailer coupling

During coupling up, the red Check semitrailer coupling: open if needed. event window will be displayed by the on-board computer.

▶ Check the locking mechanism on the monitored semitrailer coupling.

NOTE Damage to the sensor on the fifth-wheel kingpin

Note the wear limits in the manufacturer's operating manual:

- for the wear ring
- for the locking hook
- for the fifth-wheel kingpin

Do not fall below the wear limits. Otherwise, the sensor on the fifth-wheel kingpin could be damaged.

▶ If a red event window appears several times on the on-board computer display when a semitrailer is coupled up and the ignition is switched on, check the wear limits on the semitrailer and the monitored semitrailer coupling:

The monitored semitrailer coupling has sensors that, during the coupling/uncoupling process or once the ignition has been switched on, perform the following functions:

- monitor the semitrailer, the fifth-wheel kingpin and the clasp
- show the status of the locking mechanism of the monitored semitrailer coupling on the on-board computer display

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If malfunctions or faults occur during coupling/uncoupling, the on-board computer will display a red event window (→ page 147).

Indicator lamps on the instrument cluster and their meaning:

Lamp	Meaning
Red	The semitrailer is not coupled up. The monitored semitrailer coupling is not engaged.
Red	The semitrailer is not correctly coupled up. The monitored semitrailer coupling is engaged; however, no semitrailer can be detected.
Green	The semitrailer is correctly coupled up. Check that the monitored semitrailer coupling is in good condition and engaged correctly.
Red	The sensor on the fifth-wheel coupling is malfunctioning. Observe the additional information in the red event window of the on-board computer.

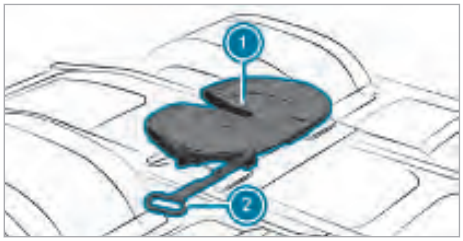
Coupling up the tractor/semitrailer combination

⚠ **WARNING** Risk of accident due to excessive play between fifth-wheel kingpin and coupling plate

If there is too much play on the tractor/semitrailer combination between the fifth-wheel kingpin and the coupling plate, the semitrailer may break away from the coupling plate.

You could lose the semi-trailer as a result.

▶ Follow the fifth-wheel coupling manufacturer's instructions.



For vehicles with a monitored semitrailer coupling, observe the information on the coupling/uncoupling procedures in the manufacturer's operating instructions.

Before coupling up:

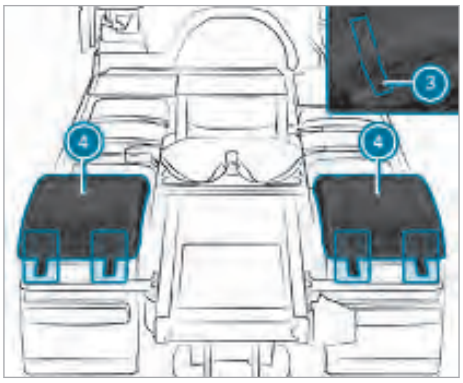
▶ Use chocks to secure the semitrailer against rolling away.

▶ Open the fifth-wheel coupling ① with lever ②; see the manufacturer's operating instructions.

▶ Semitrailer trucks with air suspension: raise or lower the chassis (→ page 262) so that the semitrailer plate is 50 mm lower than the fifth-wheel coupling ①.

▶ Vehicles with steel suspension: use the saddle supports to set the height of the semitrailer such that the semitrailer plate is 50 mm lower than the fifth-wheel coupling ①.

Removing the mudguard centre parts



Remove the mudguard centre parts ④ only in the following cases:

- if the semitrailer makes the use of 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 up vehicles with a monitored semitrailer coupling:

▶ Drive slowly under the semitrailer plate.

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- Raise the vehicle level or lower the semitrailer until the instrument cluster shows the Coupling level reached event window.
- Reverse slowly until the fifth-wheel coupling (1) locks.
  The indicator lamp on the instrument cluster will light up green.
- If, during reversing, the instrument cluster shows the red Driving level below coupling level event window:
  Correct the coupling level again until the instrument cluster shows the Coupling level reached event window.

Coupling up vehicles without a monitored semitrailer coupling:

- Reverse slowly until the fifth-wheel coupling (1) locks.

After coupling up:

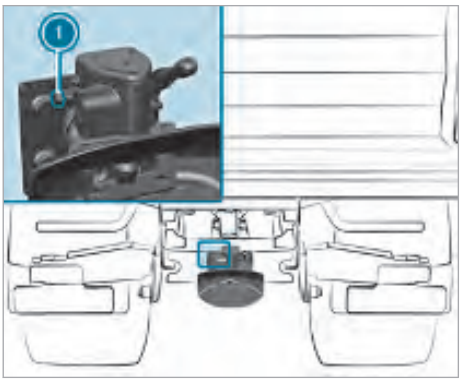
- Stop the vehicle and apply the parking brake.
- Secure the fifth-wheel coupling (1) against unauthorised operation and check the locking mechanism; see the manufacturer's operating instructions.
- Retract the saddle supports fully; see the manufacturer's operating instructions.
- Connect the cables and compressed-air lines (→ page 290).

Coupling a trailer

Prior to coupling up

> ⚠ **WARNING** Risk of accident due to longitudinal play of the trailer coupling
>
> If the trailer coupling has too much longitudinal play, the trailer could tear away.
>
> You could lose the trailer as a result.
>
> - Check the trailer coupling daily for longitudinal play
> - by moving the towbar body of the trailer coupling backwards and forwards firmly.
> - Have any longitudinal play rectified at a qualified specialist workshop as soon as possible.

The longitudinal play cannot be checked on the coupling jaw.



- 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 unbraked front axle of the trailer must still be able to turn.
- Set the towbar support 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

- Check to ensure that the trailer's coupling bolt is positioned correctly on the securing knob (1) or check pin of the trailer coupling.
- Connect the cables and compressed-air lines (→ page 290).

Uncoupling

> ! **NOTE** Damage to the vehicle frame on vehicles with air suspension
>
> - Prior to uncoupling, lower vehicles with air suspension until a gap appears between the semitrailer plate and fifth wheel coupling. Otherwise, the chassis will spring up suddenly during uncoupling. This could cause damage to the chassis and the semitrailer.

- Park the vehicle on a firm and level surface.
- Apply the parking brake.
- Use chocks to secure the trailer/semitrailer against rolling away.

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- Extend the saddle supports on the semi-trailer; see the manufacturer's operating instructions.
- Set the trailer's towbar support to the height of the trailer coupling; see the manufacturer's operating instructions.
- Remove the cables and compressed-air lines (→ page 291).
- Open the trailer/fifth-wheel coupling; see the manufacturer's operating instructions.
- Vehicles with a trailer: drive forwards slowly.
- Vehicles with a semitrailer: drive forwards slightly until the fifth-wheel kingpin is free.
- Semitrailer truck with air suspension: lower the chassis (→ page 262) 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

WARNING 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 without appropriate climbing aids, you could:

- slip and/or fall
- damage components, e.g. the battery cover, and fall as a result
- burn yourself on hot components

- Always use secure climbing aids, e.g. a suitable ladder.

WARNING Risk of burning due to the cover of the silencer being hot

The cover of the silencer can get very hot when driving. You could burn your feet if, for example, you step on this cover in order to connect/disconnect the cables and compressed-air lines.

- Never step on the cover of the silencer.

When operating additional consumers on your trailer/semitrailer, make sure that no overloading occurs. If you fit several reversing lamps on the trailer/semitrailer, for example, the reversing lamps may fail as a result of overloading.

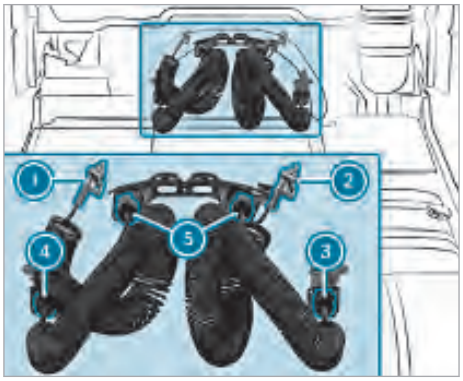
Connecting cables and compressed-air lines

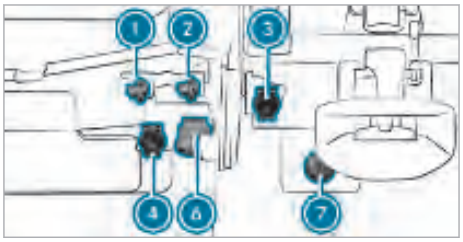
NOTE Damage to cables and compressed-air lines

If cables and compressed-air lines are not sufficiently slack when cornering, this can lead to damage.

The cables and compressed-air lines may come under tension, kink or rub against other components.

- Pay attention to the voltage of consumers in the trailer when connecting cables.
- Keep the hydraulic lines such that they can manage all movements when cornering etc. without tensioning, kinking or rubbing.





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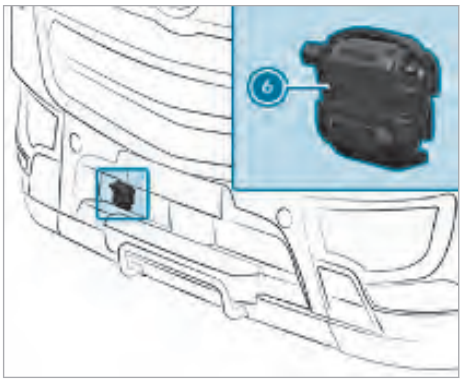

- With dual coupling head: push down and hold the lever at dual coupling head 6.
- With dual coupling head: connect the compressed-air lines.
- With dual coupling head: swing upwards and release the lever at dual coupling head 6.
- Without dual coupling head: connect brake line coupling head 1 (yellow).
- Without dual coupling head: connect reservoir line coupling head 2 (red).

ⓘ The shutoff 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 24 V (15 pin) power supply plug 4 to the trailer.
- Platform vehicle: connect the power supply of the trailer to 24 V (15 pin) socket 4.

ⓘ On trailers with a 12 V power supply: use 12 V (13 pin) trailer socket 7.

ⓘ Turn signal 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 ABS/BS (5/7 pin) connecting cable plug 3 to the trailer.
- Platform vehicle: connect the trailer connecting cable to ABS/BS (5/7 pin) socket 3.
- Semitrailer truck: if the semitrailer truck is being driven with a semitrailer without ABS, insert the plug of the connecting cable into empty socket 5.
- Check lighting systems, turn signals and brake lamps 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 signals 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

⚠ **WARNING** Risk of accident due to incorrect removal of the coupling heads

If you remove the coupling heads in the wrong order, the trailer/semitrailer brake is released and the trailer/semitrailer may roll away.

- Always remove the coupling heads in the correct order.

! **NOTE** Malfunction of the coupling heads

If the coupling head covers are not closed after disconnection of the compressed-air lines, the coupling heads could become soiled.

This could cause malfunctions in the compressed-air system.

- Ensure that the covers are closed after disconnecting the compressed-air lines.

! **NOTE** Damage to the electrical system

If the cables are not inserted in the empty sockets following disconnection, water may get into the cable harness.

This could cause damage to the electrical system.

- Insert the plugs in the empty sockets following disconnection of the cables.

- 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 dual coupling head 6.

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- With dual coupling head: remove the compressed-air lines.
- With dual coupling head: swing upwards and release the lever on dual coupling head 6.
- Without dual coupling head: disconnect reservoir line coupling head 2 (red).
  The brakes of the trailer/semitrailer will be applied automatically.
- Without dual coupling head: remove brake line coupling head 1 (yellow).
- Semitrailer truck: disconnect 24 V plug (15 pin) 4 from the trailer.
- Platform vehicle: disconnect the power supply of the trailer at the towing vehicle from 24 V (15 pin) socket 4.

ⓘ On trailers with a 12 V power supply: disconnect the power supply of the trailer at the towing vehicle from 12 V (13 pin) socket 7.

- Semitrailer truck: disconnect ABS/BS plug (5/7 pin) 3 from the trailer.
- Platform vehicle: disconnect the connecting cable from the trailer at the towing vehicle from ABS/BS (5/7 pin) socket 3.
- Semitrailer truck: when driving the semitrailer truck without the semitrailer, insert the connecting cable into empty socket 5.
- Check the operation and cleanliness of the lighting system as well as that of the turn signals and brake lamps.

Semitrailer truck hydraulic system

Notes and control elements of the semitrailer truck hydraulic system

⚠ **WARNING** Risk of burning due to hot hydraulic fluid

The hydraulic system is under high pressure and the hydraulic fluid may be hot.

Hydraulic fluid can spray out under high pressure if work on the hydraulic system is not performed correctly.

- Always have work on the hydraulic system carried out at a qualified specialist workshop.

⚠ **WARNING** Risk of accident if the tipper body is raised while driving

If you drive off with the tipper body raised, it could get caught on buildings, bridges or trees, for example.

- Before driving off, always ensure that the tipper body is lowered and properly secured.

! **NOTE** Damage to the hydraulic system of the tractor/semitrailer combination

Different types of hydraulic fluid are rarely compatible although they are mixed from the same oil base. Mixing hydraulic fluid types always affects their characteristics, performance and reactions.

Mixing different types of oil can result in damage to the hydraulic system of the tractor/semitrailer combination.

- The hydraulic fluid for the trailer hydraulic system must therefore match the hydraulic fluid for the hydraulic system of the tractor/semitrailer combination.

! **NOTE** Operating the hydraulic system of the tractor/semitrailer combination

Notes on operating the hydraulic system of the tractor/semitrailer combination:

- 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 tipper semitrailer's hydraulic lines must be connected
- the low-speed splitter box must be activated

Otherwise, the hydraulic system of the tractor/semitrailer combination and/or the trailer hydraulic system may be damaged.

- Observe the notes on operating the hydraulic system of the tractor/semitrailer combination.

If using the hydraulic system of the tractor/semitrailer combination, you many only operate tipper semitrailers with a one or two line system. You operate their hydraulic system with a pick-up valve in the cab. The operating pressure of the hydraulic system of the tractor/semitrailer com-

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bination can be switched between 170 bar (low pressure) and 250 bar (high pressure).

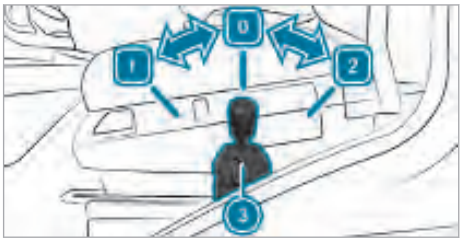
The hydraulic line connections have screw couplings of either 1 inch or DN 20.

The hydraulic system of the tractor/semitrailer combination is filled at the factory with a hydraulic fluid from HLP (HLP-D 22) (→ page 296).

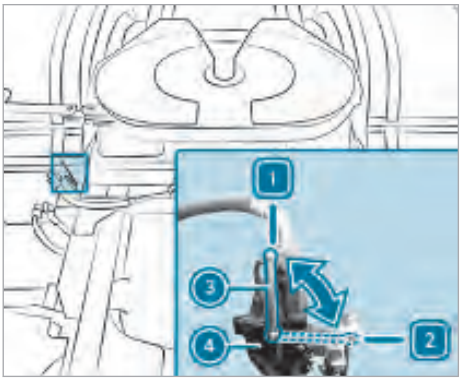
Before operating a tipper semitrailer, observe the following information:

- 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

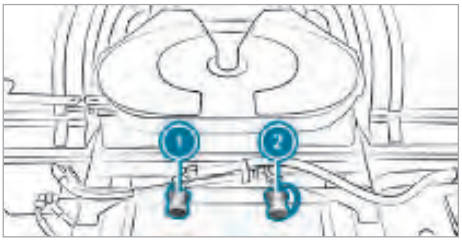


1 Lower tipper body
0 STOP – stop the tipping or lowering movement
2 Raise tipper body
3 Control lever with pull ring



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, kinking 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 hydraulic system of the tractor/semitrailer combination must be depressurised and the trailer's tipper body should be fully lowered. The hydraulic system of the tractor/semitrailer combination is only depressurised if the control 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.

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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 operating pressure of the trailer hydraulic system matches that of the hydraulic system of the tractor/semitrailer combination. Select the high or low pressure setting on the changeover unit for the operating pressure (→ page 290).
- ▶ Ensure that the control lever in the cab is in the centre position (STOP) (→ page 290).
- ▶ Ensure that power take-off for the hydraulic pump is disengaged (→ page 307).
- ▶ 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 control lever in the cab is in the centre position (STOP) (→ page 290).
- ▶ Ensure that power take-off for the hydraulic pump is disengaged (→ page 307).
- ▶ 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 307).
  The chassis is lowered automatically. This increases stability. The display shows the [ ] symbol for vehicle frames below driving level.
- ▶ Ensure that the low-speed splitter box is selected.
- ▶ Pull up and hold the pull ring on the control lever in the cab (→ page 292).
  Pull the control lever back gently. 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 after 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).

Lowering the tipper body

- ▶ When the control lever in the cab is engaged in the end position, pull the pull ring upwards and move the control lever in the cab into the centre position (STOP).
- ▶ Push the control lever forward gently. 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 307).
- ▶ Raise the vehicle frame to driving level (→ page 262).

Maintaining and caring for the hydraulic system
Cleaning

Observe the following notes:

- Cleaning the vehicle exterior (→ page 315)
- High-pressure cleaning (→ page 314)

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When cleaning the vehicle exterior, ensure that you never directly aim the water jet at the hydraulic fluid reservoir cover fitted with a vent filter.

Visual check

NOTE Operating lifespan of the hydraulic hose

Hydraulic hoses are marked with a use-by date (six years after the date of manufacture).

- Hydraulic hoses must be replaced by a qualified specialist workshop at the end of this operating lifespan at the latest, even if there is no visible damage to them.

Check the components of the hydraulic system of the tractor/semitrailer combination, and in particular the hydraulic lines, on a weekly basis for leaks, external damage and operating lifespan. Have defective and leaking components repaired immediately at a qualified specialist workshop.

Checking the hydraulic fluid level and topping up hydraulic fluid

ENVIRONMENTAL NOTE Environmental damage due to hydraulic fluid level spillages while topping up

If fluid spills onto soil, the environment will be damaged.

- Make sure that no fluid spills while topping up.

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 which have been checked and approved by the Mercedes-Benz Specification for Operating Fluids for the semitrailer hydraulic system. Using other hydraulic fluids or mixing other hydraulic fluids can damage the hydraulic system of the tractor/semitrailer combination.

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 control lever in the cab is in the centre position (STOP) .
- Ensure that power take-off for the hydraulic pump is disengaged (→ page 307).
  Only then is the hydraulic system of the tractor/semitrailer combination depressurised.
- Remove cap with integrated vent 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

4 Max. fill level
140 l for 128 l used fluid quantity (usable volume)

5 Distance
Approx. 2.3 l used fluid loss for every 10 mm the surface level lowers

Single tank on the right-hand side of the vehicle

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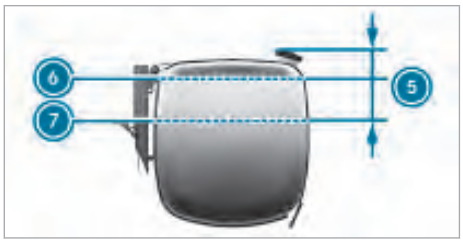

6 Max. fill level
226 l for 198 l used fluid quantity (usable volume)
5 Distance
101 mm
7 Fill level
156 l for 128 l used fluid quantity (usable volume)
5 Distance
258 mm

Approx. 4.5 l used 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 vent 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 vent filter even more regularly.

Parking up the vehicle

In addition to the special measures according to Mercedes-Benz Specifications for Operating Fluids Sheet Number 382.0, 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 hydraulic system of the tractor/semitrailer combination is filled at the factory with year-round hydraulic fluid from H-LP (HLP-D 22).

Only use authorised hydraulic fluid with part number A 000 989 10 06 according to the Mercedes-Benz Specifications for Operating Fluids Sheet Number 341.0.

Hydraulic fluid reservoir

Combination tank with fuel tank on the left-hand side of the vehicle

Fuel tank	Volume
Maximum tank content	140 l
Maximum used fluid quantity (usable volume)	128 l
Non-usable dead volume	12 l

Single tank on the right-hand side of the vehicle

Fuel tank	Volume
Maximum tank content	226 l
Maximum used fluid quantity (usable volume)	198 l
Tank content for 128 l for used fluid quantity (usable volume)	156 l
Non-usable dead volume	28 l

ⓘ As a single tank, the hydraulic fluid reservoir is filled with 156 l of hydraulic fluid at the factory.

Operating pressure and fluid output

Operating mode	Pressure/fluid output
High pressure operation	250 bar
Low pressure operation	170 bar

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Operating mode	Pressure/fluid output
Average fluid output At an engine speed of 1000 rpm and sufficient used fluid quantity	120 l/min
Max. permitted engine speed Maximum speed with low-range splitter box. Selecting the high-range splitter box is not permitted and can damage the hydraulic system.	1100 rpm

Hydraulic connections

The hydraulic line connections have screw couplings of either 1 inch or DN 20.

Activating ramp approach aid

⚠ **WARNING** Risk of accident due to people or objects in the ramp approach aid area in which you are manoeuvring

The ramp approach aid cannot detect persons or moving obstacles.

There is therefore a risk of accident even with the ramp approach aid activated.

▶ While manoeuvring, make sure that there are no people or objects behind the vehicle in the area in which you are manoeuvring.

▶ **To activate:** drive in reverse.
If the trailer/semitrailer is equipped with the ramp approach aid, the on-board computer display shows the function automatically when reversing.

Depending on the ramp approach aid, the distance from the trailer/semitrailer to the detected obstacle is also displayed, for example 2.30 m.

If the distance to the detected obstacle is less than approximately 1.80 m, the on-board computer displays the trailer/semitrailer symbol in red.

If the distance to the detected obstacle is less than approximately 0.70 m, a warning tone sounds.

Wind deflector

Adjusting the wind deflector

⚠ **WARNING** 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.

If you adjust the wind deflector yourself, you could fall.

▶ Use firm, non-slip working surfaces, such as a ladder.

▶ Do not stand on the roof.

⚠ **WARNING** Risk of becoming trapped when adjusting the wind deflector

If you adjust the wind deflector, you could get trapped between parts of the wind deflector or between the wind deflector and the cab.

▶ When adjusting the wind deflector, make sure that there is adequate clearance.

▶ Do not place parts of your body between the wind deflector and the cab.

▶ Have a second person help you.

! **NOTE** Increased fuel consumption due to incorrectly adjusted wind deflector

▶ Adjust the wind deflector correctly in order to reduce aerodynamic resistance.

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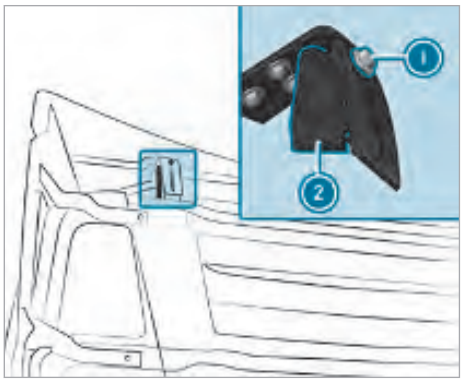
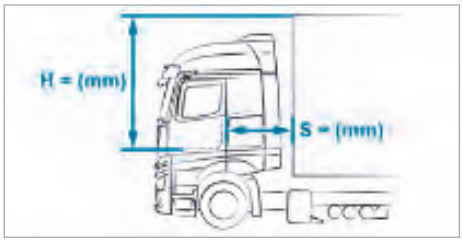




Mercedes-Benz recommends that you have the wind deflector adjusted at a qualified specialist workshop.

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.
- comply with the legal requirements for the country you are currently in.

ⓘ When measuring the clearances, park the vehicle on an even surface. If in doubt, always select a higher setting of the wind deflector.

▶ Determine which diagram corresponds to your vehicle.

▶ Measure clearance **S** between the door soffit and body.

▶ Measure height difference **H** between the door sill and body.

▶ Identify adjustment detent **A** in the diagram with height difference **H**.

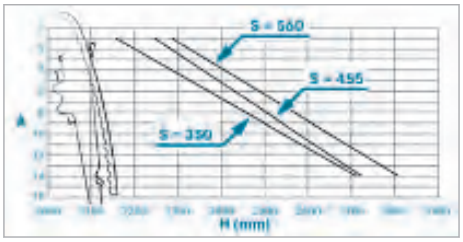
▶ Unscrew the screws ① on the adjustment rails on both sides of the vehicle.

▶ Using the determined adjustment detent **A**, adjust the adjustment rails on holder ②.

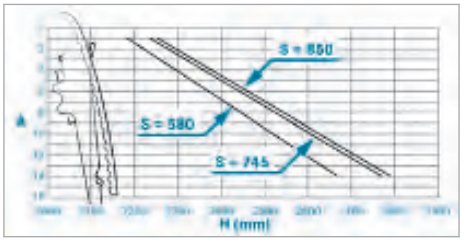
▶ Screw in the screws ①.

Wind deflector diagrams

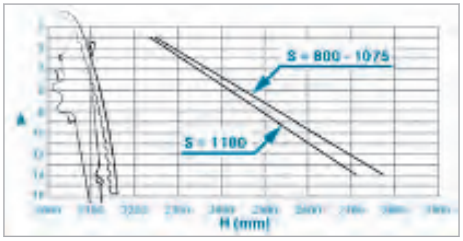
S cab ClassicSpace 420 platform vehicle



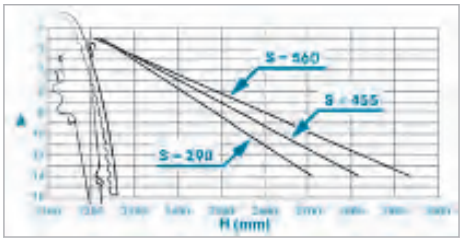
M cab ClassicSpace 420 platform vehicle



L cab ClassicSpace 420 platform vehicle



S cab ClassicSpace 600 platform vehicle



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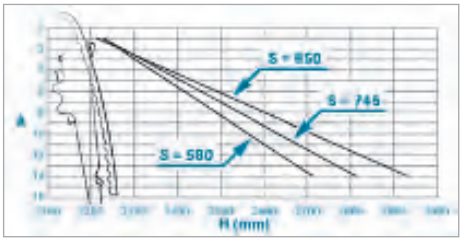
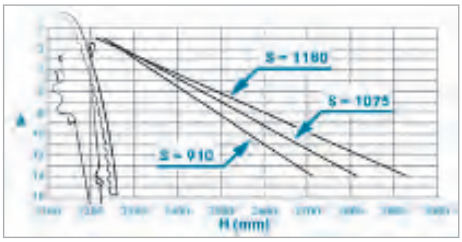
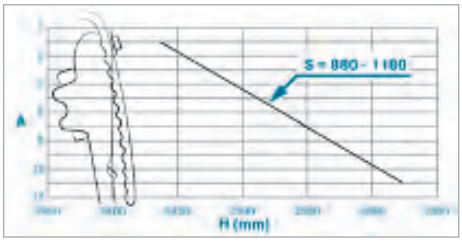
M cab ClassicSpace 600 platform vehicle



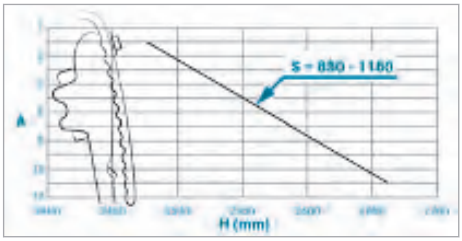
L cab ClassicSpace 600 platform vehicle



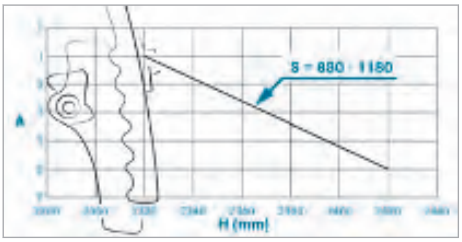
L cab StreamSpace 420 platform vehicle



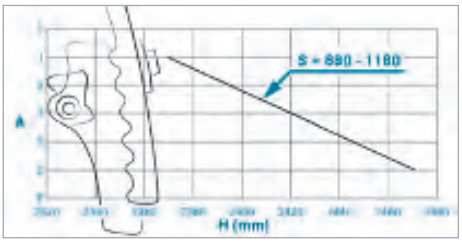
L cab StreamSpace 600 platform vehicle



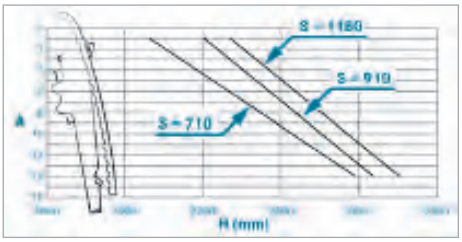
L cab Stream-& BigSpace 765 platform vehicle



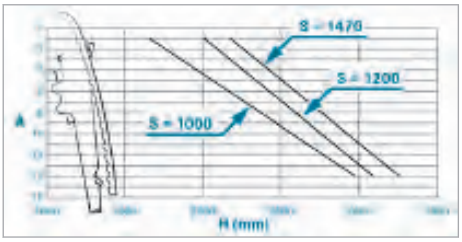
L cab Stream-,Big-& GigaSpace 765 LowDeck semi-trailer truck



