

**en**

**Operator's manual**

Wheel loader

**Document ID**

	ORIGINAL OPERATOR'S MANUAL
<b>Order number:</b>	12208139
<b>Issued:</b>	09-2019
<b>Version:</b>	18
<b>Author:</b>	LBH / Technical Documentation Department

**Product ID**

<b>Manufacturer:</b>	Liebherr-Werk Bischofshofen GmbH
<b>Type:</b>	L 580
<b>Type no.:</b>	1414 (USA / CAN)
<b>From Serial no.:</b>	36512

**Contact**

Liebherr-Werk Bischofshofen GmbH  
Dr. Hans Liebherr-Straße 4  
A – 5500 Bischofshofen

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: [www.heydownloads.com](http://www.heydownloads.com) by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

3.7.1	Lowering the boom and swivel arm if the diesel engine fails	189
3.7.2	Recovering and towing the machine	190
3.7.3	Emergency steering	194
3.7.4	Jump starting procedure	195
<b>4</b>	<b>Malfunctions</b>	<b>197</b>
4.1	Servicecodes	197
4.1.1	Service code indicator in the display	197
4.2	Problems - Cause - Remedy	198
4.2.1	Warning symbols	198
4.2.2	SCR system warning symbols	199
4.2.3	Troubleshooting for the diesel engine and fuel system	200
4.2.4	Troubleshooting the Liebherr central lubrication system	203
4.3	Problem remedy	205
4.3.1	Replacing fuses	205
<b>5</b>	<b>Maintenance</b>	<b>213</b>
5.1	Maintenance and inspection schedule	213
5.2	Filling quantities and lubrication chart	218
5.2.1	Recommended lubricants	218
5.2.2	Recommended operating fluids	218
5.2.3	Lubrication chart	219
5.3	Lubricants and fuels	222
5.3.1	General information on lubricants and fuels	222
5.3.2	General information on changing lubricants and fuels	222
5.3.3	Converting hydraulic system from mineral oils to biodegradable hydraulic fluids	222
5.3.4	Diesel fuels	223
5.3.5	Diesel exhaust fluid	224
5.3.6	Engine oils	224
5.3.7	Refrigerant	225
5.3.8	Coolant	226
5.3.9	Hydraulic oil	227
5.3.10	Splitter box oil	228
5.3.11	Gear oil	228
5.3.12	Axle oil	228

**Filter:** Return filter in hydraulic tank

**Control:** Single-lever control, electrohydraulic servo system

**Lifting circuit:** Lift, neutral, lower, programmable lift arm position

**Swivel circuit:** Forward, neutral, reverse, programmable lift arm position

**Grabber swing:** Forward, lock, free, reverse

**Turn grabber:** 360°

**Grabber:** Open, close

Description	Unit	Value
Maximum flow rate	l/min	420
	gal/min	110.95
Max. operating pressure	bar	350 <sup>±5</sup>
	psi	5,076.30 <sup>±72.52</sup>

### 1.2.11 Lift arms

Powerful, stable lift arms for optimum lifting height. Grabber attachments can be rotated by 360°.

### 1.2.12 Operator's cab

Design:

- Hydraulically mounted soundproof cab
- ROPS rollover protection in accordance with EN/ISO 3471/EN 474-1
- FOPS stone impact protection in accordance with EN/ISO 3449/EN 474-1, Cat. II
- Cab door with sliding window, sliding window on right side
- Windscreen in compound safety glass
- Side windows in single-pane safety glass
- Heated rear window
- 3-way continuously adjustable steering column

### Operator's seat

6-position, shock-absorbing driver's seat, adjustable to the driver's weight.

Seat surface, height and inclination adjustment as standard.

Control lever mounted on the driver's seat as standard.

Alternative versions:

- Comfort
- Premium (optional)

### 1.2.13 Heating, ventilation


- Air direction on 4 levels
- Cooling water heater
- Filter system with pre-filter, fresh air filter and recirculated air filter
- Electrically heated rear window

# 2 Safety instructions

## 2.1 Information on these instructions

### 2.1.1 Representation of warning messages

#### Warning symbol

	Warning symbol warns of potential dangers. Obey all measures marked with this symbol to avoid injury or death.
---	--




Tab. 6: Warning symbol

#### Grading of warning messages

Grading of warning messages is defined by following signal words:


- DANGER**
- WARNING**
- CAUTION**
- NOTICE**

#### Definition of warning levels

	<b>DANGER</b>	Indicates an immediately hazardous situation which, if not avoided, will result in death or serious injury.
	<b>WARNING</b>	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	<b>CAUTION</b>	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	<b>NOTICE</b>	Indicates a hazardous situation which, if not avoided, could result in property damage.

Tab. 7: Warning levels

### 2.1.2 Graphic symbols in these instructions

Symbol	Meaning
	<b>Note</b> Identifies useful information and tips.

LBH/12208139/18/09-2019/en

	Safety decal	Description
4		<b>Crushing injury decal</b> Warns of the risk of accidents, possibly resulting in severe injuries. Meaning: <b>There is an increased risk of crushing areas in this area.</b>
5		<b>Steering decal</b> Warns of the risk of accidents, possibly resulting in severe or even fatal injuries. Meaning: <b>The steering is only operational when the diesel engine is running.</b>
6		<b>Accident prevention decal</b> Refers to the instructions in the <b>operating manual</b> for preventing accidents. Meaning: <b>Strictly observe the accident prevention instructions in the operating manual when operating the machine.</b>
7		<b>Engine shutdown decal</b> Warns of the risk of accidents, possibly resulting in severe injuries. Meaning: <b>Only open when the diesel engine is shut down.</b>
8		<b>Safety belt decal</b> Warns of the risk of accidents, possibly resulting in severe or even fatal injuries. Meaning: <b>Fasten your safety belt before starting up the machine.</b>
9		<b>Voltage decal</b> Refers to the battery main switch. Meaning: <b>The electrical system is energised when the battery main switch is turned on.</b>
10		<b>Scalding hazard decal</b> Warns of the risk of scalding and severe injuries caused by coolant escaping under pressure. Meaning: <b>Do not open the sealing cap on the filler neck until the diesel engine has cooled down.</b>
11		<b>Burn hazard decal</b> Warns of the risk of burns, possibly resulting in severe injuries. Meaning: <b>Only touch when the parts have cooled down.</b>

Tab. 9: Safety decals

## 2.4.2 Information signs

The information signs provide information on the operation, maintenance and properties of the machine.

