

4 MAINTENANCE



When working at the machine please always adhere to the instructions given in your Safety instructions!

4.00 General maintenance instructions

This section describes the work required to maintain the machine and to preserve operational safety.

The scope and frequency of the maintenance work on the machine depends on the different operating and usage conditions. In the case of more difficult operating conditions, the machine must be serviced at shorter intervals than those specified for normal operation.

The maintenance intervals are based on the operating time indicated by operating hours meter.

Various warning and pilot lights make the driver aware of essential interventions during operation.

Additional maintenance work must be carried out in the running-in time. They are described in the running-in regulations.

The running-in regulations, servicing intervals and care measures for diesel engine must be adhered as specified in the instruction manual of the diesel engine manufacturer.

4.00.01 Important information about maintenance works

Testing and maintenance work require expert knowledge. Only trained, specialist personnel may perform the maintenance work.

The warning notices indicated below apply to all maintenance work:

▲ WARNING

Unintended machine movement!

Severe injury or death due to unexpected machine movements during maintenance work.

- Park the machine on safe ground, i.e., flat and horizontal ground with sufficient bearing capacity.
- Secure machine against rolling away.
- Do not carry out any maintenance work unless the engine has been stopped and the ignition has been switched off.
- On machines with safety strut, apply the safety strut before maintenance work.

⚠ WARNING**Unintended engine start!**

Severe injury and death caused in case of an unintended engine start during maintenance work.

- Do not carry out any maintenance work unless the engine has been stopped and the ignition has been switched off.
- Before starting maintenance work, set the battery isolating switch to off in order to de-energize the electrical system. As an alternative, disconnect the earthing/grounding strip from the battery.
- To prevent third parties from accidentally starting the engine: Affix a warning sign to the operator's platform indicating that work is in progress on the machine.

⚠ WARNING**Exposed, rotating parts!**

Risk of being trapped, pulled in, and injured by rotating engine parts.

- Do not perform any testing, adjusting or maintenance work in the area of the engine unless the diesel engine has been switched off.
- Do not reach with your hands into the area of the engine unless after every part has come to a standstill.
- Do not lay down any object or tool in the engine compartment.
- Keep a safety distance when making a visual inspection while the diesel engine is running.

⚠ WARNING**Hot surfaces, hot fluids!**

Injury by burns on hot surfaces or by hot fluids.

- Before carrying out any work on the diesel engine, cooling system, exhaust gas system and hydraulic system: Allow the machine to cool down to below 30 °C (86 °F).
- Do not touch hot machine parts.
- Do not check the filling level, do not drain or top up any fluid unless the machine has cooled down.

⚠ WARNING**Fluids under pressure!**

Serious injury can be caused by liquids escaping under high pressure.

- Do not perform any maintenance work on the hydraulic system, the cooling system, the fuel system, or the air conditioning system unless the lines have turned off.
- Lower raised devices to the ground.
- After switching off the diesel engine, wait at least 1 minute until the pressure has been reduced.
- Wear personal protective equipment.

⚠ WARNING**Work above floor level!**

Injury caused by falling.

- Do not perform any maintenance or repair work above ground level unless using a stable ladder or a maintenance scaffold.
- To reach the maintenance points on the machine, use the steps indicated. Do not step on any other machine element or add-on part.

⚠ WARNING**Noxious exhaust gases!**

Risk of serious injury or death caused by poisoning or suffocation after breathing in exhaust gases when operating the machine in an enclosed space.

- Only operate the machine outdoors.
- If the engine has to run in enclosed spaces:
 - Guide the exhaust gases outside (extension hose).
 - Ensure that there is a sufficient supply of fresh air, e.g. by using a ventilation system or by opening the doors.

⚠ CAUTION**Electrical voltage!**

Risk of injury due to electric shock.

- Before starting maintenance work, set the battery isolating switch to off in order to de-energize the electrical system. As an alternative, disconnect the earthing/grounding strip from the battery.
- Wear personal protective equipment.
- When working on the electrical system, be sure to only use suitable and approved tools.

NOTICE

Short-circuits on electrical components!

Destruction or damage of machine parts by a short-circuit.

- Before starting maintenance work, set the battery isolating switch to off in order to de-energize the electrical system. As an alternative, disconnect the earthing/grounding strip from the battery.
- Observe the operating instructions when using a jumper cable.
- Do not lay any tool or machine element on the battery.

NOTICE

Engine hood swinging range!

Material damage when opening the engine hood.

- Keep a sufficient distance to other objects located either above or at the rear.

NOTICE

Uncontrolled movements!

Damage to machine or environment by uncontrolled steering system movements and by consequent front or rear end swings.

Apply the articulation lock before:

- Crane-loading the machine.
- Transporting the machine.
- Maintenance and repair work.



Environmental warning

Catch and properly dispose of any liquid escaping or drained during any maintenance work.

4.00.02 Running-in instructions



For engine maintenance see instruction manual for diesel engine!

After 50 operating hours

Diesel engine maintenance

- ▶ Changing the engine oil ([see page 158](#)).
- ▶ Replacing the lubricating oil filter ([see page 158](#)).

Hydraulic system maintenance

- ▶ Replacing the filter insert of the pressure filter for the hydraulic system ([see page 168](#)).
- ▶ Replacing the filter insert of the pressure filter for the steering system ([see page 169](#)).

Axle maintenance

- ▶ Checking that the wheel nuts/wheel bolts are tightened securely ([see page 176](#)).

4.00.03 Maintenance overview



For engine maintenance, see instruction manual for diesel engine.

Every 10 operating hours



- 
Checking that the parking brake is working properly
see page 150
- 
Checking that the seat contact switch is working properly
see page 151
- 
Checking the EMERGENCY STOP function when the machine is at a standstill
see page 151
- 
Checking the hydraulic oil fill level
see page 167
- 
Checking the engine oil fill level
See the instruction manual for the diesel engine
- 
Checking the coolant fill level
see page 165
- 
Checking the air pressure in the tyres
see page 176
- 
Checking and cleaning the air filter/dust valve
see page 161
see page 161
- 
Draining the water separator
see page 159

Every 250 operating hours



- 
Checking the scraper/lubricating the scraper
see page 174
- 
Checking the V-belt tension
See the instruction manual for the diesel engine
- 
Checking the air-conditioning system's V-belt tension
see page 154
- 
Checking the vibrator oil fill level
see page 181
- 
Lubricating the articulated joint bearings
see page 179
- 
Lubricating the steering cylinder pins
see page 179
- 
Checking/cleaning the radiator
see page 164
- 
Checking the air-conditioning system
see page 154

Every 500 operating hours, at least once a year



		Replacing the air filter for the driver's cab	see page 154
		Checking the damping elements	see page 181
		Checking the wheel nuts/wheel bolts for tightness	see page 176
		Replacing the filter insert in the pressure filter for the hydraulic system	see page 168
		Replacing the filter insert of the pressure filter for the steering system	see page 169
		Changing the engine oil	See the instruction manual for the diesel engine
		Replacing the filter cartridge on the fuel filter	see page 159
		Replacing the filter cartridge for the fuel prefilter	see page 159
		Replacing the lubricating oil filter in the diesel engine	See the instruction manual for the diesel engine
		Replacing the air filter cartridge	see page 162
		Checking the starter battery	see page 172
Every 1000 operating hours, at least once a year			
		Checking the EMERGENCY STOP function when driving	see page 151
		Changing the vibrator oil	see page 182
		Replacing the filter insert of the oil separator	See the instruction manual for the diesel engine
		Replacing the valve cover seal	See the instruction manual for the diesel engine
Every 2000 operating hours, at least every two years			
		Changing the hydraulic oil	see page 168
		Changing the coolant	see page 165
		Replacing the safety cartridge	see page 163
		Replacing the generator V-belt	See the instruction manual for the diesel engine



Replacing the V-belt on the air-conditioning system

[see page 154](#)



Replacing the hydraulic oil tank's ventilation filter

[see page 168](#)

4.00.04 Required maintenance parts



The specifications for the filling capacities of liquids and operating materials refer to the standard version of machine. However, they may deviate, e.g. for hydraulic oil and where attachments and auxiliary devices are installed.

Always observe the operating manual when filling. Fill liquids and operating materials up to the respective mark.



All spare parts can be viewed via the WIDOS Basic Online portal.
<https://widos-basic.wirtgen-group.com/LZSE6>

HC 50i, all sales variants (V3307-CR-TE5AB)

H2870001 → H2870650

Quantity	Maintenance part			Maintenance intervals in operating hours				
				First time after 50	Every 250	Every 500 or 1 × per year	Every 1000 or 1 × per year	Every 2000 or every 2 years
10.5 l	Engine oil			D		D		
74.0 l	Hydraulic oil							D
11.0 l	Coolant							D
5.2 l	Vibrator oil				A		D	
1	V-belt	Alternator	2428657		A			D
1	* V-belt	Air-conditioning system	1225812		A			D
1	Air filter cartridge		2051604		A	D		
1	Safety cartridge		2051606					D
1	Filter cartridge	Lubricating oil	2373069	D		D		
1	Filter cartridge	Fuel filter	2275738			D		
1	Filter cartridge	Fuel prefilter	2367788			D		
1	Filter insert	Oil separator	2428712				D	
1	Seal	Valve cover	2428661				D	
1	Filter insert	Hydraulic system	2574029	D		D		
1	Filter insert	Steering	2574029	D		D		
1	Ventilation filter	Hydraulic oil tank	2247029					D
1	* Dryer	Air-conditioning system	2071188					D
1	Filter insert	Driver's cab circulating air	3124084			D		



Quantity	Maintenance part			Maintenance intervals in operating hours				
				First time after 50	Every 250	Every 500 or 1 × per year	Every 1000 or 1 × per year	Every 2000 or every 2 years
1	Filter insert	Driver's cab fresh air	3124085			D		
10	Damping elements	Drum suspension	1487116			A		
1	All required maintenance parts for the corresponding maintenance intervals – service kit			3123678		3123679	WX 3259696	3123680

A = check! Clean/replace/refill if required. D = replace!

Maintenance parts marked as options (*) are not included in the service kit.

**HC 50i, all sales variants (V3307-CR-TE5AB)**

H2870651 →

Quantity	Maintenance part			Maintenance intervals in operating hours				
				First time after 50	Every 250	Every 500 or 1 x per year	Every 1000 or 1 x per year	Every 2000 or every 2 years
10.5 l	Engine oil			D		D		
74.0 l	Hydraulic oil							D
11.0 l	Coolant							D
5.2 l	Vibrator oil				A		D	
1	V-belt	Alternator	2428657		A			D
1	* V-belt	Air-conditioning system	1225812		A			D
1	Air filter cartridge		2051604		A	D		
1	Safety cartridge		2051606					D
1	Filter cartridge	Lubricating oil	2373069	D		D		
1	Filter cartridge	Fuel filter	2275738			D		
1	Filter cartridge	Fuel prefilter	2367788			D		
1	Filter insert	Oil separator	2428712				D	
1	Seal	Valve cover	2428661				D	
1	Filter insert	Hydraulic system	WX 3236431	D		D		
1	Filter insert	Steering	WX 3236431	D		D		
1	Ventilation filter	Hydraulic oil tank	2247029					D
1	* Dryer	Air-conditioning system	2071188					D
1	Filter insert	Driver's cab circulating air	3124084			D		
1	Filter insert	Driver's cab fresh air	3124085			D		
10	Damping elements	Drum suspension	1487116			A		
1	All required maintenance parts for the corresponding maintenance intervals – service kit			WX 3341655		WX 3341657	WX 3341659	WX 3341662

A = check! Clean/replace/refill if required. D = replace!