S cab ClassicSpace 420 semi-trailer truck



M cab ClassicSpace 420 semi-trailer truck



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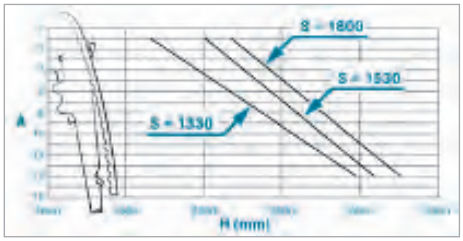
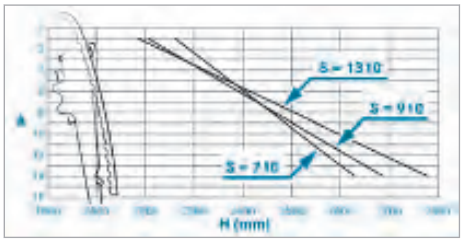
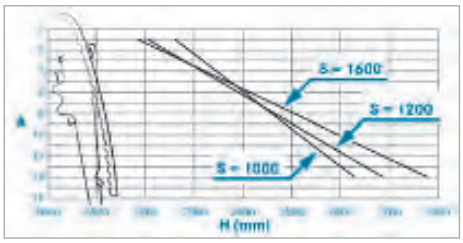
L cab ClassicSpace 420 semi-trailer truck



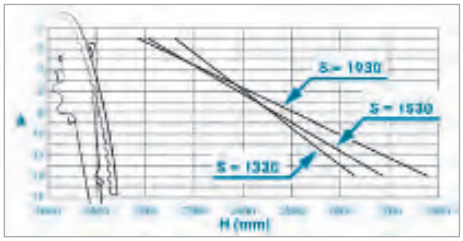
S cab ClassicSpace 600 semi-trailer truck



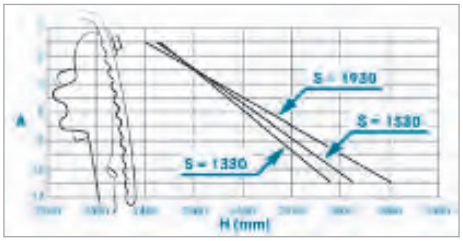
M cab ClassicSpace 600 semi-trailer truck



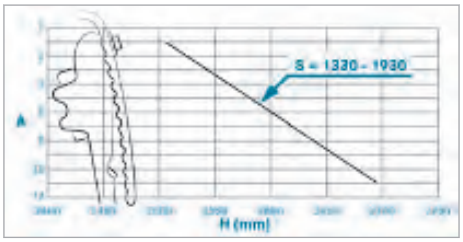
L cab ClassicSpace 600 semi-trailer truck



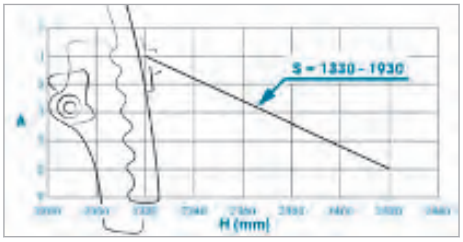
L cab StreamSpace 420 semi-trailer truck



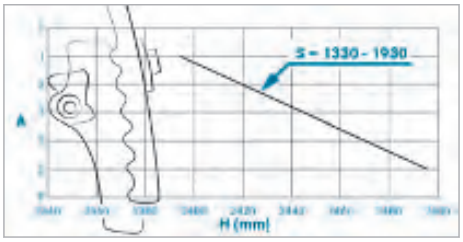
L cab StreamSpace 600 semi-trailer truck



L cab Stream-& BigSpace 765 semi-trailer truck



L cab Stream-,Big-& GigaSpace 765 LowLiner semi-trailer truck



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Winter operation

Winter driving

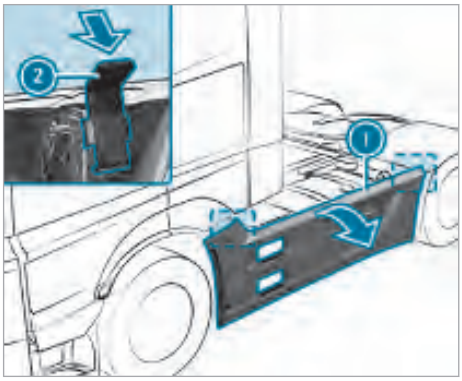
Preparing for a journey (winter operation)

NOTE Engine damage as a result of the wrong SAE class (viscosity) of engine oil

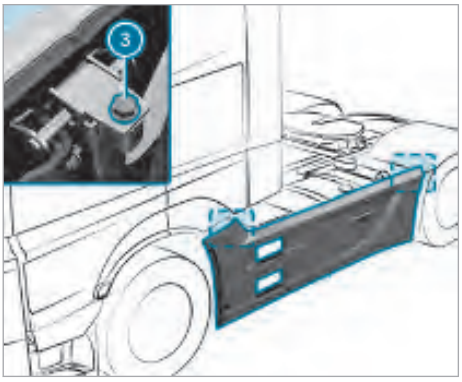
If the SAE class (viscosity) of the engine oil used is not suitable for continually low outside temperatures below -20 °C, this could cause engine damage.

The temperature range information of the SAE classification always refers to that of fresh oil. Engine oil ages during driving due to soot and fuel residue. This impairs the characteristics of the engine oil, particularly at low outside temperatures.

- At outside temperatures below -20 °C use engine oils of the SAE class 5W-30 or 0W-30.
- Use all-season oils.



Side trim with quick-release fastener (example: Actros semi-trailer truck)



Side trim with bolts (example: Actros semi-trailer truck)

Remove snow and accumulations of ice on both sides of the vehicle between the side trim and the chassis.

- **Side trim with quick-release fastener:** completely depress front and rear levers (2) on the quick-release fasteners.

or

- **Side trim with bolts:** unscrew front and rear bolts (3).

ⓘ Renew the lubricant on the quick-release fasteners from time to time. This ensures the quick-release fasteners work smoothly.

- Pull side trim (1) out of the holders on the clasp and swing it outwards.
- Remove snow and ice from between side trim (1) and the chassis.
- Swing side trim (1) back and press into the holders on the clasp.
- **Side trim with quick-release fastener:** pull front and rear levers (2) up completely.

or

- **Side trim with bolts:** tighten front and rear bolts (3).

Before the start of the cold season make sure of the following:

- the coolant contains sufficient antifreeze protection (→ page 387).
- the fuel used is suitable for winter use (→ page 388).
- the oil is changed in good time if single grade engine oil is being used (→ page 385).

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- the windscreen washer system/headlamp cleaning system contains sufficient antifreeze protection (→ page 324).
- suitable winter tyres are fitted.
- snow chains are carried in the vehicle.

ⓘ 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 your needs. Observe the legal requirements for the country you are currently in.

Notes on driving in winter

⚠ **WARNING** Risk of explosion through liquid or gaseous starting aids

Liquid or gaseous starting aids immediately react with fuel vapours and are highly flammable.

▶ Do not use liquid or gaseous starting aids to start the engine.

! **NOTE** Damage to the differential

For vehicles without acceleration skid control (ASR): changes from slippery to high grip roadways whilst the drive wheels are spinning can result in damage to the differential.

▶ Avoid letting the drive wheels spin.

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, deactivate ASR (→ page 228) or the Stability Control Assist (→ page 228).

Snow chains

Notes on snow chains

⚠ **WARNING** Risk of accident through breaking snow chains

If you drive too fast with snow chains fitted, they may break.

As a result, you could injure others and damage the vehicle.

▶ Maximum permissible speed for operating with snow chains.

! **NOTE** Damage to the vehicle due to snow chains

▶ Only use snow chains that are approved and recommended for Mercedes-Benz. This avoids damage to the vehicle. If you have any questions, consult a qualified specialist workshop.

! **NOTE** Damage to the differential

▶ Mercedes-Benz recommends mounting snow chains on all drive wheels. If snow chains are not mounted on all drive wheels, the interaxle differential lock must be engaged on vehicles with permanent all-wheel drive.

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.

Observe the notes of the snow chain manufacturer on the maximum permissible speed for operation with snow chains.

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, e.g. when using snow chains, have the electric power steering taught-in at a qualified specialist workshop.

Vehicles with ASR/stability control assistant: if traction problems occur when driving with snow chains, deactivate ASR (→ page 228) or Stability Control Assist (→ page 228).

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Checking the wheel clearance

NOTE Damage to the steering linkage due to snow chains

If the clearance between the snow chain and steering linkage is less than 25 mm, the snow chain could damage the steering linkage.

- In this case, 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 engine.
- Turn the steering wheel towards the co-driver side to the stop.
  With the steering on full lock, there must be a clearance of at least 30 mm between the snow chain and the drag link.

Cold climate package

Cold-start limits

Without special equipment, your vehicle is capable of starting at temperatures as low as -20 °C. When fitted with the special equipment and filled with cold-resistant operating fluids, your vehicle can be started at temperatures as low as -30 °C.

ⓘ 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

Cold-resistant operating fluids

Assembly	Mercedes-Benz Specifications for Operating Fluids (Sheet No.)
Fuel system	Winter diesel fuel up to -22°C
Engine	Engine oil (228.51) SAE 5W 30 A 000 989 69 01
Transmission, transfer case	Transmission oil (235.11) SAE 75W 90 A 001 989 28 03
All-wheel drive front axle, rear axles, axle through drive	Hypoid gear oil (235.8) SAE 75W 90 A 001 989 27 03 or A 001 989 53 03
Steering	Hydraulic fluid (345.0) A 001 989 24 03
Engine cooling system	Coolant (325.5) Mixing ratio Coolant/50% by volume Water/50% by volume

Hydraulic fluid (345.0): the use of the hydraulic fluid is not permitted in vehicles with a steered leading/trailing axle. A list of approved operating fluids can be found in the Mercedes-Benz Specifications for Operating Fluids.

Have the vehicle converted to cold-resistant operating fluids at a qualified specialist workshop.

Remember to fill the vehicle fuel tank with winter diesel fuel when it is time to do so.

ⓘ If the vehicle is mainly operated at low temperatures, the maintenance intervals are reduced.

Function of the coolant preheater

The coolant preheater consists of an electrical heating element and is installed in the engine crankcase. The coolant preheater is operated independently of the on-board electrical system with a voltage of 230 V.

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ⓘ You can have the fitting for the coolant preheater retrofitted at a qualified specialist workshop.

Before attempting a cold start

NOTE Damage to the batteries due to rapid charging

In extremely low temperatures, the battery fluid of discharged batteries can freeze.

▶ Do not perform rapid charging on cold batteries as the batteries may otherwise 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.

ⓘ The capacity of the batteries is adversely affected by increasingly cold temperatures.

▶ Thaw frozen batteries before charging them.

Starting the engine at low temperatures

NOTE Damage to the batteries during a cold start

A starting attempt when a battery is cold or not fully charged can result in damage to batteries.

▶ If you notice a low battery voltage or the [battery] symbol is displayed in an event window when you switch on the ignition, do not start the engine.

NOTE Damage to the engine

If a warning tone sounds and the [engine] symbol appears in a red event window in the on-board computer, the operating safety of the engine is jeopardised.

▶ 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. radio, blower.

▶ In outside temperatures below -20°C and vehicles with auxiliary heating (auxiliary heating for cab and engine, 9 kW): preheat the engine using the auxiliary heating before starting it (→ page 110).

▶ In outside temperatures below -30°C and vehicles with a coolant preheater: preheat the engine with the coolant preheater for at least 90 minutes.

▶ Switch on the ignition.

▶ Pay attention to the outside temperature shown on the display (→ page 119) and signs that the on-board electrical system voltage is low, e.g. weak lighting system.

▶ Shift the transmission to the neutral position.

▶ Deactivate the power take-off (→ page 307).

▶ Start the engine.
To start the engine more easily, the clutch will automatically be disengaged from -5°C when the engine is started in vehicles with an automatic transmission.

▶ Once the engine has started, release the start/stop button.
The idle speed will be regulated automatically.

If the engine does not start:

ⓘ The starting procedure is automatically interrupted for the following vehicles:

- with the OM 936 engine after around 60 seconds
- with the OM 470, OM 471 and OM 473 engines after around 40 seconds

▶ Switch the ignition off.

▶ 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 has fallen below 6 bar, fill up the compressed-air system (→ page 363). This will ensure that the clutch is disengaged when you start the engine in vehicles with an automatic transmission.

Driving in low temperatures

Observe the following in outside temperatures below -20°C:

- Check the supply pressure in the brake system before you set off.

  Set off only when the supply pressure is sufficient.

- Before you set off, ensure that the steering is sufficiently warm. Only then will it be ensured that the steering can function properly.

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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 at the start of the journey, then increase the load.
- For technical reasons, the engine brake is available only from an oil temperature of 15°C in stage 1.

  The complete engine braking effect for the entire rpm range is available only from an oil temperature of 60°C.
- Depending on the output of the alternator, the battery can accept only a certain charge quantity per hour. The rate of charge is significantly reduced in 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, its ability to start cannot be guaranteed even with the cold climate package. Mercedes-Benz recommends not parking the vehicle in the open air in outside temperatures below -30°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 118).

▶ If the fuel level is in the reserve area, top up the fuel tank (→ page 280).

ⓘ If the vehicle is stationary for an extended period with a fuel level that is too low, you may have to depressurise the fuel system (→ page 344).

Observe further instructions and information concerning the batteries.

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Power take-off

Power take-off function

WARNING Risk of accident due to unintentional roll-starting of the vehicle

If you use the engine run-on function, the vehicle can roll-start unintentionally when crawler mode is switched on and the pulling-away gear is engaged.

When the engine run-on function is used:

- Shift the transmission to neutral position.
- Apply the parking brake.

WARNING Risk of fire due to flammable materials on 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 on unpaved roads or off-road, regularly check the vehicle underside.
- Remove trapped plants or other flammable material, in particular.
- If there is damage, consult a qualified specialist workshop immediately.

WARNING Risk of accident on uphill and downhill gradients

On uphill and downhill gradients, the parking brake might not be sufficient to secure the vehicle.

A vehicle with trailer/semitrailer or a loaded vehicle can roll away.

- In the check position, check whether the parking brake alone is sufficient to hold the complete vehicle.
- Always secure the towing vehicle and trailer/semitrailer with the parking brake and additionally with wheel chocks.

Note Vehicles with clutch pedal: damage to the power take-off

Engaging or disengaging the power take-off too soon after depressing the clutch pedal can cause damage to the power take-off.

- Wait ten seconds after depressing the clutch pedal. Only then engage or disengage the power take-off.

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, e.g. 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 display of the on-board computer shows the engagement status of the power take-off:

power take-off disengaged

power take-off engaged

Vehicles with a power take-off on the engine: power take-off on the engine is not selectable. The auxiliary assembly is directly connected to the engine and is permanently driven. The working speed and body-dependent functions are controlled and selected (→ page 308) by switching on the constant-rpm control .

Vehicles with a transmission power take-off: when the power take-off is engaged, you can select all start-off gears or reverse gear when stationary. Changes of direction are permitted only in the selected gear. You must not change gears while driving. On vehicles with an automated manual transmission, the transmission automatically changes to the manual drive program M when the power take-off is engaged. (→ page 216)

Vehicles with an engine-driven power take-off (NMV), without clutch actuator (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 (N4X or N4W): when the power take-off is engaged, you can select all start-off gears or reverse gear when stationary. You can select all gears while driving.

Vehicles with manual or automated manual transmission: when the transmission power take-off is engaged, you can select all start-off gears or reverse gear when stationary. Changes of direction are permitted only in the selected gear. You must not change gears while driving.

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If you have to leave the cab to operate the power take-off, you can use the engine run-on function of the ignition lock. The engine then continues to run and you can lock the doors of the cab with the key (→ page 198).

ⓘ The engine speed is increased and the engine noise may change during regeneration.

ⓘ If you have to leave the cab to operate the power take-off, observe the important safety notes for the diesel particulate filter (→ page 276).

Activates/deactivates power take-off

Activate power take-off

The power take-off must be load-free when it is activated/deactivated. The body/equipment mounting directives must also be observed.

Observe the activation/deactivation order when using the engine-driven power take-off (NMV).

Failing to observe the activation/deactivation order when using a transmission or engine-driven power take-off (NMV) can lead to functional impairments. This includes, for example, longer activation/deactivation times or 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 position.
- ▶ Leave the engine running at idle speed.
- ▶ Vehicles with manual transmission: depress the clutch pedal and keep it pressed down.
- ▶ Press the quick access button [ ] of the multimedia system.
  The Switch menu is shown in the display.
- ▶ **To switch on (N4Y/N4Z):** First switch on the transmission power take-off and then the (NMV).
- ▶ **To switch on (N4W/N4X):** First switch on the (NMV) and then the transmission power take-off.
- ▶ Press the [ ] button.
  When the power take-off is activated, the display of the on-board computer shows the activation status [ ]. The red indicator lamp in the switch [ ] lights up.
- ▶ Vehicles with manual transmission: release the clutch pedal when the display shows the power take-off is activated.

You cannot engage the power take-off when the parking brake is released. In this case, the yellow event window in the on-board computer shows [ ] and Engage parking brake.. Apply the parking brake and activate the power take-off again. If [ ] is flashing in the display of the on-board computer, the electronic management system does not recognise the vehicle's current operating state.

- ▶ Check whether the transmission is in neutral position.
- ▶ Vehicles with manual transmission: check whether the clutch pedal has been depressed.
- ▶ Check whether the vehicle is stationary.
- ▶ Check whether the parking brake is applied.
- ▶ Activate the power take-off again.
- ▶ If [ ] is flashing again in the display of the on-board computer, contact a qualified specialist workshop.

ⓘ Automatic regeneration results in high engine speeds at the transmission power take-off. Power take-off operation during automatic regeneration is only permitted if the power take-off application is designed for increased engine speed during regeneration operation. Wait for automatic regeneration and activate the transmission power take-off again.

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 the clutch pedal and keep it pressed down.
- ▶ Press the quick access button [ ] of the multimedia system.
  The Switch menu is shown in the display.
- ▶ **To switch off (N4Y/N4Z):** First switch off the transmission power take-off and then the (NMV).
- ▶ **To switch off (N4W/N4X):** First switch off the transmission power take-off and then the (NMV).
- ▶ Press the [ ] button.
  The power take-off is deactivated. The red indicator lamp in the switch [ ] goes out.

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- Vehicles with manual transmission: release the clutch pedal when the display no longer shows the power take-off.

Preselecting working speed

Vehicles with Mercedes PowerShift
The working speed can be preselected with the multifunction lever.

- Turn the direction switch to position N .
  The display shows N1 or N2 depending on the previously selected splitter box.
- **To preselect high working speed:** pull the multifunction lever briefly upwards.
  The fast splitter box is selected and the display shows N2.
- **To preselect low working speed:** press the multifunction lever briefly downwards.
  The slow splitter box is selected and the display shows N1.

Vehicles with manual transmission
The working speed can be preselected with the splitter switch.

- **To preselect high working speed:** pull the splitter switch upwards.
  The fast splitter box is selected.
- **To preselect low working speed:** press the splitter switch down.
  The slow splitter box is selected.

Setting engine speed

After the engine 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 idling speed –/working speed can therefore be set via the onboard computer.

Engine	Adjustable engine idling speed
OM 470 OM 471 OM 473	approx. 500 rpm-800 rpm
OM 936	approx. 600 rpm-800 rpm
OM 460	approx. 560 rpm-800 rpm

The rpm range can differ for special-purpose bodies.

- Stop the vehicle.
- Apply the parking brake.
- Shift the transmission to neutral position.
- Engage power take-off (→ page 307).

Setting engine speed

- Select the Driver Assistance Systems menu item in the instrument display.
- In the Rotational speed pop-up window, increase or reduce the engine speed with the SET or RES buttons.

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.

ⓘ Constant-rpm control is used to set the working speed control. 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.

- Stop the vehicle.
- Apply the parking brake.
- Shift the transmission to neutral position.
- Activate the transmission-driven or engine-driven power take-off.
- **To switch on:** press the quick access button of the multimedia system.
  The Switch menu is shown in the display.
- Press the button.
- **To switch off:** press the quick access button of the multimedia system.
  The Switch menu is shown in the display.
- Press the button.

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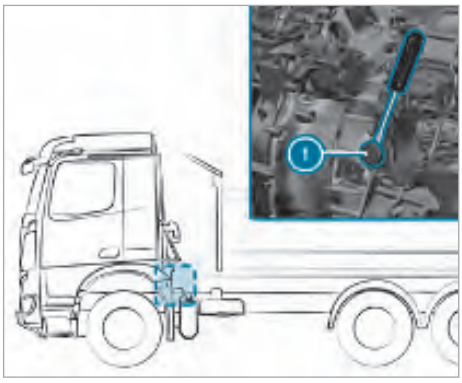
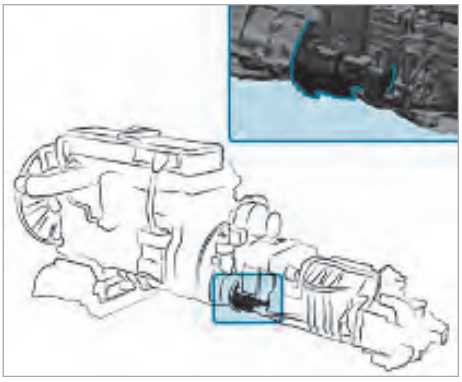
Switching emergency operation mode of the engine-driven power take-off (NMV) on/off

WARNING Risk of injury due to rotating output shaft

When the engine is running, the output shaft of the engine-driven power take-off can rotate.

- Only use the emergency operation of the engine-driven power take-off when the vehicle is stationary, the parking brake is applied and the engine is switched off.





Clutch actuators for vehicles with N4W or N4X power take-off

If the engine-driven power take-off (NMV) 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).

ⓘ The adapter for the emergency gearshift during engine-driven power take-off (NMV) can be found in the vehicle document wallet.

Vehicles with the N4W or N4X power take-off can be identified by the external clutch actuator. If there is a cover plate at this point, the vehicle is equipped with the N4Y or N4Z power take-off.

- Observe the activation/deactivation order when using the engine-driven power take-off (NMV) (→ page 307).
- **To activate power take-off manually:** apply the parking brake.
- Shift the transmission to neutral position.
- Switch the ignition off.
- Take the wrench, screwdriver and hammer out of the vehicle tool kit.
- Take the adapter out of the vehicle document wallet.
- Remove the cover ① with a screwdriver and a hammer.
- Place the adapter on the shaft with the wrench in position [2].
- Turn the wrench to position [4].
- Remove the wrench and adapter.
- Attach the cover ①.
- Start the engine.

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- Press the power take-off switch [ ] at the top.
  When the power take-off is activated, the display of the on-board computer shows the activation status [ ]. The indicator lamp in the [ ] switch lights up.
- **To deactivate power take-off manually:** start engine.
- Shift the transmission to neutral position.
- Press the power take-off switch [ ] at the bottom.
- Apply the parking brake.
- Switch the ignition off.
- Remove the adapter, the wrench, the screwdriver and the hammer from the vehicle tool kit.
- Remove the cover ① with a screwdriver and a hammer.
- Place the adapter on the shaft with a wrench in position [2].
- Vehicles with N4Y or N4Z power take-off: turn wrench to position [3].

or

- If the power take-off was previously activated automatically using the switch in vehicles with N4W or N4X power take-off: turn wrench to position [4].

or

- If the power take-off was previously activated manually in vehicles with N4W or N4X power take-off: turn wrench to position [3] .
- Remove the wrench and the adapter.
- Attach the cover ①.
- Start the engine.
  When the power take-off is deactivated, the display of the on-board computer shows [ ] and the indicator lamp in the switch [ ] goes out.

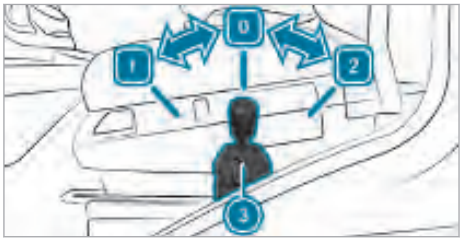
Tipper mode

How tipper mode works

To activate the tipper body and other functions, controls for pneumatic sensor and actuating valves can be fitted on the door side next to the driver's seat. The door trim will then be adapted to ensure 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.

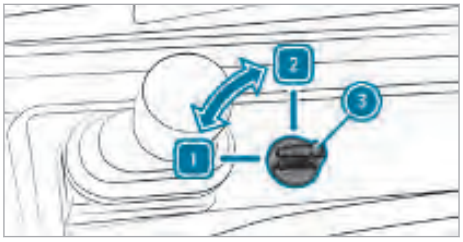
Sensor valve for tipper control



[1] Lower tipper body
[0] STOP – stop the tipping or lowering movement
[2] Raise tipper body
③ Control lever with pull ring

Control lever ③ will engage in position [2]. To move the control lever in or out of position [2], you will need to pull the pull ring on the control 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

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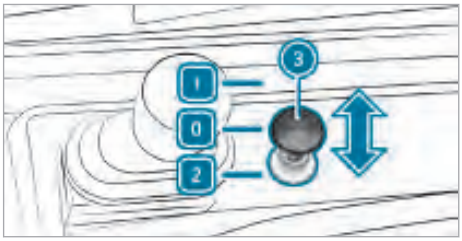
Actuating valve for on-board computer



1 Open dropside
0 STOP – stop movement
2 Close dropside
3 Pull switch

Retracting/extending the tipper

Before tipping

WARNING Risk of accident if the exterior lighting is covered by the dropside.

The exterior lighting at the rear is concealed when you open the rear dropside.

As a result, other road users cannot detect the vehicle as an obstacle until late.

▶ Protect the vehicle at the rear in accordance with national regulations, e.g. with a warning triangle.

Note Damage to the chassis caused by lifting the front wheels

If a container is raised or lowered, the front wheels may be lifted up.

▶ Let the engine run when coupling up or picking up platform-type swap bodies or containers.

Note Do not exceed the permissible axle load

Do not exceed the maximum permissible axle load when tilting, rolling or depositing platform-type swap bodies or containers.

Otherwise, the following vehicle parts may be damaged:

- Tyres
- Chassis
- Axles

▶ Do not exceed the value given in the body/equipment mounting directives.

You must complete the connection between the subframe and the vehicle frame 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. Be sure to follow the safety regulations and the tipper manufacturer's separate operating instructions.

When the tipper pump (power take-off) is engaged, you can select any start-off gear or reverse gear while stationary. Changes of direction are permitted only in the selected gear. Do not change gears while driving. In vehicles with an automated manual transmission, the transmission will change automatically when the tipper pump is switched to the **M** manual drive program.

Unless otherwise stated in the tipper manufacturer's operating instructions, always 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 manufacturer's separate operating instructions.
The tipper body must always be secured with pins on a side to which the load is to be tipped. The pins have different shapes to prevent confusion or diagonal insertion.

▶ Start the engine.

▶ Switch on the tipper pump (power take-off) (→ page 307).
The chassis will be lowered automatically. The display shows the symbol for chassis below driving level.

▶ Open the dropside or ensure that the dropside unlocks and opens in the case of automatic release/locking mechanisms. See the tipper manufacturer's separate operating instructions.

Tipping

▶ Make sure that nobody is in the tipping area.

▶ Observe the tipper manufacturer's operating instructions.

After tipping

▶ Close the dropside or ensure that the dropside closes and locks in the case of automatic

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release/locking mechanisms. See the manufacturer's separate operating instructions.

- Switch off the tipper pump (power take-off) (→ page 307).
- Raise the chassis to the driving level (→ page 263).
  The [ ] symbol for chassis below driving level will disappear from the display.

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Cleaning and care

Notes on cleaning the interior

WARNING Risk of injury from plastic parts breaking off after the use of solvent-based care products

Care and cleaning products containing solvents can cause surfaces in the cockpit to become porous.

When the airbags are deployed, plastic parts may break away.

▶ Do not use any care or cleaning products containing solvents to clean the cockpit.

WARNING Risk of injury or death 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.

ENVIRONMENTAL NOTE Environmental pollution caused by environmentally irresponsible disposal

▶ Dispose of the cleaning products in an environmentally responsible manner.

ⓘ Mercedes-Benz recommends that you only use care products that have been approved for Mercedes-Benz.
You can obtain care products from a Mercedes-Benz Service Centre.

Observe the following points when wet cleaning the vehicle interior:

- never use a high-pressure cleaner.
- make sure that no fluids can penetrate or remain in gaps and cavities.
- during cleaning, ensure there is sufficient ventilation.
- ensure that the vehicle interior completely dries following cleaning.

Recommended cleaners

	Notes on cleaning and care	Avoiding vehicle damage
Seat belts	• Clean with mild detergent solution.	• Do not use chemical cleaning agents. • Do not bleach or dye. • Do not dry seat belts by heating them to over 80 °C or exposing them to direct sunlight.
Cold foam mattress cover	• Wash at maximum 30 °C.	
Plastic trim	• Clean with a damp microfibre cloth. • For heavy soiling: use care product recommended for Mercedes-Benz.	• Do not use solvent-based care products and cleaning agents. • Do not attach stickers, films or similar materials. • Do not allow cosmetics, insect repellent or sun cream to come in contact with the plastic trim.
Trim inserts	• Clean with a damp microfibre cloth. • For heavy soiling: use care product recommended for Mercedes-Benz.	• Do not use solvent-based cleaning agents, polishes or waxes.