## Damage

### Increased travel mode

- If machine is driven a lot: Stipulate use of special auxiliary systems for travel mode.
- Regulate speed to prevent swaying.

## 2.7.8 Operation of machine

### Danger to life

#### Incorrect place of use

- Make sure that load capacity value of ground is sufficient.
- Do not exceed maximum inclination angle of machine while working.
- Do not exceed maximum inclination angle of machine when driving on ramps (side inclination).
- Make sure that ground offers sufficient grip.
- Assessment of subsoil conditions before starting work
- Adhere to safety gap from live overhead cables.
- Every line must be considered live.
- Keep a safe distance from overhangs, drops, slopes and unsafe terrain.

#### Incorrect use

- When working in following areas, adhere to the laws, regulations and rules applicable at the place of use.
  - Explosive area
  - Flammable area
  - Areas with underground lines (gas, electricity)
- Ensure that machines in enclosed spaces (for example, tunnels, hangars) are equipped with exhaust reduction components.
- Make sure that adequate ventilation and fresh air supply is ensured when operating in enclosed spaces.
- Never leave operator's seat while machine is still in motion.
- Never leave machine unattended with engine running.
- Clean machine regularly to remove flammable residues (for example dust, wood scraps).

#### Incorrect handling of electrical system

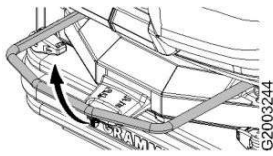
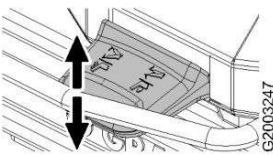
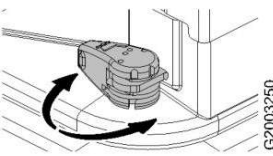
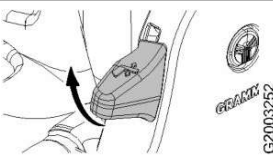
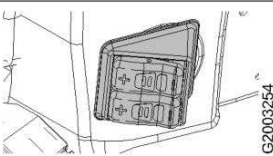
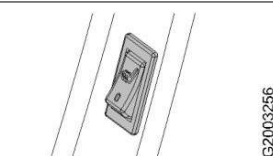
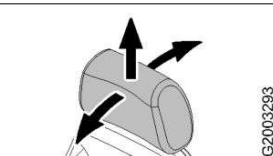
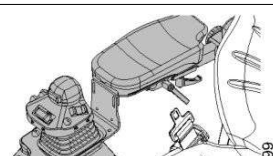
- Make sure there are no persons with a pacemaker in the vicinity of the running diesel engine.
- Before working on electrical system, make sure that affected parts are voltage-free.
- Before working on electrical system, make sure that neighbouring parts are isolated.
- Have work on electrical systems performed exclusively by a qualified electrician.



G32014424

*Fig. 86: Control lever*

(For more information see: [3.2.19 Control lever, page 119](#))

Adjustment options		
4	 G2003244	<b>Horizontal adjustment</b> Pull the lever all the way up and move the operator's seat.
5	 G2003247	<b>Height adjustment</b> Pull or push the lever to adjust the seat height as required.
6	 G2003250	<b>Longitudinal absorption</b> Turn the lever to the left or right to activate or deactivate longitudinal absorption.
7	 G2003252	<b>Backrest adjustment</b> Pull the lever all the way up and move the backrest to the required position by pressing your upper body against it.
8	 G2003254	<b>Lumbar support adjustment</b> Press the button to adjust the contour of the backrest to your body.
9	 G2003256	<b>Seat heating</b> Press the seat heating button to switch the seat heating on or off.
10	 G2003293	<b>Head rest</b> Adjust the inclination and height of the head rest by pulling or pushing it.
11	 G2022899	<b>Adjusting the arm rest</b> (For more information see: <a href="#">Adjusting the operator's seat arm rest, page 76</a> )

Tab. 14: Operator's seat: Grammer comfort



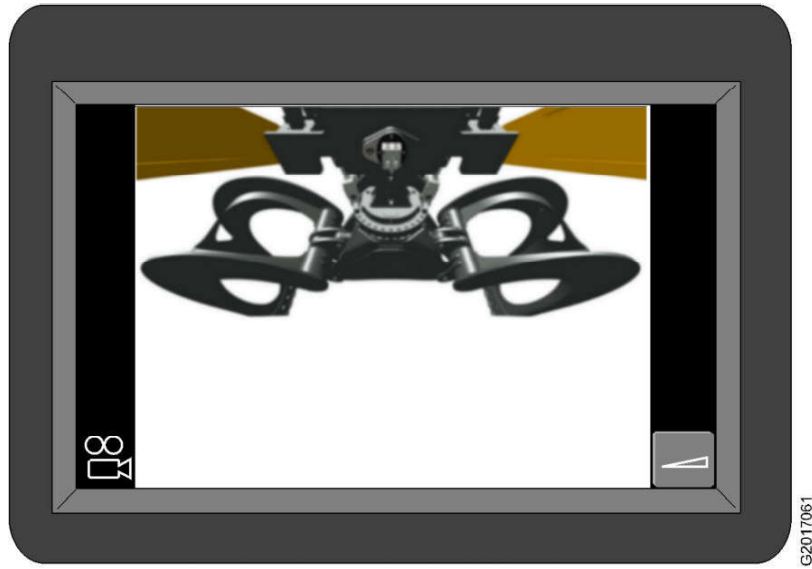




Fig. 164: Grabber camera display

Menu buttons	Designation
	Grabber camera view
	Display and grabber camera brightness setting