Maintenance parts marked as options (*) are not included in the service kit.



HC 70i, all sales variants (V3307-CR-TE5AB)

H2870001 → H2870650

Quantity	Maintenance part			Maintenance intervals in operating hours				
				First time after 50	Every 250	Every 500 or 1 x per year	Every 1000 or 1 x per year	Every 2000 or every 2 years
10.5 l	Engine oil			D		D		
74.0 l	Hydraulic oil							D
11.0 l	Coolant							D
10.0 l	Vibrator oil (bei Bandage mit Vibration, nicht bei VIO)				A		D	
1	V-belt	Alternator	2428657		A			D
1	* V-belt	Air-conditioning system	1225812		A			D
1	Air filter cartridge		2051604		A	D		
1	Safety cartridge		2051606					D
1	Filter cartridge	Lubricating oil	2373069	D		D		
1	Filter cartridge	Fuel filter	2275738			D		
1	Filter cartridge	Fuel prefilter	2367788			D		
1	Filter insert	Oil separator	2428712				D	
1	Seal	Valve cover	2428661				D	
1	Filter insert	Hydraulic system	2574029	D		D		
1	Filter insert	Steering	2574029	D		D		
1	Ventilation filter	Hydraulic oil tank	2247029					D
1	* Dryer	Air-conditioning system	2071188					D
1	Filter insert	Driver's cab circulating air	3124084			D		
1	Filter insert	Driver's cab fresh air	3124085			D		
12	Damping elements	Drum suspension	1487116			A		
1	All required maintenance parts for the corresponding maintenance intervals – service kit			3123678		3123679	WX 3259696	3123680

A = check! Clean/replace/refill if required. D = replace!

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11.0 l	Coolant							D
10.0 l	Vibrator oil (bei Bandage mit Vibration, nicht bei VIO)				A		D	
1	V-belt	Alternator	2428657		A			D
1	* V-belt	Air-conditioning system	1225812		A			D
1	Air filter cartridge		2051604		A	D		
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1	Filter insert	Oil separator	2428712				D	
1	Seal	Valve cover	2428661				D	
1	Filter insert	Hydraulic system	WX 3236431	D		D		
1	Filter insert	Steering	WX 3236431	D		D		
1	Ventilation filter	Hydraulic oil tank	2247029					D
1	* Dryer	Air-conditioning system	2071188					D
1	Filter insert	Driver's cab circulating air	3124084			D		
1	Filter insert	Driver's cab fresh air	3124085			D		
12	Damping elements	Drum suspension	1487116			A		
1	All required maintenance parts for the corresponding maintenance intervals – service kit			WX 3341655		WX 3341657	WX 3341659	WX 3341662

A = check! Clean/replace/refill if required. D = replace!

Maintenance parts marked as options (*) are not included in the service kit.

4.00.05 Welding work on the machine



Welding work on the machine must only be carried out by specially trained and authorised personnel.

Welding work on the machine may change the properties of the machine and is only permitted with the agreement of the manufacturer.

Welding work on safety-relevant components must only be carried out by the manufacturer's authorised customer service.

⚠ WARNING

Fire and explosion!

Serious injuries or death as a result of ignition or explosion of combustible materials (fuels, oil, gases).

- Make sure that there are no flammable or explosive materials in the vicinity of the welding work.
- Put down welding covers.
- Wear personal protective equipment.

⚠ WARNING

Toxic fumes and dust!

Risk of serious injury or death caused by poisoning or suffocation after breathing in toxic fumes or particles when welding.

- Wear personal protective equipment (protective mask).
- Remove any paint within at least a 100 mm radius of the areas that are affected by the heat from welding.
- Avoid breathing in dust when sanding paint.
- Do not use solvents or paint strippers to remove paint in enclosed spaces if there is not sufficient supply of fresh air.
- Do not breathe in the fumes from solvents or paint strippers.
- Before welding:
 - Remove any solvent and paint stripper residues using water and soap.
 - Allow the fumes from solvents or paint strippers to evaporate for at least 15 minutes.
 - Remove any containers for solvents and paint strippers (or any other flammable liquids) from the operating area.

NOTICE**Overvoltage and heat!**

Material damage to electric/electronic components of the machine caused by electric current or the effects of heat.

- Before starting electrical welding work, remove all connection plugs from electronic components of the machine.
- Connect negative terminal of the welding appliance at the component to be welded in the vicinity of the weld.
- Remove insulating layers of paint before starting welding work.
- Keep welding leads away from the electrical leads of the machine. If not possible, the welding leads cross the machine leads.
- Touch only the welds with live electrodes.
- Prior to welding work remove components which may get damaged by heat or welding work.
- Observe the instruction manual of the diesel engine.

Procedure

- ▶ Switch off diesel engine and remove ignition key.
- ▶ Wait for the 2 minutes after-running time of the machine to pass.
- ▶ Disconnect battery, first negative then positive terminal.
- ▶ Remove plug of the control devices of the machine.
- ▶ Connect negative terminal of the welding appliance in the vicinity of the weld.
- ▶ Do not get too close to other components when welding.
- ▶ Reconnect all connection plugs after welding.
- ▶ Attach battery.

4.01 Chassis/safety devices

⚠ WARNING

Uncontrolled driving behaviour!

Severe injury or death due to separate machine movements.

- Ensure that there are no persons or objects in the danger zone of the machine (moved).
- Do not check functioning of safety devices in case there is not enough space.



The machine must not be used if the safety devices do not work.

Call the customer service!

4.01.01 Basic maintenance work

- Check operating and safety instructions on the machine: Replace damaged and/or non-readable signs.
- Ensure that hinges and links move easily and lubricate lightly.
- Check that the warning devices are working correctly (e.g. signal horn, reflectors, back-up alarm, turn signal and hazard warning light). Repair/replace defective warning equipment/defective components of the warning equipment.
- Check the function of the lighting. Replace defective lamps.
- Check the firm fit of the screw connections which are subjected to high loads, e.g. articulated joint, tie rod, drum suspension, wheel suspension, drum drive, wheel drive.
- Check that the air filter system is undamaged (e.g. no cracks in hoses or enclosures). Replace defective parts.

4.01.02 Checking and replacing steps/slip-resistant surface

Regularly check the non-slip property of the surfaces of the steps and in the driver's cab (e.g. sand-coated foil).

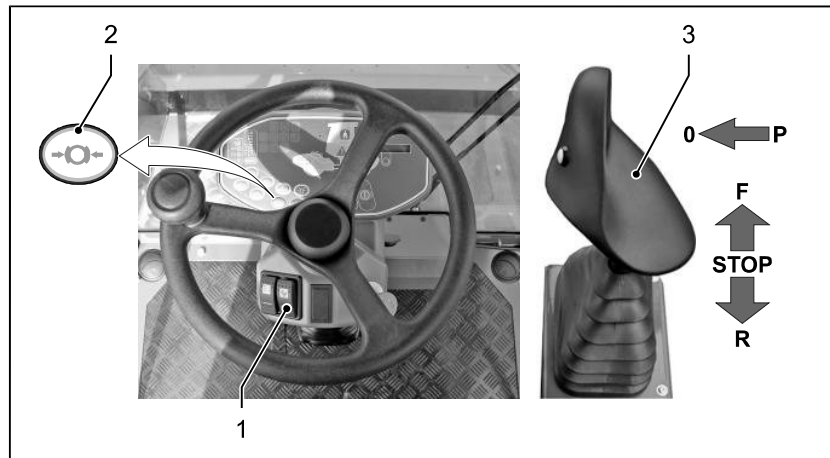
For steps:

- ▶ Replace or regrind non-slip profiles with a minimum height of 1 mm.

For sand-coated foils:

- ▶ Replace ineffective or worn foils.

4.01.03 Checking that the parking brake is working properly



Checking the parking brake when the machine is stationary

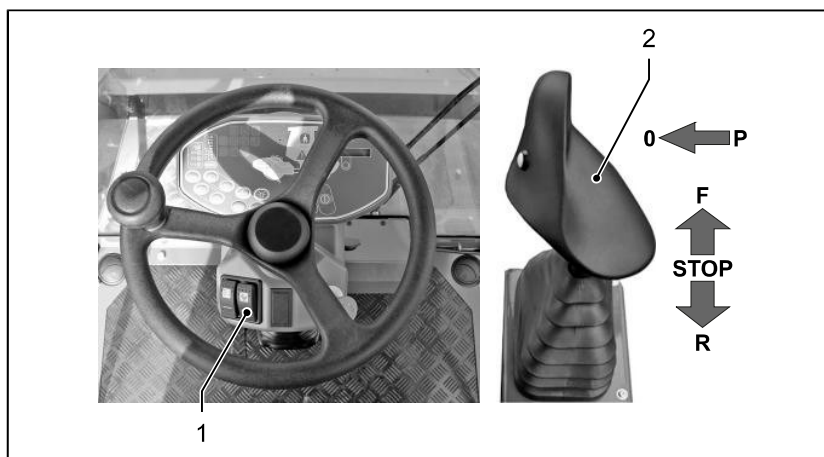
Requirement: The driving lever is engaged in position P.

- ▶ Start the diesel engine.
- ▶ Engage the working gear [1].
- ▶ Move the driving lever [3] to position 0.
- ▶ Apply the parking brake: Press and hold the parking brake switch [2].
- ▶ Briefly push the driving lever [3] forwards.
- ✓ The parking brake is OK if the travel drive locks when the parking brake is engaged.
- ▶ After the check: Release the parking brake [2] and return the driving lever [3] to position P.
- ✓ The machine is ready to start.



If the parking brake is worn to such an extent that driving off is possible even when the switch [2] is pressed, the parking brake must be inspected or replaced. The machine must not be operated until this work has been carried out. Request assistance from customer service.

4.01.04 Checking that the seat contact switch is working properly



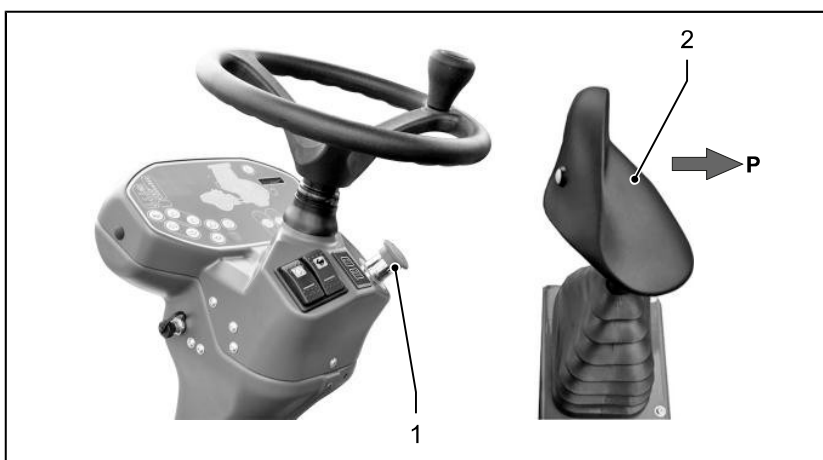
Checking the seat contact switch when the machine is stationary

- ▶ Start the diesel engine.
- ▶ Engage the working gear [1].
- ▶ Stand up from the driver's seat (looking forwards). Be sure of your footing and hold on tight.
- ▶ Push the driving lever [2] out of position P to the left and into position 0.
- ▶ Briefly push the driving lever [2] forwards.
- ✓ The machine does not start moving: The seat contact switch is working correctly.
- ✓ The machine starts moving: The seat contact switch is not working correctly.



