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Operating instructions

Crawler loader
LR 634 with steering pedal

from S/N: 13743

Document identification

ORIGINAL OPERATING MANUAL

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Address

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Performance

Generation 4 Liebherr crawler loaders provide exceptional handling performance even in difficult terrain. Fast work cycles, an optimum bucket capacity and outstanding machine handling under load give them optimum operating properties.

Excellent handling performance

Outstanding break-out forces

The excellent penetration characteristics of the bucket and the powerful Z-bar linkage ensure optimum loading performance.

Optimal bucket filling and high tipping load

The large tipping angle of the bucket and high stability ensure optimum filling capacity in every work cycle, especially when loading trucks.

Rapid work cycles

Rapid acceleration, short cycle times and semi-automatic operation result in a measurable productivity advantage.

Precision earthmoving

Optimal dozing properties

Excellent precision control of the load-sensing power hydraulics and the machine's smooth operation enable precise dozing work.

Good climbing ability

An extremely low centre of gravity means that steep inclines and travel on slopes, for instance when constructing embankments, do not pose a problem.

Impressive manoeuvrability

Even under the most confined conditions, the machine can be steered and positioned with precision, including counter-rotation.

Excellent dozing performance

High performance without interruption

The high power reserves of the diesel engine and hydrostatic travel drive offer maximum power in every situation. This is important during dumping tasks, backfilling and earthmoving.

High traction

The combination of a long track frame and continuously variable speed control afford high drawbar pull transmission and pushing power.

High bucket filling level

The high bucket filling level enables optimal topsoil removal and dozing of different material layers at all times.

A diversity of applications

- Numerous equipment options: 4in1 bucket, heavy-duty bucket, light materials bucket or standard bucket, towing hitch, winch, ripper, and more.
- Optional quick-release coupling: A wide range of attachments can be swapped easily and conveniently, making crawler loaders the ideal all-round machine.

Liebherr hydrostatic drive

- Hydraulic variable-displacement pumps and motors are connected independently in two closed circuits and efficiently transfer diesel engine power to both final drives.
- Steering behaviour is adapted to the travel speed. This ensures maximum machine productivity with a full bucket, even on turns.

Basic machine

Loader cycle times

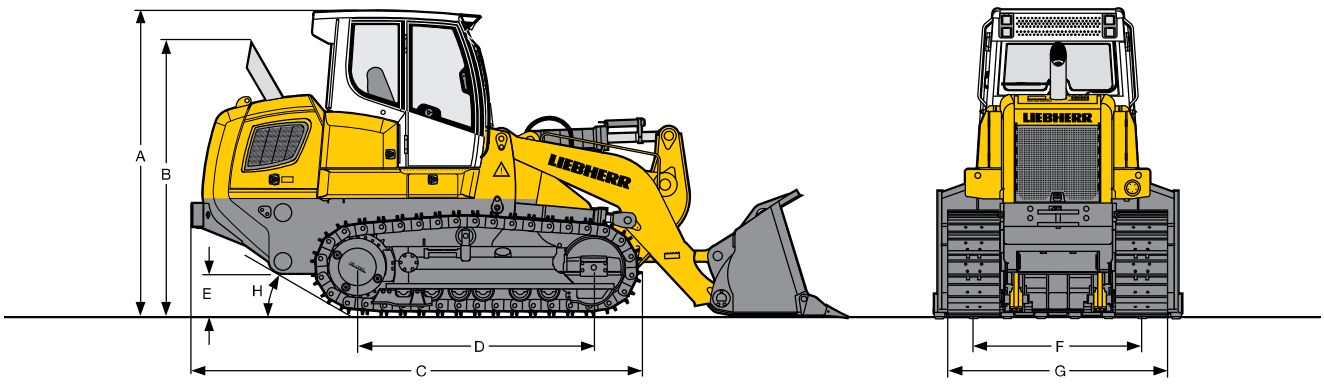
	LR 624	LR 634
Lifting	6.3 s	6.4 s
Bucket dumping	1.3 s	2.2 s
Lowering[1]	2.7 s	2.8 s
Total cycle time[2]	8.5 s	8.1 s

[1] Float position and empty bucket, [2] lifting and dumping together

Refill capacities

	LR 624	LR 634
Fuel tank	279 l / 61.4 Imp. gal	360 l / 79.2 Imp. gal
Cooling system	36 l / 7.9 Imp. gal	36 l / 7.9 Imp. gal
Engine oil (with filter)	30 l / 6.6 Imp. gal	30 l / 6.6 Imp. gal
Splitter box	2.5 l / 0.5 Imp. gal	3.1 l / 0.7 Imp. gal
Hydraulic tank	76 l / 16.7 Imp. gal	83 l / 18.3 Imp. gal
Pivot shaft, each	5 l / 1.1 Imp. gal	5 l / 1.1 Imp. gal
Final drive, each	15 l / 3.3 Imp. gal	20 l / 4.4 Imp. gal
Duo cone seal, each	3.5 l / 0.8 Imp. gal	3.3 l / 0.7 Imp. gal

Dimensions



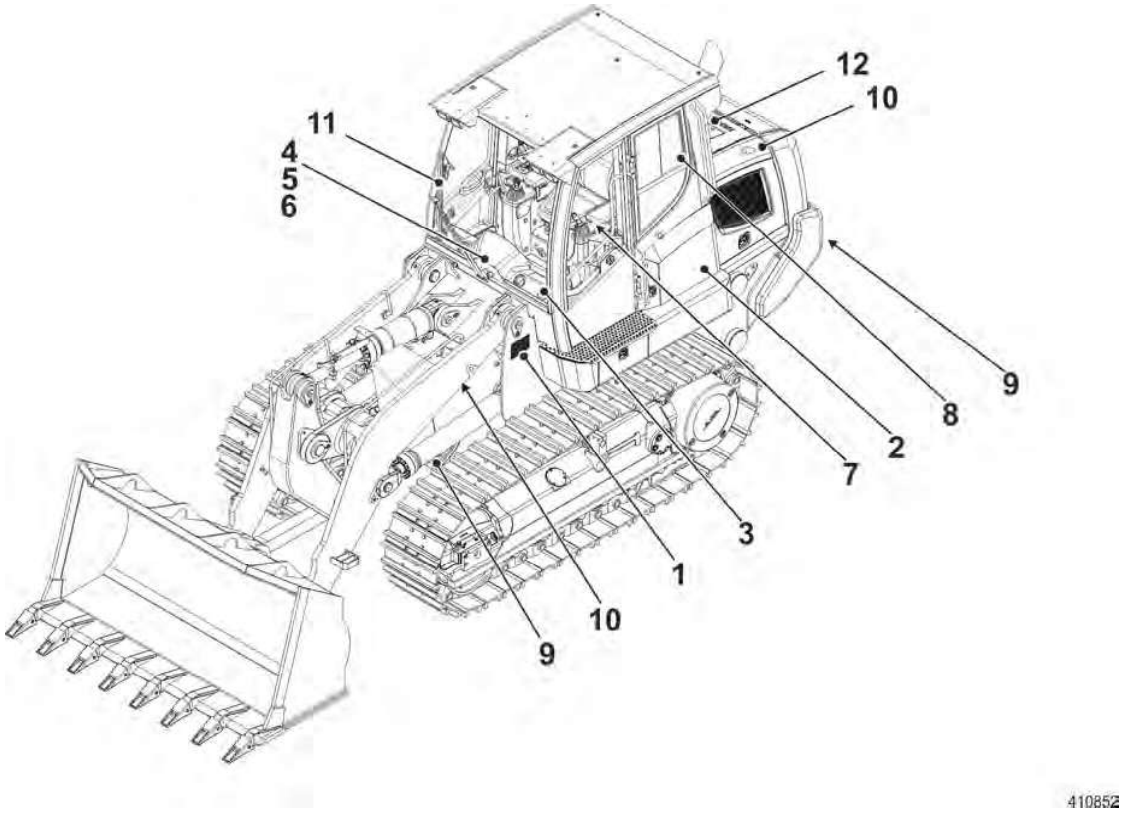
Dimensions		LR 624	LR 634
A Height over cab	mm	3,150	3,310
	ft in	10’4”	10’10”
B Height over exhaust pipe	mm	2,806	2,952
	ft in	9’2”	9’8”
C Length to front of track	mm	4,600	4,867
	ft in	15’1”	16’
D Distance idler/sprocket center	mm	2,483	2,564
	ft in	8’2”	8’5”
E Ground clearance	mm	430	458
	ft in	1’5”	1’6”
F Track gauge	mm	1,740	1,800
	ft in	5’9”	5’11”
G Machine width,	mm	2,248	2,308
with track shoes 508 mm / 20”	ft in	7’5”	7’7”
Machine width,	mm	2,300	2,360
with track shoes 560 mm / 22”	ft in	7’7”	7’9”
Machine width,	mm	–	2,410
with track shoes 610 mm / 24”	ft in		7’11”
H Approach angle		30°	30°