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	Notes on cleaning and care	Avoiding vehicle damage
Displays	• Carefully clean the surface with a cotton or microfibre cloth. • For heavy soiling: use care product recommended for Mercedes-Benz.	• Switch off the display and let it cool down first. • Do not use solvent-based care products and cleaning agents. • Do not use polishes or abrasive cleaning agents.
Cloth seat covers	• Clean the entire seat cover with a damp microfibre cloth and a 1% soapy water solution. Do not spot-clean.	• Do not use any oil-based cleaning and care products.
Imitation leather seat covers	• Clean the entire seat cover with a damp cotton cloth and a 1% soapy water solution. Do not spot-clean.	• Do not use a microfibre cloth.
Genuine leather seat covers	• Regularly clean the entire seat covers with a damp cotton cloth. • Use leather care agents that have been recommended for Mercedes-Benz for aftertreatment.	• Do not use a microfibre cloth. • Do not soak the leather.
Steering wheel and gearshift lever	• Clean with a damp cloth. • Use leather care agents that have been recommended for leather upholstery for Mercedes-Benz.	• Do not allow fluids with sticky ingredients to come into contact with the steering wheel or the steering-wheel buttons.

Notes on use of a high-pressure cleaner

WARNING Risk of an accident when using high-pressure cleaners with circular jet nozzles

The water jet of a circular jet nozzle (dirt grinder) can cause externally invisible damage to the tyres or chassis parts.

Components damaged in this way may unexpectedly fail.

▶ Do not use high-pressure cleaners with circular jet nozzles to clean the vehicle.

▶ Have damaged tyres or chassis parts replaced immediately.

NOTE Damage due to using a high-pressure cleaner in the vehicle interior

The pressurised water created by the high-pressure cleaner and the associated spray could cause considerable damage to the vehicle.

▶ Never use a high-pressure cleaner in the vehicle interior.

NOTE Component damage due to using a high-pressure cleaner

The following components can be damaged by directly spraying them with a high-pressure cleaner:

- door gaps
- air suspension bellows
- brake hoses
- balance weights
- electrical components
- electrical connectors
- seals

▶ Do not aim the water jet at these components.

When using a high-pressure cleaner, keep a minimum distance of approximately 30 cm between the high pressure nozzle and the vehicle parts.

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Keep the water jet moving constantly while cleaning.

Notes on using automatic car washes

NOTE Damage when using an automatic car wash

If the outside mirrors/camera arms are folded out or the windscreen wipers are switched on when using an automatic car wash, they may be damaged when using an automatic car wash.

▶ Before using automatic car washes:
- switch off the windscreen wipers
- vehicles with outside mirrors: fold in the outside mirrors
- vehicles with outside-mirror camera: fold in the camera arms

Make sure that the outside mirrors or camera arms of the outside-mirror camera 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.

ⓘ After using an automatic car wash, wipe off the wax from the windscreen and the wiper rubbers. This will prevent smears and reduce wiping noises caused by residue on the windscreen.

Notes on cleaning the exterior

WARNING Risk of an accident due to reduced braking power after washing the vehicle

Braking efficiency is reduced after washing the vehicle.

▶ After the vehicle has been washed, brake carefully while paying attention to the traffic conditions until braking power has been fully restored.

WARNING Risk of injury if unsuitable climbing aids are used

If you use vehicle body openings or add-on parts as steps, the following can occur:
- You may slip and/or fall.
- You may damage the vehicle and then fall.

▶ Always use -non-slip, stable climbing aids, e.g. a suitable ladder.

WARNING Risk of entrapment if the windscreen wipers are switched on while the windscreen is being cleaned

If the windscreen wipers are set in motion while you are cleaning the windscreen or wiper blades, you can be trapped by the wiper arm.

▶ Always switch off the windscreen wipers and the ignition before cleaning the windscreen or wiper blades.

WARNING Risk of fire from flammable materials or goods coming into contact with the exhaust system

If flammable materials or goods, e.g. wood chips or grain, come into contact with hot parts of the exhaust gas aftertreatment, they may ignite.

▶ Before each journey, check whether flammable materials or goods have been deposited in the area and/or on parts of the exhaust gas aftertreatment, and remove it with suitable aids (e.g. compressed air).

ENVIRONMENTAL NOTE Environmental pollution caused by environmentally irresponsible disposal

▶ Dispose of the cleaning products in an environmentally responsible manner.

ENVIRONMENTAL NOTE Environmental damage due to improper exterior cleaning

Exterior cleaning of the vehicle in a wash bay not specified for this purpose can release environmentally harmful operating and cleaning agents into the environment.

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▶ Look for a suitable wash bay for cleaning the exterior.

ⓘ Mercedes-Benz recommends that you only use care products that have been approved for Mercedes-Benz.
You can obtain care products from a Mercedes-Benz Service Centre.

When cleaning areas of the vehicle which are high up, always use the steps and grab handles on the vehicle (→ page 317) or secure and safe climbing aids, such as a suitable ladder.

If you use a high-pressure cleaner to clean the vehicle, also observe the "Notes on use of a high-pressure cleaner" section (→ page 314).

Paintwork

! **NOTE** Paintwork damage due to stubborn or aggressive dirt/impurities

The following impurities can permanently damage your paintwork, for example:

- insect remains
- bird droppings
- flash rust
- tree resins
- oils and greases
- fuels
- tar stains
- salt residues

▶ Remove these types of dirt/impurities immediately.

Vehicles with Mercedes-Benz protective chassis sealing

Remove corrosion-inducing substances with water after every use.

Before and after snow-clearing operations, check the anti-corrosion protection and repair it, as necessary.

In order to prevent damage to the Mercedes-Benz protective chassis sealing, observe the following information when cleaning the vehicle:

- do not use a high-pressure cleaner.
- use a water pressure of maximum 3 bar for cleaning.
- clean the vehicle with a water temperature of maximum 40 °C.
- do not use alkaline or acidic products, only use a neutral cleaning agent mixed to the ratio specified by the manufacturer.
- do not use substances dissolved in petrol, rapeseed oil, diesel, petrol or other solvents.

Radiator surface

! **NOTE** Engine overheating due to damaged or dirty radiator fins

Deformed or dirty radiator fins can result in reduced engine cooling.

The engine can overheat.

▶ Observe the notes on cleaning the exterior.

Only direct the compressed-air, steam or water jet towards the radiator surface in a vertical direction. Ensure that the radiator fins are not damaged. Remove any dirt from the radiator fins.

If there is a loss of coolant or damage to the cooling and heating system, have it checked at a qualified specialist workshop.

BlueTec® emissions control system

! **NOTE** Damage of the BlueTec® emissions control system due to improper cleaning

Cleaning the system while it is still warm or aiming the water jet directly in the exhaust pipe can damage the BlueTec® emissions control system.

▶ Only clean the system when it is cold.

▶ Do not aim the water jet in the exhaust pipe.

Light-alloy wheels

! **NOTE** Wheel nut corrosion due to the use of unsuitable cleaning agents

Using acidic or alkaline cleaning agents to clean the light-alloy wheels can cause corrosion on the wheel nuts or the safety springs of the balance weights.

▶ Use the cleaning agents recommended for Mercedes-Benz.

Clean the light-alloy wheels regularly.

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Exterior lighting

NOTE Damage to the exterior lighting due to improper cleaning

Using unsuitable cleaning agents and cleaning cloths can scratch or damage the plastic lenses of the exterior lighting.

▶ Clean the plastic lenses with a wet sponge and a mild cleaning agent.

Using steps

WARNING Risk of injury due to unlocked step

If the step is not locked when folded down, it may swing to the side when you climb up or down. This could cause you to slip and/or fall from the step.

▶ Always be sure to lock the unfolded step before stepping on it.

NOTE Damage due to driving with folded-down access step

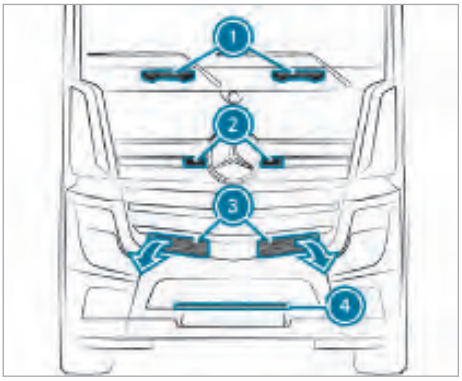
If you drive with the front access step folded down, it may touch the road surface during off-road driving and be damaged.

▶ Before starting to drive, fold up the front access step, and lock it if necessary.

▶ Keep steps and grab handles free of the following dirt:
- Mud
- Soil
- Snow
- Ice

This will improve the safety of your footing.

Steps, front



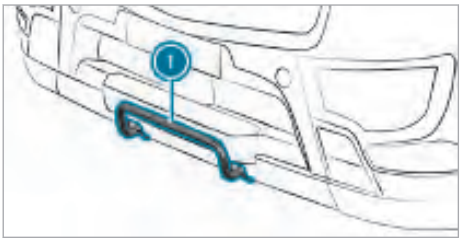
Example: Actros L-cab, steps and grab handles

▶ Tilt the folding steps ③ forwards.

When cleaning the vehicle, use the steps ④ and ③ and the grab handles ①.

To access the grab handles ① more easily and safely, use the handle recesses ②.

Small folding step, front



Example: small folding step, front

▶ **To fold down:** swing the step ① down as far as it will go.

▶ **To fold up:** swing the step ① upwards until it engages.

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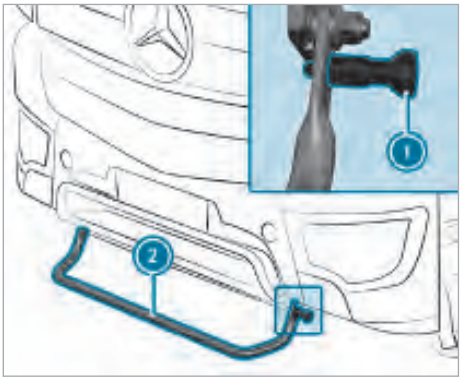
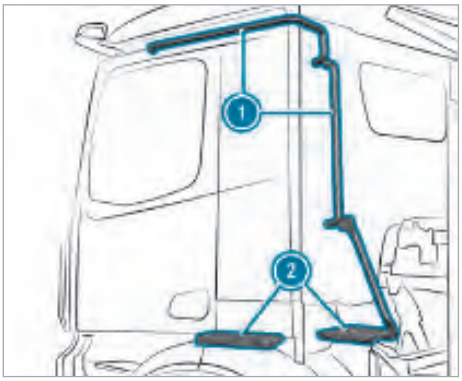
Large folding step, front



Example: large folding step, front

- **To fold up:** pull the retainer (1) and swing the step (2) upwards until it engages.
- Make sure that the retainer (1) has engaged on both sides.

Side steps

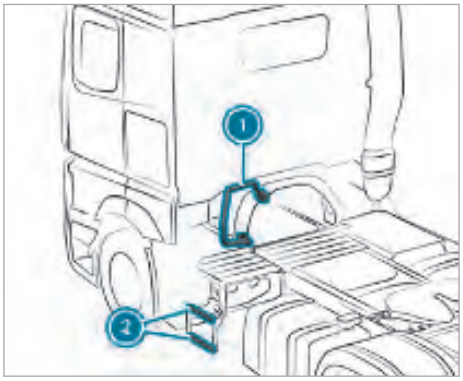


Tipper vehicle steps and grab handle (example)

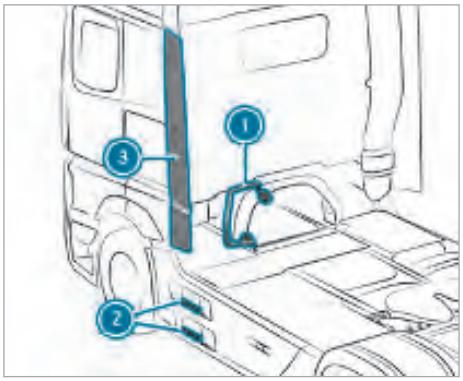
To enter safely from the side:

- Use the grab handle (1) and the steps (2).

Steps for semitrailer trucks



Steps and grab handle (example: Actros semi-trailer truck without side trim)



Steps and grab handle (example: Actros semi-trailer truck with side trim)

- Vehicles with side air deflector: fold the side air deflector (3) inwards.

Use the steps (2) and the grab handle (1) when cleaning the vehicle.

Cleaning the sensors

When cleaning areas of the vehicle which are high up, always use the steps and grab handles on the vehicle (→ page 317) or secure and safe climbing aids, such as a suitable ladder.

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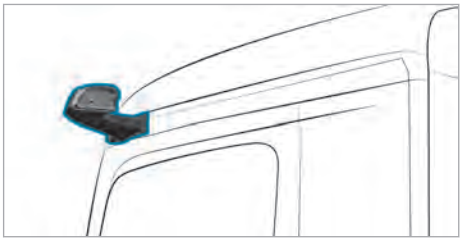
Cleaning the MirrorCam system camera



Camera housing (example: left-hand side of the vehicle)

Keep the camera lenses clean and free of snow or ice. Stubborn stains on camera lenses can generally be removed using a cloth moistened with a commercially available glass cleaner. Accumulated snow and ice are removed by the camera heating when the MirrorCam system is activated.

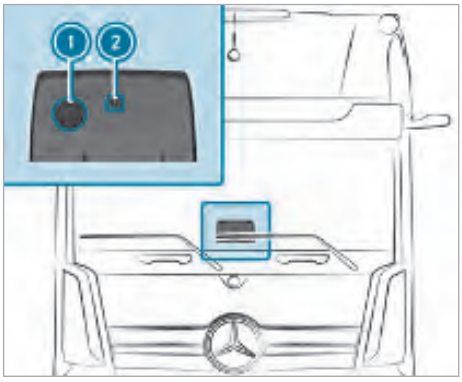
▶ Regularly clean the camera of the MirrorCam system to prevent malfunctions.

Cleaning the windscreen in the area of the rain and light sensor and camera

⚠ **WARNING** Risk of entrapment if the windscreen wipers are switched on while the windscreen is being cleaned

If the windscreen wipers are set in motion while you are cleaning the windscreen or wiper blades, you can be trapped by the wiper arm.

▶ Always switch off the windscreen wipers and the ignition before cleaning the windscreen or wiper blades.

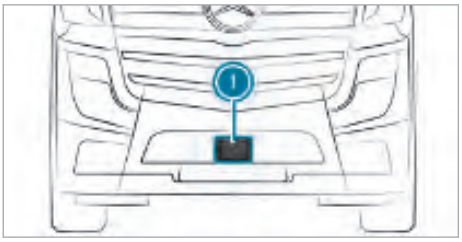


▶ Regularly clean the windscreen in the area of rain and light sensor 1 and camera 2 to prevent malfunctions.

ⓘ If the windscreen in the area of the rain and light sensor and the camera is damaged, the functionality of different driving and driving safety systems and of the rain and light sensor may be impaired. Have the windscreen replaced at a qualified specialist workshop.

ⓘ Note that it is only permissible to replace the windscreen with a windscreen approved by Mercedes-Benz.

Cleaning the distance sensor

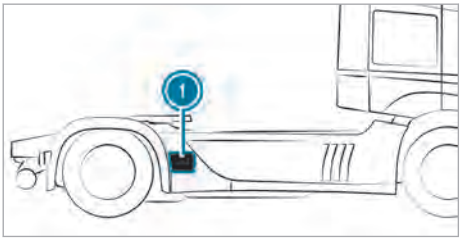


Example: distance sensor

▶ Regularly clean distance sensor 1 to prevent malfunctions.

If the distance sensor is dirty, the on-board computer displays the [icon] Distance sensor dirty event window.

Cleaning the Sideguard Assist sensors



Example: Sideguard Assist sensors

▶ Regularly clean sensors 1 with water, shampoo and a soft cloth to prevent malfunctions.

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Notes on washing the engine

NOTE Damage and malfunctions due to washing the engine

▶ Observe the following points to prevent engine damage and malfunctions:
- when using high-pressure or steam cleaners, do not point the water jet directly at electrical components and the end of electric cables.
- make sure that no water enters the air-intake, vent and ventilation openings.
- treat the engine with preservation agents after it has been washed.
- protect the belt drive from preservation agents.

Only use waxes specified in Sheet Number 385.4 of the Mercedes-Benz Specification for Operating Fluids.

NOTE Damage to the high-voltage ignition system of vehicles with a natural gas engine

If the high-voltage ignition system is exposed to the direct action of the water jet during engine washing, it can be damaged.

▶ Do not point the water jet directly towards the high-voltage ignition system.

Additionally pay attention to the "Notes on using a high-pressure cleaner“ section (→ page 314).

Maintenance

Notes on the maintenance system

ENVIRONMENTAL NOTE Environmental pollution due to disposal in a non-environmentally-friendly manner

If due to operating reasons, you need to perform maintenance work yourself, ensure you observe environmental protection requirements. 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 let the engine run longer than necessary when stationary.

The following settings can be made in the multimedia system in the menu Status under the menu item Maintenance:
- fuel grade
- resetting the values of the fluid coupling
- the state of the diesel particulate filter

Like all technical equipment, the vehicle requires care and maintenance. The scope and frequency of maintenance work mainly depend on the operating conditions, which can differ widely.

You must secure the vehicle on jack stands of sufficient load capacity if work is being carried out underneath the vehicle. Never use the jack instead of stands. The jack could slip and the vehicle could drop. The jack is designed only to raise the vehicle for a short time, e.g. while a wheel is being changed.

When working on the vehicle, comply with all safety regulations, such as the operating instructions, regulations concerning hazardous materials, environmental protection measures, work safety and accident prevention regulations.

Inspection and maintenance work requires special skills that cannot be acquired by reading these Operating Instructions. Always have this work and maintenance work carried out by a qualified specialist workshop.

The filter elements of the air filter must not be cleaned. Tapping, blowing or washing out the filter medium could lead to structural changes and damage. in this case, the required separation efficiency of the filter element can no longer be guaranteed. this may lead to increased wear and a reduced engine service life. Renew the air filter elements, otherwise the implied warranty is invalidated and the engine could be damaged.

The maintenance system calculates maintenance due dates for the vehicle and its major assemblies based on the vehicle's operating conditions.

You can call up the maintenance due dates calculated for the vehicle and its major assemblies in the on-board computer .

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The on-board computer first displays the maintenance due date in the event message automatically 14 days before the respective maintenance date.

ⓘ A qualified specialist workshop can program the first message to appear between 0 to 30 days before the due date.

When the maintenance due date has been reached or exceeded, the on-board computer will show additional event messages.

WARNING Risk of accident due to malfunctions or system failures

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

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

When you switch on the ignition and a maintenance due date will soon be or has already been reached, the on-board computer displays the maintenance due date in the grey event message (→ page 124).

When the maintenance due date has been exceeded, the on-board computer shows the overdue maintenance in the yellow event message (→ page 129).

The maintenance system automatically notifies you of maintenance due dates. Examples of this are:

- Air filter, 12.08.2018, 3000 km

  Maintenance due dates are displayed 14 days before the respective inspection is due.
- Air filter, Maintenance due

  The maintenance due date is due.
- Air filter, Maintenance due immediately

  The maintenance due date has been exceeded.

Opening/closing the maintenance flap

The fans for the condenser are under the maintenance flap on vehicles with electric stationary air conditioning system.

WARNING Risk of injury due to moving parts

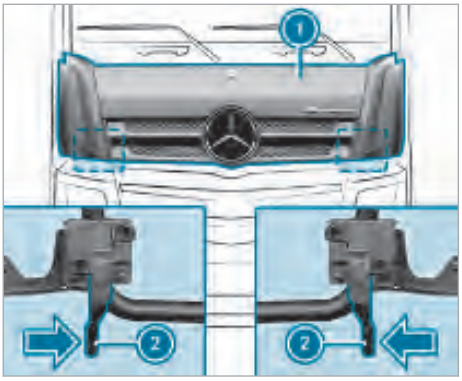
The fans on the condenser run when the stationary air conditioning system is in operation. They may also continue to operate or suddenly start if the engine is running.

If you have to open the maintenance flap:

▶ remove jewellery and your watch.

▶ never reach into the rotation area of the fans.

▶ keep items of clothing and hair away from the fans.



The release levers are below the side panelling above the headlamps.

▶ **To release and open:** press the release levers ② on the left and right one after the other in the direction of the arrow.

▶ Swing the maintenance flap ① upwards.

▶ **To close:** swing the maintenance flap ① down until it audibly engages.

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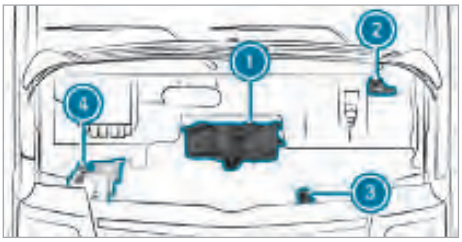
Overview of maintenance points under the maintenance flap



1. Coolant expansion reservoir with turquoise cap (→ page 322)
2. Hydraulic clutch operation system with green cap (→ page 323)
3. Engine oil filler neck with black cap (→ page 324)
4. Washer fluid reservoir with black cap (→ page 326)

Checking the coolant level

WARNING Risk of scalding from hot coolant

The cooling system is pressurised when the drive system is at normal operating temperature. If you open the cap, you could be scalded by hot coolant spraying out.

- Let the drive system cool down before opening the cap.
- When opening the cap, wear protective gloves and safety glasses.
- Open the cap slowly to release pressure.

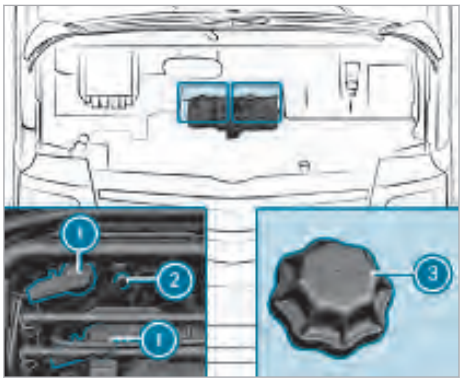
WARNING Risk of injury from operating fluids harmful to your health

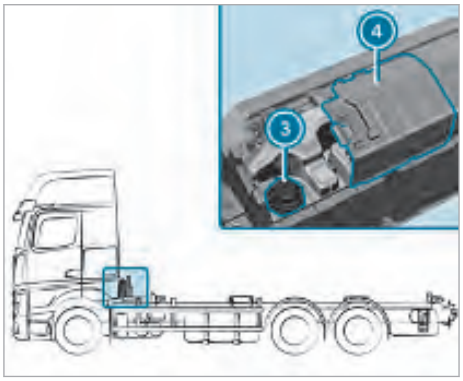
Operating fluids may be poisonous and harmful to your health.

- Observe the text on the original containers when using, storing or disposing of operating fluids.
- Always store operating fluids sealed in their original containers.
- Always keep children away from operating fluids.

NOTE Engine damage due to a coolant level that is too low

Engine damage may result if the vehicle is operated with too little coolant.





Ensure that you observe the notes in the "Operating fluids" chapter (→ page 385).

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 on-board computer displays the yellow event message Coolant pressure regulation faulty, check the electrical connector of the connections 1 and the hose fitting 2 are seated firmly. The hose fitting 2 and the turquoise cap 3 must free from leaks. If you are unable to find any leaks, have the engine cooling system checked at a qualified specialist workshop.

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If the coolant level in the coolant expansion reservoir is too low, the on-board computer displays the yellow (→ page 129) or red (→ page 145) event window with the [ ] symbol.

The coolant expansion reservoir can only be opened at a coolant temperature of under 50 °C.

The correct coolant level can only be checked when the coolant temperature is between 0 °C and 25 °C. Check the coolant temperature on the on-board computer beforehand.

If the coolant has to be topped up, add approved corrosion inhibitor/antifreeze agent to the water according to Sheet No. 325.5. Pay attention to the coolant composition and the water quality . Mix the water and the corrosion inhibitor/antifreeze agent together externally of the coolant circuit and then fill the mixture in the coolant expansion reservoir.

- ▶ Park the vehicle horizontally.
- ▶ Apply the parking brake.
- ▶ Switch off the engine.
- ▶ Vehicles with coolant expansion reservoir below the maintenance flap: open the maintenance flap (→ page 321).
- ▶ Vehicles with coolant expansion reservoir behind the cab: slide the cover ④ open.

ⓘ On vehicles with coolant expansion reservoir behind the cab, make sure you have firm footing when refilling coolant.

- ▶ Slowly turn the turquoise cap ③ anti-clockwise to relieve the excess pressure.
- ▶ Continue turning the turquoise cap ③ and remove it.
- ▶ Check the coolant level.
  The coolant in the coolant expansion reservoir must reach to the edge of the filler neck.
- ▶ Add coolant until it reaches the edge of the filler neck.
- ▶ Replace the turquoise cap ③ and tighten as far as it will go.
- ▶ Vehicles with coolant expansion reservoir below the maintenance flap: close the maintenance flap.
- ▶ Vehicles with coolant expansion reservoir behind the cab: slide the cover ④ shut.

Checking hydraulic fluid level of the clutch operation system

! **NOTE** Damage to the clutch operation system caused by adding the wrong hydraulic fluids

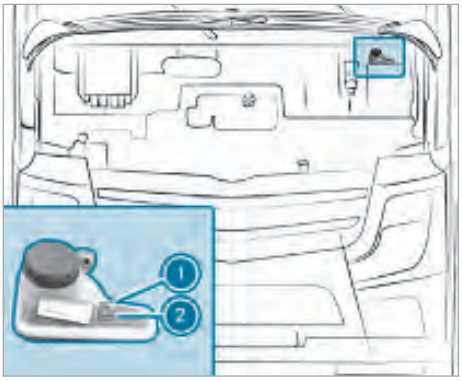
Never top up with hydraulic fluid of another quality grade or brake fluid.

Otherwise the hydraulic clutch operation system can be damaged.

! **NOTE** Damage to the clutch operation system caused by the fluid level being too low

If the fluid level in the expansion reservoir of the hydraulic clutch operation system does not reach the Min. marking, the hydraulic system might be leaking.

- ▶ Have the hydraulic system checked at a qualified specialist workshop.



For the hydraulic clutch operation system, hydraulic fluid according to sheet no. 345.0 of the Mercedes-Benz Specifications for Service Products is mandatory.

The hydraulic fluid for the hydraulic clutch operation system does not need to be renewed.

- ▶ Open the maintenance flap (→ page 321).
- ▶ 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.

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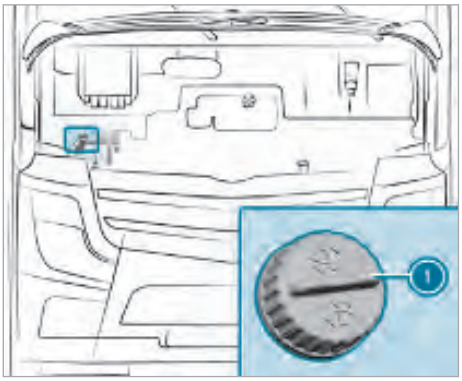
Topping up the windscreen washer system / headlamp cleaning system

WARNING - Risk of fire and injury due to 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 no windscreen washer concentrate spills out 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 has a capacity of approximately 10 l or 15 l.

If the washer fluid level in the washer fluid reservoir is too low, the on-board computer will display a grey event window containing the symbol.

A windscreen washer concentrate according to Mercedes-Benz Specifications for Service Products sheet no. 371.0 may be added to the washer fluid all year round. 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.

▶ Pre-mix the washer fluid to the correct mixing ratio in a container.

▶ Open the maintenance flap (→ page 321).

▶ Unscrew and remove the cap ① of the washer fluid reservoir.

▶ Refill the washer fluid reservoir.

▶ Replace the cap ① and screw it on.

▶ Close the maintenance flap.

Cleaning the cyclone dust pre-separator

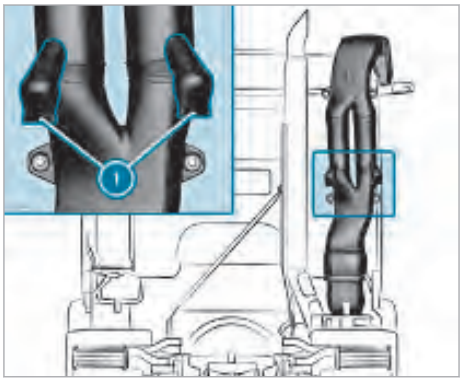
NOTE Tapping, blowing or washing out the air filter could damage the engine air cleaner.

The filter elements for the engine air cleaner must not be cleaned.

Tapping, blowing or washing out the filter medium could lead to structural changes and damage:

- in this case, the required separation efficiency of the filter element can no longer be guaranteed.
- this may lead to increased wear and a reduced engine service life.
- the implied warranty will be rendered invalid.

▶ Renew air filter elements.



The cyclone dust pre-separator is integrated in the intake port and extends the non-operational time of the air filter under dusty conditions.

Dust particles escape from the intake port on the extraction valves ① in order not to overcontaminate the air filter. Dust particles can collect in the extraction valves ①, it is for this reason that the extraction valves ① should be emptied regularly. If the vehicle is frequently driven in dusty environments, the valves should be emptied at least

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once a week. The valves should be emptied once a day in extremely dusty environments. Check the extraction valves (1) regularly for damage. Have damaged extraction valves (1) replaced at a qualified specialist workshop as soon as possible.

- Stop the vehicle.
- Apply the parking brake.
- Switch off the engine.
- Hold a container below the extraction valves (1).
- Press the extraction valves (1) together.

Cleaning the coarse filter for heating and climate control

Combination or pollen filters must not be cleaned. They must be replaced.

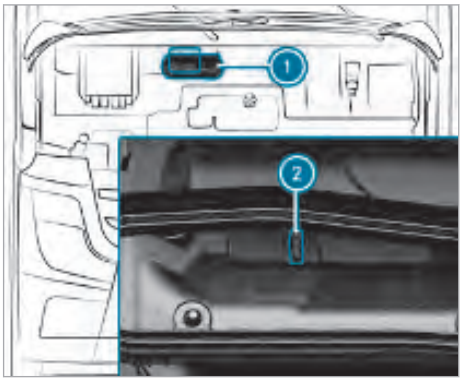
A combination or pollen filter is marked with the letter "C" or "P" on the top.