If the seat contact switch does not work, it must be tested and repaired without delay. The machine must not be operated until this work has been carried out. Request assistance from customer service.

4.01.05 Checking the EMERGENCY STOP function



Checking function with machine at standstill (daily)

- ▶ Start the diesel engine.
- ▶ Parking brake active: The driving lever [2] is latched into the P position.
- ▶ Press EMERGENCY STOP [1] when engine at standstill.

The machine:

- ✓ switching off the operating functions.
- ✓ turning off the diesel engine.

Checking function during machine operation (annually)

Carry out functional tests with the diesel engine running and the work functions (e.g. vibration) switched on.

- ▶ Press EMERGENCY STOP [1] with low speed 0.5 km/h (0.3 mph).

The machine:

- ✓ stopping immediately.
- ✓ switching off the operating functions.
- ✓ turning off the diesel engine.



If the machine reacts other than as described above or if the EMERGENCY STOP does not work, it must be tested and repaired without delay. The machine must not be used until this has been done. Request assistance from customer services!

4.02 Operator's platform

4.02.01 Maintaining and cleaning the operator's platform/cab

NOTICE

Short circuit on electrical components!

Destruction or damage to parts of the machine due to short circuit.

- Repair or replace the housing, cladding and covers in the event of a leak.
- Do not allow the electrical components to come into contact with water or cleaning agents.

Maintenance

- Check the hinges and guide rails regularly to ensure that they move with ease. If parts are dirty or difficult to move, clean and lubricate/oil.
- Check the housings, cladding, covers and bellows and ensure that they are secure, correctly sealed and intact. Contact customer service if any parts are defective.

Cleaning



Ensure that no water or cleaning agents come into contact with the electrical/electronic components when cleaning. The housing, covers and cladding must only be opened when this is expressly specified or permitted by the manufacturer.

- Plastic and metal surfaces:
Wipe the surfaces with a clean soft cloth and clean with water and cleaning agent. Then wipe the surfaces dry to remove any residual water and cleaning agent.
For coarser dirt, loosen the dirt using water, alcohol or ethanol, and remove it using a cloth soaked in liquid.
- Windows:
Wipe the window surfaces with a clean soft cloth and clean with water and a cleaning agent.
- Upholstery/fabric:
Brush off the fabric or clean with a vacuum cleaner.
For coarser dirt, use commercially available upholstery cleaner in accordance with the manufacturer's instructions.



Do not use ammonia or cleaning agents that contain ammonia.



Do not use any sharp or abrasive tools to clean the windows (e.g. wire brush, steel wool). Scratches caused by these tools can severely restrict visibility.

4.02.02 Maintaining air-conditioning system

⚠ CAUTION

Refrigerating agent harmful to health!

Injuries as a result of freezing or inhaling harmful vapors.

- Do not touch any part of the air-conditioning system until it has reached room temperature.
- Do not open the pipe system of the air conditioning.
- Wear personal protective equipment.

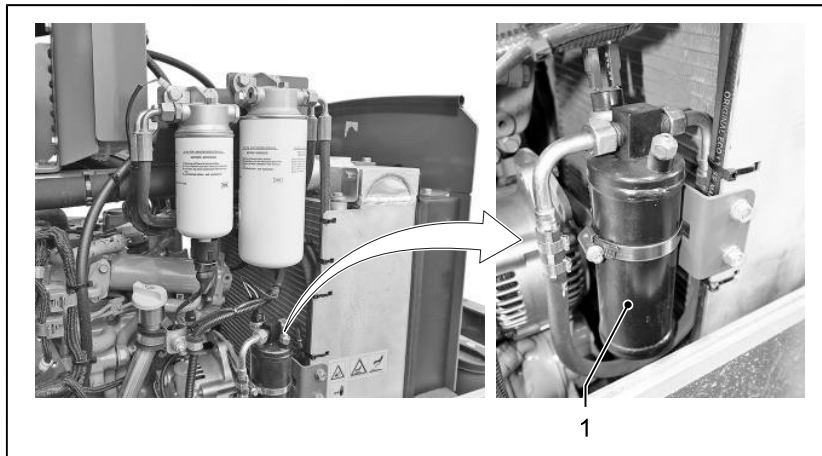


Maintenance work on the air-conditioning system must only be carried out by customer service or by trained specialists using appropriate workshop equipment in accordance with the manufacturer's specifications.



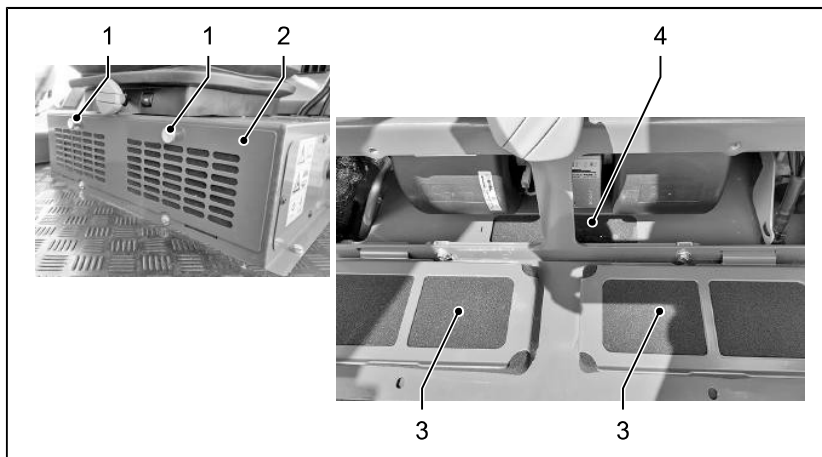
Switch on air conditioning at least 1 per month (even in winter) for ca. 15 minutes.

Replacing the drain bottle



- If the indicator pearl is discoloured, replace the drain bottle [1].

4.02.03 Replacing the air filter for the driver's cab

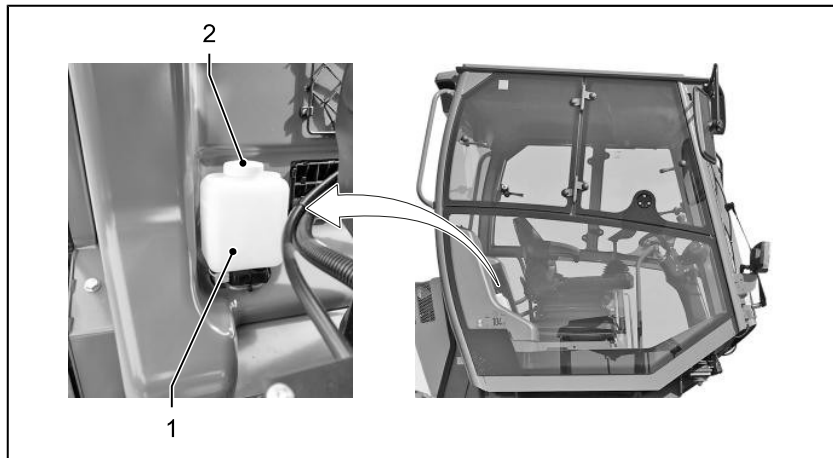




Change the filters according to the amount of dust accumulated.

- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Undo the screws [1].
- ▶ Fold down the cover [2].
- ▶ Remove the circulating air filter inserts [3] and replace them with new ones.
- ▶ Remove the fresh air filter insert [4] and replace it with a new one.
- ▶ Fold up the cover [2].
- ▶ Screw in and tighten the screws [1].

4.02.04 Checking the fill level of the windscreen washer fluid



The tank [1] for the windscreen washer fluid is located in the driver's cab.

Pure water can be used to wash the windscreen. However, we recommend adding a standard windscreen washer agent (algae growth).

Add an antifreeze solution when outside temperatures are below the freezing point of water. Make sure you use the mixing ratio specified by the manufacturer.

Top up windscreen washer fluid in good time.

- ▶ Open the cover [2] and top up the reservoir [1] with windscreen washer fluid.
- ▶ Close the tank by replacing the lid [2].

4.03 Drive unit/diesel engine

⚠ WARNING

Inflammable fuel!

Severe injury and death due to fire, explosion and moving parts.

- Do not smoke. No open fire!
- Do not inhale fuel fumes.
- Catch spilling fuel or water sump, do not allow to seep away into the ground!

⚠ WARNING

Fuel is under very high pressure!

Serious injury can be caused by liquids escaping under very high pressure.

- Carry out maintenance works only with depressurized fuel system.
- Wait 1 minute after you switched off the diesel engine until the pressure is relieved.
- Work on the high-pressure lines of the fuel injection system may be carried out by trained specialised personnel only.
- Wear personal protective equipment.

NOTICE

Inadmissible fuel or inadmissible lubricating oil for the diesel engine!

Property damage to the diesel engine or to the system for exhaust treatment.

- Only use the fuel specified in the operating instructions.
- Only use the engine oil specified in the operating instructions.
- Observe the information signs on the filling openings for fuel and engine oil.

NOTICE

Dirt in the fuel system!

Material damage to the diesel engine as a result of contamination in the fuel system.

- Ensure that no dirt or dust can get into the fuel system (cover dirty areas with foil).
- Thoroughly clean and dry components and the surrounding areas (e.g. with a high-pressure cleaner).

NOTICE

Contaminated inlet air

When it is defective, clogged, or contaminated, the air filter can damage the engine.

- Inspect all lines, flexible tubes and the casing of the air filter for tightness and integrity on a regular basis (at least once per year).
- Immediately replace any damaged part. Further operation is inadmissible.
- Check the operating readiness of the air filter on a regular basis.
- Regularly clean the air filter casing.
- Do not clean but always replace the air filter cartridge and the safety cartridge.
- Never run the diesel engine without an air filter cartridge and a safety cartridge in the air filter.



After all work on the open fuel system or if the fuel tank has run empty, the fuel system must be vented. Read and follow the instruction manual for the diesel engine for this!
 Check the fuel system for leaks with a trial run!



Carry out the running-in instructions, maintenance intervals and care measures for the diesel engine in accordance with the instruction manual from the engine manufacturer.

4.03.01 Lubricating oil change intervals

These intervals depend, e.g., on:

- Lubricating oil quality
- Fuel sulphur content
- The mode in which the diesel engine is used

Change lubricating oil after half the interval indicated, e.g., when at least one of the following conditions is true:

- Continuous ambient temperature below -10°C (14°F) or lubricating oil temperature below 60°C (140°F)
- Operation using biodiesel fuel



Change the lubricating oil at least once per year if the lubricating oil change intervals are not reached before the year ends.

