



Unimog U 20 / U 300 / U 400 / U 500

Tips on maintaining the value of your vehicle



Mercedes-Benz

Symbols

WARNING

Warning notes make you aware of dangers which could pose a threat to your health or life, or to the health and life of others.

Environmental note

Environmental notes provide you with information on environmentally aware actions or disposal.

 Notes on material damage alert you to dangers that could lead to damage to your vehicle.

 Useful instructions or further information that could be helpful to you.

► This symbol designates an instruction you must follow.

► Several consecutive symbols indicate an instruction with several steps.

(▷ page) This symbol tells you where you can find further information on a topic.

▷▷ This symbol indicates a warning or an instruction that is continued on the next page.

Display This text indicates a message on the display.

Welcome to the world of Mercedes-Benz

You will want to fully enjoy your Unimog for a long time. To be able to do so, safety and reliability are essential. Maintenance requires regular servicing and vehicle care.

A maintenance programme has been developed especially for the Unimog by Mercedes-Benz. This includes all necessary services which you must carry out to keep your vehicle in the best possible condition.

The Unimog is a special-purpose vehicle which has specific applications. For this reason, there are certain care and maintenance procedures which need to be carried out at the regular maintenance intervals that we have specified.

The various care and maintenance procedures described in this booklet can, in part, be carried out by yourself.

You can find further information about cleaning and care in the "Cleaning and care" section of the Operating Instructions.

If, in the course of regular maintenance, you discover defects in the braking system, air-conditioning system or protective coating, have these rectified at a qualified specialist workshop. A qualified specialist workshop has the necessary specialist knowledge and tools to carry out the work required.

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

It is very important to check the paintwork and protective treatment both before and after the winter period and to make repairs where necessary. This helps to avoid corrosion damage.

Information on protective coatings, touch-up agents and vehicle care products is available at any Mercedes-Benz Service Centre or qualified workshop.

The technical documentation team at Daimler AG wishes you safe and pleasant motoring.

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Overview of care procedures

Daily	Periodic checks and care
	▶ Check the lighting system for correct function. ▶ Check the condition of the tyres.
Depending on operating conditions:	▶ Clean the radiator (▷ page 9). ▶ Clean the fine particle filter (optional equipment).
Each time the vehicle is used under extreme conditions:	▶ Rinse off all traces of corrosive materials using water.

Weekly	Periodic checks and care
	▶ Check the fluid level in the windscreen washer system. ▶ Check the wiper blades. ▶ Clean the radiator (▷ page 9).
During the winter season:	▶ Clean the vehicle. ▶ U 300/400/500: clean the ventilation filter housing; see Heating/ventilation blower (▷ page 10).

Monthly	Periodic checks and care
	▶ Clean the vehicle, especially following winter road service operation. ▶ U 300: check the brake unit for accumulation of dust or moisture (▷ page 11).

Quarterly	Periodic checks and care
	▶ Check the compressed-air dryer function (▷ page 14).

Annually	Periodic checks and care
	▶ Check the contents of the first-aid kit. ▶ Check the flashing beacon for correct function.
Before the winter season:	▶ Check the antifreeze in the coolant.
At the end of the winter season:	▶ Protect earth points on the vehicle exterior and the connection points on the starter with acid-proof grease (F40 v1). ▶ Clean the chassis and the platform area thoroughly. Only use pH-neutral cleaners, not alkaline or acidic products. ▶ Check protective treatment for blemishes and apply a new treatment if necessary¹Mercedes-Benz recommends that you use a Mercedes-Benz Truck Centre/Truck Service Centre or Authorised Workshop. ▶ Clean the brakes (▷ page 10).

Every 2 years	Periodic checks and care
	▶ Check the function and condition of the fire extinguisher.
Every 3 years	Periodic checks and care
	▶ Renew the protective agents for the entire vehicle¹.

i In some countries, the legal requirements may mandate deviations from the regular checks described here. Observe the legal requirements in all countries concerned.