A coarse filter may only be tapped out or blown out.

A coarse filter is clearly marked with the letter "B" on the top.

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 out or blow out the coarse filter carefully and only to the opposite of the given airflow direction. 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 321).
- Slide the catch (2) on the air intake duct (1) towards 🔓.
- Remove the 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. In doing so, pay attention to the airflow direction indicated by arrows on the top. The arrows must point downwards.
- Fit the air intake duct (1).
- Slide the catch (2) on the air intake duct (1) towards 🔒.

Replacing the wiper blades

⚠ **WARNING** Risk of injury due to use of unsuitable climbing aids during wiper blade replacement

If you are working on the wiper blades or wiper arms and using the steps and grab handles at the front of the vehicle, you may slip and/or fall.

- When replacing the wiper blades, always use solid and stable climbing aids, e.g. a suitable ladder.

⚠ **WARNING** 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 ignition before changing the wiper blades.

! **NOTE** Damage to the wiper blade

- Touch the wiper blade only on the wiper arm.
  Otherwise, the wiper blade could be damaged.

! **NOTE** Damage to the maintenance flap or the windscreen

If the maintenance flap is opened while the wiper arms are folded out, it could be damaged.

If the wiper arms are folded back without wiper blades, the windscreen could be damaged.

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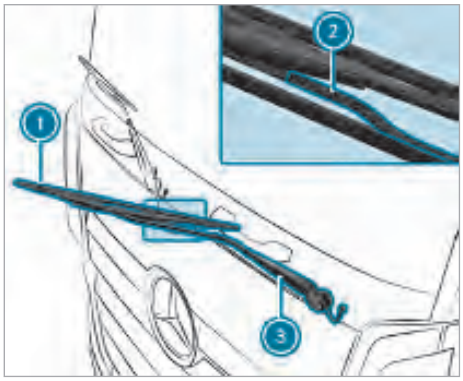
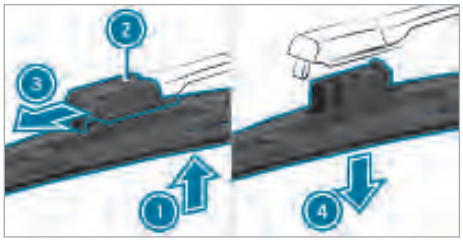
- Do not open the maintenance flap if a wiper arm is folded forward.
- Do not fold the wiper arms back without the wiper blade.

Wiper blades are wear parts. Replace the wiper blades at least once a year. Otherwise, the windscreen will not be wiped properly.

Removing the wiper blades

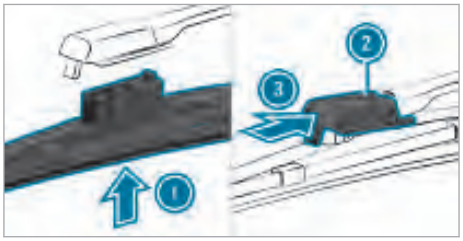


- Fold the wiper arms ③ away from the windscreen.
- Remove the hose ② from the pipe jet.



- Push the wiper blade in the direction of the arrow ① as far as it will go onto the wiper arm.
- Slide the catch ② in the direction of the arrow ③ until it engages in the removal position.
- Remove the wiper blade in the direction of the arrow ④ away from the wiper arm.

Fitting the wiper blades



- Insert the new wiper blade into the wiper arm in the direction of the arrow ①.
- Slide the catch ② in the direction of the arrow ③ until it engages in the locking position.
- Make sure that the wiper blade is seated correctly.
- Fold the wiper arms back onto the windscreen.

Checking/topping up the motor oil

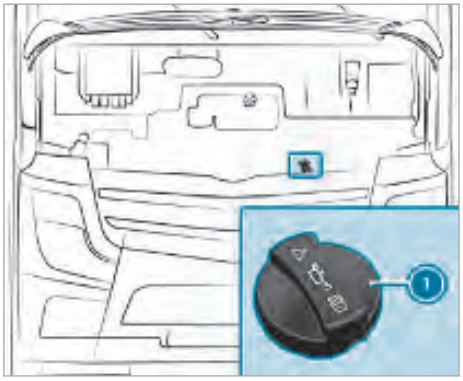
Checking the oil level

- Check the oil level using the on-board computer (→ page 124).
- Only use oils approved for the vehicle and which meet the specified SAE classifications (→ page 385).

Topping up the engine oil

! **NOTE** Engine damage caused by driving with excess engine oil

- Avoid long journeys with excess engine oil.



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Only top up the oil filling capacity displayed on the on-board computer when the symbol appears in the menu window.

- Park the vehicle horizontally.
- Apply the parking brake.
- Switch off the engine.
- Open the maintenance flap (→ page 321).
- Unscrew the cap (1) and remove it.
- Top up the oil filling capacity displayed on the on-board computer.
- Put on the cap (1) and screw it closed.
- Close the maintenance flap.

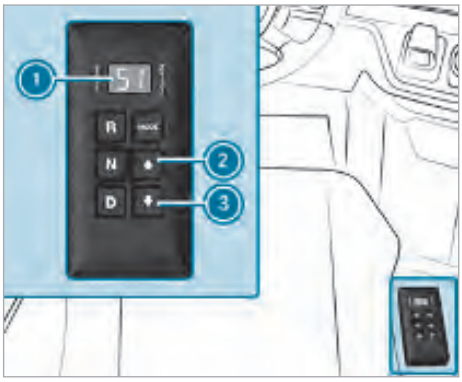
Automatic transmission oil level

Checking oil level of the automatic transmission

! NOTE Risk of transmission damage due to excessive transmission oil temperature

If the indicator lamp flashes or lights up while driving, the temperature of the transmission oil or coolant is too high. This can be caused by the transmission oil level being too high or too low. There is a risk of damage to the transmission if the transmission oil temperature rises to increased levels relatively frequently.

Check the oil level only when the automatic transmission is at normal operating temperature.



- Park the vehicle horizontally.
- Apply the parking brake.
- Shift the automatic transmission to neutral position.
- Start the engine and let it run at idling speed.
- Press the (2) and (3) buttons simultaneously.
- Press the (2) button.
  The oil level measurement starts. During the oil level measurement, the display (1) shows the codes from oL 08 to oL 01 in sequence.
- Wait for approximately two minutes.
  After the waiting time, the display (1) automatically shows 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 (1) once again shows the shift position on the left and the selected gear on the right.
- Top up transmission oil if necessary.

Overview of transmission oil level fault codes

Oil level codes:

Code	Meaning
oL oK	The oil level in the transmission is OK.
oL Lo	The oil level in the transmission is too low.
	The number shown below indicates the transmission oil quantity that must be refilled, e.g. **01** = 1 l.
oL HI	The oil level in the transmission is too high.
	The number shown below indicates the transmission oil quantity that must be drained or extracted, e.g. **01** = 1 l.

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Possible fault codes during the oil level measurement:

Code	Meaning	Remedy
oL EL	The engine speed is too low.	Run the engine at idle speed.
oL EH	The engine speed is too high.	Run the engine at idle speed.
oL SN	The automatic transmission is not in neutral position.	Shift automatic transmission to neutral position.
oL TL	The oil temperature is too low.	Leave the engine running until the operating temperature of the transmission oil is reached.
oL TH	The oil temperature is too high.	Stop the engine until the oil temperature in the transmission has fallen to the 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 oil level with oil dipstick. Have the fault checked at a qualified specialist workshop.

Notes on the major assemblies

ENVIRONMENTAL NOTE Environmental pollution due to disposing of operating fluids in a non-environmentally responsible manner

Operating fluids include the following:

- fuels
- exhaust gas aftertreatment additives, e.g. AdBlue®
- lubricants

Incorrect disposal of operating fluids can cause considerable damage to the environment.

▶ Dispose of operating fluids in an environmentally responsible manner.

Check the major assemblies for leak tightness regularly. If you note fluid loss, e.g. oil spots in the parking space, have the cause rectified immediately in a qualified specialist workshop.

Checking the anti-corrosion protection

NOTE Damage to the anti-corrosion protection due to salt residue

Road salts are aggressive. To remove salt residue, wash the vehicle more frequently in the winter. Otherwise, salt residue could damage the anti-corrosion protection.

The vehicle can be provided with Mercedes-Benz protective chassis sealing. The Mercedes-Benz protective chassis sealing is a transparent anti-corrosion wax with outstanding protective properties.

All Mercedes-Benz cabs are equipped with cavity preservation.

▶ Check the vehicle regularly for corrosion damage, particularly the compressed-air lines, 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 Mercedes-Benz protective chassis sealing: as a precautionary measure, spray the underside of the vehicle with a wax preservative for underbodies in accordance

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with Sheet No. 385.1 of the Mercedes-Benz Specifications for Operating Fluids.

Battery

Notes on the battery

WARNING Danger of chemical burns from the 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, in particular safety glasses, protective gloves and an apron.
- ▶ Do not lean over the battery.
- ▶ Keep children away from the battery.

If you come into contact with battery acid, observe the following:

- ▶ Rinse battery acid off the skin thoroughly with plenty of clean water and seek medical attention immediately.
- ▶ If battery acid comes into contact with your eyes, immediately rinse them thoroughly with plenty of clean water. Seek medical attention immediately.

NOTE Damage to the batteries due to direct current drain

Connecting consumers directly to the battery pole causes the battery sensor to calculate incorrectly.

This causes an uncontrolled battery discharge and both batteries may be damaged.

- ▶ Do not connect any consumers directly to the battery pole.

ENVIRONMENTAL 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 notes and protective measures when handling the battery.

Risk of explosion. Explosive oxyhydrogen gas is produced when batteries are being charged. Only charge the 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 immediately 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 immediately using clean water and seek medical attention at once!

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 battery.

For safety reasons, Mercedes-Benz recommends that you only use batteries which have been approved for your vehicle by Mercedes-Benz.

General notes

In this section you will find notes and information about the batteries. This means you can ensure that the batteries are charged and ready for use.

Observe the following points regarding battery capacity and performance:

- Battery capacity is limited and the operating time depends on the number of electrical

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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.
- Please note that the alternator cannot fully charge the batteries.
- If the battery is used intensively when the vehicle is stationary, e.g. spending the night in the vehicle, recharging the battery may be required after several days. Example:

  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 event windows:
  - Energy-saving mode active
  - Battery charge level too low Start engine.

Observe the following notes to minimise power consumption:

- Electrical stationary air conditioning system: the system is designed to keep an already cooled cab at the right temperature. The set specified temperature should be appropriate to the outside temperature.
- The refrigerator is not impacted by the energy-saving mode. It always stays switched on to preserve perishable goods. Its electrical consumption is minimal, but not negligible.
- 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 charge mobile phones and notebooks whilst driving and not when stationary.
- Completely disconnect the TV unit and receiver from the on-board electrical system when these are not in use. These devices consume electricity even when switched off (standby mode).
- Completely disconnect the voltage converter from the on-board electrical system when it is not in use. The quiescent current of these devices can be very high due to poor efficiency.

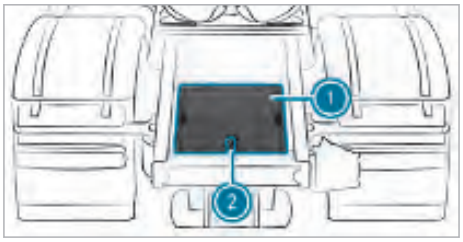
If you park up your vehicle for longer than three weeks, observe the notes on parking up the vehicle (→ page 336).

When storing batteries, comply with all safety regulations, such as operating instructions, regulations concerning hazardous materials, environmental protection measures, work safety and accident prevention regulations.

Observe the instructions on care and maintenance of the battery (→ page 333).

Removing and fitting batteries

Battery box



▶ **To remove:** open catch ② and remove battery box cover ① upwards.

▶ **To replace:** replace battery box cover ①.

▶ Attach 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.

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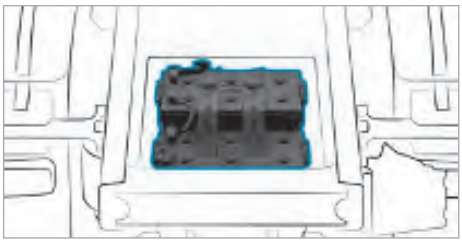

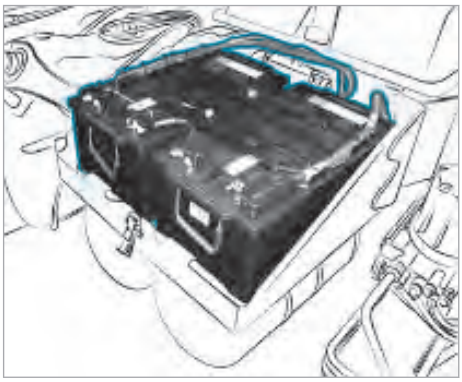

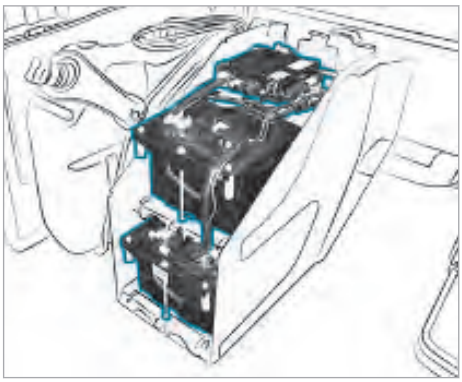

Disconnecting and reconnecting the batteries

WARNING Risk of explosion from hydrogen gas igniting

A battery generates hydrogen gas during the charging process. If there is a short circuit or sparks start to form, there is a danger of the hydrogen gas igniting.

- Make sure that the positive terminal of the connected battery does not come into contact with vehicle parts.
- Never place metal objects or tools on a battery.
- When connecting and disconnecting the battery, you must observe the described order for the battery clamps.
- When giving starting assistance, always make sure that you only connect battery terminals with identical polarity.
- During starting assistance, you must observe the described order for connecting and disconnecting the jump lead.
- Do not connect or disconnect the battery clamps while the engine is running.

NOTE Damage to the battery pole or battery sensor

On vehicles with a battery sensor, the negative terminal is part of the battery sensor.

If the negative terminal is not correctly secured on the negative pole of the battery, contact is not guaranteed. The battery sensor or battery pole may be damaged as a result of this.

- Tighten the negative terminal on the battery sensor with a tightening torque of 7 Nm (+/- 1 Nm).

Observe the safety notes on handling batteries.

Before disconnecting and reconnecting the batteries:

- Semitrailer truck with batteries in the rear area: detach the semitrailer (→ page 289).
- Switch the ignition off.
- Switch off all electrical consumers.
- Remove the battery box cover.
- **To disconnect:** disconnect the negative terminal first, and then disconnect the positive terminal.
- **To connect:** connect the positive terminal first, and then connect the negative terminal. Do not interchange the battery clamps.
- Replace the battery box cover.

Carry out the following tasks after an interruption to the power supply or after reconnecting the batteries:

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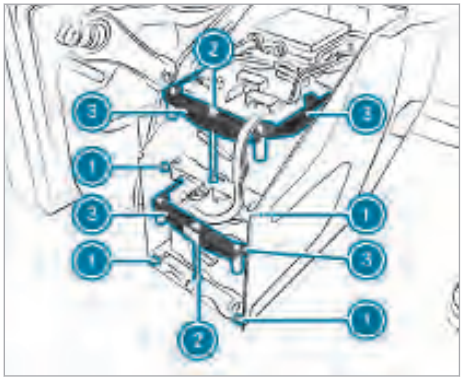
- Reset the side window (→ page 49) and the sliding sunroof (→ page 49).
- Deactivate anti-theft protection on the audio equipment (radio).
- Set the local time on the tachograph.
- Set the switch-on time for the auxiliary heating system (→ page 112).

Removing and fitting batteries (one above the other)

NOTE Damage to the battery carrier due to excessive tightening torque

If you tighten the battery carrier screws using an excessive tightening torque, the threaded connections may be damaged.

- Firmly tighten the screws on the battery carrier with a tightening torque of 12 Nm. Do not use an impact wrench.



Removing

- Remove the battery box cover.
- Disconnect the negative terminal first, and then disconnect the positive terminal.
- Detach the connecting cable between the batteries.
- Unscrew screws 1 from the upper battery carrier.
- Pull out the upper battery carrier.
- Unscrew screw 2 from upper securing frame 3.
- Remove securing frame 3.
- Pull out the upper battery and the upper battery carrier.
- Unscrew screws 1 from the lower battery carrier.
- Pull out the lower battery carrier.
- Unscrew screw 2 from lower securing frame 3.
- Remove securing frame 3.
- Remove the lower battery and the lower battery carrier.

Fitting

- Insert the lower battery carrier.
- Place the battery onto the lower battery carrier.
- Position 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 upper securing frame 3 and screw in screw 2.
- Push in the upper battery carrier.
- Screw screws 1 into the upper battery carrier.
- Reconnect the connecting cable between the batteries.
- Reconnect the positive terminal first, and then reconnect the negative terminal.
- Replace the battery box cover.

Removing and fitting batteries (one beside the other)

NOTE Damage to the battery carrier due to excessive tightening torque

If you tighten the battery carrier screws using an excessive tightening torque, the threaded connections may be damaged.

- Firmly tighten the screws on the battery carrier with a tightening torque of 20 Nm. Do not use an impact wrench.

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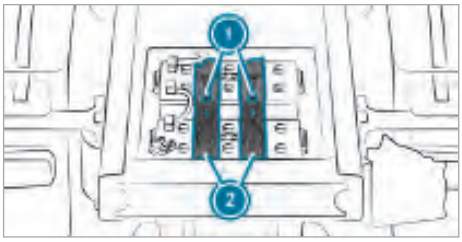

Removing

- ▶ Remove the battery box cover.
- ▶ Disconnect the negative terminal first, and then disconnect the positive terminal.
- ▶ Detach the connecting cable between the batteries.
- ▶ Unscrew screws ① from brackets ②.
- ▶ Remove both brackets ②.
- ▶ Remove the batteries.

Fitting

- ▶ Insert the batteries.
- ▶ Insert both brackets ②.
- ▶ Screw screws ① into brackets ②.
- ▶ Reconnect the connecting cable between the batteries.
- ▶ Reconnect the positive terminal first, and then reconnect the negative terminal.
- ▶ Replace the battery box cover.

Information on maintenance and care of the battery

Parking up the vehicle for an extended time period and storage

! **NOTE** Battery discharge caused by quiescent current consumers

During idle periods the battery may be discharged due to quiescent current consumers.

This can cause damage to the battery.

- ▶ During non-operational periods of over a week, disconnect the negative terminal on the battery.

! **NOTE** Damage to the battery due to too low a voltage

If the battery voltage drops below 12.1 V, the battery is damaged and must be replaced.

- ▶ Remove the batteries for non-operational periods of over a month.
- ▶ Store the batteries in a dry place and 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 under 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 336).

When storing batteries, comply with all safety regulations, such as operating instructions, regulations concerning hazardous materials, environmental protection measures, work safety and accident prevention regulations.

Battery replacement and operating life

! **NOTE** Damage to the batteries due to direct current drain

Connecting consumers directly to the battery pole causes the battery sensor to calculate incorrectly.

This causes an uncontrolled battery discharge and both batteries may be damaged.

- ▶ Do not connect any consumers directly to the battery pole.

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.

Mercedes-Benz 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 specialist workshop.
- use batteries of the same age

  Do not combine old and new batteries.

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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 discharging due to leakage currents

Dirty battery clamps and battery surfaces cause leakage currents. This can lead to the batteries discharging.

▶ Always keep the battery terminal clamps and battery surfaces clean and dry.

NOTE Damage to the battery housing due to improper cleaning

If you use cleaning agents containing fuel, these corrode the battery housing.

▶ Do not use cleaning agents containing fuel.

NOTE Damage to the battery due to self-discharging

If dirt gets into the battery cell, self-discharging from the battery increases and the battery may 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 clamps with acid-resistant grease, otherwise dirt can enter the battery cells
- only use commercially-available cleaning agents to clean the battery housing
- recharge batteries that are not in use with a no-load voltage of less than 12.4 V

Activating transport mode

Activating/deactivating

Transport mode includes a deactivation function for various electrical consumers when the engine is not running and it protects the batteries from discharging when vehicles are parked for a long 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:

- Work lamps
- Cargo liftgate
- Charging management alternator
- Dipped beam (when the ignition is switched off)
- Ignition (at level one after 15 minutes when the engine is switched off and no diagnostic device is connected)

The following functions are not deactivated in transport mode:

- The 24 V sockets and the first switch for the non-MB body are not deactivated, depending on the vehicle equipment
- **Vehicles with a connection point for the body manufacturer:** the 12 V socket is not deactivated

▶ Press the hazard warning lights switch, the headlamp flasher and turn signal indicator simultaneously for at least three seconds within three seconds of switching on the ignition.

▶ **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 ignition is switched on again.

ⓘ The use of transport mode is stored in the vehicle along with the kilometre reading and 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 for a long period, check the battery charge level more often.

▶ Disconnect the batteries.

▶ Wait approximately eight hours.

▶ 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.

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Charging the battery

WARNING Risk of explosion from a frozen battery

A discharged battery may freeze at temperatures slightly above or below freezing point.

During starting assistance or battery charging, battery gas can be released.

▶ Always allow a battery to thaw before charging it or performing 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.

Have a thawed battery checked at a qualified specialist workshop.
Use a commercially available charger to charge the battery. Note the correct charging voltage. Do not charge new batteries with rapid charging. When using rapid charging on used batteries, the charging current must not exceed a maximum of 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. A higher charging current can damage the battery.

Charge the batteries at an ambient temperature over 0 °C. The optimal 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.
▶ If the batteries are charged, deactivate the charger and screw the cell caps onto the batteries.
▶ Fit the batteries.

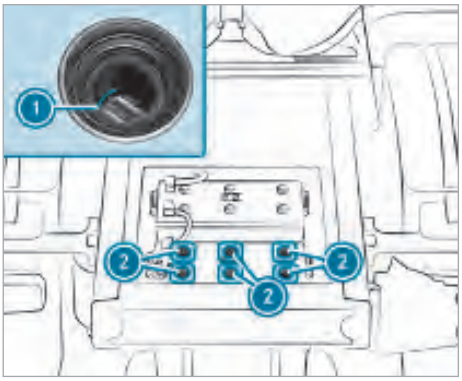
ⓘ After charging/replacing the batteries, the battery charge level calculated may not be correct. It takes approximately three days while the vehicle is in operation for the teach-in process to be completed. The following event window displays are only correct once the teach-in process has been completed:

- Energy-saving mode active
- Battery 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 notes 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 cell caps ②.
▶ Check the battery fluid level. The battery fluid must reach marker bar ① in each battery cell.
▶ Top up with distilled/de-ionised water.
▶ Refit cell caps ②.
▶ Vehicles with batteries fitted one above the other: fit the batteries.
▶ Replace the battery box cover.

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Notes on parking up the vehicle

When parking up the vehicle, special measures according to sheet 382.0 of the Mercedes-Benz Specifications for Operating Fluids.

You can obtain detailed information from any Mercedes-Benz service centre.

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Function of telediagnostics

With telediagnostics, you can provide Mercedes-Benz Service 24 h with detailed technical information on your vehicle in the event of a breakdown. This allows Mercedes-Benz Service 24 h to isolate the malfunction and quickly provide you with assistance.

You can use telediagnostics if you have activated FleetBoard® and have a completed framework agreement with the "Uptime" service.

The following data is transmitted to Mercedes-Benz Service 24 h:

- data necessary for identification of the vehicle (e.g. vehicle identification number/VIN)
- control unit diagnostic data (e.g. fault memory)
- current data on the vehicle position
- current total distance

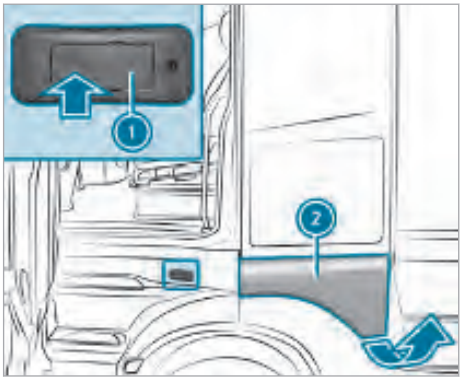
No data related to the driver, the route or the load are transmitted.

If you press the FleetBoard® TiiRec Service Call button for approximately two seconds, telediagnostics is activated.

ⓘ If you activate telediagnostics and do not notify Mercedes-Benz Service 24 h, the data is 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 release catch ① on the outside in the recess.
Outside flap ② opens until stopped by the safety hook.

▶ Press release catch ① again on the outside in the recess.
Outside flap ② is fully unlocked. The tool kit compartment lighting comes on automatically.

▶ Swing outside flap ② up fully using the handle recess on the right-hand side.
The prop engages.

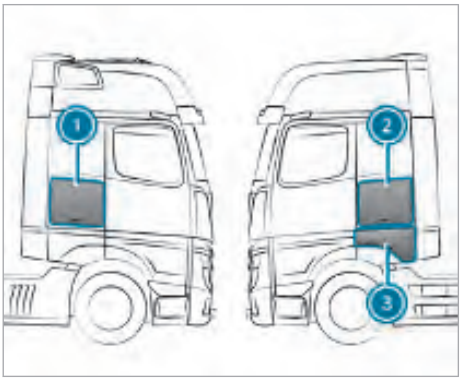
Closing the tool kit compartment

▶ Raise outside flap ② a small amount using the handle recess on the right-hand side.

▶ Push the prop upwards.

▶ Swing outside flap ② down using the handle recess on the right-hand side until you hear it engage in the lock.
The tool kit compartment lighting goes out automatically.

Overview of vehicle tool kits and emergency equipment



The vehicle tool kit and emergency equipment are divided into two packages:

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A	B
• Spare bulbs • Fire extinguisher • Tyre pressure gauge • Tyre inflator hose • Support block • Second warning triangle	• Towing eye • Spare wheel spacer • Vehicle tool kit • Hand crank • Lamp with 10 m cable • Assembly lever • Pump lever • Jack

Allocation of the vehicle tool kit and emergency equipment for L-cabs and M-cabs:

Cab	Compartment 1	Compartment 2	Compartment 3
L-cab with tool kit compartment	B		A
L-cab with tool kit compartment and Solo-Star Concept		B	A
L-cab without tool kit compartment and with Solo-Star Concept		A/B	
L-cab without tool kit compartment	A/B		
M-cab	A	B	

Vehicles with ADR classification: the fire extinguisher is located in stowage compartment 2 on the driver's side. Open the stowage compartment (→ page 99).

On vehicles with two fire extinguishers, the second fire extinguisher may be in the following storage locations, depending on the vehicle version:

- in stowage compartment 1 on the co-driver side
- in tool kit compartment 3 (→ page 337)
- in a protective box on the exterior of the rear panel on the driver's side

On the L-cab as car transporter with lowered bunk or seat/bunk combination, the fire extinguisher and jack are behind the driver's seat. You are responsible for stowing the tools yourself.

On the S cab, the jack is on the B-pillar behind the co-driver 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 co-driver side. You are responsible for stowing the tools yourself.

The following emergency equipment is found in the stowage space in the driver's door:

- First-aid kit (soft sided)
- Warning triangle
- Warning lamp
- Safety vest

Using the jack, pump lever and chock

Jack

ⓘ The jack has a maximum weight of 15.9 kg depending on the vehicle's equipment. The maximum load capacity of the jack can be found on the sticker affixed to the jack. If there is a malfunction, please contact a qualified specialist workshop.

Jack maintenance

▶ **After use:** clean and re-apply grease to all moving parts.

▶ **Every six months:** completely extend and then retract the piston.

Pump lever (two-part)

⚠ **WARNING** Risk of injury due to incorrectly assembled pump lever

If you do not assemble the pump lever as described, the lever may slide out of the guide during pumping.

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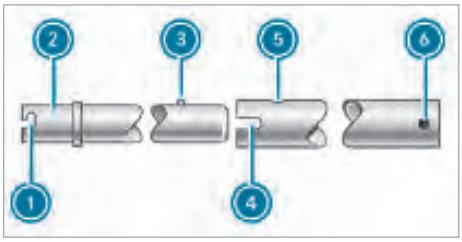
▶ Make sure that the locking pin of the pump lever is engaged in the hole intended for the purpose.



1. Recess (jack)
2. Jacking point (wheel wrench / cab tilting pump)
3. Locking pin
4. Recess (for operating the 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:

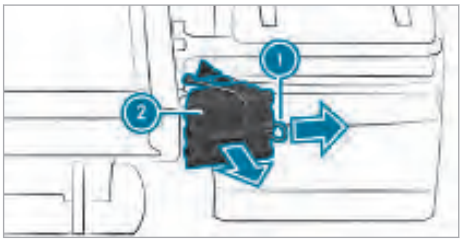
- Jack
- Wheel wrench
- Spare wheel winch
- Cab tilting pump

▶ **To assemble the pump lever:** align and insert locking pin 3 into hole 5 of both pump lever parts.

▶ Press locking pin 3 into hole 5 until it engages.

▶ **To disassemble the pump lever:** push locking pin 3 and pull apart the pump lever.

Chock



The storage location of the chocks may vary depending on the vehicle version and equipment.

Removing the chock

▶ Pull the elastic strap over the retainer 2.

▶ Press the retainer 1 in the direction of the arrow and hold it there.

▶ Pull out the chock 2.