4.03.02 Engine oil change and service regeneration

Engine oil change

Engine oil changes must be carried out in the intervals specified in the maintenance overview.

The engine oil change must be carried out in accordance with the specifications of the engine manufacturer.

Each parked regeneration dilutes the engine oil with fuel to a certain degree. The number and total duration of the parked regenerations is therefore monitored by the engine control unit. If the

number and/or total duration of the parked regenerations exceeds the usual value for the engine under normal operating conditions, an additional oil change is required. This is displayed on the info display.



The engine oil change must only be carried out by trained specialists using suitable workshop equipment.

Service regeneration

Service regenerations must be carried out in the intervals specified by the engine manufacturer and on request.

The service regeneration must be carried out in accordance with the specifications of the engine manufacturer.



The service regeneration must only be carried out by customer service and/or trained specialists using suitable workshop equipment.

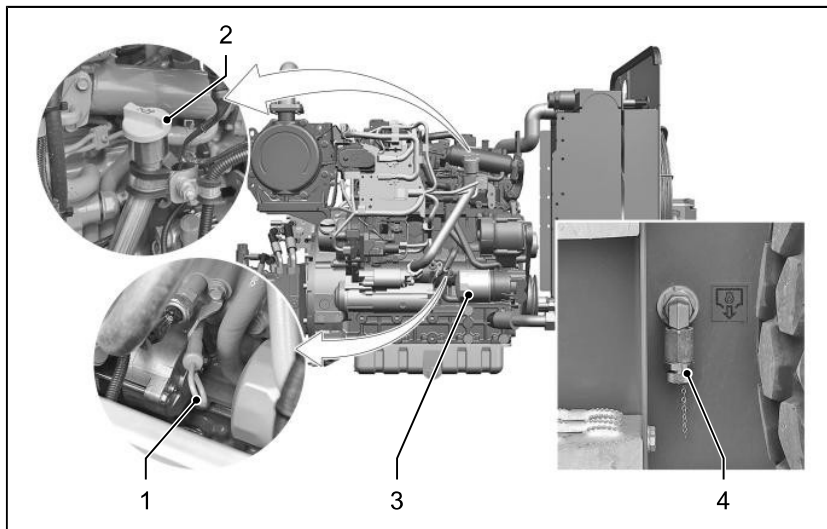
The service tools and settings on the engine and engine control unit must be used in accordance with the specifications from the engine manufacturer.

4.03.03 Maintenance points on the diesel engine when changing oil



For engine maintenance, see the instruction manual for the diesel engine!

□ Only lubricants with this symbol are permitted ("[Technical data](#)", [page 183](#)).



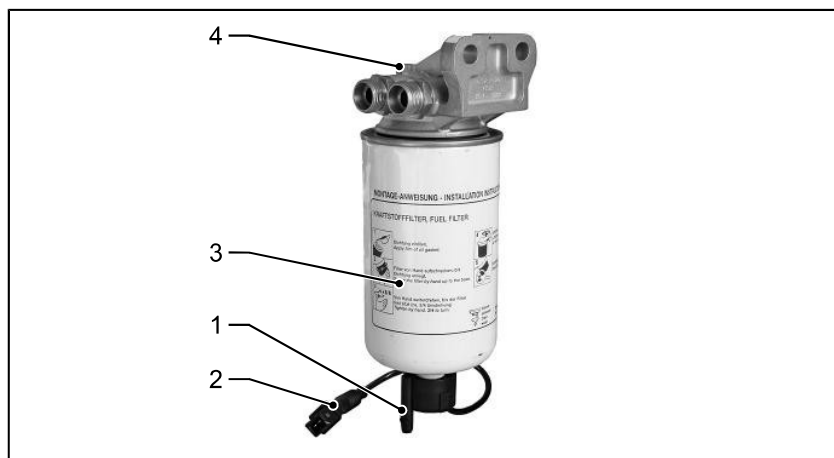
[1]	Engine oil dipstick	[2]	Filling opening for engine oil
[3]	Lubricating oil filter for engine oil	[4]	Drain outlet for engine oil

4.03.04 Replacing filter cartridge for the fuel filter



- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Unscrew the filter cartridge [1].
- ▶ Dispose of the old filter cartridge in compliance with environmental regulations.
- ▶ Before fitting, apply a thin coat of oil to the rubber seal and screw new filter cartridges [1] to the filter head until the seal makes contact. Further tighten the filter cartridge by hand by half a turn.
- ▶ Bleed the fuel system.

4.03.05 Changing filter cartridge for the fuel pre-filter



Replacing filter cartridge

- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Close the fuel shut-off valve if present (only if the fuel tank is installed in the high position).
- ▶ Open the vent screw [4].
- ▶ Unplug the plug-and-socket connection [2] to the sensor [1], and screw the sensor by two turns out the filter cartridge.

- ▶ Drain fuel and waste water from the filter.
- ▶ Screw in and tighten the vent screw [4].
- ▶ Unscrew the filter cartridge [3].
- ▶ Dispose of the old filter cartridge in compliance with environmental regulations.
- ▶ Place the sensor [1] into the new filter cartridge.
- ▶ Before fitting the new filter cartridge, apply a thin coat of oil to the rubber seal, and screw the filter cartridge [3] to the filter head until the seal makes contact. Tighten the filter cartridge by hand further by half a turn.
- ▶ Close the plug-and-socket connection [2].
- ▶ Open the fuel stop cock if present (only if the fuel tank is installed in the high position).
- ▶ Bleeding the fuel system.

Draining water sump

NOTICE

Water sump in the fuel!

Property damage to the diesel engine by water sump in the fuel system.

- Drain the water sump as soon as the *fuel prefilter* indicator light flashes.
 - Dewater the fuel prefilter regularly at the sensor according to the water content of the fuel.
-
- ▶ Open the vent screw [4].
 - ▶ Disconnect the connector [2] for the sensor [1] and unscrew the sensor from the filter cartridge with two turns.
 - ▶ Allow the waste water to drain from the filter.
 - ▶ Screw the sensor [1] into the filter cartridge and tighten.
 - ▶ Connect the plug connector [2] to the sensor.
 - ▶ Screw in and tighten the vent screw [4].
 - ▶ Vent the fuel system.

4.03.06 Bleeding the fuel system

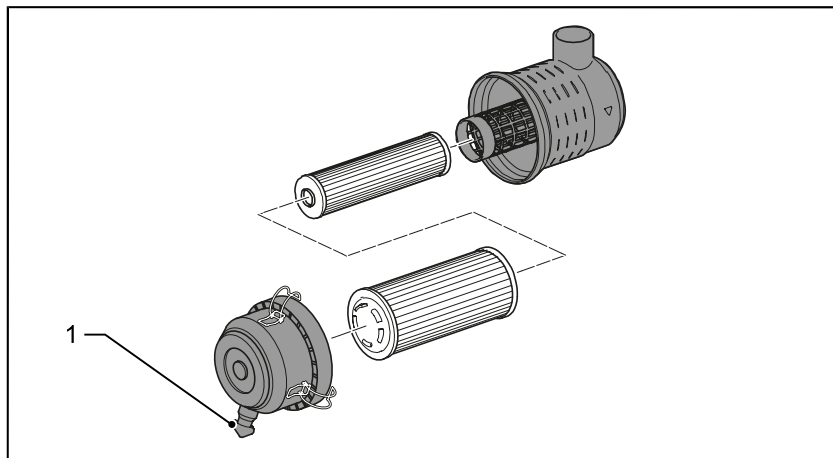




Fuel system bleeding is performed when the fuel pump is running (the on-board power supply is switched on). Several bleeding cycles are required.

- ▶ Open the bleed screw [1] only at the fuel filter (not at the fuel prefilter).
- ▶ Switch on the electrical system until fuel runs out of the bleed bore [1]. Do not start the diesel engine.
- ▶ Screw in and tighten the bleed screw [1].
- ▶ Briefly switch off and restart the electrical system.
- ▶ After approx. 30 seconds, briefly switch off and restart the electrical system.
- ▶ Repeat this operation four times.
- ▶ Then start the diesel engine and allow it to run at idle speed for one minute.
- ▶ Inspect all components of the fuel system for leaks.

4.03.07 Check and clean the dust discharge valve at the air filter



Before starting work, check the proper passage through the dust discharge valve:

- ▶ Switch off diesel engine and remove ignition key.
- ▶ Squeeze the dust discharge valve [1] and clean the discharge slot.

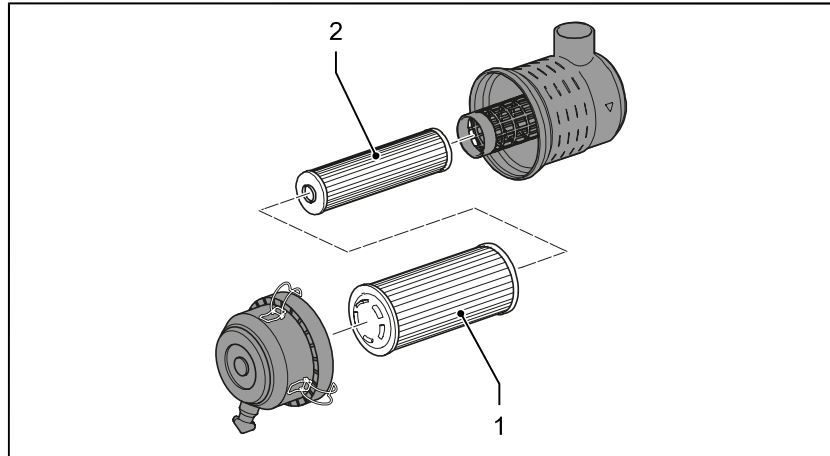
4.03.08 Check the air filter

NOTICE

High pressure by high-pressure cleaner!

Damage of the air filter by power washer.

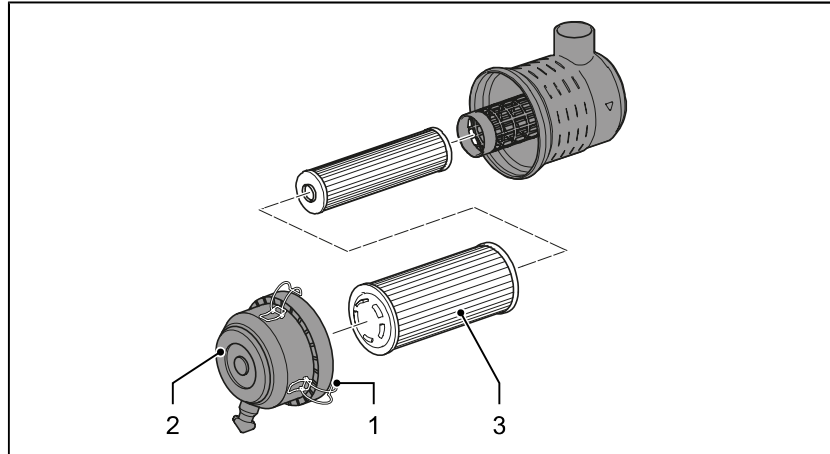
- Never use compressed air or a high-pressure cleaner for cleaning any casing part.
- Clean the interior parts of the casing only with a moist, fibre-free cloth.