1.2.2 Preload and tightening torques for screws with fine metric thread according to factory standard WN 4037 I

Fine metric thread	Preload value F_M based on grades in N			Tightening torques M_A based on grades in Nm			Wrench size for hex head screws		Wrench size for socket head screws	
	8.8	**10.9**	**12.9**	**8.8**	**10.9**	**12.9**	**mm**	**inch**	**mm**	**inch**
M 8 x 1	18 800	27 500	32 500	24,5	36	43	13	1/2	6	--
M 9 x 1	24 800	36 500	42 500	36	53	62	--	--	--	--
M 10 x 1	31 500	46 500	54 000	52	76	89	17	11/16	8	5/16
M 10 x 1,25	29 500	43 000	51 000	49	72	84	17	11/16	8	5/16
M 12 x 1,25	45 000	66 000	77 000	87	125	150	19	3/4	10	--
M 12 x 1,5	42 500	62 000	73 000	83	122	145	19	3/4	10	--
M 14 x 1,5	61 000	89 000	104 000	135	200	235	22	7/8	12	--
M 16 x 1,5	82 000	121 000	141 000	205	300	360	24	--	14	9/16
M 18 x 1,5	110 000	157 000	184 000	310	440	520	27	1 - 1/16	14	9/16
M 18 x 2	102 000	146 000	170 000	290	420	490	27	1 - 1/16	14	9/16
M 20 x 1,5	139 000	199 000	232 000	430	620	720	30	1 - 3/16	17	--
M 22 x 1,5	171 000	245 000	285 000	580	820	960	32	--	17	--
M 24 x 1,5	207 000	295 000	346 000	760	1 090	1 270	36	1 - 7/16	19	3/4
M 24 x 2	196 000	280 000	325 000	730	1 040	1 220	36	1 - 7/16	19	3/4
M 27 x 1,5	267 000	381 000	445 000	1 110	1 580	1 850	41	1 - 5/8	19	3/4
M 27 x 2	255 000	365 000	425 000	1 070	1 500	1 800	41	1 - 5/8	19	3/4
M 30 x 1,5	335 000	477 000	558 000	1 540	2 190	2 560	46	1 - 13/16	22	7/8
M 30 x 2	321 000	457 000	534 000	1 490	2 120	2 480	46	1 - 13/16	22	7/8
M 33 x 1,5	410 000	584 000	683 000	2 050	2 920	3 420	50	2	24	--
M 33 x 2	395 000	560 000	660 000	2 000	2 800	3 300	50	2	24	--
M 36 x 1,5	492 000	701 000	820 000	2 680	3 820	4 470	55	2 - 3/16	27	1 - 1/16
M 36 x 3	440 000	630 000	740 000	2 500	3 500	4 100	55	2 - 3/16	27	1 - 1/16
M 39 x 1,5	582 000	830 000	971 000	3 430	4 890	5 720	60	2 - 3/8	27	1 - 1/16
M 39 x 3	530 000	750 000	880 000	3 200	4 600	5 300	60	2 - 3/8	27	1 - 1/16

1.2.3 Tightening torques for cutting edges, end bits, bolt-on

Tightening torque / ft. lbs.	Tightening torque / Nm	inch	mm
200 +/- 30 ft. lbs.	270 +/- 40 Nm	5/8"	16 mm
350 +/- 45 ft. lbs.	475 +/- 60 Nm	3/4"	19 mm
550 +/- 65 ft. lbs.	750 +/- 90 Nm	7/8"	22 mm
825 +/- 110 ft. lbs.	1125 +/- 150 Nm	1"	25 mm
1350 +/- 220 ft. lbs.	1850 +/- 300 Nm	1-1/4"	32 mm



Location of reference signs

1 Data tag / CE label
2 Lubrication chart
3 Sign Travel hydraulic
4 Sign Working hydraulic
5 Sign 4 in 1 bucket
6 Sign Ripper
7 Sign Rops / Fops
8 Sign Sound protection
9 Sign Rigging point
10 Sign Lifting point
11 Sign Emergency exit
12 Sign Coolant

CE label

Sign Conformity mark - CE

The sign is included in the data tag on the left hand side on the main frame.
Shows the conformity to EU machine regulations.

27. Danger of accidents due to restriction of vision for large machines!
Take suitable measures to ensure a safe working application of the machine on the construction site.

28. Utilize only experienced personnel to attach loads and direct crane operators. The person giving signals must be visible to the operator or be in direct voice contact with the operator.

2.4.7 Machine parking safety

1. Park the machine only on firm and level ground. If it becomes necessary to park the machine on a grade, it must be properly blocked with wedges to secure it and prevent any unintentional movement.
2. Lower the attachment to the ground and lightly anchor it in the ground.
3. Bring all operating levers and controls into neutral position, place the safety lever up and turn the engine off, as outlined in the Operating Manual, before you leave the operator's seat.
4. Lock the machine, remove all keys and secure the machine against vandalism and unauthorized use.
5. Never park the machine in such a way as to block access to entrances, exits, ramps, fire hydrants, etc.

2.4.8 Machine transporting safety

1. Use only safe transportation and lifting devices with adequate carrying load capacity.
2. Park the machine on level ground and use wedges to hold chains or wheels.
3. If necessary, remove part of the attachment of the machine for transport.
4. Never use a ramp that is steeper than 30° to move the machine onto the transporting vehicle, the ramp should be covered with wooden planks to prevent slipping.
5. Before moving onto the ramp, remove any snow, ice and / or mud from chains or wheels.
6. Align the machine with the ramp.
7. Use another person as a guide to signal you, the operator. Move very slowly and carefully towards the ramp and the transporting vehicle.
8. Raise the attachment and move onto the ramp. Hold the attachment as close as possible to the loading platform.
9. After the loading procedure, lower the attachment onto the trailer platform.
10. Secure the machine and all remaining parts with chains and wedges to prevent any slipping or movement during transport.
11. Relieve pressures from hydraulic liens and hoses, remove the ignition key, lock the operator's cab and covers before leaving the machine.
12. Carefully check out the transporting route beforehand, check any regulations regarding width, height and weight.
13. Make sure that there is enough clearance underneath all bridges and underpasses, utility lines and tunnels.
14. During off loading, use the same care and caution as during the loading procedure.
Proceed as follows:

3. Control, instrumentation

3.1 Location of controls and instrumentation

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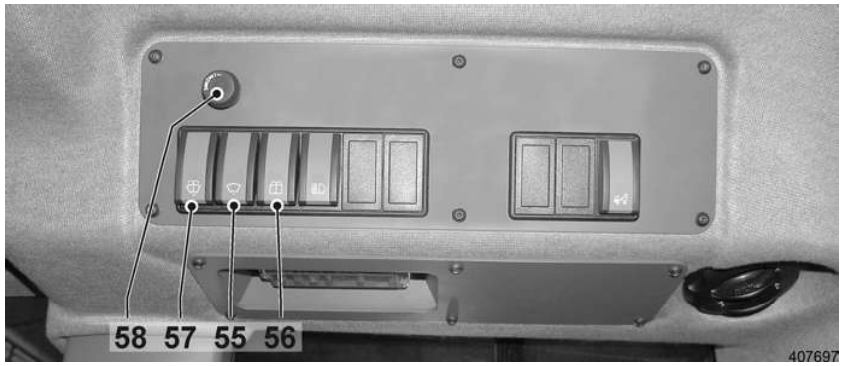
Scroll key

53 Scroll key

– The service codes can be called up by pressing the scroll key, with the starter key in contact position. The Service codes are shown in the LC display. Maximum 10 service codes are shown in the display. The current service code moves the previous one back by one place. After 30 seconds, the display changes automatically to standard display (speed stage / RPM) or it can be switched manually to the standard display by pressing the scroll key for 3 seconds.