Tab. 20: Grabber camera display

## Menu: Operating status

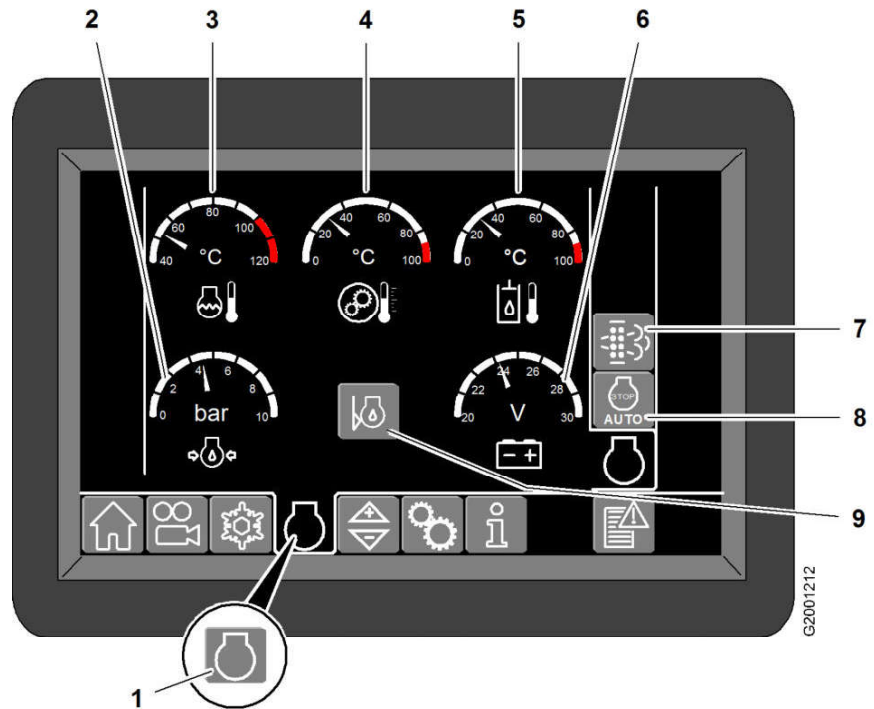


Fig. 214: Menu: Operating status

- |   |                           |   |  |
|---|---------------------------|---|--|
| 1 | Operating status button   | 6 | Battery voltage                            |
| 2 | Engine oil pressure       | 7 | Diesel particulate filter button (option)  |
| 3 | Coolant temperature       | 8 | Automatic engine shut down button (option) |
| 4 | Gear oil temperature      | 9 | Check diesel engine oil level button       |
| 5 | Hydraulic oil temperature |   |  |

### Diesel particulate filter

This equipment is optional.

(For more information see: [3.3.7 Regenerating the diesel particulate filter, page 161](#))

### Automatic engine shut down

This equipment is optional.

This function enables automatic shutdown of the diesel engine under the following conditions:

- The diesel engine is running at less than 1000 min<sup>-1</sup> (1000 rpm).
- The coolant temperature of the diesel engine is more than 40 °C (104 °F).

### Setting the speed of the grabber

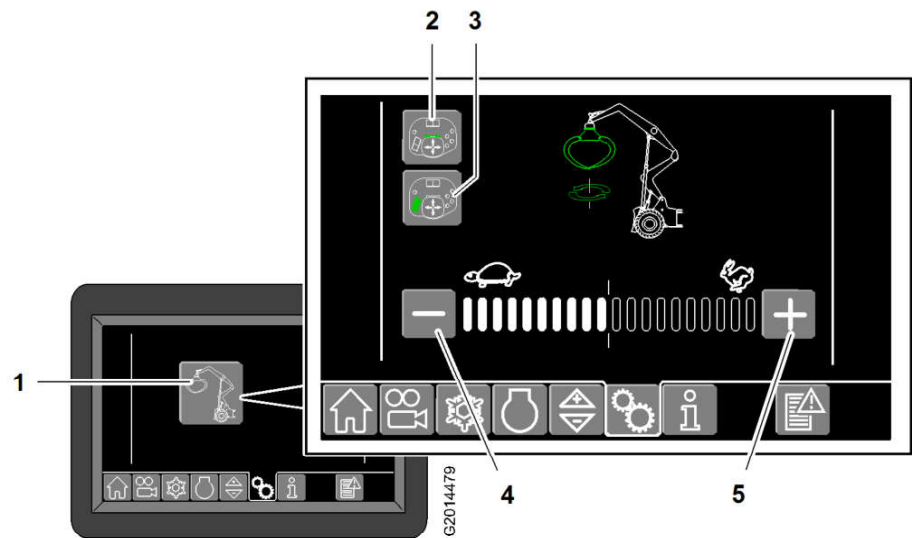


Fig. 247: Setting the speed of the grabber

- |   |   |   |                     |
|---|---|---|---------------------|
| 1 | Set the speed of the swivel arm and grabber | 4 | Increase slew speed |
| 2 | Swivel arm button                           | 5 | Reduce slew speed   |
| 3 | Grabber button                              |   |                     |

- ▶ Call up the display screen using button 1.
- ▶ Press button 3.
- ▶ If necessary: use the buttons 4 and 5 to change the slew speed.

### Central lubrication system



#### Note

Detailed description of the central lubrication system!