Check the operating readiness of the air filter while the diesel engine is running:

- ▶ Start diesel engine and shortly rev up to maximum speed.
- ✓ The *air filter* indicator light on the info display does not flash.
The air filter cartridge [1] and the safety cartridge [2] are ready for operation.
- ✓ The *air filter* indicator light on the info display flashes: Replace the air filter cartridge [1] and/or the safety cartridge [2].

4.03.09 Replacing air filter cartridge



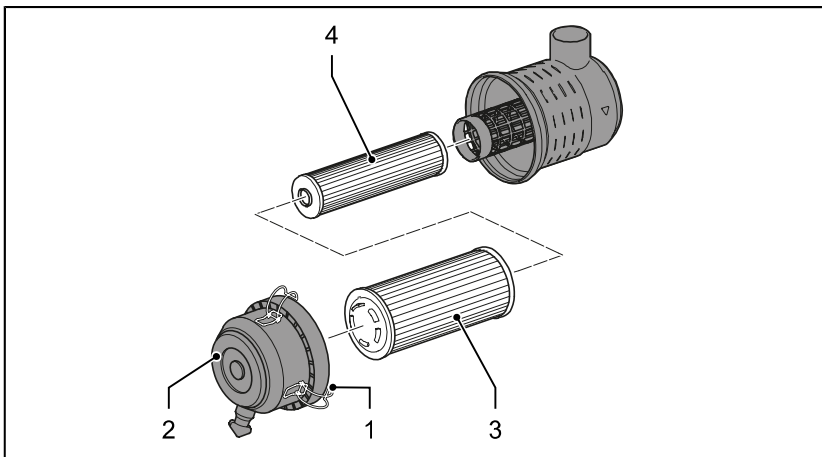
- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Fold out the clamp clip [1].
- ▶ Remove the dust collector [2].
- ▶ Clean the inside of the dust collector.
- ▶ Remove the air filter cartridge [3].
- ▶ Dispose of the old air filter cartridge in compliance with environmental regulations.
- ▶ Insert a new air filter cartridge.
- ▶ Fit the dust collector [2].

- ▶ Close the clamp clip [1].
- ▶ Check the operating readiness of the air filter.

4.03.10 Replacing the safety cartridge at the air filter

Replace the safety cartridge:

- after having changed the air filter cartridge five times.
- After 2000 operating hours at the latest.
- If the air filter pilot light is flashing on the information display after having replaced the air filter cartridge.
- If the air filter cartridge is defective.



Changing safety cartridge

- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Fold out the clamp clip [1].
- ▶ Remove dust container [2].
- ▶ Clean the inside of the dust container.
- ▶ Pull the air filter cartridge [3] out of the air filter.
- ▶ Dispose of the old air filter cartridge in compliance with environmental regulations.
- ▶ Pull out safety filter cartridge [4].
- ▶ Dispose of the old safety cartridge in compliance with environmental regulations.
- ▶ Slide in a new safety cartridge.
- ▶ Slide a new air filter cartridge [3] into the air filter.
- ▶ Put on the dust receiver bin [2].
- ▶ Close the clamp clip [1].
- ▶ Check the operating readiness of the air filter.

4.03.11 Checking/cleaning the radiator

NOTICE

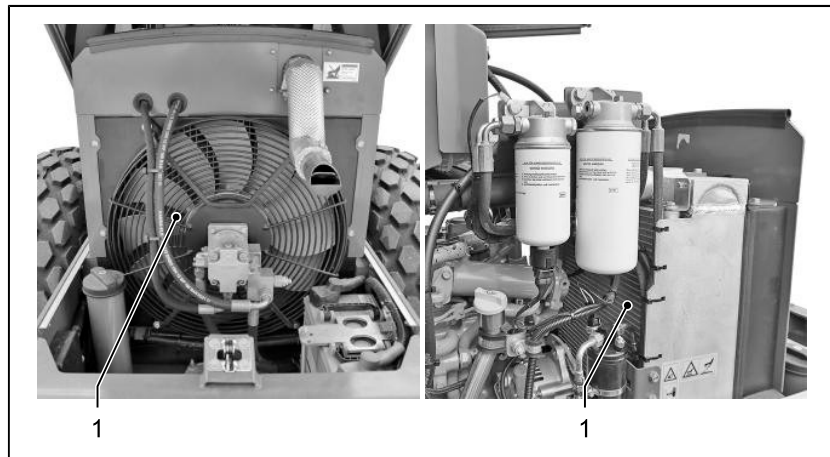
High water pressure with a high-pressure cleaner!

Damage to the radiator when cleaning with a high-pressure cleaner.

- Note the distance between the high-pressure cleaner lance and the radiator.
- Use the spray jet.
- Guide the spray jet parallel (not at an angle) to the fins of the radiator.



In contrast to the "Improper use" section in chapter 1 (point "Spraying with high-pressure cleaners or fire-extinguishing equipment"), the radiator can be cleaned using a high-pressure cleaner if the person carrying out this task has the appropriate expertise and training.



Check the radiator

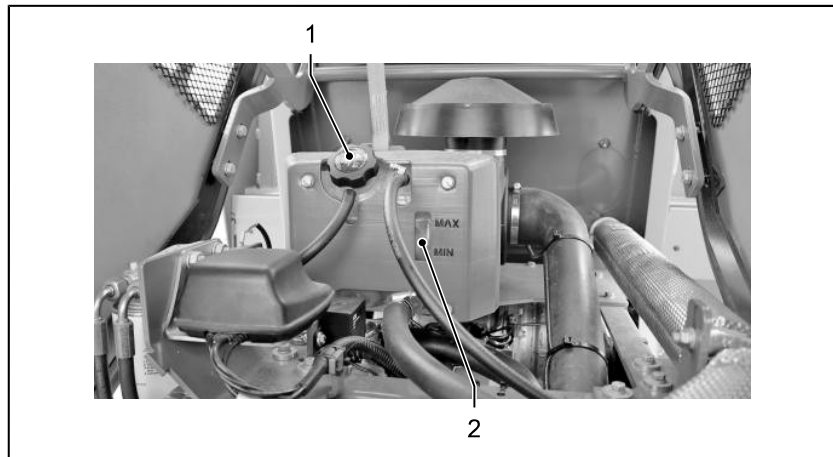
- ▶ Check the cooling fins of the radiator for fouling.
- ✓ The cooling fins are not dirty: The machine is ready for operation.
- ✓ The cooling fins are dirty: Clean the cooling fins immediately and thoroughly.

Cleaning radiator

- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Opening the engine hood.
- ▶ Clean the radiator [1] carefully with a high-pressure cleaner from all sides.
- ▶ Close the engine hood.

4.03.12 Checking the coolant fill level

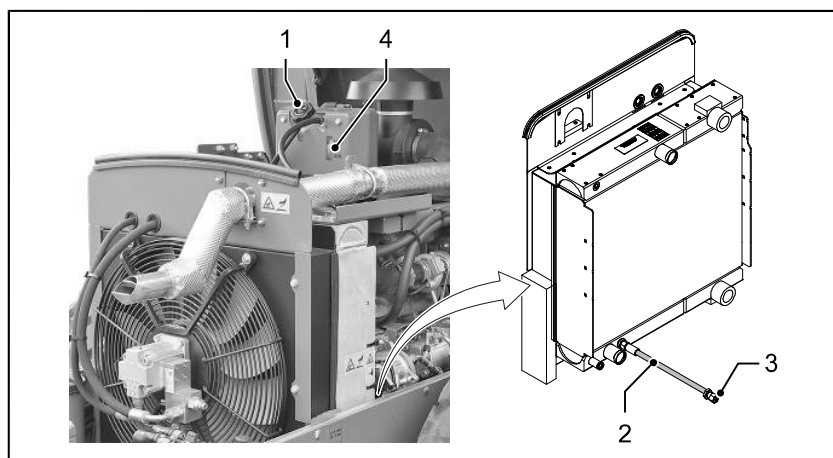
○ Only lubricants with this symbol are permitted ("[Technical data](#)", [page 183](#)).



- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Correct coolant level: Centre of fill level indicator [2]. Do not exceed this level!
- ▶ If there is insufficient coolant, only fill up coolant in the mixing concentration through filling opening [1] on the compensation tank.
- ▶ If there is a considerable loss of coolant, determine the cause and rectify.

4.03.13 Changing the coolant

○ Only lubricants with this symbol are permitted ("[Technical data](#)", [page 183](#)).



- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Open the sealing cap [1] on the compensation tank.

- ▶ Remove the plug [3] from the end of the drain hose [2] and discharge the coolant in a container provided for this purpose.
- ▶ Screw the plug [3] back in.
- ▶ Set the temperature regulator for the cab heating to maximum temperature.
- ▶ Fill coolant up to the centre of the fill level indicator [4].
- ▶ Close the filling opening again with the sealing cap [1].
- ▶ Start the diesel engine and bring it to operating temperature (thermostat opens).
- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Only check the coolant level when the diesel engine is cold. If necessary, top up the coolant.
- ✓ Correct coolant level: Centre of the fill level indicator [4] on the compensation tank.

4.04 Hydraulic oil supply

⚠ WARNING

Leaks in hydraulic hoses!

Injuries or fire as a result of oil squirting out of a leaking hydraulic system.

- All lines, hoses and screwed connections of the hydraulic system must be checked for leaks and visible damage (at least once per year).
- Immediately replace any damaged part. Further operation of the machine is inadmissible.

NOTICE

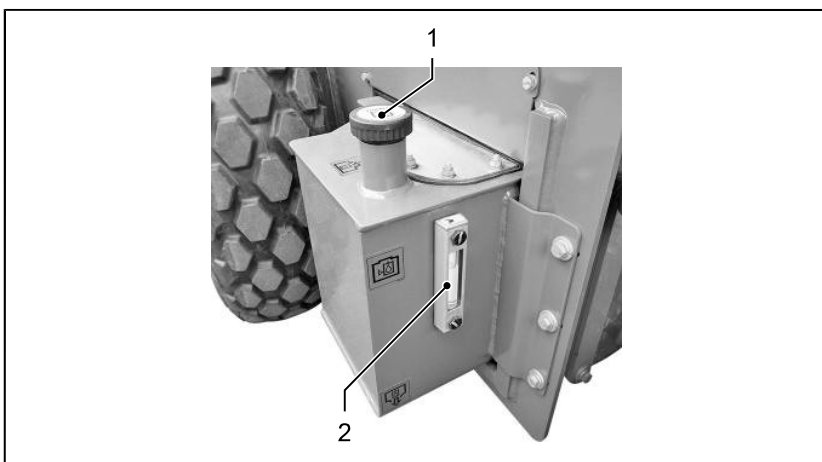
Foreign objects in the hydraulic system!

Consequential damage to the hydraulic system caused by foreign objects in the hydraulic system as a result of earlier damage.

- After a each damage to the hydraulic system, with a foreign object having entered the oil circuit, the entire hydraulic system must be cleaned.
- After cleaning, replace all suction, return and pressure filters in the hydraulic system after 50 hours and again after 125 operating hours.
- This work may only be performed by trained specialised personnel. Call the customer service!