Roof console, right

55 Switch - windshield wiper, front

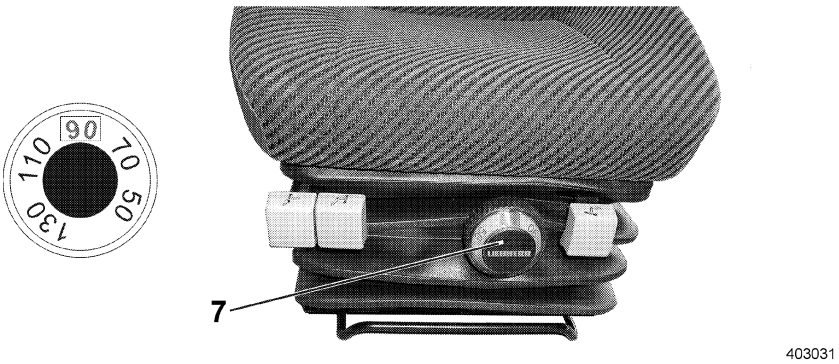
Turn on / off

56 Switch - windshield wiper, rear

Turn on / off

57 Switch - windshield wiper intermittent / washer system

Stage 1: Continuous wipe



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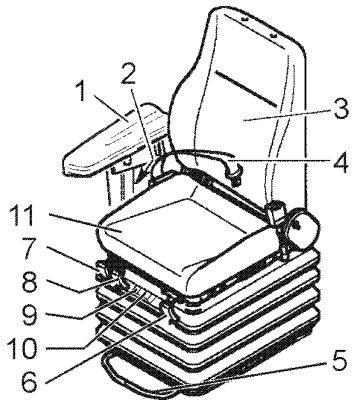
Adjustment - seat suspension

7 Knob - Seat suspension

- Set the body weight of the operator with knob 7.

3.2.5 Operator's seat - air cushioned

(Optional equipment)



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Operator's seat - main components and control elements

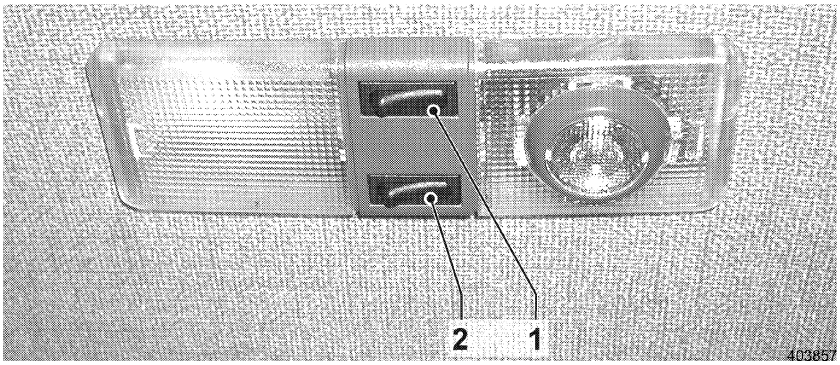
1 Armrest
2 Adjustment - armrest
3 Backrest
4 Seatbelt
5 Lever - horizontal adjustment
6 Lever - adjustment - backrest
7 Lever - incline position - front
8 Lever - incline position- rear
9 Button - seat suspension
10 Button - back support
11 Seat surface

Individual adjustment for ergonomic seat position

The operator's seat can be adjusted for optimum operator comfort.

Horizontal adjustment

The seat can be moved forward or backward with the lever 5 on the front of the operator's seat.



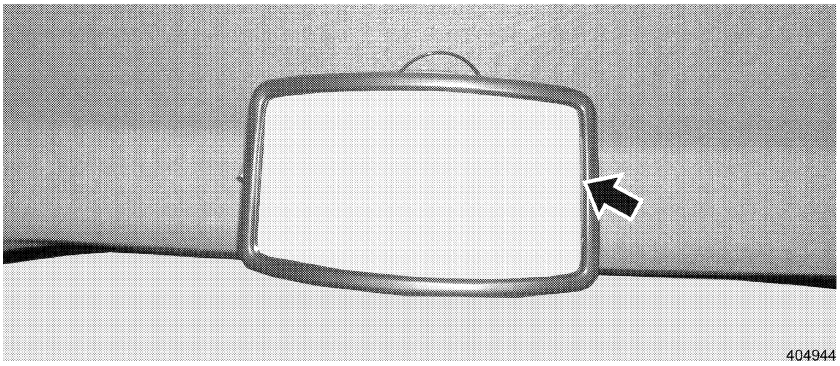
Interior light - reading lamp

- Interior light: Turn on / off with switch 1.
- Reading lamp: Turn on / off with switch 2.

3.2.12 Rear view mirror

Adjustment of mirror

The operator's cab is equipped with a rear view mirror.



Adjustment - mirror

- Adjust the mirror before operating the machine.

3.2.13 Electrical windshield wipe and washer system

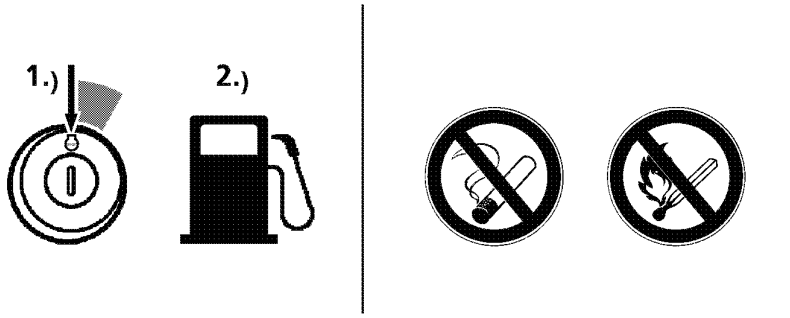
The machine is equipped with an electrical windshield washer system for the front window and the rear window as well as for the doors.
It consists primarily of the control elements, the windshield wipers, the reservoir and the nozzles for the windshield washer fluid.
Make sure that the electrical system of the machine is turned on before actuating the windshield wiper and washer system.

In case of freezing temperatures, before turning the windshield wipers on for the first time, check if the windshield wiper blades are not frozen onto the windshield.

To avoid condensation in the fuel tank, always refuel after work or after a shift change.

Add Diesel fuel with the refueling pump

Special equipment

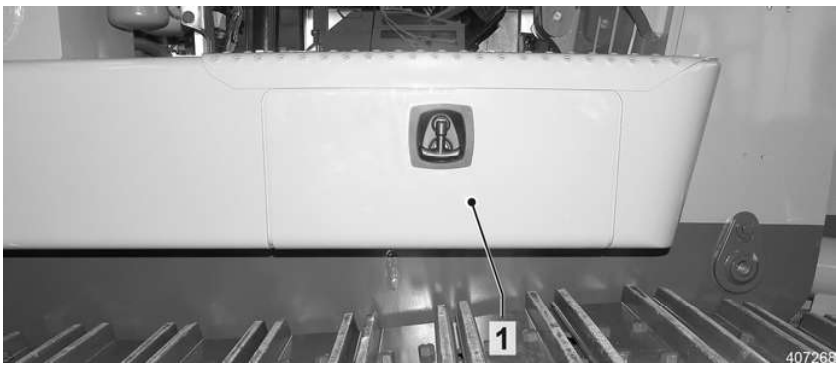


Refueling safety

Danger

During refueling, there is a danger of fire and explosion.
! Do not smoke and avoid open flames when refueling.
! Add fuel only when the Diesel engine is turned off.

- Make sure to observe all safety guidelines for refueling. See also: Chapter Safety guidelines.