¹ To remove blemishes or to re-apply dual-layer protection, please consult a qualified specialist workshop. It has the necessary specialist knowledge, tools and qualifications to correctly carry out the work required on your vehicle. Mercedes-Benz recommends that you use a Mercedes-Benz Service Centre for this purpose.

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Chassis and underbody protection

The Unimog's chassis and underbody have been treated with a special dual-layer protective coating.

This dual-layer protection consists of a penetrating wax (Carlofon 3650) and an underbody protection wax (Carlofon 4941). The penetrating wax improves the anti-corrosion protection on moving parts and at gaps, joints and overlaps. The underbody protection wax permanently seals the chassis.

Maintaining the anti-corrosion protection

- To maintain the anti-corrosion protection, please observe the following:
- Do not clean the vehicle for the first time until at least 4 weeks after it has been delivered.
 - When using a high-pressure cleaner to clean the chassis and the underbody, the water temperature may not exceed 40 °C and the water pressure may not exceed 30 bar. Make sure that the distance between the vehicle and the nozzle is at least 30 cm.
 - Only use a pH-neutral cleaner, not alkaline or acidic products.
 - Do not use any petrol-based substances, rape seed oil, petrol, diesel or other solvents. They can cause the dual-layer protection to dissolve or peel off.
 - Do not use any additional anti-corrosion agents.
 - Whenever the vehicle is used in extreme conditions, remove all traces of corrosive substances with water afterwards.

Particularly critical locations in which these corrosive substances accumulate are:

- on the underbody
 - in the wheel arches and the steps
 - on the spring assemblies
 - on the drive train
 - between cab and platform or mounted equipment
 - in the cab interior
- Clean the Unimog at least once a week.
 - The engine compartment can be treated using a special sealant (AP1505).
 - After cleaning, check the chassis and underbody protection and touch it up where necessary.

These measures will help to prevent mechanical or electrical components from malfunctioning.

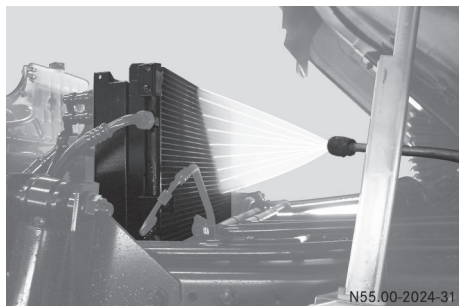
Chassis

The following components should be cleaned regularly:

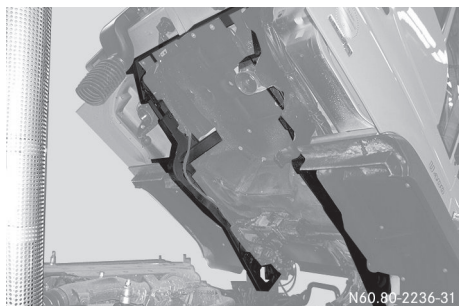
- front flap (U 300/400/500)
- cab
- platform
- cab underbody (U 20)
- cab support frame (U 300/400/500)
- condenser, oil cooler (U 20)
- wheel arches
- vehicle underside

Cleaning equipment settings

Water temperature:	max. 40 °C
Water pressure:	max. 30 bar
Nozzle distance:	min. 30 cm



Example: condenser, oil cooler for U 20



Example: cab support frame, U 300/400/500

Radiator

Winter road service operations

The fan sucks in snow particles, salt and dust. This mixture accumulates in the radiators and condenses if cleaning is neglected.

To avoid impaired cooling and engine performance, all radiators must be cleaned once a day. Impaired cooling and engine performance can result in the vehicle breaking down.

In the case of compacted dirt:

- ▶ Flush the radiator fins with lukewarm tap water.

In the case of stubborn deposits:

- ▶ Carefully clean the radiator with a high-pressure cleaner; see the vehicle's Operating Instructions.