▶ Release the retainer 1.

Inserting the chock

▶ Press the retainer 1 in the direction of the arrow and hold it there.

▶ Insert the chock 2 into the bracket.

▶ Release the retainer 1.

▶ Pull the elastic strap over and beyond the retainer 1 and onto the chock 2.

Cab

Tilting the cab

Before tilting the cab

⚠ **WARNING** Risk of injury when the cab is being tilted

When the cab is tilted, it may suddenly drop to the end position.

There is a risk of injury to persons within the tilting range of the cab.

▶ Tilt the cab only when there are no persons in the tilting range.

▶ Do not walk under the cab area when the cab is tilted.

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 position.

▶ For air-sprung cabs: allow the engine to continue running until the compressed-air system

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is filled to the maximum and the compressor switches off.

- Switch off the engine.
- When the engine is started after tilting, switch on the ignition.
- Switch off the auxiliary heating (→ page 110).
- Switch off the stationary air conditioning system (→ page 113).
- Switch off the refrigerator box (→ page 99).

ⓘ 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 99).
- Close the doors.

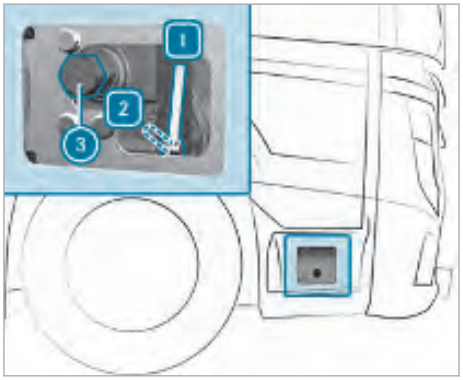
ⓘ If you need to open a door when the cab is tilted, do so carefully and slowly until the door is fully open.

- Make sure the coupling pin of the front coupling jaw is secure and that the coupling jaw is covered (→ page 366).
- Use chocks to secure 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, it is absolutely essential to activate the ERA system's service mode. Information about activating the service mode can be found in the "ERA GLONASS supplement".

Tilting the cab forwards (mechanical-hydraulic cab tilting system)



Cab tilting pump on right (example)

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 321).
- Swing up the flap to the right of the entrance.
- Swing the valve lever on the tilting pump into the tilting position 2.
- Fit the pump lever to the hexagon nut 3 on the tilting pump using the wheel wrench (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 the 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.

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Tilt the cab back into the driving position (mechanical-hydraulic cab tilting system)

WARNING Risk of accident or injury if the cab is not locked while the vehicle is in motion

If the cab is not locked, the following dangerous situations could arise when the vehicle decelerates:

- It could tilt forwards.
- You could 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 driving position and the valve lever is in the driving position.
- The indicator lamp goes out when the engine is started

▶ Swing the valve lever on the tilting pump into driving position 1.

▶ Fit the pump lever to hexagon nut ③ on the tilting pump using the wheel wrench.

▶ 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.

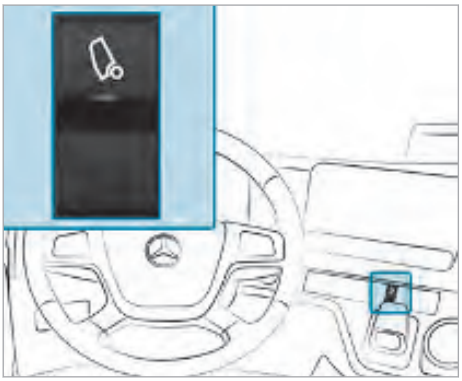
Do not continue to operate the pump lever on the tilting pump once the cab is locked in position.

▶ Close the maintenance flap.

▶ Swing the flap to the right of the entrance down until you hear it engage.

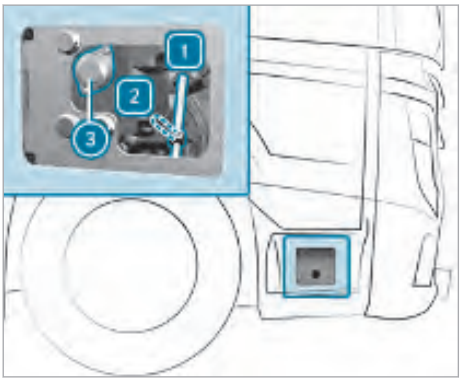
▶ Check whether the indicator lamp on the instrument cluster goes out after you start the engine. When the indicator lamp goes out, the cab is locked. If the indicator lamp does not go out, repeat the process and tilt the cab back again.

Tilting the cab forwards (electro-hydraulic cab tilting system)



▶ Read the notes before tilting the cab.

▶ Press the button.
The indicator lamp on the button will light up. The cab tilting pump will be switched on.



1 Valve lever in driving position
2 Valve lever in tilting position
③ Button

Do not step on the engine when the cab is tilted.

▶ Swing up the flap to the right of the entrance.

▶ Check the direction of rotation of the valve lever on the instruction sticker in the entrance.

▶ Swing the valve lever on the cab tilting pump into position 2.

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- Press and hold button ③ until the cab has tilted into the front end position.
  The cab has reached the forward end position when the noise of the pump becomes louder.

Tilting the cab back into the driving position (electro-hydraulic cab tilting system)

WARNING Risk of accident or injury if the cab is not locked while the vehicle is in motion

If the cab is not locked, the following dangerous situations could arise when the vehicle decelerates:

- It could tilt forwards.
- You could 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 driving position and the valve lever is in the driving position.
- The indicator lamp goes out when the engine is started

- Swing the valve lever on the cab tilting pump into driving position [1].
- Press and hold button ③ until the cab has tilted into the rear end position.
  The cab will lock automatically.
- Swing 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 engine. When the [ ] indicator lamp goes out, the cab is locked. If the [ ] indicator lamp does not go out, repeat the process and tilt the cab back again.

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Problems with tilting the cab

Mechanical-hydraulic cab tilting unit

Problem	Possible causes/consequences and ▶ Solutions
The cab cannot be tilted.	The valve lever of the mechanical-hydraulic cab tilting pump is in the "Tilt back in driving position" valve lever position. ▶ Turn the valve lever of the mechanical-hydraulic cab tilting pump so that it points towards the "Tilt forward" position (⟶ page 339).
	The tilting hydraulics are leaking or have failed. ▶ Have the tilting hydraulics repaired at a qualified specialist workshop.

Electro-hydraulic cab tilt system

Problem	Possible causes/consequences and ▶ Solutions
The cab cannot be tilted.	The cab tilt system is not switched on. ▶ Press the button (⟶ page 339). The indicator lamp on the button will light up.
	The fuse for the cab tilting pump has blown. ▶ Replace the fuse for the cab tilting pump in module A1 in the main fuse carrier (⟶ page 356).
	The tilting hydraulics are leaking or have failed. ▶ Have the tilting hydraulics repaired at a qualified specialist workshop.

Engine

Starting/switching off the engine with the cab tilted

⚠ **WARNING** Risk of injury due to moving parts

There are moving components in the engine compartment, e.g. the radiator fan and the poly-V-belt.

Make sure of the following before performing tasks in the engine compartment:

- ▶ switch off the ignition.
- ▶ never reach into the areas of danger of moving components.
- ▶ remove jewellery and your watch.
- ▶ keep items of clothing and hair away from moving parts.

⚠ **WARNING** Risk of burns from hot components in the engine compartment

Certain components in the engine compartment can become very hot.

Allow the engine to cool down and only touch component parts described in the following.

When working on public roads, observe the road and traffic conditions and secure the area where the vehicle is parked.

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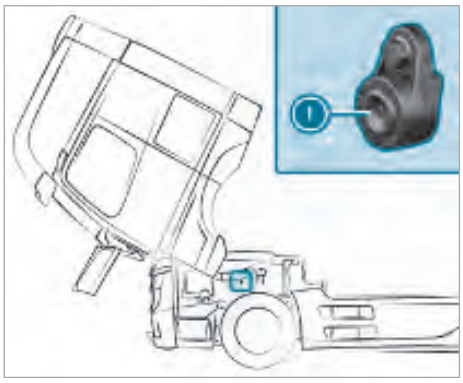


Before starting the engine

- Apply the parking brake.
- Switch on the ignition.
- Shift the transmission to neutral position.
- Tilt the cab forward (→ page 339).

Starting the engine

- Press the external engine start/stop ① until the engine starts.

Starting the engine and increasing the engine speed

- Keep the external engine start/stop ① pressed until the desired engine speed has been reached.
  The engine speed increases after approximately three seconds. After releasing the external engine start/stop ①, the engine runs at the currently set engine speed.

  The engine speed can be increased up to the limiting speed.

Switching off the engine

- Press the external engine start/stop ① again.
- Tilt the cab back to drive position.

Bleeding the fuel system

WARNING Risk of explosion during charging process and starting assistance

During the charging process and starting assistance, the battery may release an explosive gas mixture.

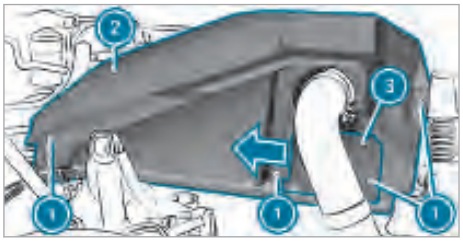
- Avoid fire, naked flames, creating sparks and smoking.
- Make sure that there is sufficient ventilation during the charging process and during starting assistance.
- Do not lean over a battery.

NOTE Damage of the starter due to too many starting procedures

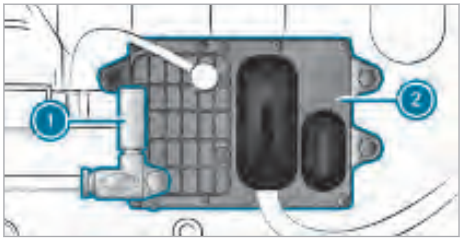
Do not bleed the fuel system with repeated starting procedures. The starter could otherwise be damaged.

Bleeding the fuel system without fuel prefilter (OM 460)

- Apply the parking brake.
- Switch on the ignition.
- Shift the transmission to neutral position.
- Tilt the cab forward (→ page 339).
- Unscrew the fuel tank fuel filler cap.



- Unscrew the fasteners ①.
- Slide the cap ③ to the side and remove the cover ②.



If fuel pressure has been established at the hand pump ①, the engine must be started within about five seconds. Otherwise the fuel pressure drops and the process must be repeated.

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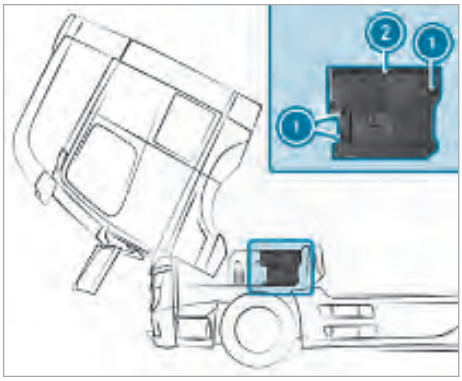
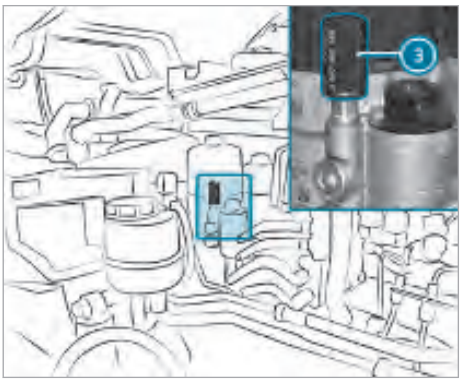
- Keep pressing the hand pump ① at the control unit ② (about 100-times) until the overflow valve audibly opens.
- Within about five seconds, press the external engine start/stop (→ page 343) and start the engine.
- If the engine starts: let the engine run with increased engine speed.
- If the engine does not start: repeat the procedure.
- Tilt the cab back to drive position (→ page 339).
- Screw on the fuel tank fuel filler cap.
- Fit the cover.

Bleeding the fuel system without fuel prefilter (OM 470/471/473)

- Apply the parking brake.
- Switch on the ignition.
- Shift the transmission to neutral position.
- Tilt the cab forward (→ page 339).
- Unscrew the fuel tank fuel filler cap.



- Unscrew screws ②.
- Remove the cover ①.



If fuel pressure has been established at the hand pump ③, the engine 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 343) and start the engine.
- If the engine starts: let the engine run with increased engine speed.
- If the engine does not start: repeat the procedure.
- Tilt the cab back to drive position (→ page 339).
- Screw on the fuel tank fuel filler cap.
- Fit the cover ②.

Bleeding the fuel system without fuel prefilter (OM 936)

- Press and hold the Start/Stop button as far as it will go or turn and hold the key in the ignition lock to the start position. Do not depress the accelerator pedal while doing so.

ⓘ The starting procedure will be automatically interrupted after about 60 seconds.

- If the engine fires regularly, release the Start/Stop button or release the key in the ignition lock and depress the accelerator pedal several times.
  The fuel system bleeds completely.
- If the engine does not start, press and hold the Start/Stop button again as far as it will go or turn and hold the key in the ignition lock to the start position.

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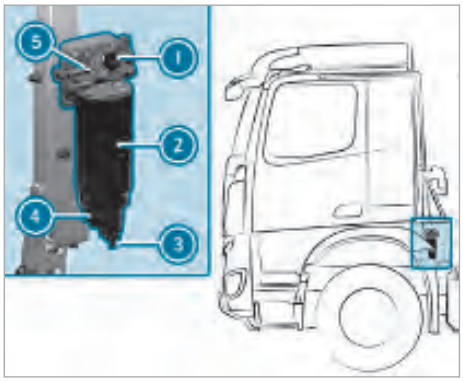
Bleeding the fuel system with fuel prefilter

ENVIRONMENTAL NOTE Environmental pollution due to disposal in a non-environmentally-friendly manner

▶ 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 the collecting pan under the drain screw 3.

▶ Unscrew the drain screw 3.

▶ Press the hand pump 1 and collect the water/fuel mixture.

▶ Screw shut the drain screw 3.

Depressurise the fuel prefilter (with hand pump)

▶ Unscrew the fuel tank fuel filler cap.

▶ Place the collecting pan under the fuel prefilter 2.

▶ Unscrew the bleed screw 5.

▶ Keep pressing the hand pump 1 until the fuel comes out free of bubbles at the bleed screw 5.

▶ Tighten the bleed screw 5.

ⓘ If there was no fuel in the fuel tank, press the hand pump 1 again until a noticeable resistance can be felt.

For a vehicle with a OM 460/470/471/473 engine, also bleed with the hand pump on the main filter.

▶ Screw on the fuel tank fuel filler cap.

▶ Press and hold the Start/Stop button as far as it will go or turn and hold the key in the ignition lock to the start position. Do not depress the accelerator pedal while doing so.

ⓘ The starting procedure is automatically interrupted for the following vehicles:

- engine OM 936 after about 60 seconds
- OM 470/471/473 engines after about 40 seconds

▶ On vehicles with OM 460 engine, the starting procedure has to be interrupted after 20 seconds and may have to be repeated after around a minute. After three starting procedures, take a break of about three minutes.

▶ If the engine fires regularly, release the Start/Stop button or release the key in the ignition lock and depress the accelerator pedal several times. The fuel system bleeds completely.

▶ Vehicles with OM 936: if the engine does not start, press and hold the Start/Stop button again as far as it will go or turn and hold the key in the ignition lock to the start position.

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 your journey. Have the air regulation system repaired at a qualified specialist workshop as quickly as possible.

Upper air regulation system

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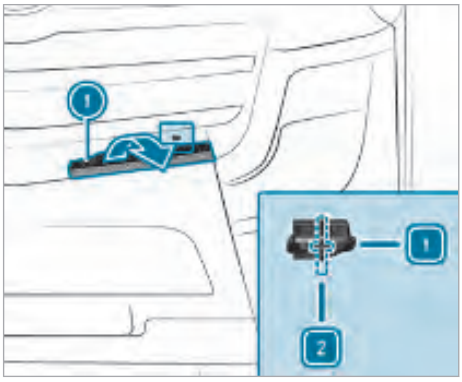


Upper air regulation system (example: Actros)

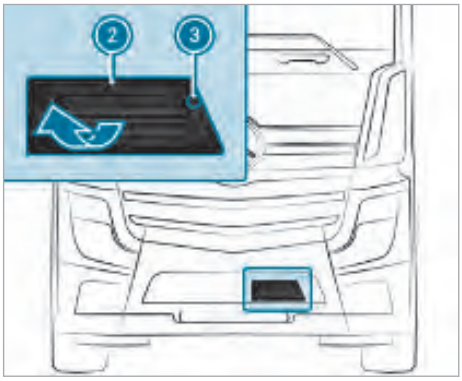
1 Step

1 Unlocked

2 Locked

- **To open and lock:** stop the vehicle and apply the parking brake.
- Switch off the engine.
- Turn the ignition lock to position 0.
- 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



- **To open and lock:** 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) approximately a ¼ turn. The locking lever is unscrewed and locks the lower air regulation system.

ⓘ The locking screw must be turned a ¼ turn on both sides of the lower air regulation system.

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Engine does not start

Problem	Possible causes/consequences and ▶ Solutions
The engine does not start at low outside temperatures.	The flow characteristics of the diesel fuel are insufficient due to paraffin separation. ▶ In order to rectify malfunctions due to paraffin separation, heat the entire fuel system, e.g. by parking the vehicle in a heated garage. ▶ If the engine does not start after another starting attempt, have the cause rectified at a qualified specialist workshop.
The engine does not start.	The cargo liftgate is switched on. The on-board computer displays Starter inhibitor active in the grey event message. ▶ Switch off the cargo liftgate, see separate Operating Instructions.
	There is a malfunction in the engine electronics. ▶ Switch off the ignition before the next starting attempt.
	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 engine is prevented when a gear in engaged. ▶ Charge the compressed-air system using an external compressed-air source. The transmission control can open the clutch again and engage neutral gear. ▶ Repeat the engine start.

Flat tyre

Preparing for a wheel change

WARNING Risk of injury from 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 of the vehicle. The base of the jack must be positioned vertically under the jacking point of the vehicle.

WARNING Risk of injury from vehicle tipping

On slopes, the jack could tip with the vehicle raised.

▶ Never change a wheel on a slope.

▶ Consult a qualified specialist workshop.

WARNING Risk of injury from jack tipping

If you park a vehicle with air suspension, the air suspension may remain activated for up to one hour, even when the ignition is switched off. If you then raise the vehicle with the jack, the air suspension will attempt to adjust the vehicle level.

The jack may tip.

▶ Press the Service button on the air suspension remote control before raising the vehicle.
This prevents automatic readjustment of the vehicle level and prevents it from being raised or lowered manually.

WARNING Risk of accident through using an underlay when changing a wheel

If you use an underlay to drive onto with the inner wheel when changing the outer wheel of twin tires, the inner wheel is placed under a load. The wheel can then not be properly pressed and pulled onto its contact surface.

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As a result a wheel could be lost when driving.

▶ Always use the jack for a wheel change.

⚠ **WARNING** Risk of accident through losing a wheel

Oiled, greased or damaged wheel nuts, wheel stud threads or conical spring washers can cause the wheel nuts to loosen.

As a result a wheel could be lost when driving.

▶ Never oil or grease the threads or conical spring washers.

▶ In the event of damage to the threads or conical spring washers, contact a qualified specialist workshop immediately.

▶ Have the damaged wheel nuts, wheel studs or conical spring washers replaced.

▶ Do not drive on.

⚠ **WARNING** Risk of injury through losing a wheel

If you loosen a wheel that is resting on the wheel studs under load, it could drop down or tip.

▶ Only remove the last three wheel nuts when it is clear that the wheel is resting on the wheel studs and is not under load.

! **NOTE** Damage to the chassis due to incorrect raising of the vehicle

Do not raise vehicles equipped with a loading crane or cargo liftgate by using the hydraulic supports.

This would cause damage to the chassis frame.

▶ Use the jack to raise the vehicle.

When changing a wheel observe the following:

- 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 and holding the vehicle so that work can be carried out underneath it.
- 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 manufacturer's operating instructions.
- Secure the vehicle before raising it to prevent it from rolling away, e.g. 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 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 incline. 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.
- When the vehicle is raised do not start the engine and avoid other jolting or shaking of the vehicle. The vehicle could otherwise slip off the jack.

▶ Park the vehicle on a firm and level surface.

▶ Apply the parking brake.

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▶ Use chocks to safeguard the vehicle against rolling away.

ⓘ For further information on tyre pressure, see the "Wheels and tyres" section (→ page 375).

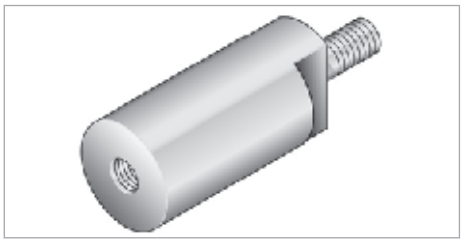
Spare wheel

Always use spacers to secure wheels of the following sizes to the spare wheel holder:

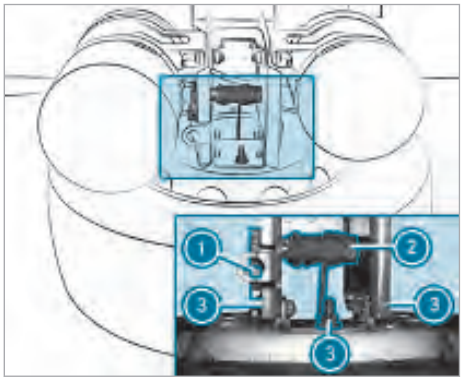
- 355/50 R 22.5
- 365/50 R 22.5
- 375/50 R 22.5
- 385/55 R 22.5
- 385/65 R 22.5

Otherwise, the wheel or the spare wheel holder could be damaged.

Before securing the wheel to the spare wheel holder, guide the retaining plate with the fastening bolts though the centre of the wheel rim. From the other side of the wheel, screw the spacer (from the vehicle tool kit) to the fastening bolts.



Spacer (from the vehicle tool kit)



▶ Clean rust and dirt off nuts and fastening bolts regularly ③. Spray nuts ③ and fastening bolts regularly with rust-penetrating oil.

Removing the spare wheel

▶ If necessary, remove the side trim or side underride guard.

▶ Assemble the hand crank and the pump lever (vehicle tool kit) (→ page 338).

▶ 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.

▶ Unscrew nuts ③.

▶ Lower the spare wheel using spare wheel winch ①, completely unwinding cable ②.

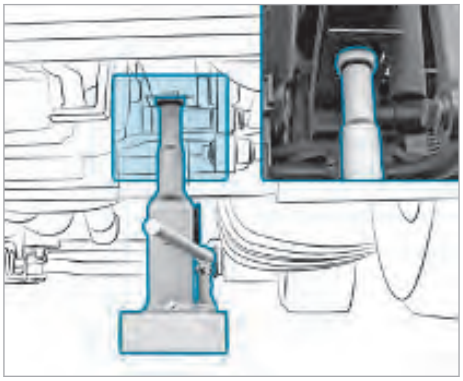
▶ Pull the spare wheel out to the side or to the rear.

▶ Unscrew the spare wheel from the spare wheel holder.

▶ Remove the retaining plate through the centre hole of the wheel rim.

Changing a wheel

Positioning the jack
Steel-sprung front axle



▶ Flat tyre on the left-hand side of the vehicle: turn the steering wheel to the left as far as it will go.

or

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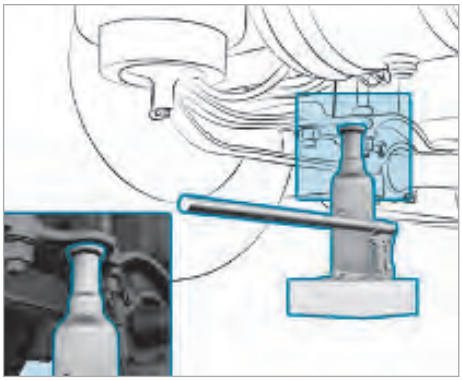
- Flat tyre on the right-hand side of the vehicle: turn the steering wheel to the right as far as it will go.
- Position the jack under the jack support point beneath the spring seat directly in front of the front axle.

Air-sprung front axle

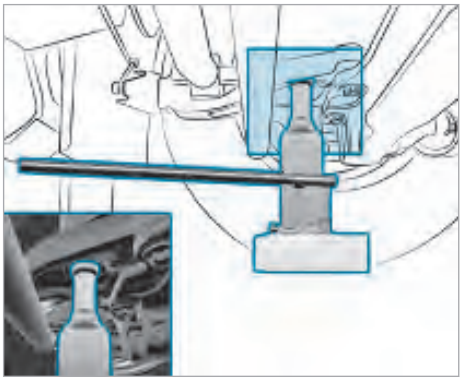


- Flat tyre on the left-hand side of the vehicle: turn the steering wheel to the left as far as it will go.

or

- Flat tyre on the right-hand side of the vehicle: turn the steering wheel to the right as far as it will go.
- 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

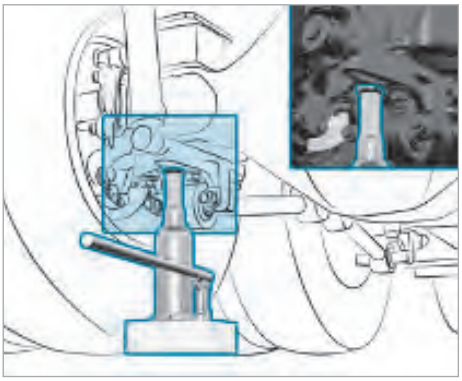


- Flat tyre on the left-hand side of the vehicle: turn the steering wheel to the left as far as it will go.

or

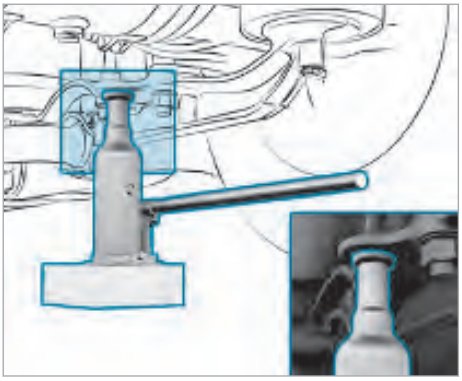
- Flat tyre on the right-hand side of the vehicle: turn the steering wheel to the right as far as it will go.
- Position the jack under the jack support point beneath the front axle.

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.

Leading axle with air suspension

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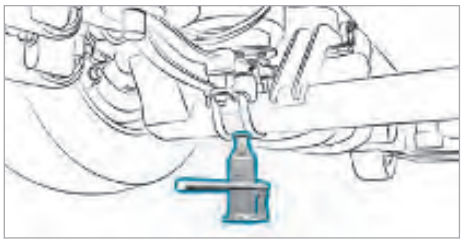
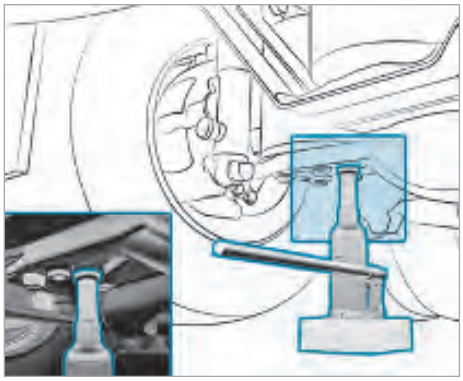


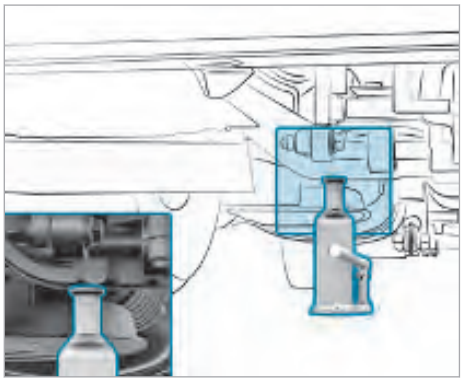
▶ Position the jack under the axle tube, between the mounting brackets.

Trailing axle with air suspension



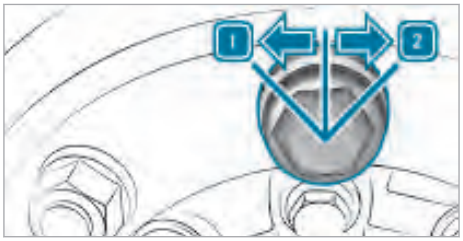
▶ Position the jack under the jack support point on the air suspension support.

Steered trailing axle



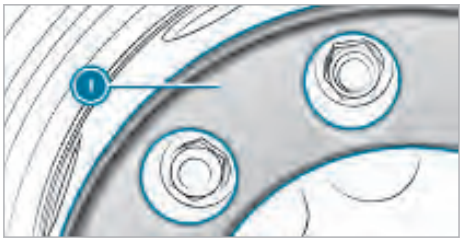
▶ Position the jack so that the jack plunger is centrally located under the axle carrier.

Removing a wheel



1 To loosen
2 To tighten

▶ Using the wheel wrench, loosen 1 the wheel nut covers and remove them.



▶ Unscrew the wheel nuts that secure wheel nut cover 1.
▶ Remove wheel nut cover 1.
▶ Remove the remaining wheel nuts.
▶ Remove the wheel.
▶ Vehicles with 14.00 R 20 twin tyres: remove the wheel nuts for the inner wheel from the connecting flange and then remove the connecting flange.
▶ Vehicles with 14.00 R 20 twin tyres: remove the inner wheel.

Fitting a wheel

! **NOTE** Damage to wheel nuts or wheel studs

▶ Do not tighten the wheel nuts or wheel studs with an impact wrench. They could be damaged as a result.