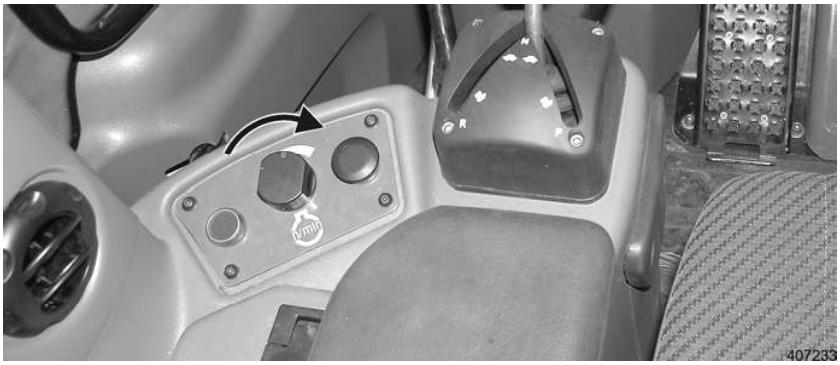


Access – refueling pump

Refueling procedure

The refueling pump is located on the right hand side in the step.

- Open the right step door 1.



Throttle control – full load

- Set the throttle control to full load.

– Turn the throttle control to the stop to the right.
– Work with the machine always at full engine RPM. Only in some cases should the machine be operated at reduced engine RPM.

The machine has now ready to travel.

Caution

If the Diesel engine is operated without a load, then it will not reach the required operating temperature and the piston rings and cylinder bushings will not run in optimally.

! Turn the Diesel engine off when the machine is not operated.

Preselection of speed ranges

The machine is equipped with a pressure switch on the operator's platform to preselect the travel speed. Press to reduce the maximum travel speed, which can be obtained. The maximum travel speed, which can be obtained, is shown in the LC display.

– With the travel joystick in zero position or forward position, the display shows the maximum obtainable speed for forward travel.
– With the travel joystick in reverse position, the display shows the maximum obtainable speed for reverse travel.

The speed can also be selected while driving.
When shifting back from full travel speed, the machine is hydrostatically slowed down.

Low speed range

Caution

In constantly heavy push application and when working on slopes, switch to the lower speed range.

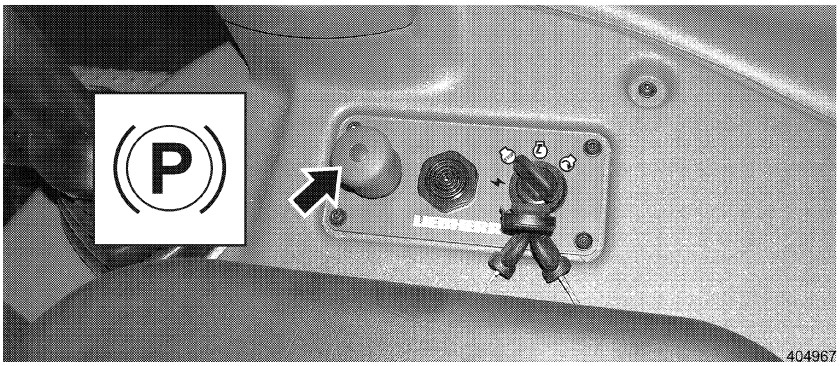
! Drive on slopes at no more than 4 km/hr.

Caution

Danger of accident if the machine stops suddenly.
The machine stops suddenly.
! Always wear the seat belt before operating the machine.

Stop the travel drive

In dangerous or unclear situations, the travel drive can be stopped by pressing the emergency off button.



Emergency off button

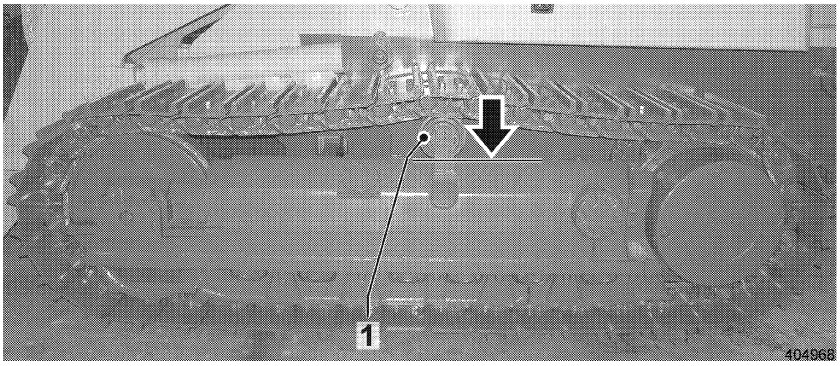
- Press the emergency off button

– The travel drive is stopped abruptly, the Diesel engine continues to run. The attachment can still be moved.

Continue to work

- Move the travel joystick to neutral position.
- Lift the emergency off button until it engages.
- Deflect the travel joystick into the desired direction. See also section "Travel".

3.3.8 Guidelines for working in water



Lower edge - carrier roller

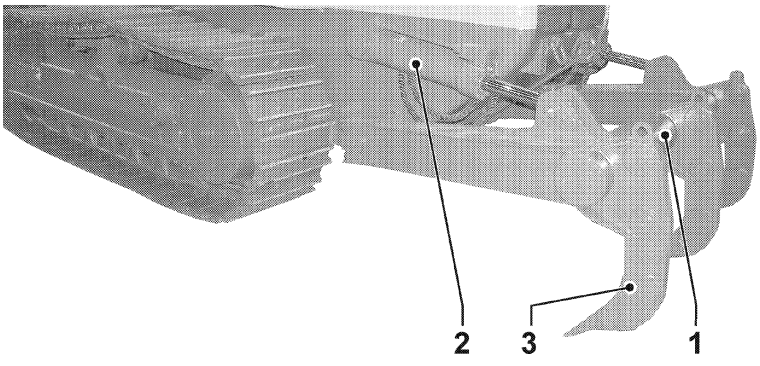
When driving through wet areas or when working in water, the maximum fording depth (lower edge of carrier roller 1) may not be exceeded.

- After working in water, lubricate all lube points.

– for all digging work
– to grasp bulky items
– to dump in open condition
– to doze
– for larger dumping height

The manufacturer (or supplier) is not responsible for any damage, which is the result of non-intended or inappropriate use (such example breaking out rocks, knocking in poles or attaching load tackle).

Control of the ripper



Ripper

1 Pull bar
2 Hydraulic cylinder
3 Ripper tooth

The ripper is operated via the ripper control lever on the right hand side of the operator's seat.

Ripper control lever

Lower the ripper

- Push the ripper control lever to the front in direction - e -.

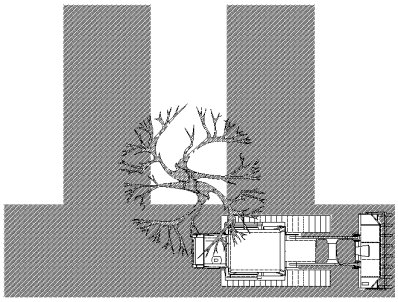
– The ripper is lowered.

Raise the ripper

- Pull the ripper control lever to the rear in direction - f -.

– The ripper is raised.

Rear winch operation



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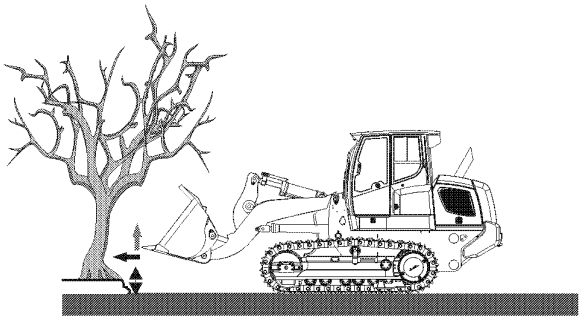
Cut roots

Felling of trees

- Clear the surrounding area.
- Cut the tree roots on the opposite and parallel to the desired drop direction with the bucket.

Caution

Danger of accidents due to falling trees.
! As soon as the tree starts to fall, back up immediately!
! Do not move on top of the root system of the falling tree.



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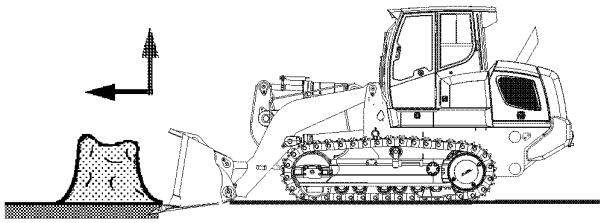
Felling trees

- Slowly move towards the tree in the direction you want the tree to fall, with the bucket raised.



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Removal of tree stumps

- Remove the retaining plates of the bearing pin on the left and right hand side of the bucket arm.