! 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. Damaged or dirty radiator fins can cause the engine to overheat. If there is a loss of coolant or damage to the cooling and heating system, have it checked at a qualified specialist workshop.

After every extreme winter road service operation:

- ▶ Check the radiator (visual inspection).

Summer operation

Clean the radiator every day in the case of heavy soiling during mowing operation.

- ▶ Remove grass and plant cuttings.
- ▶ Clean the radiator fins using compressed air.

Cab interior

Cab floor

When getting in, snow, dirt and salt will inevitably be carried into the cab interior. This corrosive mixture accumulates in the footwell area and promotes corrosion of the electrical and other components in the interior.

- i** Mercedes-Benz recommends that you use floor mats. Floor mats can be removed and cleaned if dirty or wet. This prevents damage to the cab floor from residual dampness.

- ▶ Regularly remove and clean the floor covers.
- ▶ Clean the cab floor.
- ▶ Dry off moist residue immediately.
- ▶ In case of dry dust and salt residue: vacuum and clean the cab interior, particularly in the corners and pedals.

Cable guides

- ❗ Correctly seal the cable guides on the bulkhead of the cab after changing devices. If the cable guides have not been correctly sealed, the cab can become damp. This can cause corrosion to electric and other components in the interior. Observe the information contained in the vehicle's Operating Instructions.

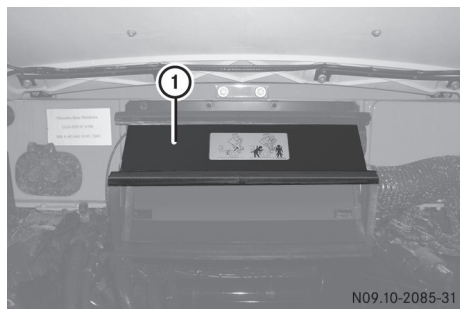
Heating/ventilation blower

U 300/400/500 only.

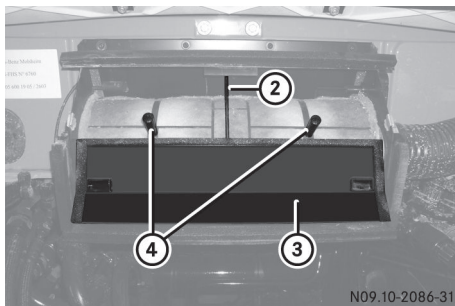
The blower draws in snow powder, salt and dust which has collected in the ventilation filter housing.

For heavy-duty snow-clearing operations, clean the ventilation filter housing weekly to avoid malfunctions in the ventilation and heating systems:

- ▶ Open the front flap; see the vehicle's Operating Instructions.



- ▶ Pull housing lid ① from the side retention clips and remove it in an upwards direction.

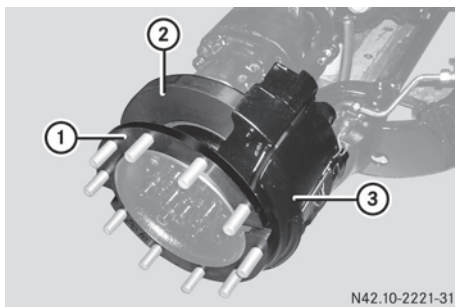


- ▶ Remove fresh air/air recirculation flap ③ together with connecting rod ②.
- ▶ Remove the retaining grille together with the ventilation filter mat by handles ④.
- ▶ Clean the ventilation filter housing.
- ▶ Install the retaining grille together with the ventilation filter mat.
- ▶ Install fresh air/air recirculation flap ③ together with connecting rod ②.
- ▶ Install housing cover ①.
- ▶ Close the front flap; see the vehicle's Operating Instructions.

Service brake

Clean the service brakes after winter to avoid incurring damage.

- ▶ Raise the vehicle, secure it using jack stands and remove the wheels; see the vehicle Operating Instructions.