4.04.01 Checking the hydraulic oil fill level

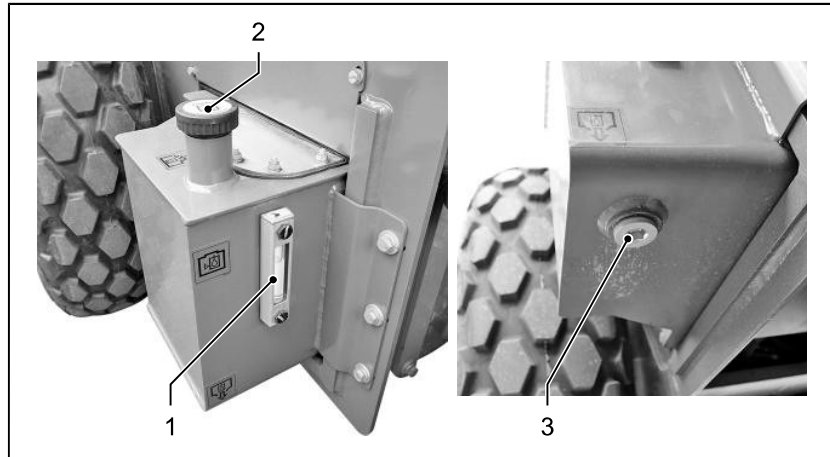
☐ Only lubricants with this symbol are permitted ("[Technical data](#)", page 183).



- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Correct oil level: centre of sight glass [2].
- ▶ If the oil level is too low, fill with appropriate oil through the fill opening [1].
- ▶ In case of bigger oil losses, find out and eliminate the cause.

4.04.02 Changing the hydraulic oil and ventilation filter

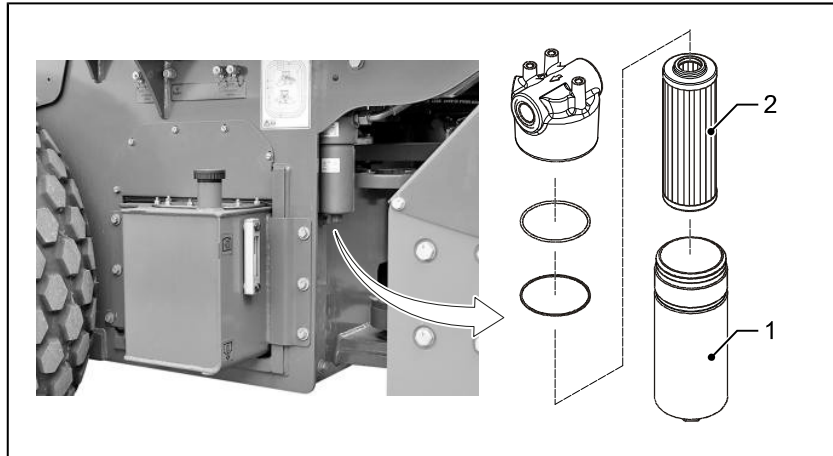
☐ Only lubricants with this symbol are permitted ("[Technical data](#)", page 183).



- ▶ Switch off diesel engine and remove ignition key.
- ▶ Allow machine to cool down less than 30 ° (86 °F).
- ▶ Unscrew oil drain screw [3] down on the oil tank and discharge the used oil drain into a provided receptacle.
- ▶ Remove ventilation filter [2] and replace by a new one.
- ▶ Screw in oil drain screw [3] and tighten.
- ▶ Fill up specified oil through filling spout [2].
- ▶ Correct oil level: Centre of sight glass [1].
- ▶ Tighten ventilation filter [2].
- ▶ Start the diesel engine.
- ▶ Actuate driving lever with low engine speed until the transmission activates.
- ▶ Also actuate the steering.
- ✓ The pipework and hose lines are filled with oil and vented.
- ▶ Check oil level with the diesel engine at a standstill. Top up oil if necessary.
- ▶ Check hydraulic system for leaks.

4.04.03 Replacing the filter insert in the pressure filter for the hydraulic system

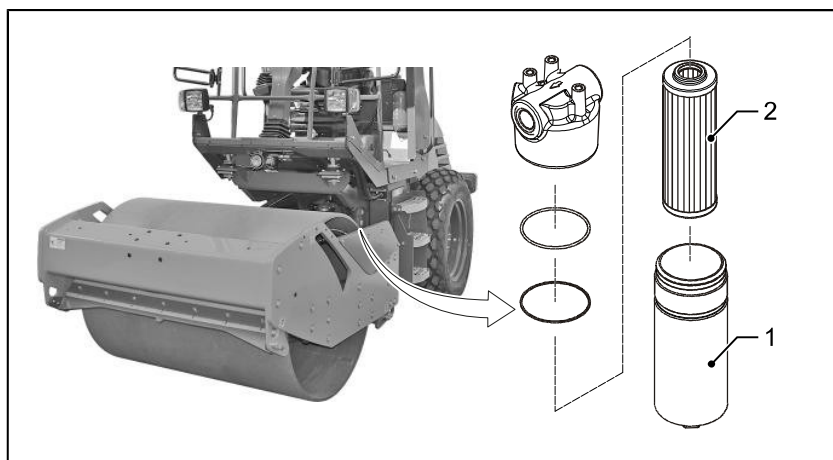
☐ Only lubricants with this symbol are permitted ("[Technical data](#)", page 183).



- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Unscrew the barrel casing [1].
- ▶ Unscrew the filter insert [2] from the filter head and replace with a new one.
- ▶ Dispose of the old filter insert in compliance with environmental regulations.
- ▶ Clean the inside the barrel casing [1].
- ▶ Screw in and tighten the barrel casing [1] in the filter head again.
- ▶ Check hydraulic system for leaks.

4.04.04 Replacing the filter insert of the pressure filter for the steering system

☐ Only lubricants with this symbol are permitted ("[Technical data](#)", page 183).



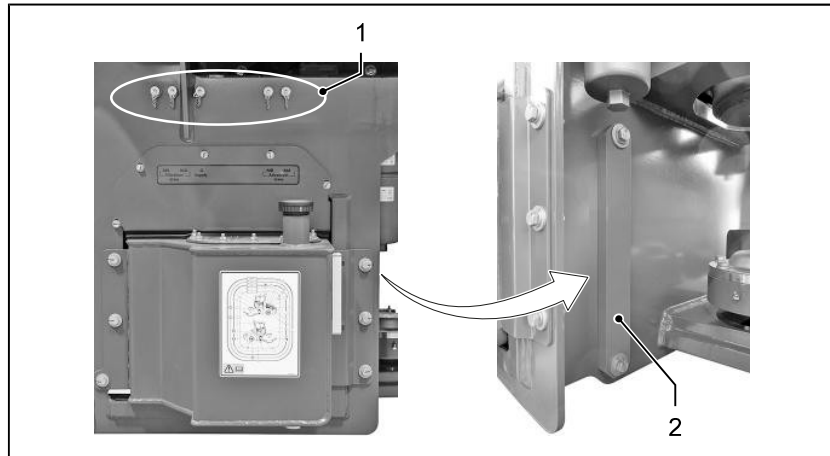
- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Unscrew the barrel casing [1].

- ▶ Unscrew the filter insert [2] from the filter head and replace with a new one.
- ▶ Dispose of the old filter insert in compliance with environmental regulations.
- ▶ Clean the inside the barrel casing [1].
- ▶ Screw in and tighten the barrel casing [1] in the filter head again.
- ▶ Check hydraulic system for leaks.

4.04.05 Working on the hydraulic system's valve blocks



Adjustment and maintenance work on valve blocks and hoses in the hydraulic system requires special expert knowledge. It must only be carried out by trained service personnel.



Maintenance connections

Measurement and adjustment work can be carried out on the hydraulic system via the maintenance connections [1] without having to raise the operator's platform or cab.

Work on the maintenance connections must only be carried out by specialist personnel who are trained to do so.

Raising the operator's platform/cab

The valve blocks and hoses of the hydraulic system are mainly located below the floor of the operator's platform or cab. For work that cannot be carried out via the maintenance connections [1], the operator's platform or the cab must be raised/tilted.

The operator's platform or cab are secured in the tilted position using the safety support devices [2].

The operator's platform or cab must only be raised/tilted by specialist personnel who are trained to do so.

4.05 Electrical system

4.05.01 Starter battery

⚠ WARNING

Explosion!

Serious injuries or burns caused by exploding gases.

- Naked flames and smoking are prohibited when handling any battery. Be sure to avoid any sparking.
- Do not store or charge the battery unless in a well ventilated room.
- Do not store or charge the battery unless at a temperature of between $-15\text{ }^{\circ}\text{C}$ and $45\text{ }^{\circ}\text{C}$ ($5\text{ }^{\circ}\text{F}$ and $113\text{ }^{\circ}\text{F}$).
- Avoid exposure to direct sunlight.
- When charging the battery, be sure to follow the manufacturer's instructions and the operating manual.
- To charge the battery, use direct current only.

⚠ WARNING

Toxic and caustic electrolytic liquid!

Serious injuries as a result of poisoning or chemical burning by contact with electrolytic liquid.

- Wear personal protective equipment when working on or handling any battery, i.e., protective clothing, glasses, face mask, acid-proof rubber gloves.
- Do not tip the battery.
- Use suitable means for binding and disposing of any spilled liquid.
- In case of contact with electrolyte fluid, rinse the area affected with clear water, and consult a physician.
- In case of having inhaled or swallowed any electrolyte fluid, initiate emergency medical aid immediately.

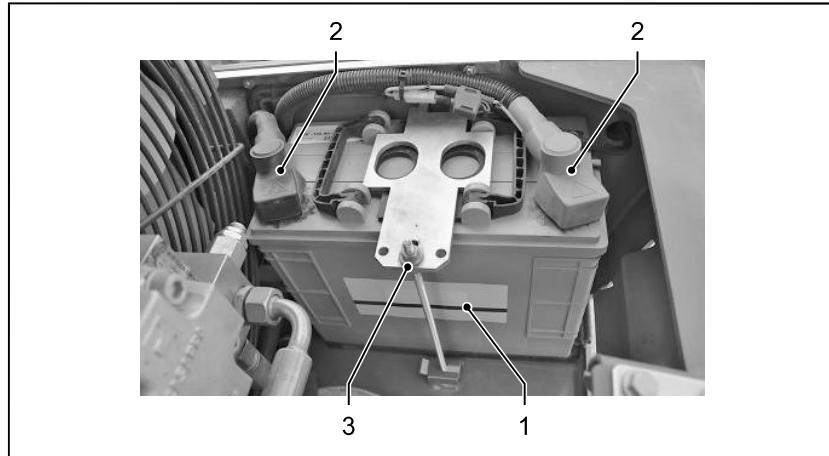


Perform maintenance work only in adequately ventilated rooms.

The electrical power supply is ensured by a generator and by a starter battery.

All cables, fastenings and screwed connections must be checked for visible damage (at least once per year).

Damaged parts must be replaced immediately. Damaged cables may cause injuries and fire.



- | | | | |
|------------|--------------------------|------------|---------------------------------------|
| [1] | Battery housing | [2] | Battery terminals and terminal clamps |
| [3] | Battery fixing and mount | | |

Maintenance

These intervals depend on:

- Storage and ambient temperatures
- Acid level and acid concentration
- Service conditions



Do not open plug-free and VRLA batteries! At an electrolyte level or acid concentration below *Min.*, replace the battery.