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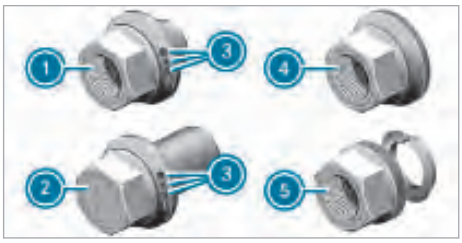

Wheel nuts

1. For single tyres with light-alloy wheels
2. For twin tyres with light-alloy wheels
3. Wheel nut identification for light-alloy wheels
4. With pressure plate (hub centring) for steel wheels
5. With conical spring washer for steel wheels

Before fitting a wheel

- Remove any corrosion and dirt from the contact areas of the wheel hub, disk 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 single tyres: screw on the remaining wheel nuts together with the wheel nut cover.
- Vehicles with twin tyres: fit both the wheels and screw on all remaining wheel nuts.
- Tighten the wheel nuts in a crosswise pattern, observing the tightening torque while doing so (→ page 394).
- Fit the wheel nut covers, observing the tightening torque while doing so (→ page 394).
- Check the tyre pressure (→ page 375).
- The wheel nuts must be retightened after 50 km.

Assembly sleeve for twin tyres (vehicles with light-alloy wheels)

Fitting a light-alloy wheel

- Vehicles with single tyres: fit the wheel in place and screw on two to three wheel nuts.
- Vehicles with single tyres: screw on the remaining wheel nuts together with the wheel nut cover.
- Vehicles with twin tyres: place the assembly sleeve (vehicle tool kit) on the wheel stud before fitting the inner wheel.
- Vehicles with twin tyres: fit both the wheels and screw on two or three wheel nuts.
- Vehicles with twin tyres: remove the assembly sleeve.
- Vehicles with twin tyres: screw on the remaining wheel nuts.
- Tighten the wheel nuts in a crosswise pattern, observing the tightening torque while doing so (→ page 394).
- Fit the wheel nut covers, observing the tightening torque while doing so (→ page 394).
- Check the tyre pressure (→ page 394).
- The wheel nuts must be retightened after 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.

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- 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 394).
- 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.
- 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 394).
- Check the tyre pressure (→ page 394).
- Retighten the wheel nuts on the inner wheel after 50 km, as well as the wheel nuts of the outer wheel after a further 50 km.

Retightening the wheel nuts

WARNING Risk of injury through incorrect tightening torque

The wheels could come loose if the wheel bolts or wheel nuts are not tightened to the prescribed tightening torque.

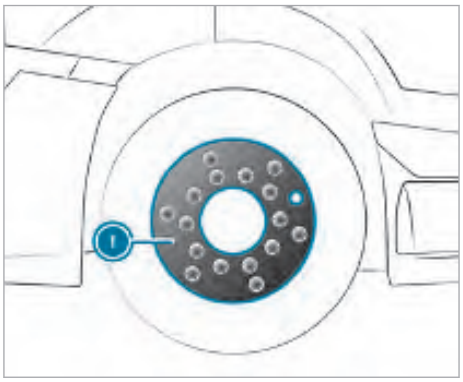
- Make sure the wheel bolts or wheel nuts are tightened to the prescribed tightening torque.
- If you are not sure, do not move the vehicle. Consult a qualified specialist workshop and have the tightening torque checked immediately.

- Always observe the instructions and safety notes on "Changing a wheel in the event of a flat tyre" (→ page 348).
- Observe the wheel nut tightening torques (→ page 394).
- Have all wheels retightened after 50 km.
- When using new or newly painted wheel rims, have the tightening torque of the wheel nuts checked again after driving approximately 1,000 to 5,000 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 fitting the wheel, remove any rust and dirt from contact areas on the following parts:

- wheel hub
- wheel rim
- wheel nuts

- Place the wheel in position.
- Screw on two opposing wheel nuts.
- Screw on the remaining wheel nuts with wheel nut cover 1.
- Tighten wheel nuts in a clockwise pattern and in several stages, observing the tightening torque while doing so (→ page 394).
- Retighten the wheel nuts after 10 km and again after a further 50 km.

Removing and replacing a Trilex® rim with tyre

Removing a Trilex® rim with tyre

WARNING Risk of injury due to tensioned clamping plates

The clamping plates on the Trilex® rims are under high tension.

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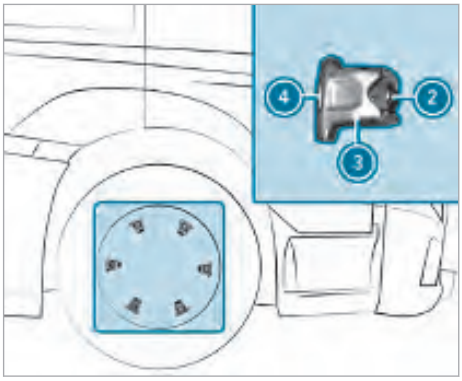
If you remove the nuts on the clamping plates completely, the clamping plates may suddenly jump out of the rim.

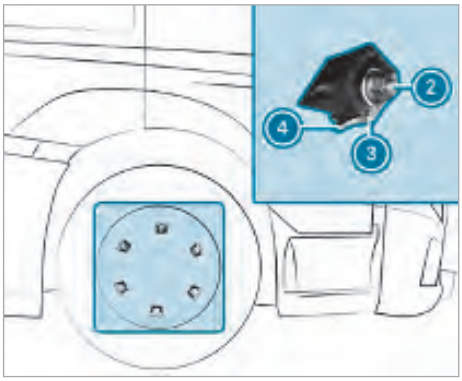
▶ Once all the clamping plates have been loosened and are no longer under tension, unscrew and remove the nuts on the clamping plates.

▶ Unscrew the wheel nuts that secure wheel nut cover ①.

▶ Remove wheel nut cover ①.



Example: single tyre



Example: twin tyres

▶ Loosen nuts ② on clamping plate 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.

Positioning a Trilex® rim with tyre

⚠ WARNING There is a risk of fire and an accident due to abraded tyre valves

Tyre valves in contact with the wheel spider can be abraded, resulting in a loss of tyre pressure.

- Tyre pressure loss jeopardises road and traffic safety.
- Tyre pressure loss damages or destroys tyres.
- Tyre pressure loss causes tyres to overheat and possibly catch fire.

▶ Guide the tyre valve or valve extension through the centre of the valve cut-out.

! NOTE Wheel damage due to imbalance

If the clamping plate nuts are tightened in a crosswise pattern, the rim is placed under tension and the wheel becomes imbalanced.

▶ Tighten the nuts in a clockwise direction.

▶ Tighten the nuts in several stages up to the specified tightening torque.

Before fitting the wheel, remove any rust and dirt from the contact areas on the following parts:

- spoke heads
- disk wheel
- nuts
- clamping plates

▶ Vehicles with single tyres: position the Trilex® rim with tyre on the wheel spider.

▶ Vehicles with twin tyres: position the inner Trilex® rim with tyre 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 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 plate ③ in a clockwise direction in several stages, observ-

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ing the tightening torque whilst doing so (→ page 394).

- Vehicles with single tyres: screw wheel nut cover ① to the wheel using the appropriate wheel nuts.
- Vehicles with single tyres: tighten wheel nuts in a clockwise direction and in several stages, observing the tightening torque whilst doing so (→ page 394).
- Retighten wheel nuts and nuts ② on clamping plates ③ after 10 km and again after a further 100 km.

Electrical fuses

Removing the cover of the fuse box

Important safety notes

> ⚠ **WARNING** Risk of accident and injury due to overloaded lines
>
> If you manipulate or bridge a faulty fuse or if you replace it with a fuse with a higher amperage, the electric line could be overloaded.
>
> This could result in a fire.
>
> - Always replace faulty fuses with specified new fuses containing the correct amperage.

The individual electrical 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.

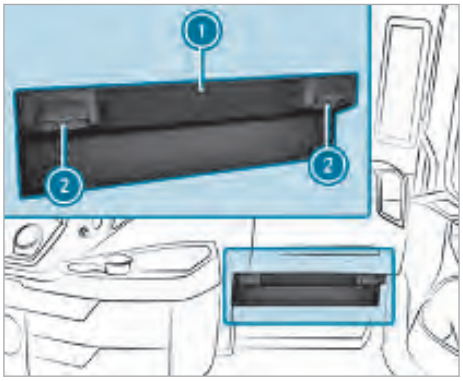
You can obtain further information from any Mercedes-Benz Service Centre.

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 a circuit fails, switch off the consumer and the ignition.

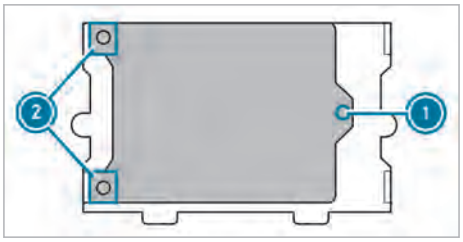
Removing the main fuse carrier cover



- Open fasteners ② and remove cover ①.

Removing the control unit from the main fuse carrier

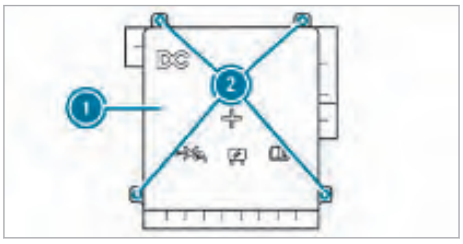
To access the fuse holder, the ASAM control unit must first be unscrewed and folded out to the side.



- Unscrew screw ①.
- Detach the control unit from hinges ② and fold to the side.
  The main fuse carrier is now accessible.

Opening the fuse holder in the cab

Other fuses are located on the side of the fuse box behind the cab.



- Unscrew screws ② and remove cover ①.

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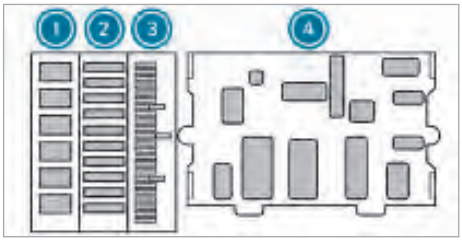
Fuse assignment diagram



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 headlamp
K4		Load relief relay, differential lock and transfer case
K5	ERA	CB radio with ERA-GLO-NASS
K6		Unassigned

Relays in module A31:

No.	Symbol	Consumer
K1		Work lamps
K2		Transfer case oil cooler
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-GLO-NASS
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 headlamp
K9		LubeTronic 5Point
K10		Headlamp cleaning system

Fuses in module A3:

No.	Symbol	Consumer	Fuse rating
F1		Work lamp (E23/X155/X200)	10 A
F2		Rotating beacon (S6)	10 A
F3	24V	24 V sockets (X136, X168, X199, X220)	15 A
F4	24V	24 V sockets (X136, X168, X199, X220)	15 A
F5		Socket for hand lamp (X149)	10 A
		Illuminated Mercedes star (S44)	10 A
F6		24 V CB radio (A68)	5 A
		Pre-installation, 12 V CB radio (A68)	5 A
F7		Windscreen heater, cab width 2.3 m	25 A

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No.	Symbol	Consumer	Fuse rating
		Windscreen heater, cab width 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 pre-installation (A9)	10 A
	WSPC	12 V wireless smartphone connection (A155)	10 A
F12	MMB	12 V multimedia box (X246)	10 A
		12 V Android Blackbox (A158)	10 A
F13	ICS HUS	12 V instrument cluster display + head unit (A153, A154)	10 A
F14	SRRR	12 V radar for Sideguard Assist	10 A
	EPAC	12 V electrical stationary air conditioning system control (A147)	10 A
F15	ADR UK	Pre-installation, German Law on the Road Transport of Hazardous Goods (GGVS), United Kingdom (X193, X194)	5 A
F16		Transfer case oil cooling (M24)	10 A

No.	Symbol	Consumer	Fuse rating
F17		Windscreen heater, cab width 2.3 m	25 A
		Windscreen heater, cab width 2.5 m	30 A
F18		Non-MB body electrical system (S39, S40)	20 A
		Semitrailer trailing axle (S87)	20 A
F19	VSW	Video switch (A163)	10 A
F20		Headlamp cleaning system (M16, M17)	15 A
F21		Unassigned	
F22		Unassigned	
F23		Unassigned	

Fuses in the PDM cabin module:

No.	Symbol	Consumer	Fuse 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
	MCM	Engine management (A4), (OM460) - (A4a)	10 A

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No.	Symbol	Consumer	Fuse rating
F6		Turbo retarder clutch (A69)	10 A
	CPC	Drive control (A3)	10 A
		Hydraulically driven axle (HAD)/CAN adapter box	10 A
F7	CTP	Common telematics platform (A150)	10 A
		Tachograph (P1)	10 A
		Roller sunblind	10 A
F8		Instrument (A1)	5 A
		Distance-related heavy vehicle fee (LSVA)	5 A
		Winter maintenance	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	ERA-GLONASS	5 A
F9		Stowage compartment lighting	10 A
		Roof stowage compartment lighting	10 A
		Bench lighting	10 A

No.	Symbol	Consumer	Fuse rating
	24V 12V	Remote voltage converter T1/terminal 15R for 12 V relay radio	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
	RDF	Front radar sensor (A15a)	10 A
	RDF	Front radar sensor (A15a)	10 A
	RDF	Front radar sensor (A15a)	10 A
	RDF	Front radar sensor (A15b)	10 A
F19		Fuel filter heating frame (R11)	15 A
F20		Turbo retarder clutch (A69)	20 A
F21		Pre-installation, truck toll for Swiss performance-related heavy vehicle fee (LSVA)	20 A

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No.	Symbol	Consumer	Fuse rating
		Pre-installation, truck toll for Swiss 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	P	Electronic air processing unit (A18)	15 A
F23		Cab tilt pump	5 A
		Subwoofer (B94)	5 A
F24	24V 12V	Voltage converter (T3)	15 A
F25	24V 12V	Voltage converter (T2)	15 A
F26		Sliding sunroof motor (M12)	15 A
		Sliding sunroof motor (M12)	20 A
	2	Auxiliary heating, CAN adapter box	20 A
F27	24V	12/24 V sockets	15 A
F28	CPC	Drive control CPC3 (A3), CPC5 (A3a)	20 A
F29		Brake system (EBS) - (A10b)	20 A
F30		Toll Collect	10 A

No.	Symbol	Consumer	Fuse rating
		Pre-installation, truck toll for Swiss performance-related heavy vehicle fee (LSVA)	10 A
		ATA (Anti-theft Alarm system) (A6)	10 A
		Tachograph (P1)	10 A
F31	CTP	Common telematics platform (A150), Fleet management system, BAT	10 A
		Tyre pressure monitoring system, BAT	10 A
	VRDU	Video radar decision unit, BAT	10 A
F32		Display mirror, driver's side (A159)	5 A
		Smart Tacho	5 A
	ERA	ERA-GLONASS	5 A
F33		Refrigerator	10 A
F34	OBD	Diagnostics connection	10 A
F35		Instrument (A1)	10 A
		Heating (A12b)/ heating (A12)	10 A
		Strengthening relay	10 A
F36		Steering-wheel buttons (A19) or (A19a)	10 A
	P	Parking brake lever (A157)	10 A
F37		Unassigned	

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No.	Symbol	Consumer	Fuse rating
F38		Transmission control (TCM) - (A5)	15 A
F39	ASAM	Signal acquisition module (A7), energy supply	20 A
F40		Radio/navigation (A9)	15 A
F41		Unassigned	
F42	F	Driver's door module (A16)	20 A
F43	BF	Co-driver'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
		Co-driver'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
F49		Adaptive driving calculation (IPPC)	5 A
		Roller sunblind	5 A
F50		Brake system (A10b)	10 A
F51		Retarder (A11)	10 A

No.	Symbol	Consumer	Fuse rating
		Adaptive driving calculation (IPPC)	10 A
F52		LubeTronic	10 A
		Pre-installation, trailer coupling (Q9A)	10 A
F53	VSW	Video switch A163, terminal 15	10 A
		Pre-installation, reversing camera	10 A
	VRDU	Video radar decision unit	10 A
		Unassigned	
F54	24V 12V	Voltage converter T1	15 A
F55		Extension module cabin (XMC) (A22)	25 A
F56		Blower motor	25 A
F57		Power socket (X171)	25 A
F58		Non-MB body electrical system (S38)	20 A
F59	ASAM	Signal acquisition module (A7), energy supply 2 BAT	40 A
F60	ASAM	Signal acquisition module (A7), energy supply 1 BAT	60 A

Relays in the PDM cabin module:

No.	Symbol	Consumer
K1	K1 15	Terminal 15 relay
K2	D+	Terminal D+ relay
K3		Trailer brake lamp
K4		Energy-saving mode 2 - bistable relay

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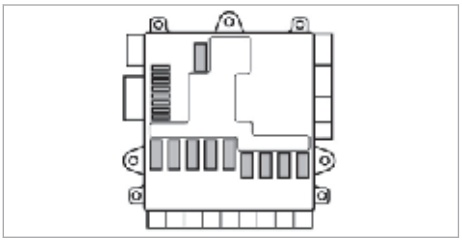
No.	Symbol	Consumer
K5		Terminal 15R relay
K6		Terminal 15 relay
K7		Terminal 15 relay
K8		Energy-saving mode 1 - bi-stable relay

Diodes in the PDM cabin module:

No.	Symbol	Consumer
D1		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
F3		Electric stationary air conditioning system	25 A
F4		Electric stationary air conditioning system	25 A
F5		ALAC (A142)	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
		Add. trailer socket (X222a) (X222)	
		12 V trailer voltage converter (A132)	

Screw 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
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		Body manufacturer	300 A

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No.	Symbol	Consumer	Fuse rating
X13		PDM cabin (A8)	150 A
X14		Battery with sensor	

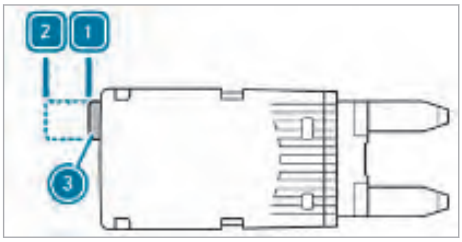
Checking safety fuses and the automatic circuit breaker

Checking and replacing a safety fuse

- Pull the fuse out of the module using the pliers and carry out a visual inspection.
- If the fuse wire has melted, replace the blown fuse with a spare fuse.
- Switch on consumers and check that they function correctly.

If the safety fuse blows again, have the electrical system checked at a qualified specialist workshop.

Checking and switching on an automatic circuit breaker



If an automatic circuit breaker is tripped, pin ③ moves to OFF position [2].

- Pull the automatic circuit breaker out of the module.
- Press pin ③ into ON position [1].
- Insert the automatic circuit breaker again.
- Switch on consumers and check that they function correctly.

If the automatic circuit breaker is tripped again, have the electrical system checked at a qualified specialist workshop.

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

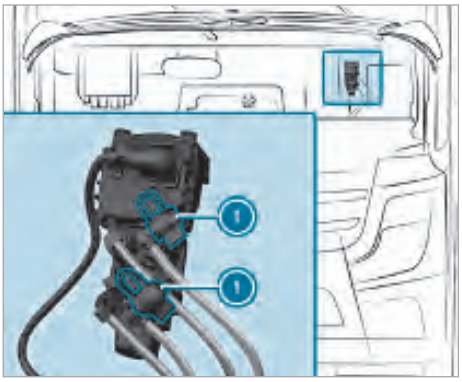
If the reservoir pressure of the external compressed-air source is below 11 bar, it cannot be guaranteed that all the pressure circuits will be filled.

Only fill pressure circuits with a max. 12.5 bar.

With supply pressure that is too high, or contaminated and humid air from the external compressed-air source, components of the compressed-air system can become damaged.

- 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 reservoir pressures can be found in the "Technical data" section (→ page 392).



When the engine is not running, fill the compressed-air system via filler connections ①

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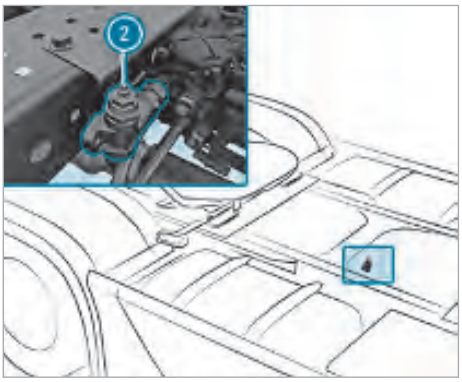
at the front of the brake value sensor. This does not fill the pressure circuit of the air suspension.



If the compressed-air system is filled via connection 28 ② on the electronic air processing unit, the pressure circuit of the air suspension is also filled.

ⓘ The electronic air processing unit contains the following components in one unit:

- pressure regulator
- compressed-air dryer
- multicircuit protection valve
- pressure limiting valve
- control unit
- electronic parking brake

Check the following points before towing away:

- Check whether the spring-loaded brake cylinders of the parking brake are released (→ page 369).

  If the compressed-air supply is insufficient, release the spring-loaded brake cylinders manually (→ page 369).
- Check whether workshop mode of the electronic parking brake is activated (→ page 207).

Jump-starting, tow-starting and towing away

Performing a jump start

⚠ **WARNING** Danger of chemical burns from the 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, in particular safety glasses, protective gloves and an apron.
- ▶ Do not lean over the battery.
- ▶ Keep children away from the battery.

If you come into contact with battery acid, observe the following:

- ▶ Rinse battery acid off the skin thoroughly with plenty of clean water and seek medical attention immediately.
- ▶ If battery acid comes into contact with your eyes, immediately rinse them thoroughly with plenty of clean water. Seek medical attention immediately.

⚠ **WARNING** Risk of explosion during charging process and starting assistance

During the charging process and starting assistance, the battery may release an explosive gas mixture.

- ▶ Avoid fire, naked flames, creating sparks and smoking.
- ▶ Make sure that there is sufficient ventilation during the charging process and during starting assistance.
- ▶ Do not lean over a battery.

! **NOTE** Damage to the battery or electronic components

- ▶ Do not use a rapid battery charger for starting assistance.
- ▶ When using a portable charger (batteries with a power supply unit), remove the mains plug first.
- ▶ Only perform starting assistance from vehicles with a 24 V system.
- ▶ Use jump leads protected against polarity reversal with a conductor cross-section of 35 - 50 mm^2 and insulated terminal clamps.
- ▶ If the outside temperature drops to below -10 °C, a discharged battery may

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freeze. Do not start the engine in this case. Let the battery thaw first.

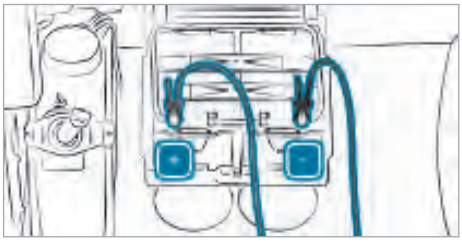
▶ Do not connect the negative terminal clamp of the jump lead to the vehicle frame. Otherwise, engine or transmission components may be damaged.

Observe the safety notes and protective measures when handling the battery (→ page 329).

After jump-starting, have the batteries checked at a qualified specialist workshop.

- ▶ Make sure that the vehicles are not touching.
- ▶ Apply the parking brake.
- ▶ Switch off all electrical consumers.
- ▶ Switch the ignition off.

Vehicles without a jump-starting connection point



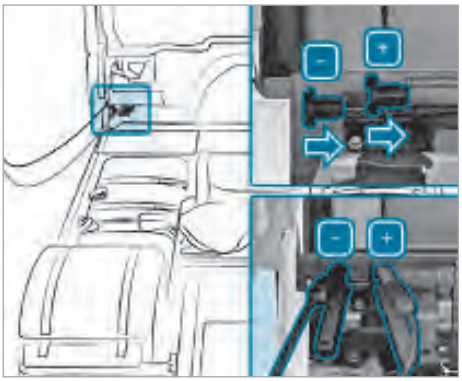
Connecting the jump lead

- ▶ Remove the battery box cover (→ page 330).
- ▶ 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.
- ▶ Assisting vehicle: run the engine at a high speed.
- ▶ Start the engine and let it run at idling speed.

Disconnecting the jump lead

- ▶ First, disconnect the negative terminal clamps of the jump lead from the negative terminals.
- ▶ Remove the positive terminal clamps of the jump lead from the positive terminals.

Vehicles with a jump-starting 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.
- ▶ Assisting vehicle: run the engine at a high speed.
- ▶ Start the engine and let it run at idling 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.
- ▶ Remove the positive terminal clamps of the jump lead from the positive terminals.
  The red protective cap of the jump-start connection point springs back into its original position.

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Notes on tow starting and towing away

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 towed with the propeller shaft installed.

Vehicles with power steering: only tow-start the vehicle if the ignition is switched on and the red [⊘!] warning lamp is not lit in the instrument cluster. Tow-start the vehicle on a straight stretch of road. Only tow the vehicle with raised front axles.

ⓘ Information on towing and recovering can be found on the Internet at: https:// xentryportal.i.daimler.com/wps/portal/

You can obtain further information from a Mercedes-Benz Service Centre.

Manoeuvring and tow-starting/towing away

⚠ **WARNING** Risk of an accident when using the vehicle as working machinery when distance control assistant is activated

If the distance control assistant is activated, the vehicle accelerates or brakes automatically in certain situations.

If you use the vehicle as working machinery with distance control assistant activated, the vehicle may accelerate or brake unexpectedly.

▶ Always deactivate the distance control assistant in this or similar situations.

⚠ **WARNING** Risk of an accident when using the vehicle as working machinery with Active Brake Assist activated

If Active Brake Assist is activated while you are towing your vehicle or using it, e.g. as working machinery, the vehicle may brake automatically.

The wheels could lose grip.

▶ Always deactivate Active Brake Assist in this or similar situations.

⚠ **WARNING** Risk of accident due to malfunctioning compressed-air supply system

If the engine is not running, the power steering and the compressed-air supply systems are inoperative. You will then need to apply significantly more force when steering. The spring-loaded brake cylinder on the parking brake may activate if there is a loss of compressed air and the vehicle may then brake uncontrollably.

This could cause you to lose control of the vehicle.

▶ Always use a tow bar.

▶ Always check the compressed-air supply system is working, e.g. using an external compressed-air source.

! **NOTE** Damage to attachments and add-on equipment when towing

Attachments and add-on equipment can affect the vehicle height and width.

▶ Do not exceed the permissible vehicle height and observe the legal requirements for the country you are currently in.

▶ If the rear of the vehicle is raised for towing away, fold back the wind deflectors.

▶ Drive carefully and anticipate road and traffic conditions. Observe the maximum clearance of underpasses.

! **NOTE** Damage to the transmission and air suspension when towing

If the engine is not running during towing, the transmission may be damaged.

▶ Remove the drive shafts before towing.

Parts of the air suspension could be damaged during towing.

▶ Constantly monitor the driving level during towing.

If the vehicle is being transported on a low loader, the permitted vehicle height could be exceeded. Pay attention to the headroom clearance of buildings, e.g. bridges.

Information on charging the compressed-air system using an external compressed-air source can

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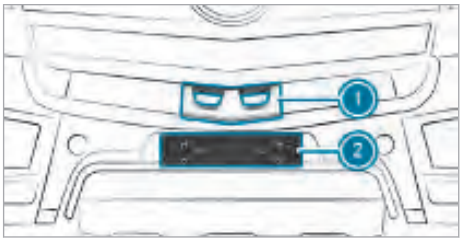
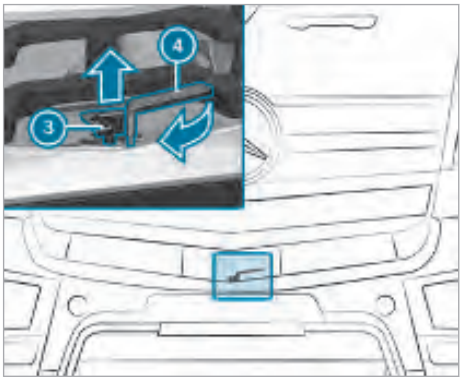
be found in the "Charging the compressed-air system" section (→ page 363).

Information on releasing the spring-loaded parking brake can be found in the "Releasing the spring-loaded parking brake" section (→ page 369).

▶ Before towing away, agree on a clear signal with the towing vehicle driver. Adapt your driving style to the more difficult conditions.

Coupling jaw





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 rope) by safety spring ③ with a retaining pin.

▶ Vehicles with a large angle of approach/departure: fold down the collapsible step.

▶ Remove coupling pin cover ① forwards.

▶ Grasp licence plate holder ② at the sides and swing it down.

▶ Using a thumb, push safety spring ③ with the retaining pin upwards and, in doing so, release coupling pin ④.

▶ Turn coupling pin ④ clockwise 90° and pull it upwards and out.

▶ Attach the tow bar.

▶ Insert coupling pin ④ downwards through the tow bar eyelet and turn it anti-clockwise by 90° to its original position.
The retaining pin engages audibly.

▶ Position coupling pin cover ① and clip it in place.

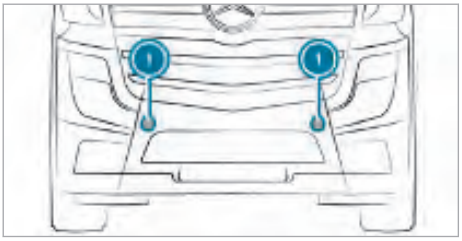
Front towing eyes

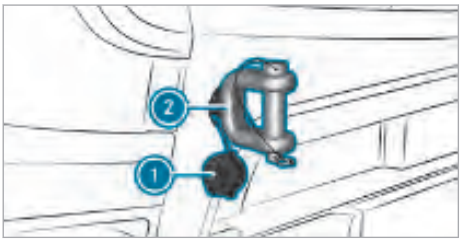
⚠ **WARNING** Risk of accident when using towing eyes that are not approved

If you lift the vehicle on towing eyes that differ from the original towing eyes, they can break.