Example: disc brake

- Observe the notes on care (▷ page 14).
- Thoroughly clean the hub-drive housings, contact surfaces between the wheel rims and wheel hub ①, brake discs ② and calipers ③.
- Fit the wheels and lower the vehicle; see the vehicle Operating Instructions.
- Carefully test the brakes.

Brake unit

U 300 only.

Check the brake unit monthly for dust and moisture build-up.

Corrosive mixtures which have accumulated attack valves and compressed-air lines if they are not properly cleaned.



- Remove the cover of brake unit ①.
- Vacuum dust and salt deposits, especially from corners and valves.
- Clean brake unit ① thoroughly with water and then let it dry.
- Replace the cover of brake unit ①.

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Notes on care

After the winter season:

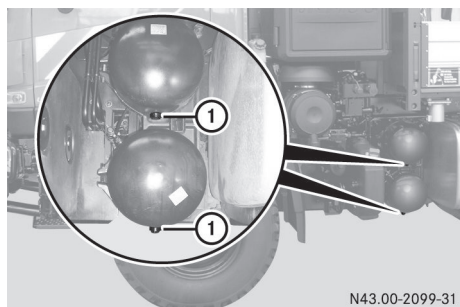
- Raise the vehicle, secure it using jack stands and remove the wheels; see the vehicle Operating Instructions.
- Clean the contact surfaces between the wheel rim and the wheel hub and lightly coat them with penetrating wax (Carlofon 3650).
- Check the wheel rims for corrosion damage and cracks and replace the wheel rims where necessary.
- Fit the wheels and lower the vehicle; see the vehicle Operating Instructions.

After every off-road use:

- Check the frame, chassis parts and cab for damage to the paintwork and to the protective agents and have any damage rectified immediately.

To remove defects or re-apply dual-layer protection, please consult a qualified specialist workshop. It has the necessary specialist knowledge, tools and qualifications to correctly carry out the work required on your vehicle. Mercedes-Benz recommends that you use a Mercedes-Benz Service Centre for this purpose.

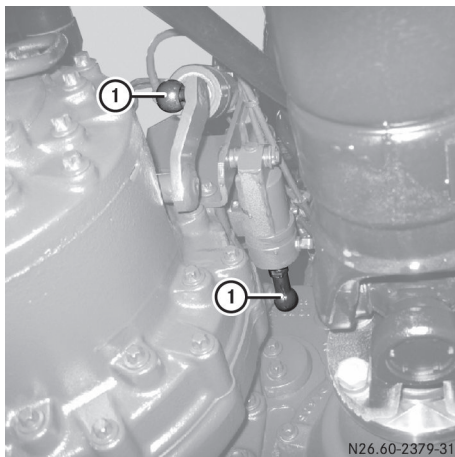
Compressed-air dryer



Example: drain plugs

- Every 3 months, unscrew drain plugs ① on the compressed-air reservoirs up to $\frac{1}{4}$ turn, until compressed air escapes. If condensed water is emitted, the granulate cartridge must be renewed; see the vehicle's Operating Instructions.

Gearshift linkage on the transmission



Example: ball sockets

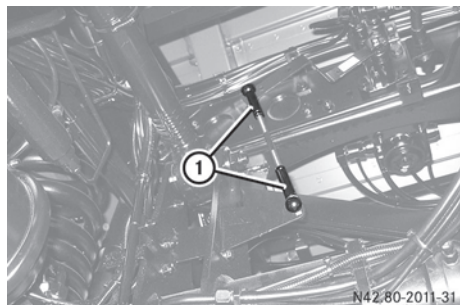
- **U 20:** clean and grease ball sockets ① on the gearshift linkage of the working gears and on the planetary gear set.
- **U 300/400/500:** clean and grease ball sockets ① on the gearshift linkage of the working and crawler gears as well as on the planetary gear set.