If batteries have already filled, do not retroactively fill them with acid or enhancing agents! Only top up with distilled water.

- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Wear personal protective equipment.
- ▶ If preset: Remove the terminal caps from the battery.
- ▶ Check the battery casing [1] for external damage.
- ▶ Check the battery mounting and storage [3].
- ▶ Clean the battery terminals and terminal clamps [2] and treat with battery terminal grease.
- ▶ Replace the terminal caps on the battery.
- ✓ Battery securely positioned, sealed, undamaged and with its connectors preserved.
- ▶ Check the electrolyte level at the inner or outer casing mark or as indicated in the closing plug (see battery instructions).
- ▶ Top up distilled water or replace the battery as necessary.
- ▶ If possible, check the acid concentration. (1.28 kg/l $\pm$ 0.1).
- ▶ Clean the battery casing [1] with a damp or antistatic cloth.
- ✓ Correct acid concentration.
- ✓ Correct electrolyte level.

- ▶ Check the battery open-circuit voltage (must be at least 11.9 V) with suitable means, and recharge if necessary.
- ✓ Full starter power.

External charging



Deeply discharged batteries must be removed from the machine for recharging.
Observe the manufacturer's specifications for charger and battery during every charging work step.
Only use the battery in well-ventilated rooms.

- ▶ Remove the battery from the machine.
- ▶ Before recharging, ensure that the battery degassing is intact.
- ▶ Before charging, check the electrolyte level and correct if necessary.
- ▶ Connect the battery charger according to the manufacturer's specifications, and then start recharging.
- ▶ Always watch the charging process and stop charging when the acid temperature exceeds 55 °C or in case of acid spill.
- ✓ The battery is charged.
- ▶ Switch off and disconnect the charger from the battery.
- ▶ If necessary, remount the battery.
- ✓ The battery is ready to use.

4.06 Transmission

NOTICE

Colliding machine parts!

Material damage to the drum or the scraper bracket due to machine parts colliding.

- Avoid any contact between the drum and scraper bracket.
- Check the clearance between the drum and scraper bracket after inspection and adjustment work.

4.06.01 Checking the drum scrapers

Only scrapers in the correct condition ensure a clean drum surface.

- ▶ Check the scrapers for cleanliness. Clean soiled scrapers.
- ▶ Check the condition of the scrapers. Replace worn scrapers in good time.
- ▶ Check the setting of the scrapers. Correct the position of any scrapers that have moved.

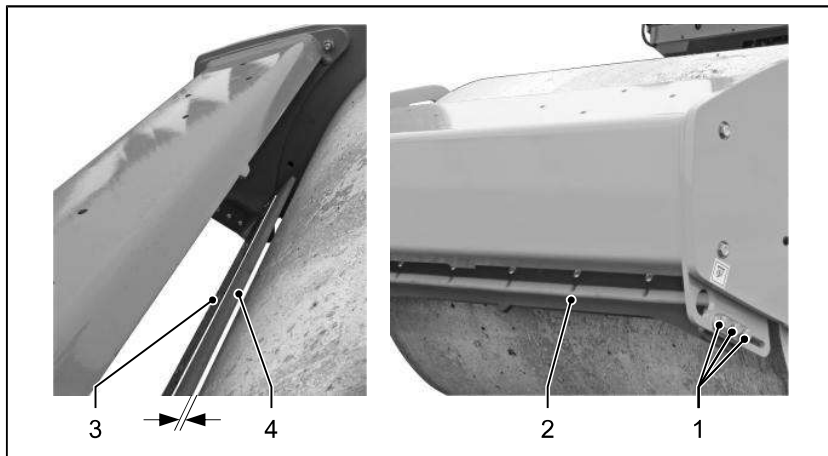
4.06.02 Cleaning the drum scrapers

- ▶ Rinse out dirt embedded between drums and scrapers with a water jet.
- ▶ Remove any extremely stubborn dirt with a spatula or similar tool.

4.06.03 Changing/adjusting the smooth drum scrapers



If they are worn-out to such an extent that sticking dirt is not removed from the roller drums/tyres during work any longer, the scrapers must be readjusted or replaced.



Before carrying out any work on the scrapers:

- ▶ Safely park the machine and secure it against rolling away.
- ▶ Switch off the diesel engine and remove the ignition key.

Smooth drum clearance: **10 mm**

Starting position of scraper bracket

- ▶ Undo the screws [1].
- ▶ Push the scraper bracket [2] towards the drum until the clearance is reached.
- ▶ Tighten the screws [1].
- ✓ The scraper bracket is adjusted.

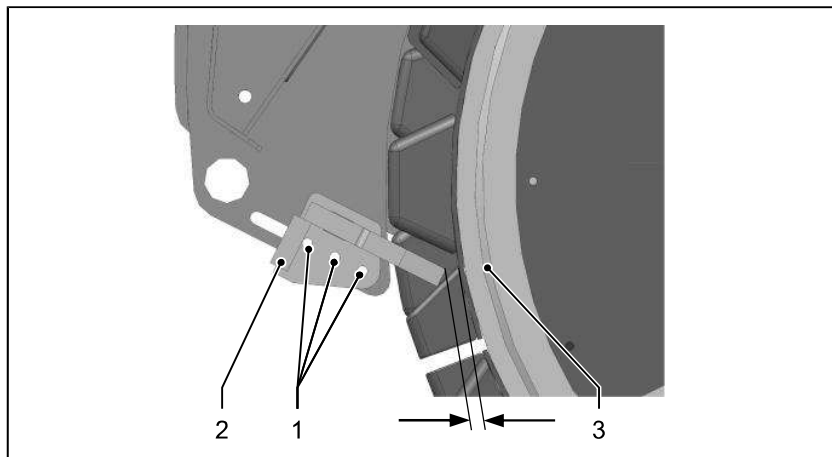
Readjusting the scraper

- ▶ Loosen the clamp connection [3].
- ▶ Push the scraper [4] towards the drum until the clearance is reached.
- ▶ Tighten the clamp connection [3].
- ✓ The clearance between the drum and scraper is adjusted.

4.06.04 Changing/adjusting the padfoot drum scrapers



If they are worn-out to such an extent that sticking dirt is not removed from the roller drums/tyres during work any longer, the scrapers must be readjusted or replaced.



Before carrying out any work on the scrapers:

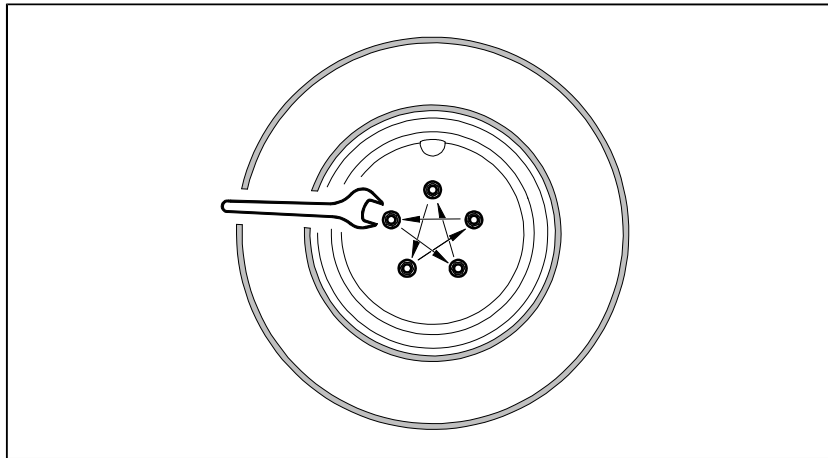
- ▶ Safely park the machine and secure it against rolling away.
- ▶ Switch off the diesel engine and remove the ignition key.

Padfoot drum clearance: **15 mm**

Starting position and adjustment of the scraper bracket

- ▶ Undo the screws [1].
- ▶ Push the scraper bracket [2] away from the drum [3]. If necessary, replace worn scraper elements with new ones.
- ▶ Push the scraper bracket [2] towards the drum [3] until the clearance is reached.
- ▶ Tighten the screws [1].
- ✓ The scraper bracket is adjusted.

4.06.05 Check that wheel nuts/wheel bolt connections are tight



- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Tighten the wheel nuts/wheel bolts crosswise. For the tightening torque, see the technical data ([see page 198](#)).

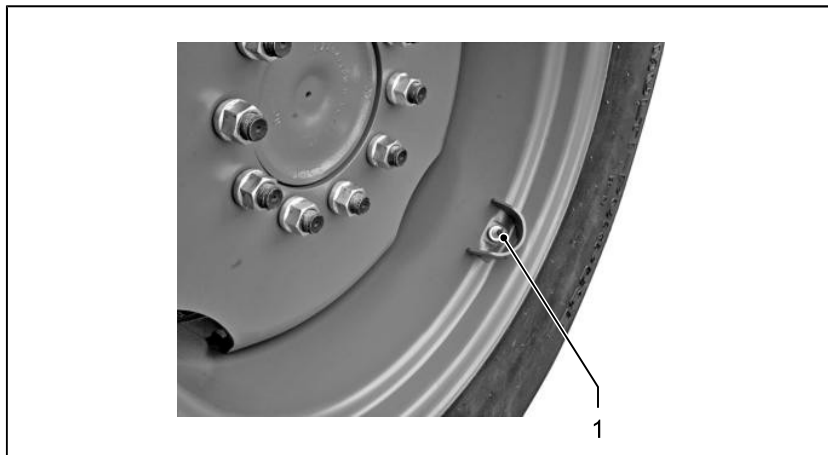
4.06.06 Checking the air pressure in the tyres

⚠ WARNING

Explosion!

Severe injury and death due to explosion and moving parts.

- Change damaged tyres.
- When filling, do not exceed the values of the specified air pressure.
- Use only suitable filling devices with a pressure indicator.
- When filling the tyres, be always next to the tyre, not in front of it.
- Use a tyre cage.



- ▶ Visually inspect the tyre pressure daily.
- ✓ No visible lack of air: The machine is ready for operation.
- ✓ Visible lack of air: Use suitable filling equipment to inflate to the

prescribed air pressure.

- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Secure the filling hose to the valve [1] and fill the tyres with the specified air pressure ("[Technical data](#)", [page 198](#)).

4.06.07 Changing the tyres

⚠ WARNING

Heavy weight!

Serious injuries or death caused by crushing or getting caught during assembly.

- Perform installation work on firm ground (flat, stable, horizontal).
- Carry out fitting work only when the engine is stopped.
- Use suitable load suspension and hitching gear with an adequate loading capacity.
- Do not step underneath suspended loads.

⚠ WARNING

Tipping over the machine!

Serious injuries or death through the machine tipping over sideways because of a shift in the center of gravity.

- On one axle, only mount and use tyres that are the same type and have the same design, profile and diameter.
- Always set the tyre pressure the same for the tyres of the same axle.