- ▶ [\(For more information see: 3.2.26 Liebherr central lubrication system, page 130\)](#)

		Working attachment function	
<b>B</b>	Move control lever forward	Lowering the boom	Standard
<b>C</b>	Press the button	Move swivel arm backwards	Standard
<b>D</b>	Press the button	Move swivel arm forwards	Standard
<b>E</b>	Move control lever to the left	Close the grabber	Standard
<b>F</b>	Move control lever to the right	Open the grabber	Standard
<b>G</b>	Press the button	Tilt the grabber back	Standard
<b>H</b>	Press the button	Tilt the grabber forward	Standard
<b>I</b>	Press the button	Turn the grabber clockwise	Standard
<b>J</b>	Press the button	Turn the grabber anticlockwise	Standard
<b>K</b>	Press the button	Raise the log pusher	Option
<b>L</b>	Press the button	Lower the log pusher	Option
<b>M</b>	Press the button	Manual wipe	Standard
<b>N</b>	Press the switch	Fix the grabber	Standard
<b>O</b>	Press the button	Programmed lift arm position is approached	Standard
<b>P</b>	Press the button	Horn	Option

Tab. 27: Controlling the working attachment

## Raising and lowering the log pusher

This equipment is optional.

The log pusher keeps the working area in front of the wheels free of logs and is used to push together the load.

## Setting the lubrication cycles

To maintain the optimum lubrication at the lubrication points on the wheel loader, it is possible to configure different lubrication cycles on the central lubrication system, depending on the operating conditions.

The following lubrication cycles are available:

- Light duty
- Medium duty
- Heavy duty



### Note

If the lubrication cycles cannot be set:  
The software prevents a mode change.

► Contact Liebherr customer service.

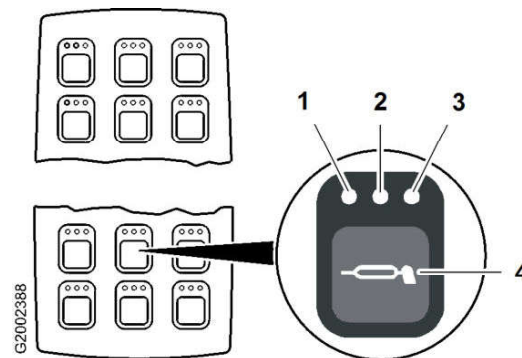


Fig. 293: Setting the lubrication cycles

- |   |                                       |   |                                      |
|---|---------------------------------------|---|--------------------------------------|
| 1 | LED lights up - light-duty operation  | 3 | LED lights up - heavy-duty operation |
| 2 | LED lights up - medium-duty operation | 4 | Central lubrication system button    |

Mode	LED	Lubrication cycle
Light duty	LED 1 lights up	Every 40 minutes
Medium duty	LED 2 lights up	Every 30 minutes
Heavy duty	LED 3 lights up	Every 20 minutes

Tab. 38: Setting the lubrication cycles

- Hold down the button 4 for at least 2 seconds.
  - ▷ Setting mode is active.
- Briefly press the button 4.
  - ▷ The next mode is displayed.
  - ▷ If the button is not pressed for 3 seconds, the currently selected mode is saved.

## Lubrication procedure

After starting the diesel engine and releasing the parking brake, lubrication is activated.

**Note**

Ambient temperature below 0 °C (32 °F)!

- ▶ Make sure the diesel fuel is suitable for cold temperatures.

**WARNING**

Highly flammable consumables!  
Beware of burns.

- ▶ Avoid naked lights and fire.

**NOTICE**

Diesel exhaust fluid in the tank!  
Damage to the engine.

- ▶ Do not start the engine.
- ▶ Contact Liebherr customer service.



Fig. 305: Fuel tank

- 1 Tank filler cap
- 2 Protective cap

- 3 Fuel tank

- ▶ Observe the safety regulations for refuelling.
- ▶ Push off the protective cap 2.
- ▶ Unlock the tank filler cap 1, turn it anticlockwise and take it off.
- ▶ Insert the nozzle completely into the filler pipe and refuel.
- ▶ Put on the tank filler cap 1, turn it clockwise and lock it.

**Note**

Temperature differences can lead to condensation in the fuel tank.

If large temperature differences occur overnight:

- ▶ Completely fill the tank.

**Topping up diesel exhaust fluid**

Make sure that following requirements are met:

- Machine is in operating position.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: [www.heydownloads.com](http://www.heydownloads.com) by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

## Braking

There are two ways to brake the machine:

- Using the engine brake.
- Using the inching brake pedal of the service brake.

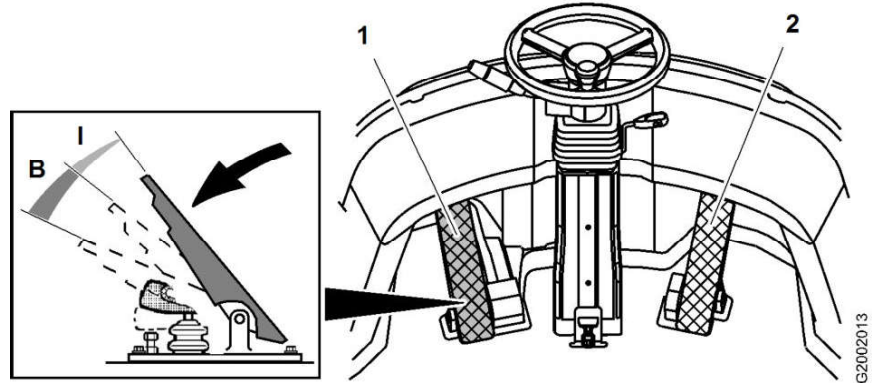


Fig. 318: Braking

1 Inching brake pedal

2 Travelling pedal

To slow down the machine using the engine brake:

- ▶ Reduce the diesel engine speed using the travelling pedal 2.

or

Press the inching brake pedal 1 in range I.

- ▷ The machine is braked.

If the engine brake is not sufficient, you must also brake the machine using the inching brake pedal 1.

- ▶ Press the inching brake pedal 1 in range B.

- ▷ The machine is braked accordingly.

**If you need to brake in an emergency situation:**

- ▶ Push the inching brake pedal 1 all the way down.

- ▷ The machine is sharply braked.

**If the service brake does not function properly:**



### DANGER

Little or no braking effect.  
Risk of fatal injury.

- ▶ Engage the parking brake.
- ▶ Switch off the ignition.

Have the brake system inspected:

- ▶ Contact Liebherr customer service.