Steering spindle

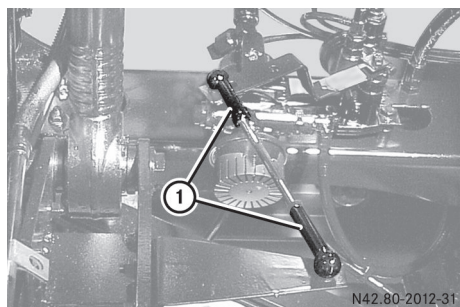
High-pressure cleaning or spray water may cause the needle bearing grease on the centre universal joint of the steering spindle to be washed out. This causes the steering to be unresponsive or stick. This can be prevented by protecting the needle bearing using a protective sleeve.

The protective sleeve is available as a Unimog accessory.

ALB controller



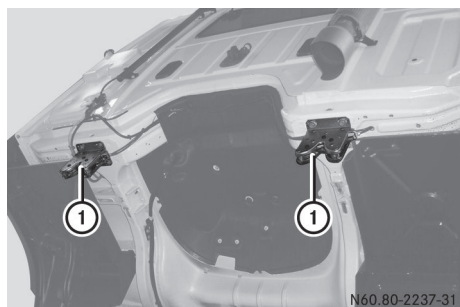
Ball sockets for ALB controller, U 20



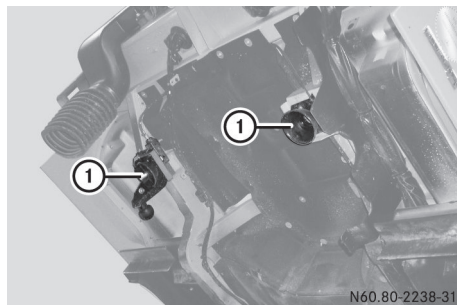
Ball sockets for ALB controller, U 300/400/500

- Clean and grease ball sockets ① on the linkage of the ALB controller.

Cab tilt lock



U 20 cab tilt lock

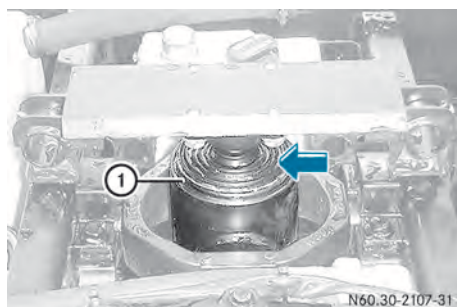


U 300/400/500 cab tilt lock

- **U 20:** clean, oil and grease cab tilt lock ①.
- **U 300/400/500:** clean and oil cab tilt lock ①.
- Do not grease cab tilt lock ①.

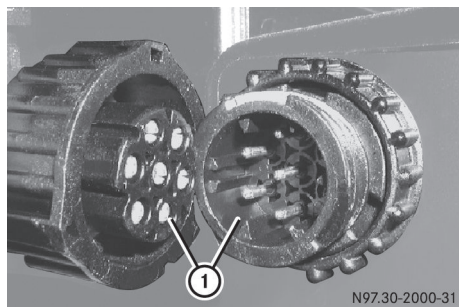
Tipper cylinder

If the quick-change platform has been removed, make sure that the connection part for the quick-change platform has engaged in the spring catches. In this way, you can prevent corrosion and damage to the tipping cylinder.



- Retract tipping cylinder ①; see the vehicle's Operating Instructions.
- Grease the cylinder units of the tipping cylinder with multipurpose grease.

Electrical contacts

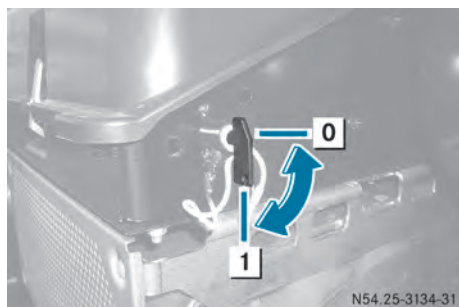


Connector pins (example)

At least once a year or after operation in arduous conditions such as fording or driving on roads treated with wet salt:

- ▶ Turn the vehicle key fully back in the ignition lock.
- ▶ Spray the electric contacts on connector pins ① with contact spray.