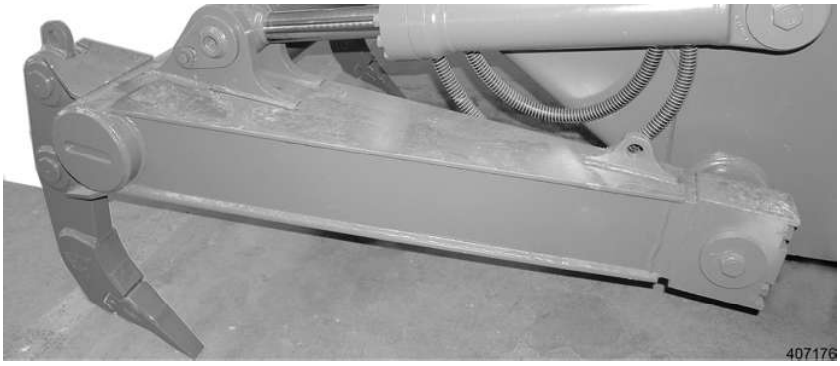
Lock screws

- Loosen the lock screws on the bucket arm and drive out the bearing pin from the inside to the outside.
- Carefully move the machine backward until the bucket stands by itself.

Install in reverse order.

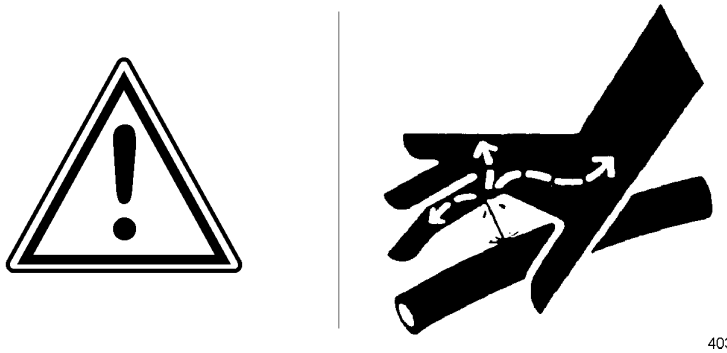
– If the attachment is to be stored for a longer period of time, protect all parts from corrosion.

3.7.3 Removal and installation of ripper



Lower the attachment to the ground

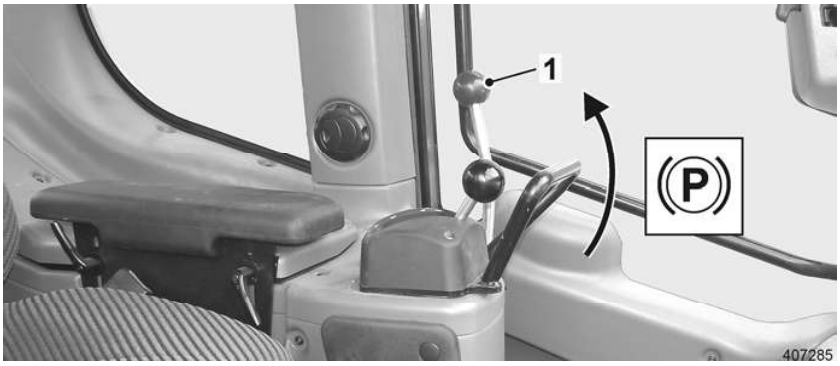
- Lower the ripper to the ground.



Hydraulic pressure

If the indicator light – travel brake does not turn off, then the towing procedure must be repeated from the point where the air pressure cartridge was inserted.

– The pressure in the system is not sufficient to vent the brake.



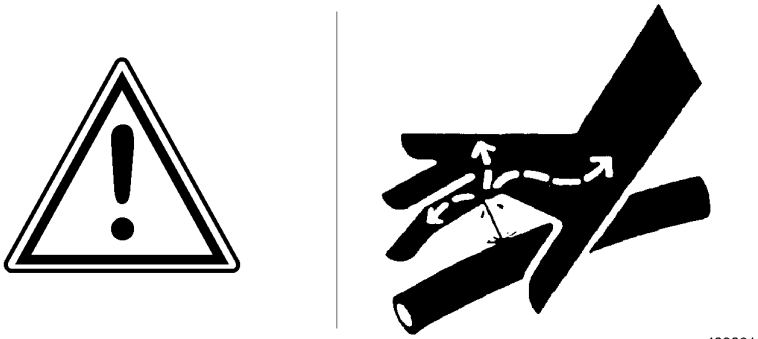
Safety lever up

After the towing procedure

- Move the travel joystick to neutral position.

– The parking brake is applied.
– Indicator light – Travel brake must light up.

- Press the emergency off button.
- Move the safety lever up.
- Turn the ignition off



Hydraulic pressure

Caution

! Before removing the brake adapter, relieve the hydraulic pressure in the system.

– Relieve the pressure in the hydraulic system by moving the travel joystick several times in forward and reverse direction.
– Carefully remove the brake adapter.

Working attachment

Problem / error	Cause	Remedy
Cylinder gives way under load	Piston seal in cylinder defective	Overhaul cylinder
PR-chain scrapes on push frame	Blade adjustment imperfect	adjust correctly
Excessive bearing play on attachment	Bearing points worn	Replace bearing parts

Maintenance / inspection at operating hours							Work to be carried out	Performance guideline
at delivery	every 8 - 10	every 50	every 250	every 500	every 1000	every 2000	**by maintenance personnel** ■ first and only interval ● Repeat interval **by authorized expert personnel** ❑ first and only interval ❍ Repeat interval **OI - Operating instructions** **SM - Service Manual** **hrs. - Operating hours**	
Working attachment								
❑	●	●	●	❍	❍	❍	Check cutting edges, end bits and ripper teeth for wear - make sure attachments are suited to application	OI
				❍	❍	❍	Check all bearing points for play / wear	OI
		■		❍	❍	❍	Check screws, nuts and pin retainers for tight seating	OI
				❍	❍	❍	Check attachment for intentional damage	OI
General								
❑		●	●	❍	❍	❍	Lubricate all lube points according to the lubrication chart - Shorten interval as necessary	OI
❑				❍	❍	❍	Check the entire machine for correct maintenance and proper condition	OI
❑							Explain machine documentation, especially operating instructions / safety guidelines to operating personnel	OI

1) For oil specification and viscosity, refer to chapter "Lubricants and service items".

Caution

Improper mixing of various products can impair the properties of the coolant and damage the cooling system.
- Use only approved products, do not mix different products.
- Never mix silicate containing and silicate free products.
- If the Liebherr product is not available locally:
  Consult with Liebherr Service; use products according to the "Coolant specification for Liebherr Diesel engines".

Approved corrosion inhibitors without antifreeze protection

In **exceptional cases** and **in constant ambient temperatures above freezing,** such as in tropical regions, where no approved corrosion inhibitor / antifreeze fluids are available, the water must be mixed with the following inhibitors for coolant:
- Product DCA 4 (Diesel Coolant Additives 4)
- Product Caltex / Chevron / Havoline / Total

In this case, the coolant must be changed annually.
Check the concentration during maintenance work and correct, if necessary.

Caution

Improper mixing of various products can impair the properties of the coolant and damage the cooling system.
- Use only approved products, do not mix different products.
- Never mix silicate containing and silicate free products.
- If the Liebherr product is not available locally:
  Consult with Liebherr Service; use products according to the "Coolant specification for Liebherr Diesel engines".
- Drain the entire coolant before changing from corrosion inhibitor antifreeze to corrosion inhibitor or vice versa.