**If you leave the machine with the diesel engine running after stopping:**



### DANGER

Beware of the machine rolling away!  
There is a risk of fatal injury.

- ▶ Secure the machine against rolling away.

### 3.3.7 Regenerating the diesel particulate filter

This equipment is optional.

The diesel particulate filter reduces the emission of soot particles. This increases the exhaust counterpressure (load condition) in the filter, which means it must be regenerated. During regeneration, soot particles in the filter are burned off.



**WARNING**

Hot gas at the exhaust pipe!  
Fire.

► Do not carry out regeneration in areas at risk of fire.

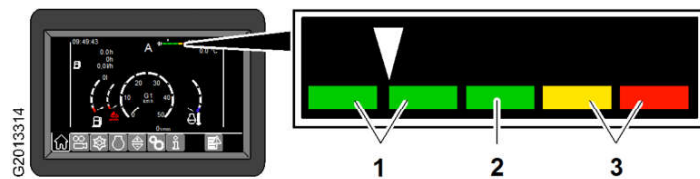


Fig. 331: Diesel particulate filter load condition

- 1 Regeneration not possible in either automatic or manual mode
- 2 Regeneration possible in either automatic or manual mode
- 3 Regeneration only possible in manual mode

Symbol	Meaning	Notes
	High exhaust temperature	Manual regeneration is in progress, which means high exhaust temperatures are generated. Do not turn off the diesel engine if possible.
	Diesel particulate filter regeneration disabled	For use in fire hazard zones or during working cycles with very little engine load.
	Regenerate diesel particulate filter prompt	The diesel particulate filter is contaminated. Manual regeneration can be carried out. Leave the fire hazard zone. Start regeneration as soon as possible.
	Regenerate diesel particulate filter prompt	The diesel particulate filter is heavily contaminated. This results in reduced engine power. Carry out manual regeneration immediately. Leave the fire hazard zone before regeneration.

LBH/12208139/18/09-2019/en

- ▷ Joystick steering is activated.

**Note**

Joystick steering check incomplete or unsuccessful!

- ▶ The machine travel speed is restricted to 8 km/h (5 mph).

## Steering procedure

**DANGER**

Incorrect steering!  
Death, injuries.

- ▶ Only use joystick steering at a speed you can control.

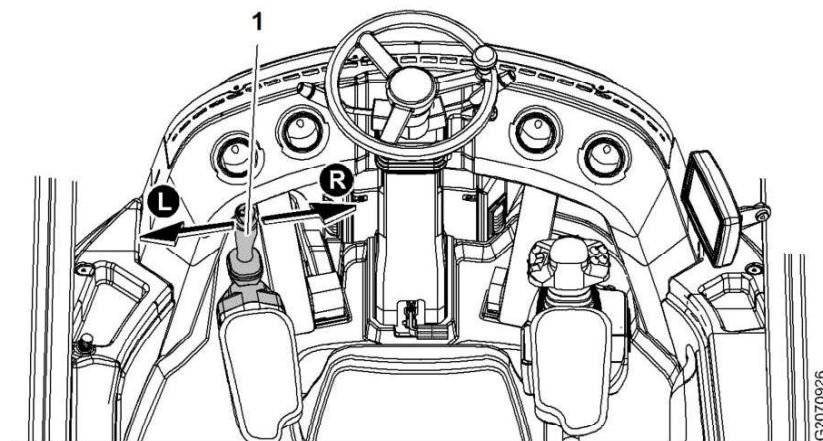


Fig. 355: Steering procedure

**1 Joystick**

- ▶ To turn the machine to the left: move the Joystick **1** in the **L** direction.
- ▶ To turn the machine to the right: move the Joystick **1** in the **R** direction.

- Great caution must be used.

**Note**

If the rear of the machine starts to lift from any reason, the load must be lowered immediately!

### 3.4.4 Log pusher

This equipment is optional.

The log pusher is used to push together the load, in order to pick up the load directly.

(For more information see: [Raising and lowering the log pusher, page 121](#))

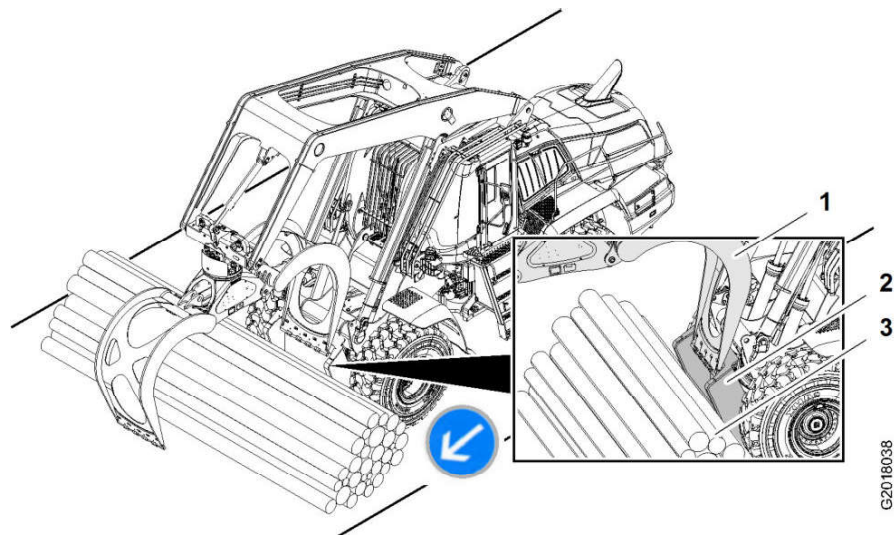


Fig. 365: Log pusher

- |   |            |   |      |
|---|------------|---|------|
| 1 | Grabber    | 3 | Load |
| 2 | Log pusher |   |      |

- ▶ Lower the log pusher 2.
- ▶ Push together the load 3 with the log pusher 2 in the forward travel direction.
- ▶ Pick up the pushed together load 3 with grabber 1.
- ▶ Lift the log pusher 2.