Battery isolator switch



Battery isolator switch in the battery compartment (example)

- 0 Disengaging
- 1 Engaging

- ▶ Pull out the control lever of the battery isolator switch; see the vehicle's Operating Instructions.
- ▶ Lubricate the operating lever guide with acid-proof grease.

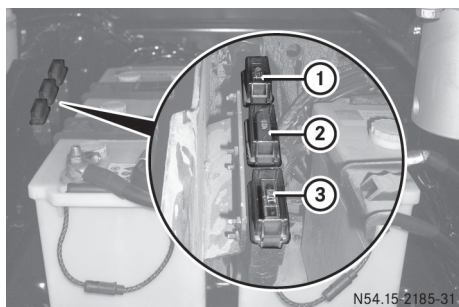
Batteries

! Please observe the following points:

- Dirty battery terminals and battery surfaces cause leak currents, which lead to the batteries discharging. Always keep the battery terminals and battery surfaces clean and dry. Lightly grease the battery terminals, especially the undersides, with acid-resistant grease.
 - Only clean batteries with the cell caps fitted. Otherwise, dirt can enter the battery cells.
 - Cleaning agents containing fuel corrode the battery housing. Only clean the battery housing with commercially available cleaning agents.
 - The vent holes of the cell caps must be open. Otherwise, gases cannot escape. Clean blocked vent holes with a suitable tool, e.g. a piece of wire. Unscrew the cell caps first. Otherwise, there is the risk of a short circuit.
 - If batteries that are not in use have a no-load voltage of less than 12.4 V, they must be recharged.
- ▶ Check the battery fluid level; see the vehicle Operating Instructions.
 - ▶ Disconnect the batteries; see the vehicle Operating Instructions.
 - ▶ Clean battery terminals and grease lightly using acid-proof grease.
 - ▶ Thoroughly clean the battery compartment with water and allow it to dry.
 - ▶ Reconnect the batteries; see the vehicle Operating Instructions.

Fuses on the battery compartment

U 300/400/500 only.



- ① Telligent® automatic gearshift (AutomaticShift®) fuse
 - ② Fuse for equipment power socket
 - ③ Fuse for intake air pre-heating
- ▶ Interrupt the power supply using the battery isolator switch; see the vehicle's Operating Instructions.
 - ▶ Remove the battery cover; see the vehicle's Operating Instructions.
 - ▶ Spray the connections in the battery compartment with contact spray and lubricate them with acid-proof grease.
 - ▶ Replace the battery cover; see the vehicle's Operating Instructions.
 - ▶ Restore the power supply using the battery isolator switch; see the vehicle's Operating Instructions.

Dual-layer protective coating

- ▶ Check the protective agents every week.
- ▶ Have paint and corrosion damage repaired immediately.

To remove defects or re-apply dual-layer protection, please consult a qualified specialist workshop. It has the necessary specialist knowledge, tools and qualifications to correctly carry out the work required on your vehicle. Mercedes-Benz recommends that you use a Mercedes-Benz Service Centre for this purpose.

Paintwork damage and corrosion damage

To repair paint and corrosion damage, please consult a qualified specialist workshop. It has the necessary specialist knowledge, tools and qualifications to correctly carry out the work required on your vehicle. Mercedes-Benz recommends that you use a Mercedes-Benz Service Centre for this purpose.

Engine compartment

- ▶ After cleaning the engine compartment: spray the engine attachments and the engine compartment with engine sealant.

Cab

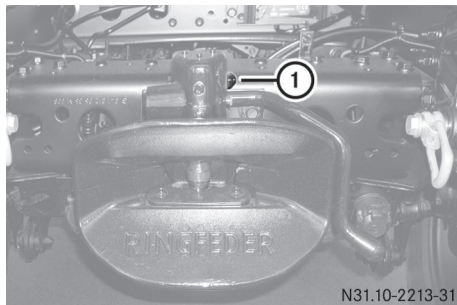
Unimog 20:

- ▶ Check the body cavity sealing once a year and touch up where necessary.