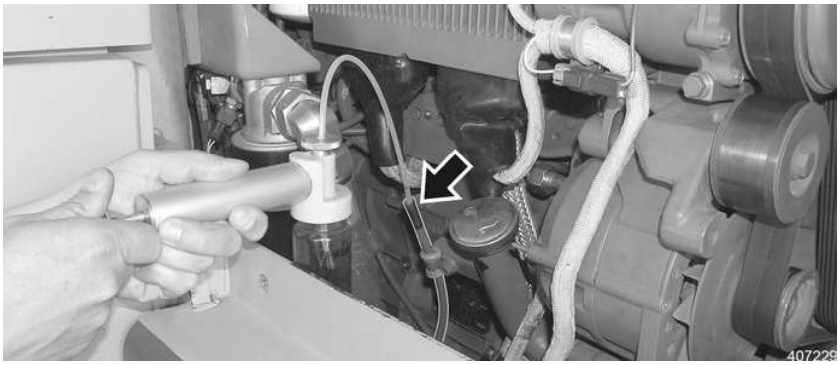
Product description	Manufacturer
DCA 4 Diesel Coolant Additives	Fleetguard / Cummins Filtration
Caltex XL Corrosion Inhibitor Concentrate	Chevron Texaco
Chevron Heavy Duty Extended Life Corrosion Inhibitor Nitrite Free (ELC)	Chevron Texaco
Havoline Extended Life Corrosion Inhibitor (XLI)	Chevron Texaco
Total WT Supra	Total WT Supra

5.3.5 Hydraulic oil

According to the following data, the following oils can be used as hydraulic oil.
Maximum water content of hydraulic oil: less than 0.1 %

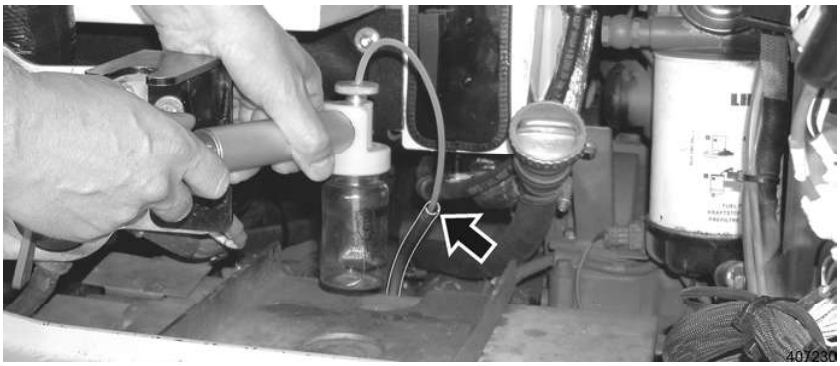
Liebherr Hydraulic oil

recommends the following hydraulic oils for the machines, depending on the temperature range:



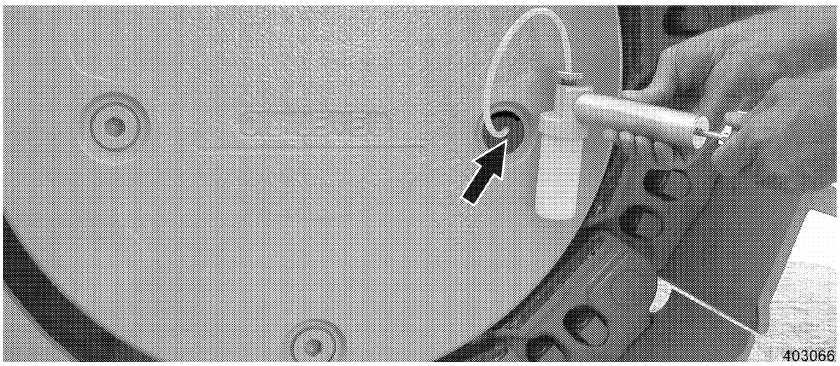
Diesel engine oil dipstick tube

a) with manual suction pump via dipstick tube or
b) take oil sample during oil change from discharging oil flow.



Splitterbox - dipstick tube

Splitterbox a) With manual suction pump via dipstick tube or
b) take oil sample during oil change from discharging oil flow.

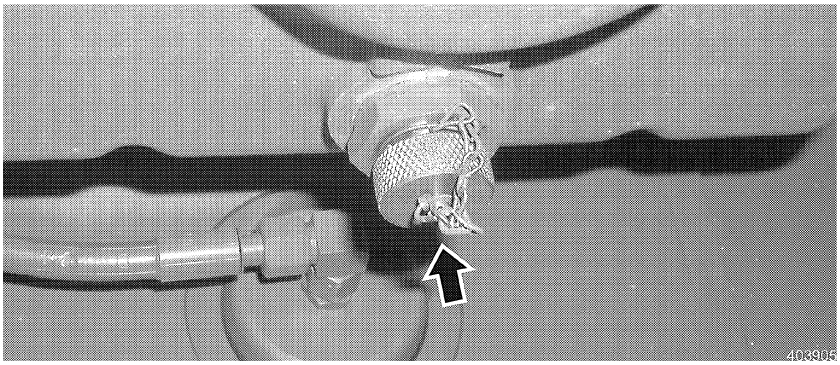


Oil filler port

Travel gear With manual suction pump via oil filler port

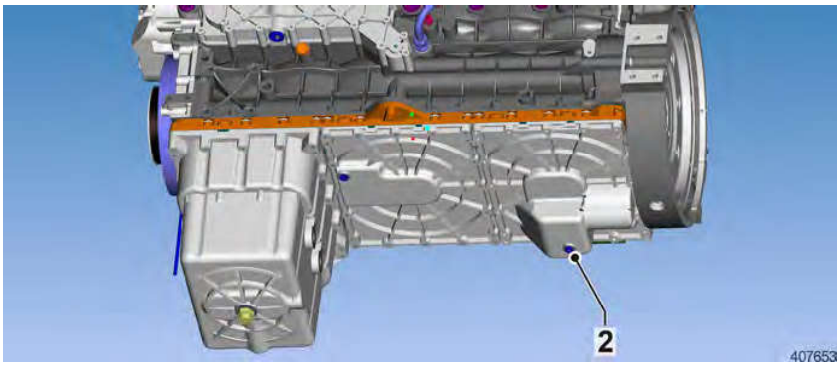
Oil analysis

An oil analysis should include at least the following data:



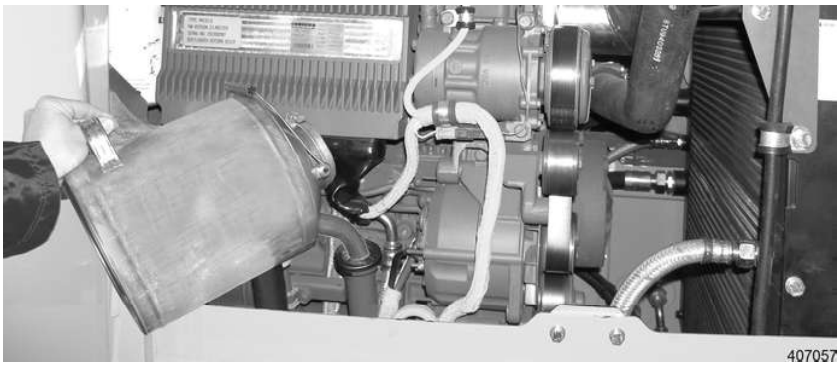
Oil drain valve

- Install the oil drain hose to the oil drain valve and drain the oil into the container.
- Remove the oil drain hose and reinstall the cap on the oil drain valve.
- To be able to drain the used engine oil completely from the Diesel engine, the oil must also be drained from the oil pan (small sump).



Plug

- Remove plug 2.
- Allow the oil (approx. 3 liter) to drain into the prepositioned container.
- Reinstall plug 2.
- Reinstall the belly pan cover.



Add oil

- Add clean oil via the filler neck 1 to the MAX mark on the dipstick.
- Clean the oil filler cap, place it on the oil filler neck 1 and tighten.

Check the fan

- Check the fan for damage.

5.6.4 Check the corrosion inhibitor / antifreeze fluid concentration in the coolant

The coolant must contain all year round at least 50 % but not more than 60 % of antifreeze concentration. This corresponds to an antifreeze protection to approx. -37°C.
Make sure that:
– the machine is in maintenance position,
– the engine compartment door is open,
– the testing tool is available,

Procedure to check the antifreeze

Caution

Danger of scalding due to splashing coolant!
! Open the cap of the expansion tank only when the Diesel engine has cooled off - the coolant temperature display on the segment field of the display unit should be in the lower third of the segment field.

- Carefully open the cap on the expansion tank.
- Take a coolant sample and check the antifreeze concentration with the testing tool.
- If the antifreeze concentration is not reached:
  correct the mixing ratio of the antifreeze in the coolant.