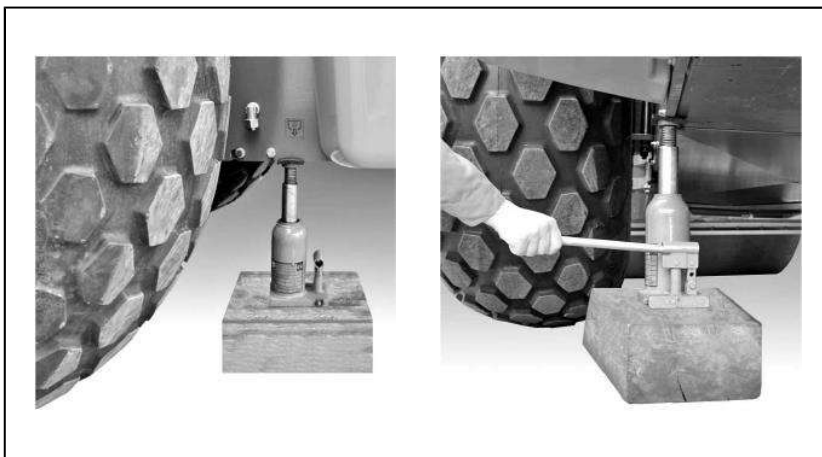
NOTICE

Increased material wear!

Material damage through increased wear on tyres, running gear and drive parts as a result of a combination of different tyres on each axle.

- On one axle, only mount and use tyres that are the same type and have the same design, profile and diameter.
- Always set the tyre pressure the same for the tyres of the same axle.

Preparation





When using a vehicle jack, do not place metal on metal.

- ▶ Put machine on a safe surface (even, capable of bearing, horizontal) and secure against rolling away
- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Have hoisting gear ready that is appropriate for the weight of the machine and wheels.
- ▶ Lift the machine until the wheels leave the ground:
 - Apply a jack with sufficient lifting capacity to the marked lifting points on the chassis, or
 - Lift the machine only by the marked suspension points using suitable hoisting gear (crane with round sling/chain).
- ▶ Put/jack machine on the machine frame on liners capable of bearing (tyres may not be in contact with the ground).



Only persons familiar with changing tyres and aware of dangers are allowed to change the tyres.
When jacking up the machine, use only stable liners capable of bearing (e.g. support timber of sufficient size).
Perform the work with two fitters!

Disassembly

- ▶ Loosen and unscrew wheel nuts.
- ▶ Remove the circlips.
- ▶ Remove the wheels from the wheel hub.

Assembly

- ▶ Clean/derust the contact surface between the wheel rim and hub.
- ▶ Put the wheels on the wheel hub (tyre bolts must align with the fixing holes).
- ▶ Put the circlip on the tyre bolt.
- ▶ Screw the wheel nuts onto the tyre bolts and tighten them by applying the specified torque.
- ▶ Lift the machine and remove the liners.
- ▶ Set the machine down so that the wheels are in contact with the ground.



Check that wheel nuts/wheel bolt connections are tight after 50 operating hours ([see page 192](#)).

4.07 Steering system

⚠ WARNING

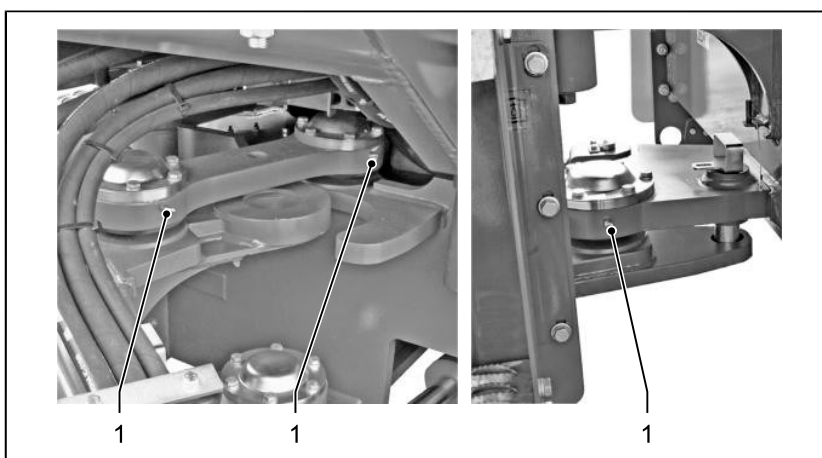
Uncontrolled movements!

Serious injuries or death caused by unexpected steering movements.

- Perform work on the steering system with the engine at rest and the electrical system switched off.
- On machines with safety strut, apply the safety strut before maintenance work.
- To prevent third parties from accidentally starting the engine: Affix a warning sign to the operator's platform indicating that work is in progress on the machine.

4.07.01 Lubricating the articulated joint bearings

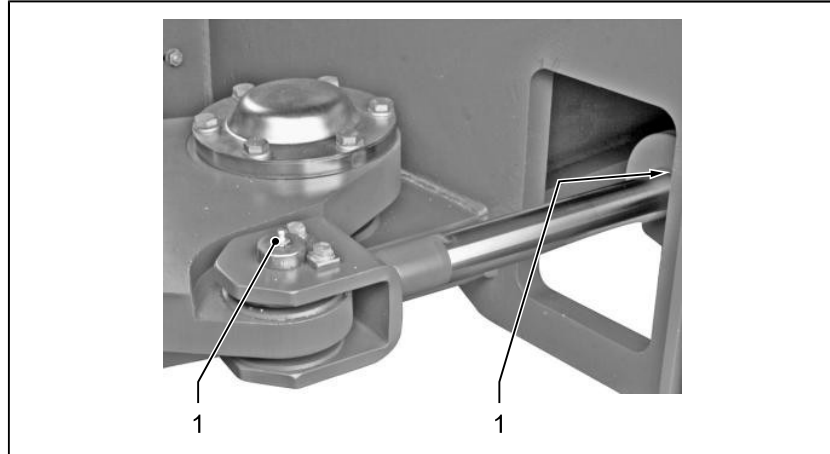
△ Only lubricants with this symbol are permitted ("[Technical data](#)", [page 183](#)).



- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Apply the articulated frame steering blocking.
- ▶ Grease lubricating nipple [1].

4.07.02 Lubricating the steering cylinder pins

△ Only lubricants with this symbol are permitted ("[Technical data](#)", [page 183](#)).



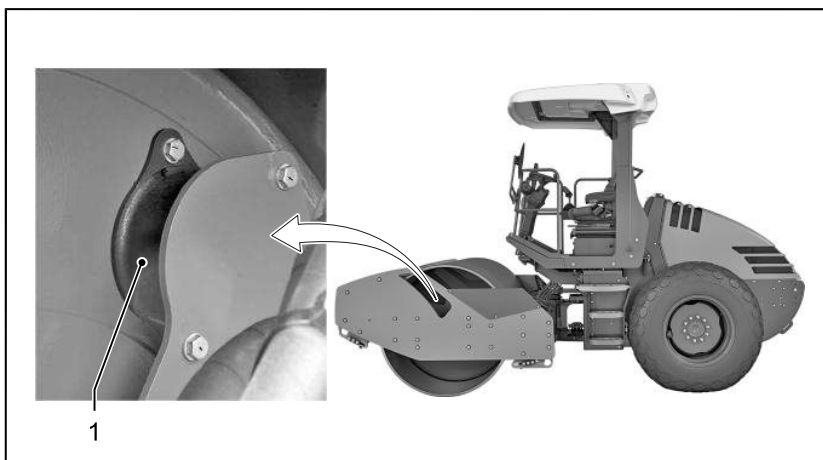
- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Apply the articulated frame steering blocking.
- ▶ Grease lubricating nipple [1].

4.08 Dynamic compaction system



Prior to maintenance works clean roller drums thoroughly.

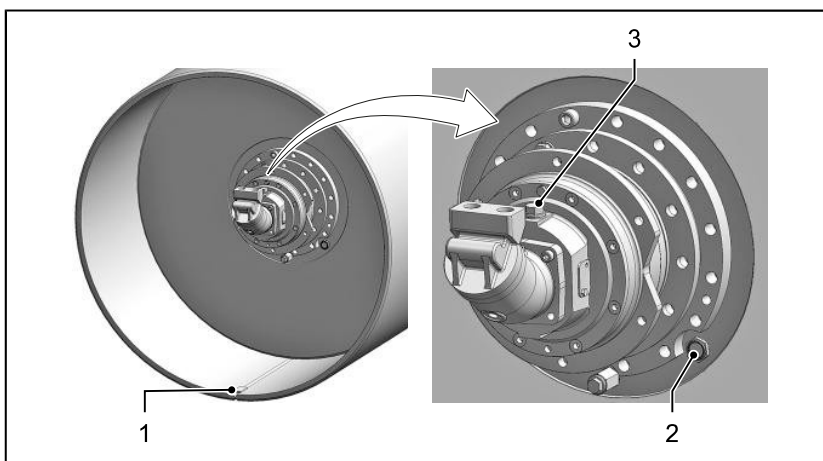
4.08.01 Checking the damping elements



- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Check the damping elements [1] on the drum suspension for cracks.
- ▶ Replace any damaged damping elements with new ones.
Request assistance from customer service!

4.08.02 Checking the vibrator oil fill level

◇ Only lubricants with this symbol are permitted ("[Technical data](#)", [page 183](#)).

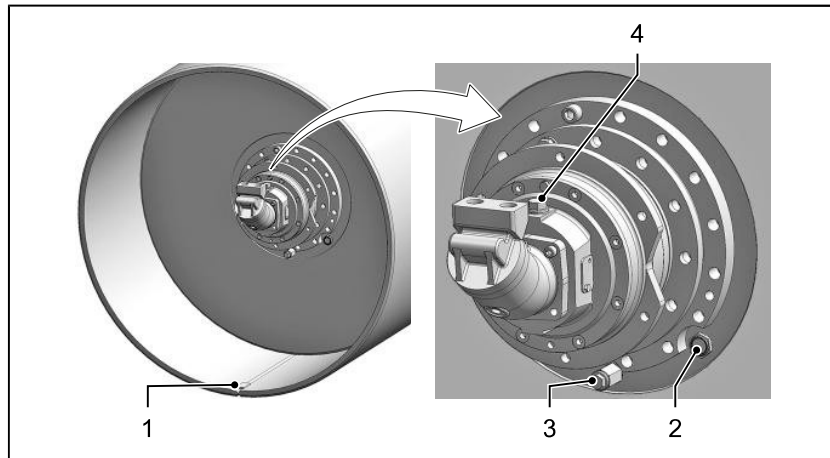


The check must be performed on the right and left side of the drum.

- ▶ Drive the machine slowly until the mark [1] is exactly perpendicular below the axle.
- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Correct oil level: centre of sight glass [2].
- ▶ If the oil level is insufficient, fill in oil through the filler bore [3].

4.08.03 Changing the vibrator oil

◇ Only lubricants with this symbol are permitted ("[Technical data](#)", [page 183](#)).



Replace the oil on the right and left side of the drum.

- ▶ Drive the machine slowly until the mark [1] is exactly perpendicular below the axle.
- ▶ Switch off the diesel engine and remove the ignition key.
- ▶ Allow the machine to cool down to below 30 °C (86 °F).
- ▶ Remove filling screw [4] for pressure equalization purposes.
- ▶ Screw out oil drain screw [3] and let the used oil drain into a provided receptacle.
- ▶ Screw in and tighten the oil drain screw [3] with gasket ring.
- ▶ Fill in the specified oil type through the filler bore [4].
Correct oil level: centre of sight glass [2].
- ▶ Screw in and tighten the filling screw [4] with gasket ring.