Unimog 300/400/500:

- ▶ After cleaning the body cavities of the cab frame, apply body cavity sealing.
- ▶ Check the body cavity sealing once a year and touch up where necessary.
- ▶ Renew the body cavity sealing every 3 years.

Trailer tow hitch



Always keep the coupling bolts and the towing eye bush clean and lubricated. This will reduce wear and tear on these parts. If the coupling mechanism is sluggish, lubricate the coupling head above the conical lubricating nipple ①.

Snow-clearing operation	20
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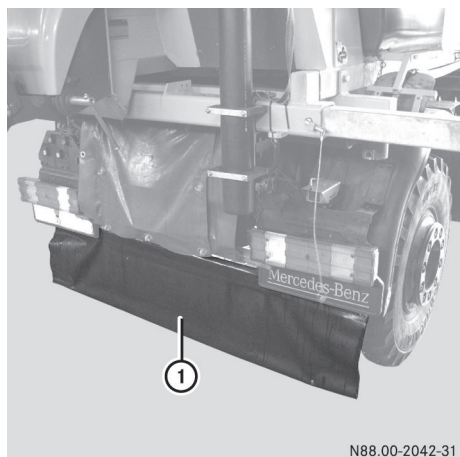
Snow-clearing operation

Fine particle filter

When using the vehicle for snow-clearing, the fine particle filter may become clogged with fine snow crystals. For this reason, remove the fine particle filter before commencing snow-clearing, and do not replace it until after the snow-clearing period is over.

- Remove the fine particle filter; see the vehicle's Operating Instructions.
- **U 300/400/500:** reactivate the fine particle filter; see the vehicle's Operating Instructions.

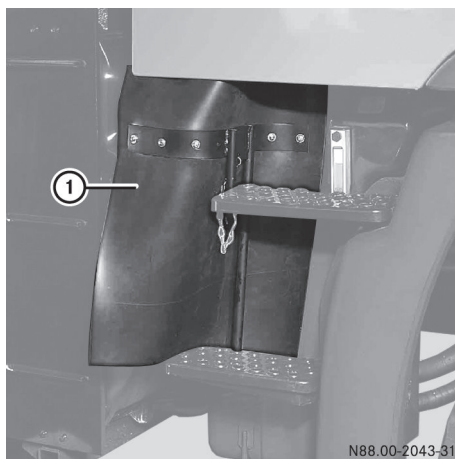
Rear apron



- Fit suitable chassis protection such as rear apron ①.

Spray guard

U 300/400/500 only.



- Attach spray guard ① to the right-hand radiator.

Spray guard ① ensures that most of the snow, dust and salt mixture is kept away from the radiator on the co-driver's side.

The spray guard is available as a Unimog accessory.

Mud flaps

U 300/400/500 only.

- Attach the mud flaps to the front mud-guard. This reduces the dirt on the radiators caused by the tyres to a minimum.

The mud flaps are available as Unimog accessories.

Loading snow-clearing machines

Grit:

- Do not spill any grit when loading gritters.

Liquid road salt:

- Avoid liquid road salt leakage through the ventilation of the spreading tank.

Protective agents 22

Protective agents

Penetrating wax (Carlofon 3650)	A 000 986 59 70 10 (1 litre)
Underbody protection wax (Carlofon 4941)	A 000 986 60 70 10 (1 litre)
Underbody protection wax (Carlofon 4942)	0.5 litre spray can, by Carlofon (www.carlofon.de)
Contact spray	by ITW or Carlofon (www.carlofon.de)
Acid-proof grease (F40 v1)	by Bosch GmbH
Body cavity wax (VA18/65-4)	A 000 986 37 70 10 (3 litres)
Engine sealant (AP1505)	A 000 986 33 70 (1 litre)

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>

Editorial office

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