The vehicle could fall out of the bracket while being towed.

▶ For safety reasons, only use towing eyes for lifting that have been specified and approved for your vehicle.





If towing eye ② is not included in the vehicle tool kit, you can obtain towing eye ② at any Mercedes-Benz Service Centre.

▶ Press the area marked with an arrow on cover ① in order to open it.

Towing eye ② is screwed into the frame head behind cover ①. Make sure that the towing eye is completely screwed in. If the thread is dirty, clean it before screwing the towing eye in.

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The towing eyes are made from a special material with higher strength values. Only use the original towing eyes.

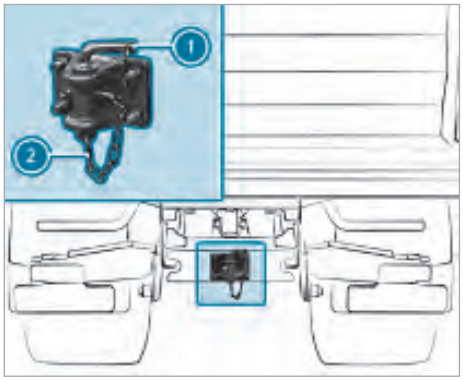
You will need a second towing eye in order to lift the vehicle at the front.

The person towing away the vehicle should bring one with them or you can purchase one at a Mercedes-Benz Service Centre.

The vehicle can thus be raised and towed away.

Vehicles with fittings for front attachments: 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.

Rear towing coupling

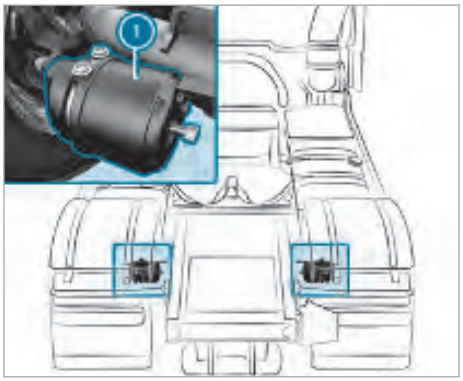


Use the rear towing coupling for manoeuvring, tow-starting and towing away.

- ▶ Unhook catch ② on coupling pin ①.
- ▶ Remove coupling pin ①.
- ▶ Attach the tow bar.
- ▶ Push coupling pin ① down through the eyelet of the towing bar.
- ▶ Hook catch ② onto coupling pin ① again.

Spring-loaded brake

Overview of the arrangement of the spring-loaded brake cylinders



The positioning of spring-loaded brake cylinder ① on the front and/or rear axle depends on the axle type.

Positioning on the front axle(s)

Axles	1	2
4x2	x[5, 6]	-
4x4	x[5]	-
6x2	-	-
6x2 DNA	x[5]	-
6x2/2	x	-
6x2/4	x	-
6x4	x[5, 6]	-
6x6	x[5]	-
8x4 ENA	x	-
8x4/4	-	x
8x6/4	x[5]	x
8x8/4	x[5]	x

[5] Special equipment

[6] In conjunction with disc brakes

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Positioning on the 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
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

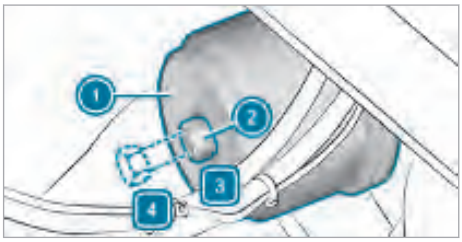
Unscrew the release screw of the spring-loaded brake cylinder with max. 70 Nm.

Tighten the release screw of the spring-loaded brake cylinder with max. 35 Nm.

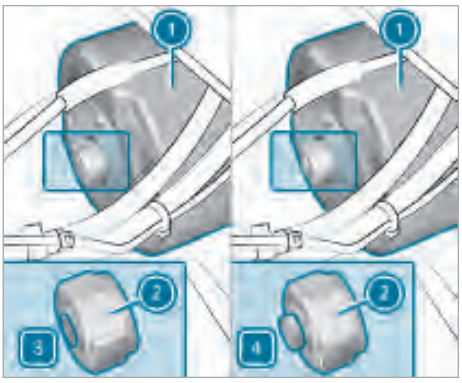
The spring-loaded brake cylinder may otherwise be damaged.

▶ Do not use an impact wrench to unscrew and tighten the screw.

Manually releasing the spring-loaded brake cylinder



Spring-loaded brake cylinder with release screw



Spring-loaded brake cylinder with release screw and release indicator

1 Spring-loaded brake cylinder
2 Release screw
3 Drive position
4 Released position

If there is insufficient reservoir pressure to release the parking brake, release the 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. Release all spring-loaded brake cylinders on the vehicle.

▶ Use chocks to safeguard the vehicle against rolling away.

▶ Turn release screw 2 of spring-loaded brake cylinder 1 anti-clockwise until the stop in release position 4.

Moving the spring-loaded brake cylinder to the drive position

Reset all spring-loaded brake cylinders to the drive position.

▶ Charge the brake circuit until the shutoff pressure is reached.

▶ Release the parking brake manually (→ page 369).

▶ Turn release screw 2 of spring-loaded brake cylinder 1 clockwise to drive position 3.

▶ Tighten release screw 2.

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Operating and road safety

General notes on wheels and tyres

Read the information on qualified specialist workshops (→ page 15).

Tyres are of particular importance to the operating and road safety of the vehicle. Check vehicle tyres regularly (→ page 373).

Tyre load-bearing capacity, tyre speed rating and tyre types

⚠ **WARNING** Risk of injury through exceeding the specified tyre load-bearing capacity or the permissible speed rating

Exceeding the specified tyre load-bearing capacity or the permissible speed rating may lead to tyre damage and to 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 a Mercedes-Benz Service Centre will be able to provide you with further information about 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, etc.

In particular, observe 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 replacing the standard tyres of your vehicle, use only the tyre and wheel disk sizes approved for your vehicle type.

A tyre dealer, a qualified specialist workshop or a Mercedes-Benz 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. A Mercedes-Benz 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.

Vehicles with power steering: if you change the mechanical axle stops, e.g. when changing a tyre, have the power steering taught-in at a qualified specialist workshop.

Retreaded tyres

Mercedes-Benz recommends that you only use tyres and wheels that have been approved for Mercedes-Benz.

Balancing tyres

Mercedes-Benz recommends that you only use clip-on and adhesive wheel balance weights which have been approved for Mercedes-Benz to balance the tyres. Adding balancing granulate, balancing beads or balancing gel to the tyres can damage the inliner of the tyre.

Notes on wheels with tyre pressure sensors

Tyre pressure monitoring system in the multimedia system

You can have the current tyre pressures, tyre temperatures and the tyre pressure sensor battery charge level displayed in the multimedia system.

Select the Tyres menu item in the Status menu of the multimedia system to do this.

Then press the [ ] button, for example, in order to have the current tyre pressures displayed.

The tyre pressure monitoring system is a convenience system that offers the following benefits:

- Assistance with the regular tyre pressure monitoring system
- Automatic warning in the event of tyre pressure loss

The tyre pressure monitoring system can provide reliable warnings only if the correct specific pres-

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sure for the tyres has been set on the on-board computer.

The tyre pressure monitoring system will detect an incorrect value if, for example:

- The vehicle is overloaded or incorrectly loaded
- The vehicle is fitted with wheels that have different tyre sizes 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. Always have the correct specified pressure set on the on-board computer at a qualified specialist workshop.

If radio transmitting equipment (e.g. cordless headphones, two-way radios) is operated inside the vehicle or in the vicinity of the vehicle, this can interfere with the operation of the tyre pressure monitoring system.

The tyre pressure values on the on-board computer may differ from those measured with a tyre pressure checker. The tyre pressures shown by the on-board computer refer to those measured at sea level. At high altitudes, the tyre pressure values indicated by a pressure gauge will be higher than those shown by the on-board computer. In this case, do not reduce the tyre pressure.

When the tyre temperature differs, different target pressures may be shown for the tyres, e.g. because of exposure to sunlight.

Tyre pressure loss warning system

If the tyre pressure of one or more tyres drops, the instrument cluster displays the warning in a yellow or red event window. 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.

Mounting

When balancing wheels with tyre pressure sensors only use clip-on and adhesive wheel balance weights that are recommended by Mercedes-Benz. Balancing granulate, balancing beads or balancing gel can damage the tyre pressure sensor and the tyres.

You can recognise wheels with tyre pressure sensors by a red ring on the tyre valve. Observe the mounting instructions when changing a tyre.

A tyre dealer, a qualified specialist workshop or a Mercedes-Benz Service Centre will be able to provide you with further information.

Storage

The battery of a tyre pressure sensor for checking the tyre pressure is activated automatically when it is mounted. The tyre pressure sensor will then begin to transmit data periodically. The longer you store wheels with a tyre pressure sensor mounted, the shorter the service life of the tyre pressure sensor battery during road use. Therefore, tyre pressure sensors should only be mounted a short time before the wheel is used.

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Radio operating permits for the tyre pressure monitoring system

Radio equipment approval numbers

Country	Radio equipment approval number
Brazil	ANATEL UL-BR 16.0721 Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário
European Union	Hereby, Schrader Electronics Ltd declares that the radio equipment type TG6WU, TG6IECU, TG6ERX is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: http://www.tpmseuroshop.com/documents/declaration_conformities TG6WU: 433.92MHz Maximum effective radiated power 10.691uW TG6ERX: Category 2 Schrader Electronics Ltd. 11 Technology Park, Belfast Road, Antrim BT41 1QS, Northern Ireland United Kingdom
Moldova	024
Morocco	TG6WU: AGREE PAR L'ANRT MAROC Numéro d'agrément: MR 12227 ANRT 2016 Date d'agrément: 2016-07-19 TG6ERX: AGREE PAR L'ANRT MAROC Numéro d'agrément: MR 12545 ANRT 2016 Date d'agrément: 2016-09-22
Russia	EAC
Serbia	4805 16
Singapore	Complies with IMDA Standards NO524-13 DA 105282
Ukraine	109

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. If you suspect that a tyre is defective, reduce your speed immediately. Stop the vehicle as soon as possible to check the wheels and tyres for damage. Hidden tyre damage could 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.

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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 tread
- tyre pressure

Tyre condition

WARNING Risk of accident from damaged tyres

Damaged tyres can cause tyre pressure loss.

As a result, you could lose control of your vehicle.

▶ Check the tyres regularly for signs of damage and replace any damaged tyres immediately.

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 occur through the following points, for example:

- 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 have tyres more than six years old checked and, if necessary, replaced at a qualified specialist workshop. This also applies to the spare wheel. Date of manufacture (1) informs you about the age of a tyre. The first and second digits refer to the week of manufacture, 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

WARNING Risk of aquaplaning due to insufficient tyre tread

Insufficient tyre tread will result in reduced tyre grip. The tyre tread is no longer able to dissipate water.

This means that in heavy rain or slush the risk of aquaplaning is increased, in particular where speed is not adapted to suit the conditions.

If the tyre pressure is too high or too low, tyres may exhibit different levels of wear at different locations on the tyre tread.

▶ Thus, you should regularly check the tread depth and the condition of the tread across the entire width of all tyres.

Minimum tread depth for:

- Summer tyres: 3 mm
- M+S tyres: 4 mm

▶ For safety reasons, replace the tyres before the legally prescribed limit for the minimum tread depth is reached.

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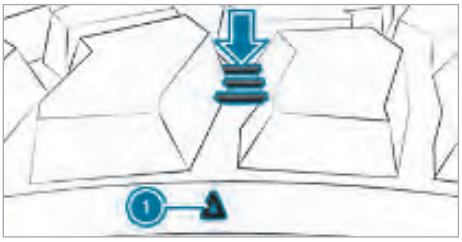
WARNING Risk of aquaplaning because tyre tread is too low

Depending on the depth of the water on the roadway, aquaplaning can occur despite sufficient tyre tread depth and low speed.

▶ Avoid tyre ruts and brake carefully.



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 the road adhesion and handling characteristics of the vehicle, particularly if the roadway is wet or snow-covered. A tyre has reached the minimum tread depth when the tread wear indicator (arrow) is flush with the tyre tread.

Tyre pressure

Vehicles with tyre pressure monitoring system: you can have the current pressure of the individual tyres displayed in the multimedia system.

Press the [ ] button under the Tyres menu item in the Status menu of the multimedia system to do this.

WARNING Risk of accident due to insufficient or excessive tyre pressure

Underinflated or overinflated tyres pose the following risks:

- The tyres may burst, especially as the load and vehicle speed increase.
- The tyres may wear excessively and/or unevenly, which may greatly impair tyre traction.
- The driving characteristics, as well as steering and braking, may be greatly impaired.

▶ Comply with the recommended tyre pressure and check the tyre pressure of all tyres including the spare wheel regularly:

- at least once a month
- when the load changes
- before embarking on a longer journey
- if 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:

- severe heating
- increased tyre wear
- changed driving stability
- increased fuel consumption

Tyre pressure that is too high can have the following consequences:

- greater braking distance
- poorer tyre traction
- increased tyre wear

WARNING Risk of accident from repeated tyre pressure drop

If the tyre pressure drops repeatedly, the wheel, valve or tyre may be damaged.

Insufficient tyre pressure can cause the tyres to burst.

▶ Inspect the tyre for signs of foreign objects.

▶ Check whether the wheel or valve has a leak.

▶ If you are unable to rectify the damage, contact a qualified specialist workshop.

WARNING Risk of accident through reducing the tyre pressure when the tires are hot

The tyre temperature and pressure increase when the vehicle is in motion. Reducing the pressure of warm tyres leads to a tyre pressure that is too low when the tyres have cooled.

If the tyre pressure is too low, it may cause the tyre to burst, especially when the load or speed increases.

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- You should never reduce the pressure of warm tyres.
- Observe 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 375).

Determining tyre pressures

Observe the notes in the "Tyre pressure" section of the "Regular checking of the wheels and tyres" chapter (→ page 373).

Set the correct tyre pressure for each axle on the vehicle.

Example: tyre size and load-bearing index

- Read off tyre size 1 and load-bearing index 2 on the tyre.

If load-bearing index 2 is comprised of two numbers, the first number before the "/" is for single tyres and the second number, after the "/", is for twin tyres.

Example: permissible axle load

- Determine permissible axle load 3 by checking the vehicle identification plate (→ page 384).
- Select the tyre pressure table which corresponds to the tyre type.
  - Single tyres
  - Twin tyres (→ page 375)
- 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 maximum permissible axle load 3 in the tyre pressure table and read off the tyre pressure.

For every 10 °C change in air temperature, the tyre pressure changes by approximately 30 to 40 kPa (0.3 to 0.4 bar/4.4 to 5.8 psi). Bear this temperature-related change in tyre pressure in mind when checking tyre pressures indoors, where the temperature 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 to 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.

ⓘ For specific tasks, e.g. for winter services, a maximum permissible vehicle axle load 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

Load-bearing index 135

- Axle load 4300 kg: 850 kPa (8.5 bar/123 psi)

Tyres 12 R 20

Load-bearing index 154

- Axle load 6300 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 6700 kg: 775 kPa (7.75 bar/112 psi)

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- Axle load 7100 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 7500 kg: 850 kPa (8.5 bar/123 psi)

Tyres 14 R 20

Load-bearing index 160

- Axle load 6300 kg: 450 kPa (4.50 bar/65 psi)
- Axle load 6700 kg: 475 kPa (4.75 bar/69 psi)
- Axle load 7100 kg: 525 kPa (5.25 bar/76 psi)
- Axle load 7500 kg: 575 kPa (5.75 bar/83 psi)
- Axle load 8000 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 9000 kg: 700 kPa (7.0 bar/102 psi)

Load-bearing index 164

- Axle load 6300 kg: 425 kPa (4.25 bar/62 psi)
- Axle load 6700 kg: 450 kPa (4.50 bar/65 psi)
- Axle load 7100 kg: 500 kPa (5.0 bar/72 psi)
- Axle load 7500 kg: 525 kPa (5.25 bar/76 psi)
- Axle load 8000 kg: 575 kPa (5.75 bar/83 psi)
- Axle load 9000 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 9500 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 10000 kg: 750 kPa (7.5 bar/109 psi)

Tyres 365/85 R 20

Load-bearing index 164

- Axle load 6300 kg: 450 kPa (4.50 bar/65 psi)
- Axle load 6700 kg: 475 kPa (4.75 bar/69 psi)
- Axle load 7100 kg: 525 kPa (5.25 bar/76 psi)
- Axle load 7500 kg: 575 kPa (5.75 bar/83 psi)
- Axle load 8000 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 9000 kg: 700 kPa (7.0 bar/102 psi)
- Axle load 9500 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 10000 kg: 800 kPa (8.0 bar/116 psi)

Tyres 11 R 22.5

Load-bearing index 148

- Axle load 6300 kg: 850 kPa (8.5 bar/123 psi)

Tyres 12 R 22.5

Load-bearing index 152

- Axle load 6300 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 6700 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 7100 kg: 850 kPa (8.5 bar/123 psi)

Tyres 13 R 22.5

Load-bearing index 154

- Axle load 6300 kg: 700 kPa (7.0 bar/102 psi)
- Axle load 6700 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 7100 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 7500 kg: 850 kPa (8.5 bar/123 psi)

Load-bearing index 156

- Axle load 6300 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 6700 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 7100 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 7500 kg: 825 kPa (8.25 bar/120 psi)
- Axle load 8000 kg: 875 kPa (8.75 bar/127 psi)

Tyres 275/70 R 22.5

Load-bearing index 148

- Axle load 6300 kg: 900 kPa (9.0 bar/131 psi)

Load-bearing index 150

- Axle load 6300 kg: 825 kPa (8.25 bar/120 psi)
- Axle load 6700 kg: 900 kPa (9.0 bar/131 psi)

Tyres 295/60 R 22.5

Load-bearing index 150

- Axle load 6300 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 6700 kg: 900 kPa (9.0 bar/131 psi)

Tyres 295/80 R 22.5

Load-bearing index 150

- Axle load 6300 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 6700 kg: 800 kPa (8.0 bar/116 psi)

Load-bearing index 152

- Axle load 6300 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 6700 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 7100 kg: 850 kPa (8.5 bar/123 psi)

Load-bearing index 154

- Axle load 6300 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 6700 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 7100 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 7500 kg: 850 kPa (8.5 bar/123 psi)

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Tyres 305/70 R 22.5

Load-bearing index 150

- Axle load 6300 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 6700 kg: 850 kPa (8.5 bar/123 psi)

Load-bearing index 152

- Axle load 6300 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 6700 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 7100 kg: 900 kPa (9.0 bar/131 psi)

Tyres 315/60 R 22.5

Load-bearing index 152

- Axle load 6300 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 6700 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 7100 kg: 900 kPa (9.0 bar/131 psi)

Load-bearing index 154

- Axle load 6300 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 6700 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 7100 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 7500 kg: 900 kPa (9.0 bar/131 psi)

Tyres 315/70 R 22.5

Load-bearing index 154

- Axle load 6300 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 6700 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 7100 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 7500 kg: 900 kPa (9.0 bar/131 psi)

Load-bearing index 156

- Axle load 6300 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 6700 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 7100 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 7500 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 8000 kg: 900 kPa (9.0 bar/131 psi)

Tyres 315/80 R 22.5

Load-bearing index 154

- Axle load 6300 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 6700 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 7100 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 7500 kg: 825 kPa (8.25 bar/120 psi)

Load-bearing index 156

- Axle load 6300 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 6700 kg: 700 kPa (7.0 bar/102 psi)
- Axle load 7100 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 7500 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 8000 kg: 850 kPa (8.5 bar/123 psi)

Tyres 355/50 R 22.5

Load-bearing index 154

- Axle load 6300 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 6700 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 7100 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 7500 kg: 900 kPa (9.0 bar/131 psi)

Load-bearing index 156

- Axle load 6300 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 6700 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 7100 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 7500 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 8000 kg: 900 kPa (9.0 bar/131 psi)

Tyres 365/70 R 22.5

Load-bearing index 162

- Axle load 6300 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 6700 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 7100 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 7500 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 8000 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 9000 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 9500 kg: 900 kPa (9.0 bar/131 psi)

Tyres 375/50 R 22.5

Load-bearing index 156

- Axle load 6300 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 6700 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 7100 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 7500 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 8000 kg: 900 kPa (9.0 bar/131 psi)

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Tyres 385/55 R 22.5

Load-bearing index 158

- Axle load 6300 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 6700 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 7100 kg: 700 kPa (7.0 bar/102 psi)
- Axle load 7500 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 8000 kg: 800 kPa (8.0 bar/116 psi)

Load-bearing index 160

- Axle load 6300 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 6700 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 7100 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 7500 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 8000 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 9000 kg: 900 kPa (9.0 bar/131 psi)

Tyres 385/65 R 22.5

Load-bearing index 158

- Axle load 6300 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 6700 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 7100 kg: 700 kPa (7.0 bar/102 psi)
- Axle load 7500 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 8000 kg: 800 kPa (8.0 bar/116 psi)

Load-bearing index 160

- Axle load 6300 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 6700 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 7100 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 7500 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 8000 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 9000 kg: 900 kPa (9.0 bar/131 psi)

Load-bearing index 162

- Axle load 8000 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 9000 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 9500 kg: 900 kPa (9.0 bar/131 psi)

Load-bearing index 164

- Axle load 6300 kg: 525 kPa (5.25 bar/76 psi)
- Axle load 6700 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 7100 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 7500 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 8000 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 9000 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 9500 kg: 850 kPa (8.5 bar/123 psi)
- Axle load 10000 kg: 900 kPa (9.0 bar/131 psi)

Tyres 425/65 R 22.5

Load-bearing index 165

- Axle load 6300 kg: 525 kPa (5.25 bar/76 psi)
- Axle load 6700 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 7100 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 7500 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 8000 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 9000 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 9500 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 10000 kg: 825 kPa (8.25 bar/120 psi)

Tyres 495/45 R 22.5

Load-bearing index 169

- Axle load 9500 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 10000 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 10500 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 11500 kg: 900 kPa (9.0 bar/131 psi)

Tyres 12 R 24

Load-bearing index 160

- Axle load 6300 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 6700 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 7100 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 7500 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 8000 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 9000 kg: 850 kPa (8.5 bar/123 psi)

Tyres 325/95 R 24

Load-bearing index 162

- Axle load 6300 kg: 525 kPa (5.25 bar/76 psi)
- Axle load 6700 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 7100 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 7500 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 8000 kg: 700 kPa (7.0 bar/102 psi)
- Axle load 9000 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 9500 kg: 850 kPa (8.5 bar/123 psi)

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Tyre pressure table for twin tyres

Tyres 12 R 20

Load-bearing index 150

- Axle load 9500 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 10000 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10500 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 11500 kg: 700 kPa (7.0 bar/102 psi)
- Axle load 12000 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 12300 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 12600 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 13000 kg: 825 kPa (8.25 bar/120 psi)
- Axle load 13400 kg: 850 kPa (8.5 bar/123 psi)

Tyres 14 R 20

Load-bearing index 157

- Axle load 9500 kg: 350 kPa (3.5 bar/51 psi)
- Axle load 10000 kg: 375 kPa (3.75 bar/54 psi)
- Axle load 10500 kg: 400 kPa (4.0 bar/58 psi)
- Axle load 11500 kg: 450 kPa (4.5 bar/65 psi)
- Axle load 12000 kg: 475 kPa (4.75 bar/69 psi)
- Axle load 12300 kg: 475 kPa (4.75 bar/69 psi)
- Axle load 12600 kg: 500 kPa (5.0 bar/72 psi)
- Axle load 13000 kg: 525 kPa (5.25 bar/76 psi)
- Axle load 13400 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 16000 kg: 675 kPa (6.75 bar/98 psi)

Load-bearing index 160

- Axle load 9500 kg: 350 kPa (3.5 bar/51 psi)
- Axle load 10000 kg: 375 kPa (3.75 bar/54 psi)
- Axle load 10500 kg: 375 kPa (3.75 bar/54 psi)
- Axle load 11500 kg: 425 kPa (4.25 bar/62 psi)
- Axle load 12000 kg: 450 kPa (4.5 bar/65 psi)
- Axle load 12300 kg: 475 kPa (4.75 bar/69 psi)
- Axle load 12600 kg: 475 kPa (4.75 bar/69 psi)
- Axle load 13000 kg: 500 kPa (5.0 bar/72 psi)
- Axle load 13400 kg: 525 kPa (5.25 bar/76 psi)
- Axle load 16000 kg: 650 kPa (6.5 bar/94 psi)

Tyres 11 R 22.5

Load-bearing index 145

- Axle load 9500 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 10000 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 10500 kg: 750 kPa (7.5 bar/109 psi)
- Axle load 11500 kg: 850 kPa (8.5 bar/123 psi)

Tyres 12 R 22.5

Load-bearing index 148

- Axle load 9500 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10000 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 10500 kg: 700 kPa (7.0 bar/102 psi)
- Axle load 11500 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 12000 kg: 800 kPa (8.0 bar/116 psi)
- Axle load 12300 kg: 825 kPa (8.25 bar/120 psi)
- Axle load 12600 kg: 850 kPa (8.5 bar/123 psi)

Load-bearing index 149

- Axle load 9500 kg: 575 kPa (5.75 bar/83 psi)
- Axle load 10000 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 10500 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 11500 kg: 725 kPa (7.25 bar/105 psi)
- Axle load 12000 kg: 775 kPa (7.75 bar/112 psi)
- Axle load 12300 kg: 800 kPa (8.0 bar/116 psi)

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- Axle load 12600 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 13000 kg: 850 kPa (8.5 bar/ 123 psi)

Tyres 13 R 22.5

Load-bearing index 150

- Axle load 9500 kg: 575 kPa (5.75 bar/83 psi)
- Axle load 10000 kg: 625 kPa (6.25 bar/ 91 psi)
- Axle load 10500 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 11500 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 12000 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 12300 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 12600 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 13000 kg: 850 kPa (8.5 bar/ 123 psi)
- Axle load 13400 kg: 875 kPa (8.75 bar/ 127 psi)

Load-bearing index 151

- Axle load 9500 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 10000 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10500 kg: 625 kPa (6.25 bar/ 91 psi)
- Axle load 11500 kg: 700 kPa (7.0 bar/ 102 psi)
- Axle load 12000 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 12300 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 12600 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 13000 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 13400 kg: 850 kPa (8.5 bar/ 123 psi)

Tyres 275/70 R 22.5

Load-bearing index 145

- Axle load 9500 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 10000 kg: 750 kPa (7.5 bar/ 109 psi)
- Axle load 10500 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 11500 kg: 900 kPa (9.0 bar/ 131 psi)

Tyres 295/55 R 22.5

Load-bearing index 145

- Axle load 9500 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 10000 kg: 750 kPa (7.5 bar/ 109 psi)
- Axle load 10500 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 11500 kg: 900 kPa (9.0 bar/ 131 psi)

Tyres 295/60 R 22.5

Load-bearing index 146

- Axle load 9500 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 10000 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 10500 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 11500 kg: 875 kPa (8.75 bar/ 127 psi)
- Axle load 12000 kg: 900 kPa (9.0 bar/ 131 psi)

Load-bearing index 147

- Axle load 9500 kg: 675 kPa (6.75 bar/98 psi)
- Axle load 10000 kg: 700 kPa (7.0 bar/ 102 psi)
- Axle load 10500 kg: 750 kPa (7.5 bar/ 109 psi)
- Axle load 11500 kg: 850 kPa (8.5 bar/ 123 psi)
- Axle load 12000 kg: 875 kPa (8.75 bar/ 127 psi)
- Axle load 12300 kg: 900 kPa (9.0 bar/ 131 psi)

Tyres 295/80 R 22.5

Load-bearing index 145

- Axle load 9500 kg: 625 kPa (6.25 bar/91 psi)
- Axle load 10000 kg: 675 kPa (6.75 bar/ 98 psi)

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- Axle load 10500 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 11500 kg: 800 kPa (8.0 bar/ 116 psi)

Load-bearing index 148

- Axle load 9500 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10000 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 10500 kg: 700 kPa (7.0 bar/ 102 psi)
- Axle load 11500 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 12000 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 12300 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 12600 kg: 850 kPa (8.5 bar/ 123 psi)

Load-bearing index 149

- Axle load 9500 kg: 575 kPa (5.75 bar/83 psi)
- Axle load 10000 kg: 625 kPa (6.25 bar/ 91 psi)
- Axle load 10500 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 11500 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 12000 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 12300 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 12600 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 13000 kg: 850 kPa (8.5 bar/ 123 psi)

Tyres 305/70 R 22.5

Load-bearing index 148

- Axle load 9500 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10000 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 10500 kg: 700 kPa (7.0 bar/ 102 psi)
- Axle load 11500 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 12000 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 12300 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 12600 kg: 850 kPa (8.5 bar/ 123 psi)

Load-bearing index 150

- Axle load 9500 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10000 kg: 625 kPa (6.25 bar/ 91 psi)
- Axle load 10500 kg: 675 kPa (6.75 bar/ 98 psi)
- Axle load 11500 kg: 750 kPa (7.5 bar/ 109 psi)
- Axle load 12000 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 12300 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 12600 kg: 850 kPa (8.5 bar/ 123 psi)
- Axle load 13000 kg: 875 kPa (8.75 bar/ 127 psi)
- Axle load 13400 kg: 900 kPa (9.0 bar/ 131 psi)