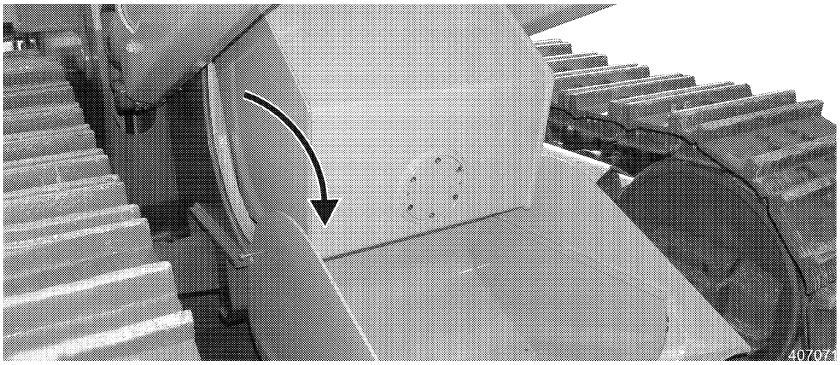
Procedure to correct the antifreeze concentration

– For coolant fill quantity – see quantities in the chart.

- If the antifreeze concentration is too low:
  Drain the coolant and refill clean antifreeze according to the diagram shown.

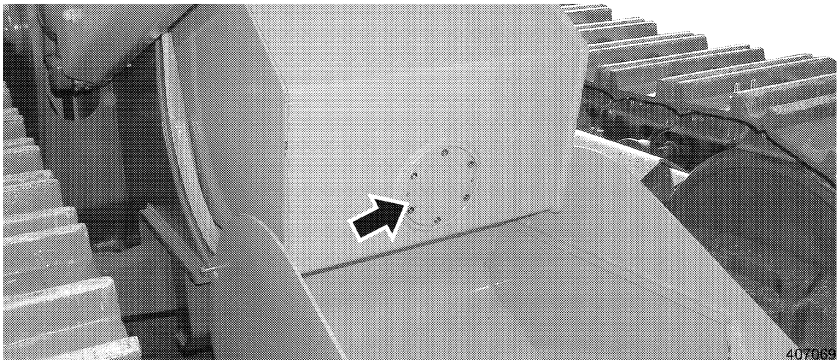
Caution

Danger of damage to the Diesel engine!
If the corrosion inhibitor / antifreeze fluid concentration is too high, then the cooling action is reduced. This in turn can cause damage to the Diesel engine!
! Never use more than 60% corrosion inhibitor / antifreeze fluid.



Front cover

- Fold the front cover forward very carefully.



Cleaning cover

- Remove the cleaning cover.

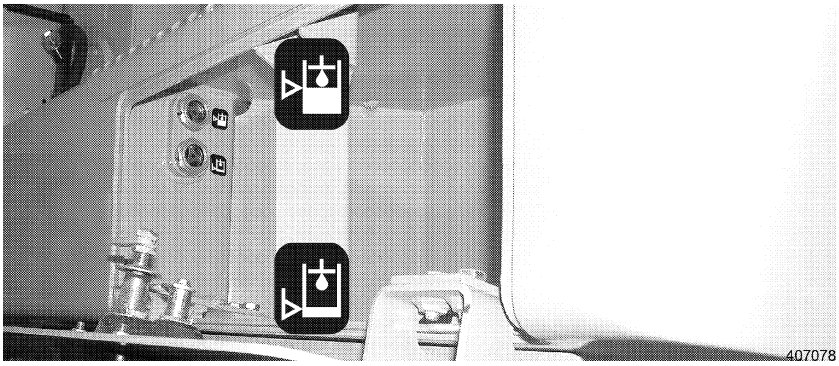
– Check the O - ring on the cleaning cover and replace it, if necessary.

- Clean the fuel tank.
- Install the cleaning cover with O - ring.
- Fold the front cover up and attach with hex head screws.
- Fill the fuel tank.

5.7.4 Change the fuel filter cartridges

The fuel primary filter with water separator, water level sensor and integrated manual refueling pump is on the right hand side of the Diesel engine.
Depending on the Diesel engine assembly, the fuel primary filter is equipped with a fuel preheating system.

Make sure that:
– the machine is in maintenance position,
– the left engine compartment door is open,
– an original LIEBHERR filter cartridge is available.

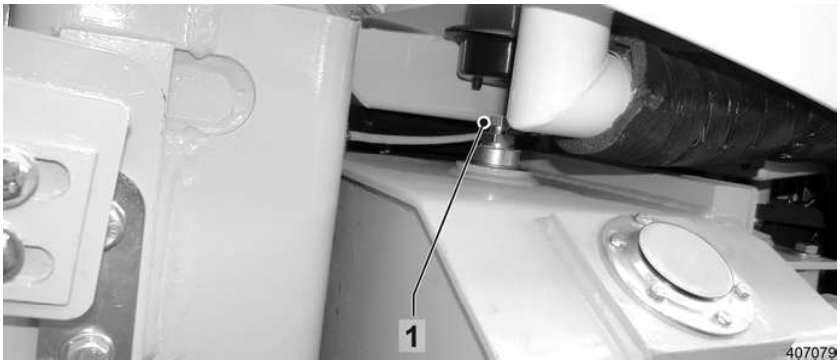


Sight gauges

Check oil level

The sight gauges for the hydraulic tank are located on the right hand side in the step.

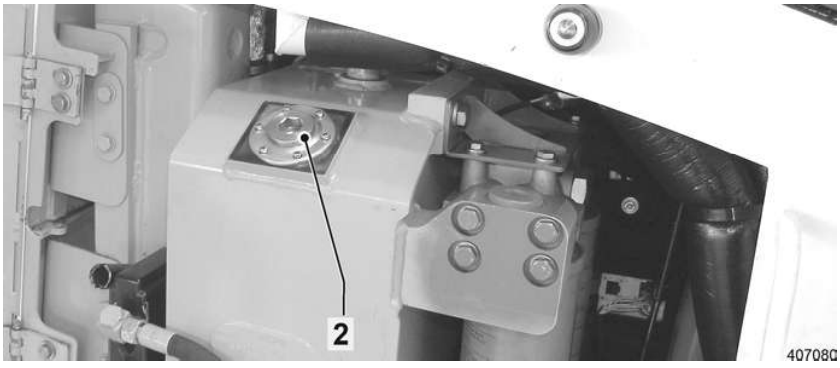
- Check the oil level on the sight gauges.
  - With retracted hydraulic cylinders, the oil level may not exceed the center of the upper sight gauge.
  - With extended hydraulic cylinders, the oil level may not drop below the center of the lower sight gauge.
- If the oil level is below the nominal height: Add hydraulic oil.
- Open the right cover door.



Hydraulic tank – breather screw

Add hydraulic oil

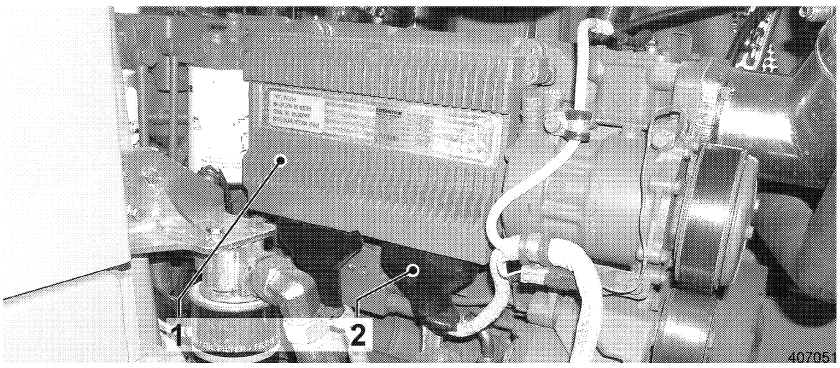
- Relieve tank pretension: Back the breather screw 1 on the hydraulic tank out by two turns.



Filter cover

- Remove plugs 2.

For arc welding, in addition to disconnecting the battery, also disconnect the electronic box on the Diesel engine.



Unplug the Diesel engine - electronic box

Unplug the Diesel engine - electronic box

The Diesel engine - electronic box is installed in the engine compartment on the left hand side on the Diesel engine.