### 3.4.5 Putting down the load

**DANGER**

Beware of falling loads!  
Fatal injury.

- ▶ Always put down loads in longitudinal direction with respect to the machine.
- ▶ Ensure that you are able to leave the danger zone quickly.

- If the machine is stuck or there is no solid ground, a professional towing or recovery contractor must be called.

**Note**

Towing the machine can present problems and is always in the responsibility of the operator.

- ▶ The manufacturer will not be held liable for damage or accidents caused by towing.

There are two different methods of towing:

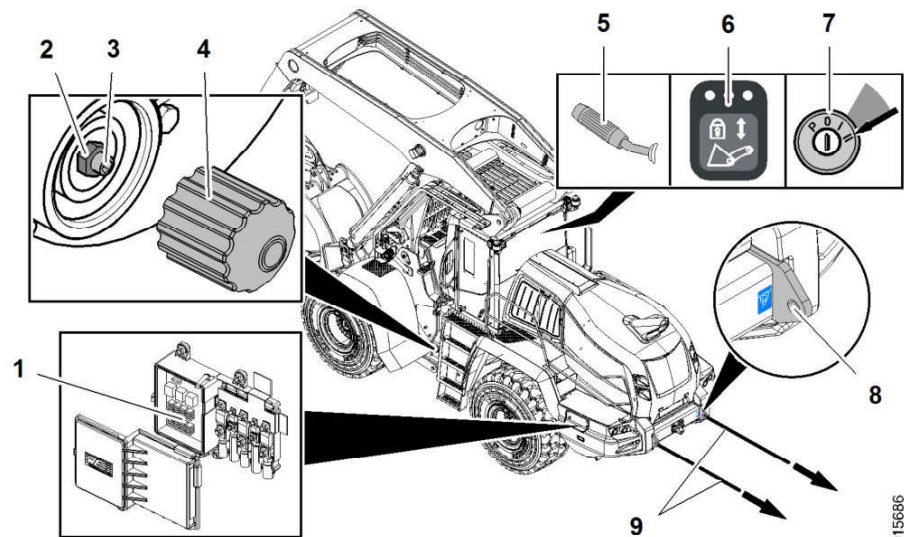
- Towing with the diesel engine running
- Towing with the diesel engine off

**Towing with the diesel engine running**

Keep the towing as short as possible and only do it on solid ground.

Make sure that the following requirements are fulfilled:

- The service brake and steering are working.
- Wheel wedges are available.
- Sufficiently strong slinging gear and towing equipment is available.
- The machine is in the maintenance position.



G2015686

Fig. 374: Towing with the diesel engine running

- |   |                         |   |                                   |
|---|-------------------------|---|-----------------------------------|
| 1 | Fuse board A4a          | 6 | Working hydraulics lockout button |
| 2 | Nut                     | 7 | Starting switch                   |
| 3 | Adjusting screw         | 8 | Lashing points                    |
| 4 | Cover                   | 9 | Slinging gear                     |
| 5 | Travel direction switch |   |                                   |


- ▶ Fasten the slinging gear 9 to the lashing points 8 on both sides.
- ▶ Remove the plug-in fuse F24 on the fuse board 1.
  - ▷ The travel functions of the machine are now out of operation.
  - ▷ The service code appears in the display.

Malfunction	Cause	Remedy
The engine only starts with difficulty.	Leak or insufficient pressure in the low pressure fuel system	Check for leaks. Contact Liebherr customer service.
	Engine compression too weak	Contact Liebherr customer service.
	Heating flange defective (at low temperatures)	Have the heating flange inspected and changed if necessary. Contact Liebherr customer service.
	Malfunction in the electronics	Check the error log of the engine control unit. Contact Liebherr customer service.
The engine turns itself off.	Power supply interrupted	Contact Liebherr customer service.
	Leak or insufficient pressure in the low pressure fuel system	Check for leaks. Contact Liebherr customer service.
	Malfunction in the electronics	Check the error log of the engine control unit. Contact Liebherr customer service.
Low engine power (poor performance)	Problem in the fuel system (clogged, leaking)	Carry out a visual inspection and look for leaks. Change the fuel fine filter. Contact Liebherr customer service.
	Charge pressure too low	Tighten loose clips. Change the seals and hoses. Clean the air filter. Repair the turbocharger. Contact Liebherr customer service.
	Charge air temperature too high (engine control unit automatically reduces the power)	Clean the intercooler Check the fan power. Reduce the ambient temperature. Contact Liebherr customer service.
	Coolant temperature too high (engine control unit automatically reduces the power)	Check that the cooler is clean. Check the fan and the thermostat. Check the coolant level. Contact Liebherr customer service.
	Fuel temperature too high (engine control unit automatically restricts the power)	Contact Liebherr customer service.
	Working more than 1800 m (5905' 6" ft-in) above sea level	There is no remedy, the engine power is automatically restricted.
	Injection valves blocked or do not inject.	Contact Liebherr customer service.
	Engine compression too weak	Contact Liebherr customer service.
	Malfunction in the electronics	Check the error log of the engine control unit. Contact Liebherr customer service.
	Exhaust treatment system clogged	Contact Liebherr customer service.
Poor engine braking	Engine brake valve not working	Contact Liebherr customer service.
	Malfunction in the electronics	Contact Liebherr customer service.