Tyres 315/45 R 22.5

Load-bearing index 145

- Axle load 9500 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 10000 kg: 750 kPa (7.5 bar/ 109 psi)
- Axle load 10500 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 11500 kg: 900 kPa (9.0 bar/ 131 psi)

Tyres 315/60 R 22.5

Load-bearing index 148

- Axle load 9500 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 10000 kg: 675 kPa (6.75 bar/ 98 psi)
- Axle load 10500 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 11500 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 12000 kg: 850 kPa (8.5 bar/ 123 psi)
- Axle load 12300 kg: 875 kPa (8.75 bar/ 127 psi)
- Axle load 12600 kg: 900 kPa (9.0 bar/ 131 psi)

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Load-bearing index 150

- Axle load 9500 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10000 kg: 625 kPa (6.25 bar/ 91 psi)
- Axle load 10500 kg: 675 kPa (6.75 bar/ 98 psi)
- Axle load 11500 kg: 750 kPa (7.5 bar/ 109 psi)
- Axle load 12000 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 12300 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 12600 kg: 850 kPa (8.5 bar/ 123 psi)
- Axle load 13000 kg: 875 kPa (8.75 bar/ 127 psi)
- Axle load 13400 kg: 900 kPa (9.0 bar/ 131 psi)

Tyres 315/70 R 22.5

Load-bearing index 148

- Axle load 9500 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10000 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 10500 kg: 700 kPa (7.0 bar/ 102 psi)
- Axle load 11500 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 12000 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 12300 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 12600 kg: 850 kPa (8.5 bar/ 123 psi)

Load-bearing index 150

- Axle load 9500 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10000 kg: 625 kPa (6.25 bar/ 91 psi)
- Axle load 10500 kg: 675 kPa (6.75 bar/ 98 psi)
- Axle load 11500 kg: 750 kPa (7.5 bar/ 109 psi)
- Axle load 12000 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 12300 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 12600 kg: 850 kPa (8.5 bar/ 123 psi)
- Axle load 13000 kg: 875 kPa (8.75 bar/ 127 psi)
- Axle load 13400 kg: 900 kPa (9.0 bar/ 131 psi)

Tyres 315/80 R 22.5

Load-bearing index 150

- Axle load 9500 kg: 575 kPa (5.75 bar/83 psi)
- Axle load 10000 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 10500 kg: 650 kPa (6.5 bar/94 psi)
- Axle load 11500 kg: 725 kPa (7.25 bar/ 105 psi)
- Axle load 12000 kg: 750 kPa (7.5 bar/ 109 psi)
- Axle load 12300 kg: 775 kPa (7.75 bar/ 112 psi)
- Axle load 12600 kg: 800 kPa (8.0 bar/ 116 psi)
- Axle load 13000 kg: 825 kPa (8.25 bar/ 120 psi)
- Axle load 13400 kg: 850 kPa (8.5 bar/ 123 psi)

Tyres 12 R 24

Load-bearing index 156

- Axle load 9500 kg: 450 kPa (4.5 bar/65 psi)
- Axle load 10000 kg: 475 kPa (4.75 bar/ 69 psi)
- Axle load 10500 kg: 500 kPa (5.0 bar/72 psi)
- Axle load 11500 kg: 575 kPa (5.75 bar/ 83 psi)
- Axle load 12000 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 12300 kg: 625 kPa (6.25 bar/ 91 psi)
- Axle load 12600 kg: 625 kPa (6.25 bar/ 91 psi)
- Axle load 13000 kg: 675 kPa (6.75 bar/ 98 psi)
- Axle load 13400 kg: 675 kPa (6.75 bar/ 98 psi)
- Axle load 16000 kg: 850 kPa (8.5 bar/ 123 psi)

Tyres 325/95 R 24

Load-bearing index 160

- Axle load 9500 kg: 375 kPa (3.75 bar/54 psi)
- Axle load 10000 kg: 425 kPa (4.25 bar/ 62 psi)

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- Axle load 10500 kg: 425 kPa (4.25 bar/ 62 psi)
- Axle load 11500 kg: 500 kPa (5.0 bar/72 psi)
- Axle load 12000 kg: 525 kPa (5.25 bar/ 76 psi)
- Axle load 12300 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 12600 kg: 550 kPa (5.5 bar/80 psi)
- Axle load 13000 kg: 575 kPa (5.75 bar/ 83 psi)
- Axle load 13400 kg: 600 kPa (6.0 bar/87 psi)
- Axle load 16000 kg: 725 kPa (7.25 bar/ 105 psi)

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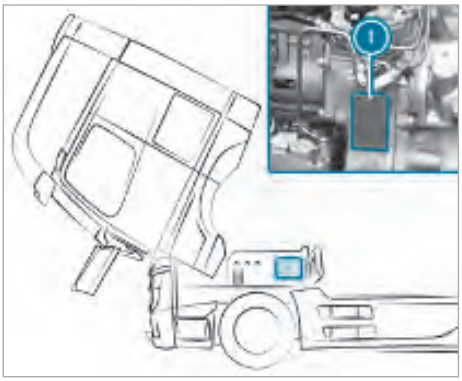
Engine model plate



Example: OM 471 engine

Engine model plate (1) is located at the rear of the crankcase on the left-hand side when viewed in the direction of travel.

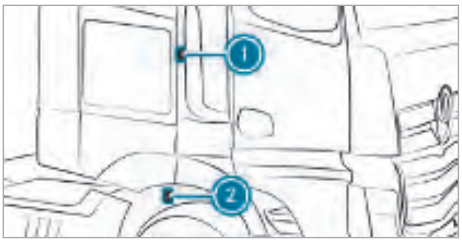
Engine model plate (1) contains the following information:

- manufacturer
- engine type
- engine model designation
- engine number

(i) On vehicles with the OM 460 engine, the engine model plate is located on the crankcase on the right-hand side when viewed in the direction of travel.

Vehicle identification plate/axle loads

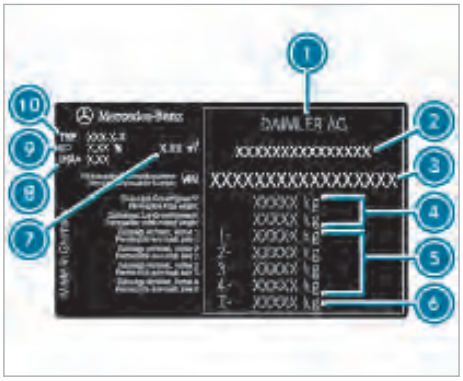
Vehicle identification plate and vehicle identification number (VIN)



Example: vehicle identification number (VIN) and vehicle identification plate

Vehicle identification plate (1) is located in the door frame on the co-driver's side. Vehicle identification number (VIN) (2) is stamped on the longitudinal frame member in the right wheel well.

Information on the vehicle identification plate



Example: vehicle identification plate

(1) Vehicle manufacturer (Daimler AG)
(2) EU general operating permit number (only in certain countries)
(3) Vehicle identification number (VIN)
(4) Permissible gross weight (kg)
Permissible gross vehicle combination weight (kg)
(5) Permissible axle loads of axles 1 to 4 (kg)
(6) Permissible load of axle group T (kg)
(7) Flue gas coefficient
(8) Rear axle ratio
(9) Basic headlamp setting
(10) Vehicle model or vehicle model designation

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 set by the continuous brake effect of the vehicle. You will find this value in your ADR certification.

If you require further assistance, consult a Mercedes-Benz Service Centre.

Service products

Notes on operating fluids

(!) **WARNING** Risk of injury from operating fluids harmful to your health

Operating fluids may be poisonous and harmful to your health.

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- Observe the text on the original containers when using, storing or disposing of operating fluids.
- Always store operating fluids sealed in their original containers.
- Always keep children away from operating fluids.

NOTE Damage to the major assemblies

Using additives in approved operating fluids can cause damage to the major assemblies.

- Do not mix additives with operating fluids.

ENVIRONMENTAL NOTE Environmental pollution due to disposing of operating fluids in a non-environmentally responsible manner

Operating fluids include the following:

- fuels
- exhaust gas aftertreatment additives, e.g. AdBlue®
- lubricants

Incorrect disposal of operating fluids can cause considerable damage to the environment.

- Dispose of operating fluids in an environmentally responsible manner.

Approved operating fluids fulfil the highest quality standards and are documented in the Mercedes-Benz Specifications for Operating Fluids. For this reason, only use approved operating fluids for your vehicle. Information about approved operating fluids is available from any Mercedes-Benz Service Centre.

You can recognise operating fluids approved by Mercedes-Benz by the following inscription on the container:

- MB-Freigabe (e.g. MB-Freigabe 228.51)

  or
- MB Approval (e.g. MB Approval 228.51)

Other labels and recommendations relating to the quality or indicating that the product meets a certain specification are not necessarily approved by Mercedes-Benz. You can obtain further information from any Mercedes-Benz Service Centre.

You can obtain information about operating fluids that have been tested by Mercedes-Benz and approved for your vehicle on the Internet at: **http://bevo.mercedes-benz.com/**

The specification and availability of lubricants may vary. Some lubricants are no longer available, especially for older vehicles. Information is available from any Mercedes-Benz Service Centre.

Notes on engine oils

Notes on engine oils

NOTE Damage to the engine via impermissible engine oil quality

- Only use quality grade engine oils which are permitted according to these Operating Instructions.

Observe the safety notes on operating fluids(→ page 384).

The quality of the engine oil used is of decisive importance for the engine's functionality and service life. Mercedes-Benz continually approves engine oils based on complex experiments according to the latest technological standards.

For BlueTec®6 vehicles, only use engine oils that comply with the Mercedes-Benz Specification for Service Products, according to Sheet No. 228.51 or 228.31.

For BlueTec®6 vehicles with Fuel Efficiency Package (FE1), use engine oils according to Sheet No. 228.61, 228.51 or 228.31.

For all other vehicles, you can use engine oils according to Sheet No. 228.5, 228.51, 228.3 or 228.31. Preferably use engine oils according to Sheet No. 228.5 or 228.3.

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Engine oils according to Sheet No. 228.51 are high quality engine oils which have a positive effect on the following factors:

- the oil change interval length
- engine wear
- fuel consumption
- the exhaust gas emissions

ⓘ The quality grade is listed on the oil canister, e.g. Sheet No. 228.51, and the viscosity, e.g. SAE classification 5W-30.

Application areas

You can use multigrade engine oils according to Sheet No. 228.51 or 228.31 all year round.

The oil change intervals are shortened depending on the fuel grade (sulphur content).

Oil change

! **NOTE** Damage to the engine caused by mixing engine oils

Mixing engine oils of differing qualities can lead to shortened change intervals.

This can lead to engine damage.

▶ Only use engine oils of differing qualities in exceptional cases.

▶ In order to prevent engine damage, set the Sheet Number of the engine oil with a lower quality in the Engine Oil grade menu.

! **NOTE** Engine damage due to using engine oil with inadequate temperature characteristics

The engine oil used does not have adequate temperature characteristics.

This can lead to engine damage.

▶ Select the SAE classification (viscosity) of the engine oil, depending on the season and the average outside temperature.

▶ If the SAE classification of the engine oil is not suitable for the outside temperature: change the engine oil, in particular before the cold season commences.

Oil change intervals depend on the following factors:

- vehicle operating conditions
- quality of the engine oil used
- the fuel type

Select the SAE classification (viscosity) of the engine oil according to the outside temperature. Information on the SAE classifications and the outside temperature ranges can be found in Sheet No. 224.2 in the Mercedes-Benz Specification for Service Products.

The maximum oil change interval is only achieved with engine oils of a particularly high quality grade, according to Sheet No. 228.51 of the Mercedes-Benz Specification for Service Products. The on-board computer 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

Too much engine oil can damage the engine or the catalytic converter.

▶ Have excess engine oil removed at a qualified specialist workshop.

When you top up, Mercedes-Benz recommends that you only use engine oil of the same quality grade and SAE classification as the oil added at the last oil change.

Check the oil level on the on-board computer before topping up engine oil (→ page 326).

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 grade (Sheet No.)
- SAE classification (viscosity)

If, in exceptional cases, engine oil of the type in the engine is not available, top up using another engine oil approved for Mercedes-Benz.

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Setting the oil quality

When the on-board computer displays the symbol and you top up the displayed oil filling capacity, observe the following:

- if you top up or add a lower quality engine oil, set the lower quality (Sheet No.) on the on-board computer.
- do not set the higher quality (Sheet No.) on the on-board computer if you are topping up with a higher quality engine oil.

Set the Sheet No. (quality grade) of the engine oil on the on-board computer .

Transmission oils

General notes

NOTE Damage to the transmission

The transmission can be damaged when changing from synthetic to mineral transmission oil.

▶ Before changing, check whether a mineral transmission oil is permissible. Information is available in a Mercedes-Benz Service Centre.

The drive axles and the transmission are filled at the factory with a high-quality synthetic oil.

The planetary hub reduction axles are filled with mineral oil.

Only use the following oils for the transmission:

- in automatic transmissions, only transmission oils according to sheet-no. 236.91
- in automated manual transmissions, only transmission oils according to sheet-no. 235.11

Transmission oil quality

You can check the quality grade (sheet-no) of the added transmission oil in the on-board computer .

Notes on coolant

WARNING Risk of fire- and injury from antifreeze

If antifreeze 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.

▶ Make sure that no antifreeze spills out next to the filler opening.

▶ Thoroughly clean the antifreeze from component parts before starting the vehicle.

A coolant that ensures anti-corrosion/antifreeze protection and other important protective effects is added at the factory.

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
- cavitation protection (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 concentration of the corrosion inhibitor/antifreeze agent in the coolant every six months.

Only use approved corrosion inhibitor/antifreeze agent according to Sheet No. 325.5. This will help prevent damage to the engine cooling system and the engine.

When renewing the coolant, ensure that the coolant contains 50% corrosion inhibitor/antifreeze agent by volume. This corresponds to antifreeze protection down to -37 °C.

Do not exceed 55% by volume (antifreeze protection down to approx. -45 °C). Heat dissipation and antifreeze protection may otherwise deteriorate.

In the event of coolant loss, do not just top up 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 not sufficient.

Mix the water and the corrosion inhibitor/antifreeze agent together externally of the coolant circuit. Then subsequently fill the mixture in the coolant expansion reservoir.

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Avoid mixing different corrosion inhibitor/anti-freeze agents.

Observe the Mercedes-Benz Specification for Service Products according to Sheet No. 310.1.

You can obtain further information on the operating and road safety of your vehicle from a Mercedes-Benz Service Centre.

Refrigerant

Important safety notes

Your vehicle's climate control system is filled with R-134a refrigerant and contains fluorinated greenhouse gas.

The warning label for the refrigerant type used is located behind the maintenance flap.

NOTE Damage caused by incorrect refrigerant

If the incorrect refrigerant is used, this can damage the climate control system.

- ▶ Use only R-134a refrigerant or the PAG oil approved for your vehicle by Mercedes-Benz.
- ▶ The approved PAG oil may not be mixed with any other PAG oil that is not approved for R-134a refrigerant.

Maintenance work, such as topping up the refrigerant or replacing components, may be carried out only by a qualified specialist workshop. All applicable regulations, as well as SAE standard J639, must be adhered to.

All work on the climate control system should always be carried out at a qualified specialist workshop.

Example: refrigerant warning label

1. Symbols for hazard and service information
2. Refrigerant filling capacity
3. CO_2 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

Symbols 1 advise you of the following:

- possible dangers
- the performance of maintenance work at a qualified specialist workshop

Notes on fuel grade

WARNING 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.

While the engine is running, component parts in the exhaust system may overheat without warning.

- ▶ Never refuel using petrol in diesel engines.
- ▶ Never mix petrol with diesel fuel.

Even small amounts of the wrong fuel could result in damage to the fuel system, the engine and the emission control system.

NOTE Damage to the emission control system in vehicles with a diesel particulate filter

If you refuel with diesel fuel whose sulphur content is too high, the emission control system may be damaged.

- ▶ In countries without sulphur-free diesel fuel, refuel using only low-sulphur diesel fuel with a sulphur content less than 50 ppm.

ⓘ Only use commercially available vehicle diesel fuel that complies with European standard EN 590 (or comparable national fuel standards).

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Compatibility labels for all vehicles with a diesel engine

For diesel engines, you will find the compatibility labels on the tensioning strap of the fuel tank and on the fuel pump or on the fuel pump nozzle of the filling station.

- **B7:** for diesel fuel with maximum 7% bio-diesel (fatty acid methyl ester) by volume
- **XTL:** for paraffinic diesel fuel acc. to EN 15940

For diesel engines, you will find the compatibility labels on the tensioning strap of the fuel tank and on the fuel pump or on the fuel pump nozzle of the filling station.

Information on low outside temperatures

Refuel your vehicle with as much winter diesel fuel as possible at the beginning of winter.

Before changing over to winter diesel fuel, the fuel tank should be empty, if possible. When first refuelling with winter diesel fuel, only refuel using a small amount, e.g. to reserve level. The fuel tank can be filled as usual when next refuelling.

Further information on fuel is available at the following locations:

- filling stations
- qualified specialist workshops

Information on diesel fuel in accordance with EN 590

Important safety notes

WARNING Danger of fire and explosion due to fuel

Fuels are highly flammable.

▶ It is essential to avoid fire, naked flames, smoking and creating sparks.

▶ Before filling up, switch off the engine, and, if applicable, the auxiliary heating.

NOTE Fuel system malfunctions

When refuelling from drums or canisters, impurities can enter the fuel system.

This can cause malfunctions of the fuel system.

▶ Filter fuel before filling from barrels or canisters.

NOTE Damage to the engine and exhaust system due to excessive sulphur content in the fuel

Fuels can have different sulphur contents.

A high fuel sulphur content accelerates the ageing process of the engine oil and could damage the engine and exhaust system.

▶ Use fuels with a low sulphur content.

BlueTec®6 vehicles

BlueTec®6 vehicles: only fill up with commercially available sulphur-free diesel fuel in accordance with the European standard EN 590 of 2010 up to max. sulphur content of 0.001% by weight (10 ppm).

The following fuel types are not permitted:

- sulphur-containing fuel above 0.001% sulphur content by weight
- marine diesel fuel
- aviation turbine fuel
- heating oils
- Bio-diesel fuels to DIN EN 14214 (FAME (Fatty Acid Methyl Ester) and UCOME (Used Cooking Oil Methyl Ester)

These types of fuel cause irreversible damage to the engine and the exhaust gas aftertreatment system BlueTec®6 and considerably reduce the expected service life.

BlueTEC®4 vehicles and BlueTEC®5 vehicles

BlueTec®4 vehicles and BlueTec®5 vehicles: diesel fuel must comply with the European standard EN 590. As a result, the engines achieve the specified performance and the legally prescribed exhaust emission values of the Euro 4 and Euro 5 standards.

The use of fuels with a sulphur content above 0.005% by weight (50 ppm) reduces the expected service life of the engine and the exhaust system.

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The following fuel types are not permitted:

- sulphur-containing fuel above 0.05% sulphur content by weight (500 ppm)
- marine diesel fuel
- aviation turbine fuel
- heating oils
- Bio-diesel fuel FAME (Fatty Acid Methyl Ester) > 7% by vol.
- Bio-diesel fuel UCOME (Used Cooking Oil Methyl Ester)

Vehicles without BlueTEC® exhaust gas aftertreatment

Vehicles without BlueTec® exhaust gas aftertreatment: only fill up with commercially available sulphur-free diesel fuel that complies with the European standard EN 590 of 2010 or a comparable national fuel standard.

As a result, the engines achieve the specified performance and the legally prescribed exhaust emission values of the Euro-3- standard.

The following fuel types are not permitted:

- OM 460: sulphur-containing fuel above 0.2% sulphur content by weight (2000 ppm)
- OM 473: sulphur-containing fuel above 0.1% sulphur content by weight (1000 ppm)
- marine diesel fuel
- aviation turbine fuel
- heating oils
- Bio-diesel fuel FAME (Fatty Acid Methyl Ester) > 7% by vol.
- Bio-diesel 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 . 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 different sulphur contents. Diesel fuels with a lower sulphur content are sold in some countries under the designation "Euro diesel".

Information on current country-specific sulphur contents is available at a Mercedes-Benz service centre or can be found in the Mercedes-Benz Specification for Service Products according to sheet number 136.1 or 136.2.

Diesel fuels at low temperatures

WARNING Risk of fire and explosion due to fuel igniting

If you heat fuel system components, e.g. with a heat gun or naked flame, these components could be damaged.

Fuel may leak out and ignite. Depending on the type of damage, fuel might not escape until the engine is running.

- ▶ Never heat fuel system components.
- ▶ Consult a qualified specialist workshop to have the malfunction 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.

Winter diesel fuels are reliable down to outside temperatures of -22°C in Germany and other Central European countries. You can normally use winter diesel fuel without problems at the outside temperatures 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 Malfunctions and engine failure

The use of fuel additives can cause malfunctions and engine failure.

- ▶ Do not use fuel additives.
- ▶ Do not add flow improvers to the fuel.

NOTE Damage to the injection system

Petrol or paraffin impairs the lubricity of the diesel fuel. This can result in damage to the injection system, for example.

- ▶ Do not add any petrol or paraffin to diesel fuel to improve its flow characteristics.

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Information about alternative diesel fuels that comply with DIN EN 15940

Observe the safety notes on operating fluids.

Alternative diesel fuels that comply with DIN EN 15940 can be manufactured from the following resources:

- hydrogenated vegetable oil (HVO–Hydrotreated Vegetable Oils)
- biomass (BtL–Biomass-to-Liquid)
- natural gas (GtL–Gas-to-Liquid)
- coal (CtL–Coal-to-Liquid)

You can use alternative diesel fuels that comply with DIN EN 5940 for the following engines:

- OM 470
- OM 471
- OM 473
- OM 936

Your vehicle can be operated with pure alternative diesel fuels in accordance with DIN EN 15940 and mixtures of conventional diesel fuels and alternative diesel fuels in accordance with DIN EN 15940.

AdBlue®

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 due to AdBlue®

If AdBlue® comes into contact with painted surfaces or aluminium surfaces while refuelling, these surfaces could be damaged.

▶ Immediately rinse off the affected areas with plenty of water.

If the AdBlue® tank is still filled with enough AdBlue®, balancing out of pressure may occur when the tank cap is opened. This may cause AdBlue® to leak. Therefore, carefully unscrew the tank cap of the AdBlue® tank. If AdBlue® leaks, wash off immediately with plenty of water.

AdBlue® is a non-flammable, non-toxic, colourless, odourless and water-soluble fluid.

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 escaping ammonia vapours. Fill the AdBlue® tank only in well-ventilated areas.

AdBlue® should not come into contact with skin, eyes or clothing or be swallowed. Keep AdBlue® away from children.

If you 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 have 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

If AdBlue® heats up to more than 50°C for a long time, for example, due to direct sunlight, AdBlue® can decompose. This produces ammonia vapours.

Low outside temperatures

AdBlue® freezes at a temperature of about -11 °C. The AdBlue® supply system of the vehicle is equipped with a fully automatic heating system. This means that winter operation is also ensured at temperatures below -11 °C.

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Additives, tap water

NOTE Damage caused by mixing additives with AdBlue® or from diluting AdBlue®

The BlueTEC® exhaust gas aftertreatment system could be destroyed by:

- additives in AdBlue®
- diluting AdBlue®

▶ Only use AdBlue® in accordance with ISO 22241.

▶ Do not add 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
- galvanized steel

When stored in such tank, components of these metals can separate and destroy the BlueTec® exhaust gas aftertreatment.

Only use tanks made of the following materials for storing AdBlue®:

- Cr-Ni steel acc. to DIN EN 10 088-1/2/3
- Mo-Cr-Ni steel acc. to DIN EN 10 088-1/2/3
- polypropylene
- polyethylene

Disposal

ENVIRONMENTAL NOTE Environmental pollution caused by environmentally irresponsible disposal

▶ 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 caused by impurities in AdBlue®

Impurities in AdBlue® result in the following:

- higher emission values
- damage to the catalytic converter
- engine damage
- malfunctions in the AdBlue® exhaust gas aftertreatment system

▶ Avoid impurities in AdBlue®.

To prevent malfunctions at the BlueTec® exhaust gas aftertreatment, always pay attention to the purity of AdBlue®.

If you pump AdBlue® out of the tank, for example, during a repair, do not refill it into the tank. Otherwise the purity of the liquid is no longer guaranteed.

Operating data

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/ clutch circuit	5.5 bar
Spring-loaded brake cylinder release pressure	6.8 bar

Supply pressures	Pressure
Service brake	10.5 - 13.6 bar
Air suspension	10.5 - 15.5 bar
External compressed-air source (charging the compressed-air system)	11.0 - 12.5 bar
Remaining pressure circuits	7.0 - 8.7 bar

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Engine

OM 936 engine with 7698 cm³

	Engine speed
Idle speed	approx. 600 rpm
Engine brake (operating range)	approx. 1000–3000 rpm
Rpm range of the maximum engine torque	approx. 1200–1600 rpm
Engine speed of the maximum engine output	approx. 2200 rpm

OM 460 engine with 12816 cm³

	Engine speed
Idle speed	approx. 560–800 rpm
Engine brake (operating range)	approx. 1500–2500 rpm
Engine speed of the maximum engine output	approx. 1600 rpm

OM 470 engine with 10667 cm³ and OM 471 engine with 12809 cm³

	Engine speed
Idle speed	approx. 500–550 rpm
Engine brake (operating range)	approx. 1000–2300 rpm
Rpm range of the maximum engine torque	approx. 1100 rpm
Engine speed of the maximum engine output	approx. 1600–1800 rpm

OM 473 engine with 15569 cm³

	Engine speed
Idle speed	approx. 500 rpm
Engine brake (operating range)	approx. 1000–2300 rpm
Rpm range of the maximum engine torque	approx. 1100 rpm
Engine speed of the maximum engine output	approx. 1600 rpm

Operating temperature

OM 936

Operating mode	Temperature
Normal operation	approx. 80–100°C
Maximum permissible coolant temperature during operation	up to 103°C
Automatically reduced engine output	from 103°C

OM 460

Operating mode	Temperature
Normal operation	approx. 80–95°C
Maximum permissible coolant temperature during operation	up to 110°C
Automatically reduced engine output	from 105°C

OM 470, OM 471, OM 473

Operating mode	Temperature
Normal operation	approx. 85–105°C
Maximum permissible coolant temperature during operation	up to 110°C
Automatically reduced engine output	from 110°C

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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 (10.0 bar/ 145 psi)

Wheel nut tightening torques

The tightening torques for the wheel nuts are identical for light-alloy and steel wheels.

Wheels	Torque
Wheel nuts with pressure plate (hub centring) M22x1.5 for 20", 22.5" and 24" wheel rims 10-hole mounting	600 Nm
Wheel nuts with pressure plate (hub centring) M18x1.5 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

	Torque/ pressure
Release torque of the spring-loaded brake cylinder release screw	max. 70 Nm
Tightening torque of the spring-loaded brake cylinder release screw	max. 35 Nm
Release pressure (with external source of compressed air)	min. 6.5 bar

Level control system

Fill the air suspension via connection 28 on the electronic air processing unit	Max. 12.5 bar

Compressed-air reservoir

Information on the compressed-air reservoir

Information on the compressed-air reservoir: Information for the initial purchaser and other users.

Accompanying documentation in accordance with Directive 2009/105/EC of the European Parliaments and Council and in accordance with the technical standard EN 286-2.

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– The reservoir is marked for identification with a works number and the reservoir manufacturer's name, together with the principal operating data and the EC mark (see the identification plate or engravings directly on the reservoir wall).

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).

In the case of aluminium reservoirs, contact surfaces must be designed to inhibit corrosion or mechanical damage. Tensioning

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straps are to be positioned in such a way that they do not come in contact with the base connecting seams; the reservoir is not to be subjected to any stress that would jeopardise operating safety.

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.

- The reservoir is only to be cleaned using non-alkaline cleaning agents (aluminium reservoirs).
- 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 condensation (pull ring on release valve at the lowest point of the reservoir).

e– The reservoir requires no maintenance if item d is complied with.

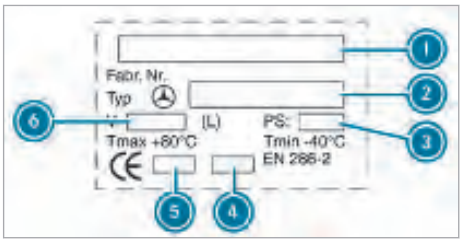
f– No welding, heat treatment or other operation relevant to safety is to be performed on the pressure-bearing walls of the reservoir (casing, base, threaded rings).

g– The internal pressure of the reservoir may exceed the maximum operating pressure Ps by no more than 10% for a brief period.

Daimler AG

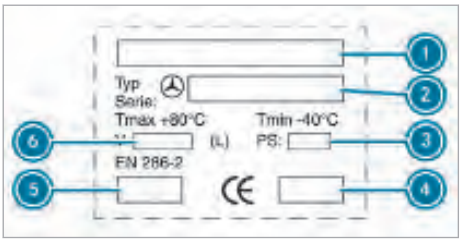
Compressed-air reservoir identification plates

Aluminium reservoir



1. Manufacturer: SAG (Austria)
2. MB part number
3. Maximum operating pressure (bar)
4. Year of construction
5. Testing establishment code number
6. Volume (litres)

Steel reservoir



1. Manufacturer: Frauenthal Automotive / Erhard
2. MB part number
3. Maximum operating pressure (bar)
4. Year of construction
5. Testing establishment code number
6. Volume (litres)

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