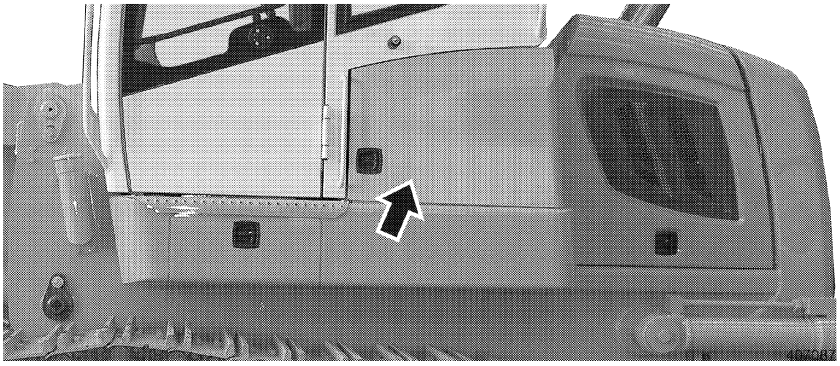
- Unplug plug 2 on the Diesel engine - electronic box 1.

5.11.1 Check the indicator lights and illumination

For the location of the lights and the indicator lights on the indicator unit, see chapter "Operation".

- Start the Diesel engine and check the lights and indicator lights to ensure they work.

5.11.2 Batteries



Battery compartment

- Open the battery compartment door.

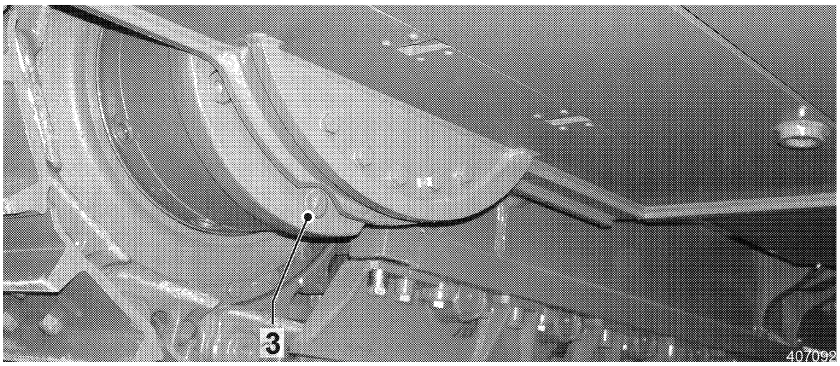
Check the fluid level and the terminals

The batteries are located in the battery compartment and are accessible after opening the battery compartment door.
For proper function of the machine, it is important that the batteries are always in proper condition.
Make sure that:
– the machine is in maintenance position,
– the battery compartment door is open,

- Place a container under the drain plug.
- Remove both oil filler plugs 2.
- Remove the oil drain plug 1.
- Drain the oil into the container.
- Check the oil for mechanical contamination.
- Clean and reinsert the oil drain plug 1.

– Note the tightening torque of 120 Nm!

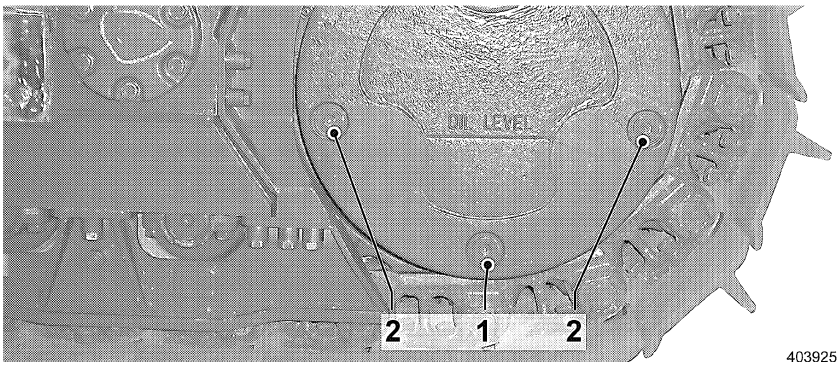
To drain the gear oil completely from the gear, the oil must also be drained from the inside of the gear.



Travel gear - inside

- Clean the area around the oil drain plug 3.
- Place a container under the oil drain plug 3.
- Turn out the oil drain plug 3.
- Let the oil drain into the container.
- Check the oil for mechanical contaminants.
- Clean the oil drain plug 3 and reinstall.

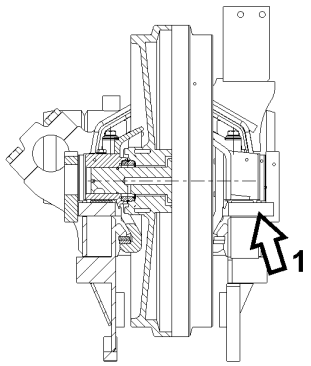
– Note the tightening torque of 120 Nm!



Travel gear

- Add oil to the lower edge of the filler port via the oil filler plug 2.
- Clean the oil filler plug 2 and reinstall.

– Note the tightening torque of 120 Nm!



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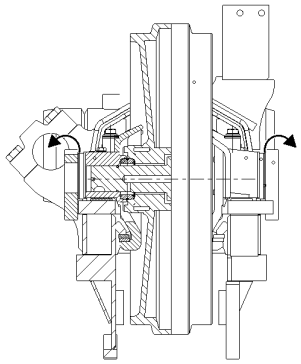
Check the side play

- Measure the existing play between the track roller frame and the outer guide plate.



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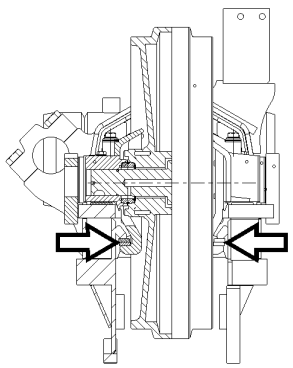
Correct the side play

- If the maximum permissible play is being exceeded, remove inside and / or outer shims.

– There may never be a difference of more than 1 shim between the number of inside shims and the number of outside shims.
– If there are no more shims available, replace the guide plates.



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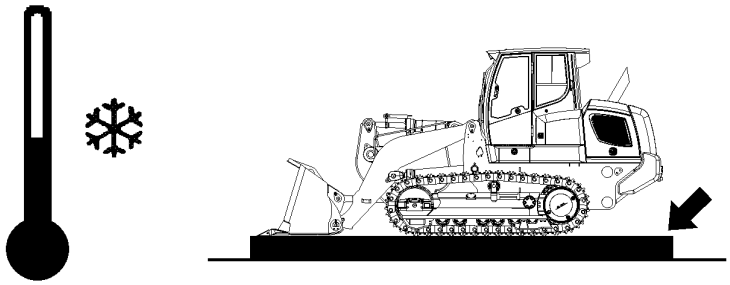
Lift the idler

Check / adjust the vertical play

- Drive onto a wooden block to lift the idler until the claws touch the guide rails.

5.14.6 Clean the tracks

Make sure that:
– the machine is in maintenance position.
DO NOT operate the machine, if rocks, wood or metal pieces, wires or cables are stuck in the tracks.
Dried or frozen mud as well as rocks or other foreign matter in the track sections can cause severe damage, if the machine is put in operation or if the operator tries to free the machine by force.



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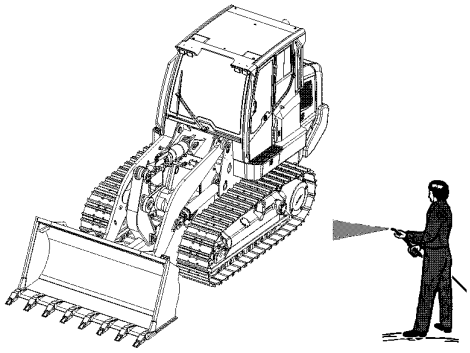
Turning the machine off in freezing temperatures

If temperatures are below freezing, park the machine on wooden boards to prevent the chains from freezing to the ground.
If the machine is frozen to the ground, heat the track pads carefully to free the machine.
Never try to move a frozen machine by force, this can cause significant damage.

- Check the tracks, clean or repair as necessary.



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Wet cleaning

After cleaning the machine with hot water or steam, all grease points on the machine must be re-lubricated!

- Clean the machine with steam.
- Grease all lube points on the machine.

5.14.7 Check track wear

The tracks are maintenance free, except for the wear of some parts.