LBH/12208139/18.09.-2019/en

Fuse	Value	Unit	Designation/function
F5	5	A	Additional module output 1 DO1
F6	5	A	Additional module output 1 DO2
F7	5	A	Additional module output 1 DO3
F9	5	A	Emergency mode Vcc logic
F10	3	A	Emergency mode position signal
F11	3	A	Articulation angle sensor 2
F12	3	A	Vcc armrest active
F13	5	A	Steering wheel angle 2 Vcc lock

Tab. 49: Fuses on fuse board A4b in the operator's cab

Symbol	Designation	Symbol	Designation	Symbol	Designation
 b0000763	Observe the operating manual				

Tab. 54: Lubrication chart symbols

## 5.5 Preparatory tasks for maintenance

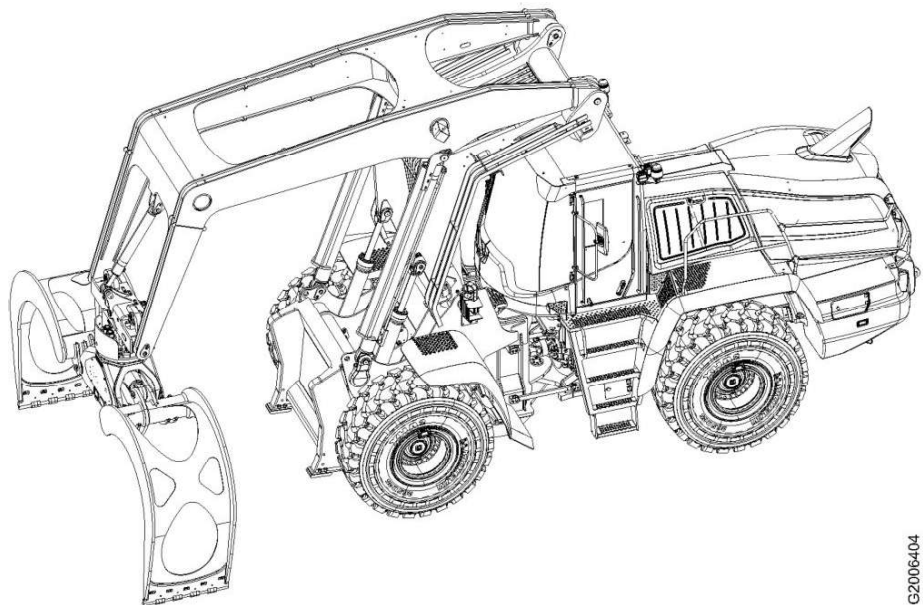
Before performing the various maintenance tasks, move the machine to the maintenance position unless otherwise explicitly specified in the description.

The various maintenance tasks include:

- Lubricating the lift arms and attachment
- Checking the oil level in the engine, transmission, axles, hydraulic tank, etc.
- Changing filters

### 5.5.1 Maintenance position

This is how to move the machine into the maintenance position.



G2006404

Fig. 424: Maintenance position

- ▶ Park the machine on firm, level ground.
- ▶ Completely open the grabber and lower it to the ground.
- ▶ Engage parking brake.
- ▶ Turn off the diesel engine.
- ▶ Take out the ignition key.
- ▶ Turn off the battery main switch.

### 5.5.2 Opening service hatches

#### Opening and closing the engine bonnet

When the engine bonnet is open, you can access the following units:

- Diesel engine
- Splitter box
- Hydraulic tank

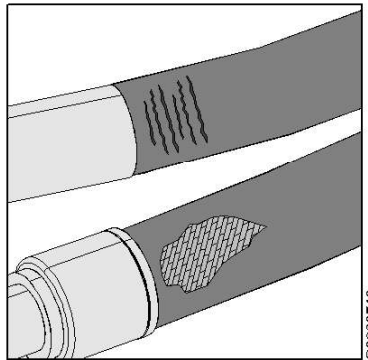
If the condition deteriorates:

- ▶ Have the hydraulic lines replaced by Liebherr customer service.

## Medium damage to the hydraulic lines

### Cracks or cuts up to the steel fabric or steel fabric exposed due to damage to the outer jacket

The damage to the outer jacket (such as cracks, cuts or abrasions) through which the steel fabric is exposed is classified as medium damage if the steel fabric is undamaged. Damage to the steel fabric is classified as severe damage.



*Fig. 434: Cracks or cuts up to the steel fabric or steel fabric exposed due to damage to the outer jacket*

- ▶ Document the damage and observe whether the condition deteriorates.

If the condition deteriorates:

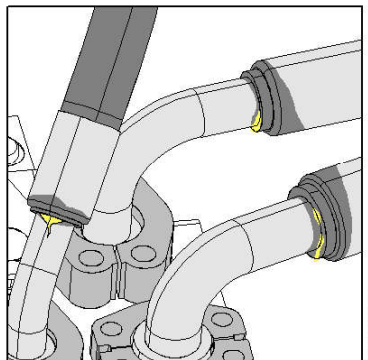
- ▶ Have the hydraulic lines replaced immediately by Liebherr customer service.

If the condition does not deteriorate:

- ▶ Have the hydraulic line replaced within the next 250 operating hours by Liebherr customer service.

### Moist surfaces, slight oil leak visible

Moist spots can be seen on the surface. Slight oil leak or small oil drops are visible. As long as you do not observe a severe oil leak, it is classified as medium damage.



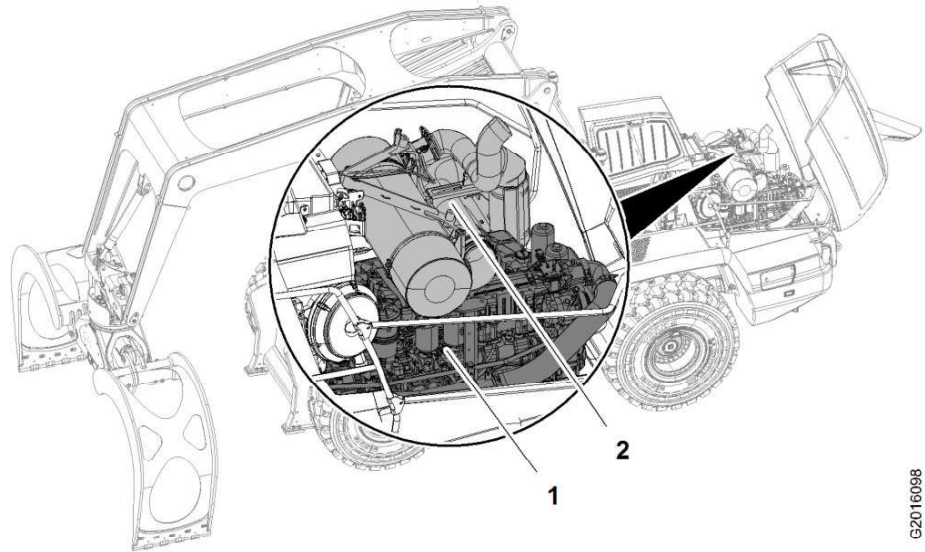
*Fig. 435: Moist surfaces, slight oil leak visible*



**WARNING**

Damaged components!  
Risk of injury.

- ▶ Replace damaged components.
- ▶ Contact Liebherr customer service.



G2016098

Fig. 454: Checking the diesel engine for leaks, contamination and damage

1 Diesel engine

2 Exhaust system

- ▶ Check all the components of the diesel engine **1** and the exhaust system **2** for leaks, contamination and damage.
- ▶ Check that all bolt clips and profile clips on the exhaust system **2** are tight.
- ▶ Look out for crystalline accumulations and deposits on the exhaust system **2**.
- ▶ Remove crystalline accumulation with water and cleaning cloths and have leaks rectified by Liebherr customer service.

**NOTICE**

Always carry out cleaning correctly  
Damage to the cooling system.

- ▶ Do not use hard objects or excessive water pressure.

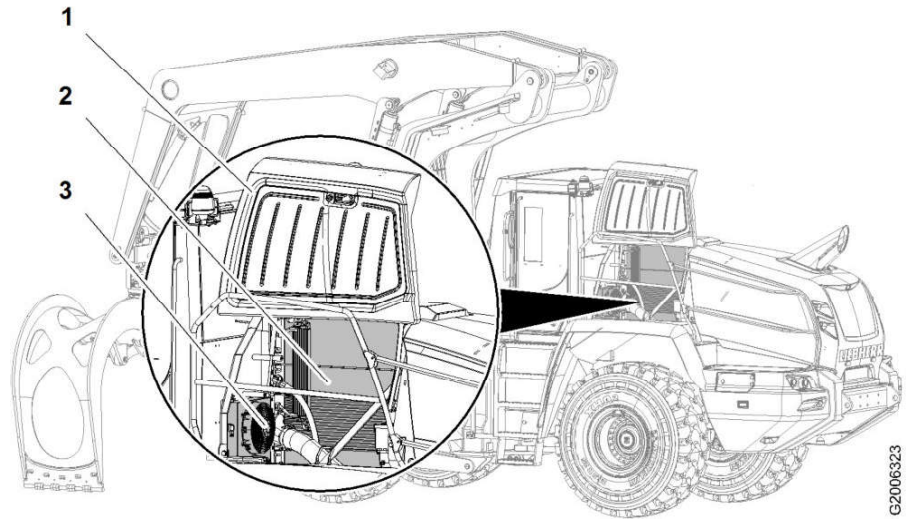


Fig. 462: Cleaning the cooling system

- 1 Cooler hood
- 2 Cooler unit

- 3 Condenser unit

- ▶ Open the cooler hood 1.
- ▶ Clean the cooler units 2 with a high-pressure cleaner or compressed air.
- ▶ Clean the condenser unit 3 with compressed air.
- ▶ Close the cooler hood 3.



## 5.17 Operator's cab, heating and air conditioning

### 5.17.1 Operator's cab: cleaning the fresh and recirculated air filters

Make sure that the following requirements are fulfilled:

- The machine is in the maintenance position.
- The right cab access is extended.
- Suitable protective equipment is used.

#### Cleaning the fresh air filter

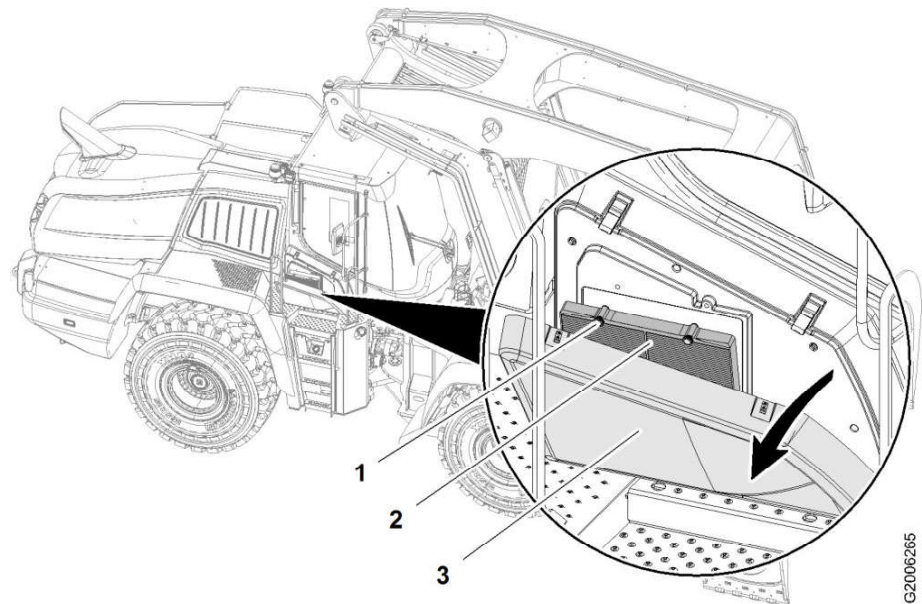


Fig. 480: Cleaning the fresh air filter

- |   |                |
|---|----------------|
| <p>1 Knurled screw (2x)</p> <p>2 Fresh air filter</p> | <p>3 Cover</p> |
|---|----------------|

- ▶ Open the cover 3.
- ▶ Unscrew the knurled screw 1.
- ▶ Take out the fresh air filter 2.
- ▶ Clean (blow out) the fresh air filter 2.
- ▶ Put in the clean fresh air filter 2.
- ▶ Screw in the knurled screw 1.
- ▶ Close the cover 3.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: [www.heydownloads.com](http://www.heydownloads.com) by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL