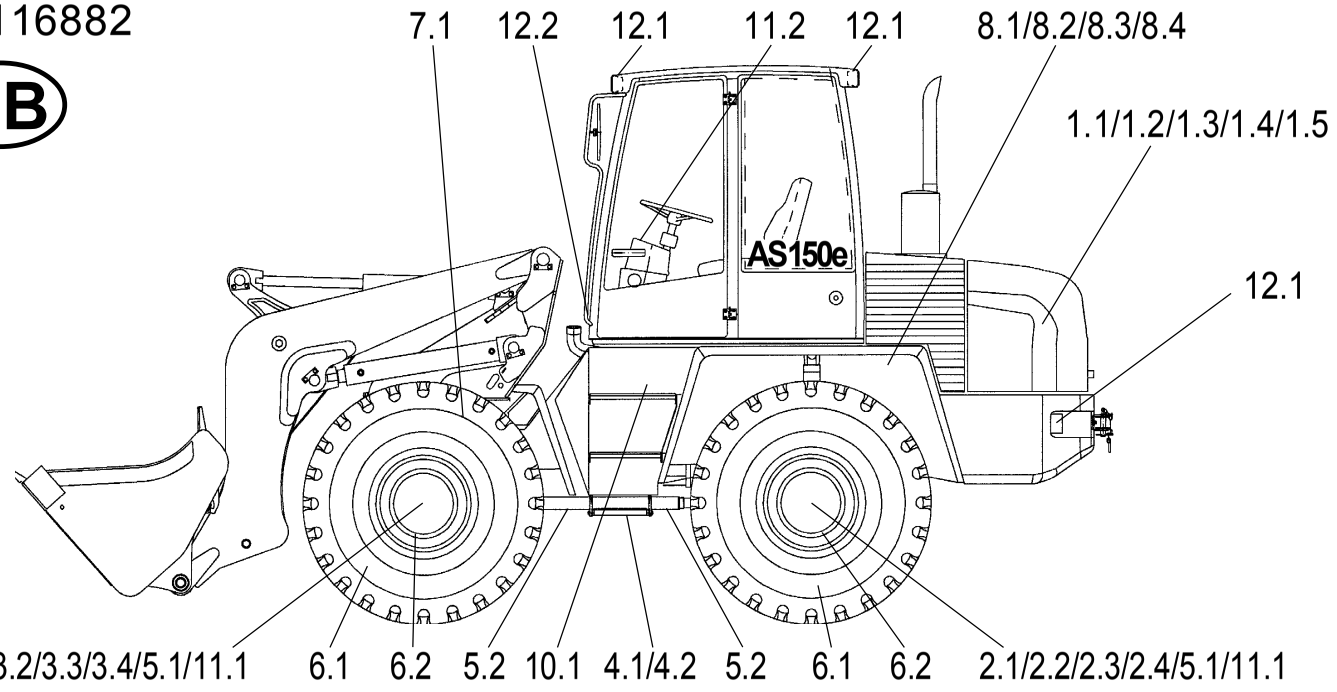
Maintenance

8 Maintenance plan AS 150e

23116882

GB



	Item	Name	Specification	Viscosity	Quantity
*	1	Engine Oil	MIL-L-2104 C = API-CD	SAE 15 W 40	= 10 l with Oil filter
*	2.2	Transm. Oil with LS Add.	MIL-L-2105 B = API-GL5-6-LS	SAE 85 W 90-LS	= 12,8 l
*	2.4	Transm. Oil with LS Add.	MIL-L-2105 B = API-GL5-6-LS	SAE 85 W 90-LS	= 2 x 1,9 l
*	3.2	Transm. Oil with LS Add.	MIL-L-2105 B = API-GL5-6-LS	SAE 85 W 90-LS	= 15,0 l
*	3.4	Transm. Oil with LS Add.	MIL-L-2105 B = API-GL5-6-LS	SAE 85 W 90-LS	= 2 x 1,9 l
*	4.2	Transmission Oil	General Motors ATF Typ DEXRON II	ATF 22 SAE 75 W	= 4,7 l (upper oil compartment)
					= 3,9 l (lower oil compartment)
*	8.3	Hydraulic Oil (4.)	DIN 51524 - HVLP 46	ISO VG 46, VI > 180	= 160 l
	9	Grease	DIN 51825 - KPF 1/2 N-20		as required
	10	Distilled water			as required
	12	Coolant	R 134 a		850 g ± 50 g

Legend

△ First oil or filter change or cleaning

▲ First service interval, repair any failures noted

○ Service, repair any failures noted

◇ Change or cleaning

* these marks, filling or service points are mandatory:

Refer to manual

Attention
Observe accident prevention measures when performing servicing tasks!

Lubrication Points (marked in red)

1. Grease bolts with DIN 51825 - KPF 1/2 N-20 every 10 hours.
2. Grease friction points as required and after cleaning with DIN 51825 - KPF 1/2 N-20.

Oil Lubrication Points

3. Oil joints and bell cranks every 50 working hours with engine oil MIL-L-2104 C

Biodegradable Hydraulic Oil

4. Synthetic ester based hydraulic oil viscosity class ISO VG 46 VI > 180

Intervals in working hours — max. permissible intervals, can be shorter dep. on use

10	100	500	750	1500	Pos.	Maintenance Points
○	△	◇			**1**	**Engine**
					1.1	Maintenance according to manufacturers specs
	○				1.2	Dry air filter unit: Check service display
						Change filter element if display shows red
		○			1.3	Check and clean fuel filter →
○					1.4	Check coolant fill-level
○					1.5	Check and clean combined cooling unit
	○				**2**	**Rear axle**
	△		◇		2.1	Check oil fill-level of transmission unit (inspection screw)
	○				2.2	Oil change transmission unit →
	△		◇		2.3	Check oil fill-level of helical planetary gearing (inspection screw)
					2.4	Oil change helical planetary gearing →
	○				**3**	**Front axle**
	△		◇		3.1	Check oil fill-level of transmission unit (inspection screw)
	○				3.2	Oil change transmission unit →
	△		◇		3.3	Check oil fill-level of helical planetary gearing (inspection screw)
					3.4	Oil change helical planetary gearing →
	○				**4**	**Transfer Case**
	△			◇	4.1	Check oil fill-level of transfer case (inspection screw)
					4.2	Oil change transfer case →
▲		○			**5**	**Axles / Articulated Shafts**
	▲	○			5.1	Check tightness of axles (500 Nm)
					5.2	Check tightness of articulated shafts (65 Nm)
	○				**6**	**Wheels and Tyres**
▲		○			6.1	Check air pressure
					6.2	Check tightness of wheel bolts (550 Nm)
	▲	○			**7**	**Swivel Joint**
					7.1	Check tightness (610 Nm)
	△		◇		**8**	**Hydraulic Unit**
○					8.1	Change suction return line filter insert, check electr. display →
					8.2	Check oil fill-level (inspection glass)
				◇	8.3	Oil change →
○					8.4	Check and clean hydraulic oil cooler
					9	**Greasing points (marked in red)** →
		○			**10**	**Battery**
					10.1	Visual check
					11	**Brakes**
○					11.1	Perform visual and functional check of brakes and parking brakes before starting work
					11.2	Check accumulator valve
		○		◇	**12**	**Lighting unit / Air filter / Air conditioning unit**
					12.1	Perform functional check before starting work
		○			12.2	Check air filter
	○				12.3	Visual check air conditioning unit
					12.4	Check condensator for contamination
	○				12.5	Check tension of compressor drive belt

8 Maintenance

Figures and descriptions may vary due to modifications in the construction that become possible and necessary to improve the loader and to develop it further technically. These modifications are summarised in section 13.

8.1 Notes regarding maintenance

DANGER

- The engine must be turned off.
- For work to be carried out under the bucket arm:
  - the bucket must be emptied or the attachment must be relieved,
  - the bucket arm must be mechanically propped up [e.g. by inserting the bucket arm support (option) (1-2/arrow)],
  - the ball block valves for the working and auxiliary hydraulics (1-2/1 and 1-2/2) must be closed,
  - the swivel mechanism is to be blocked (1-4/arrow).
- The loader must be secured against rolling by applying the parking brake (4-7/4) and by setting the drive direction switch (4-7/3) to position “0“. In addition, wheel chocks must be placed on both sides of one of the two wheels of the front axle.

CAUTION

- Change the oil when the units are lukewarm.
- Perform maintenance work when the loader is on level ground and the bucket arm is in its lowest position.
- Replace damaged filter inserts and gaskets immediately.
- Clean pressure lubrication nipples before lubricating.

NOTE

- For the maintenance work required, refer to the maintenance plan (page 8-1).
- Damage which is traceable to non-observance of the maintenance plan is not covered by the guarantee.
- The lubricants listed in the maintenance plan can be used at ambient temperatures ranging from **-15° C** to **+40° C**.

CAUTION

For ambient temperatures below 15° C, refer to the description in chapter 5.2.2 “Winter operation”.

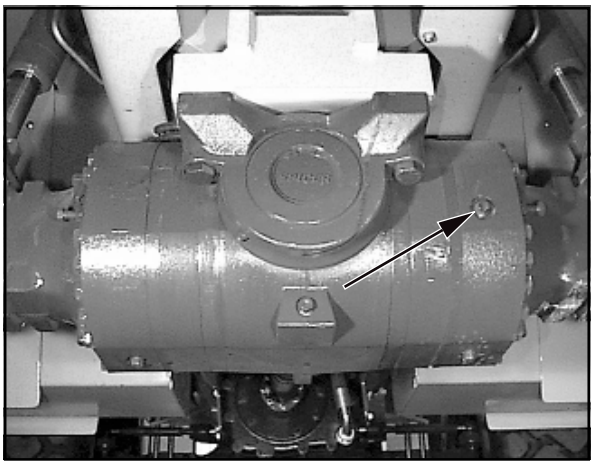


Figure 8-1

8.2 Maintenance work

8.2.1 Engine oil level check

See the operating instructions for the engine.

8.2.2 Oil level check for axles

8.2.2.1 Rear axle

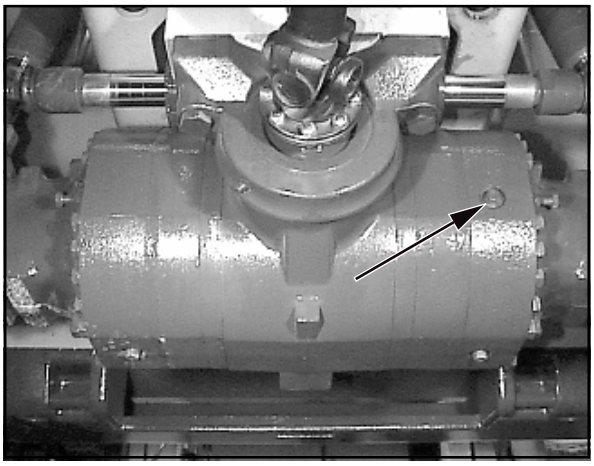


Figure 8-2

(1) Unscrew the plugs from the axle arch (8-1/arrow) or (8-2/arrow).

NOTE

- The oil level must reach the plug bores. If necessary, top up oil.
- Collect any oil that escapes.

(2) Screw in the plug again.

8.2.2.2 Planetary gear

Figure 8-3

(1) Move the loader until the marking line "OIL LEVEL" is horizontal and the plug is located above the top left of the marking line (8-3/arrow).

(2) Unscrew the plug.

NOTE

- The oil level must reach the plug bore. If necessary, top up oil.
- Collect any oil that escapes.

(3) Fit a new gasket and screw the plug back in.

8.2.2.3 Front axle

(1) Unscrew the plugs from the axle arch (8-4/arrow) or (8-5/arrow).

NOTE

- The oil level must reach the plug bore. If necessary, top up oil.
- Collect any oil that escapes.

(2) Screw in the plug again.

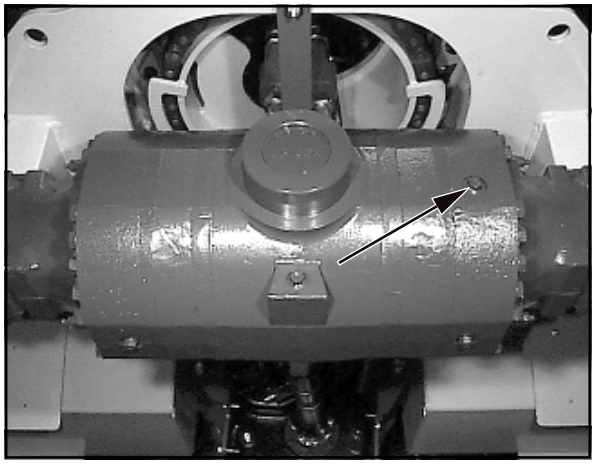


Figure 8-4

8.2.3 Oil level check (distribution gear)

8.2.3.1 Oil level check (distribution gear)

Type 1:

(1) Remove the foot mat in the footwell of the operator's cabin.
(2) Dismantle the floor plate under the foot mat.
(3) Check the oil level using the check marking of the oil dipstick(8-6/1) for the upper oil compartment (coupling space).
(4) Unscrew the plug (8-6/4) from the lower oil compartment (spur gear space).

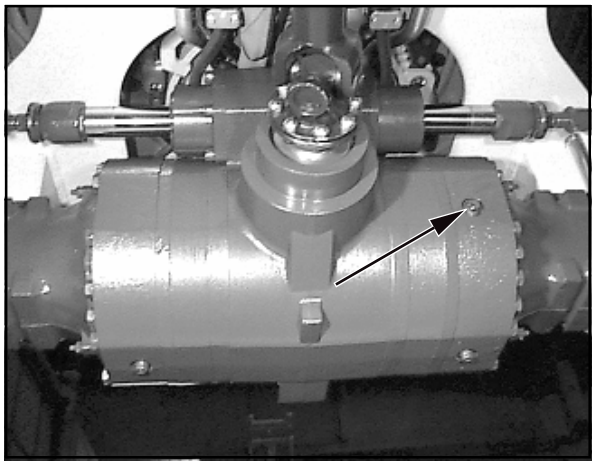


Figure 8-5

NOTE

- The loader must have been standing still for at least 15 minutes before you can check the oil level.
- The transmission housing temperature must be at least 60 °C (warm up if necessary).
- The oil level must reach the plug bore (8-6/4).
- If necessary, fill oil into oil filling screw 8-6/2 (upper oil compartment) or 8-6/3 (lower oil compartment) until the oil reaches the required level.
  The filling bore of the upper oil compartment is accessible when you have loosened the union nut of the ventilation hose and pushed the hose aside.
- Collect any oil that escapes.

(5) Fit a new gasket and screw the plug back in.

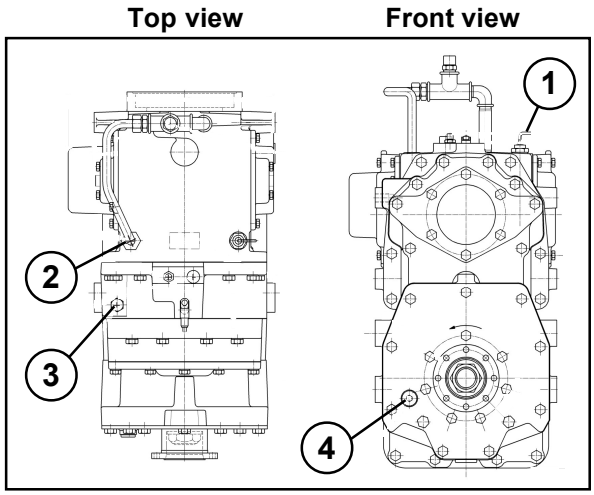


Figure 8-6

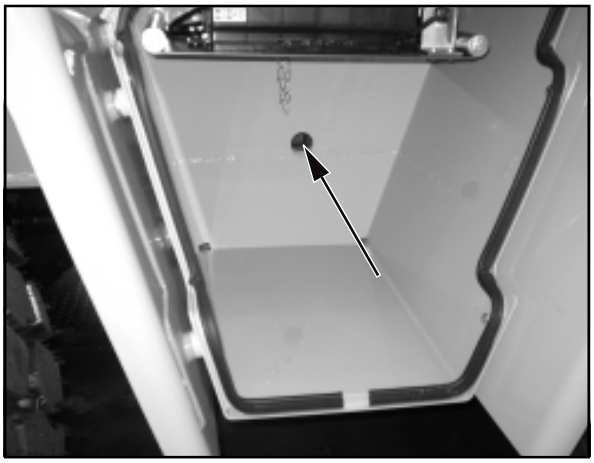


Figure 8-7

8.2.3.2 Oil level check distribution gear Type 2:

(1) Open battery and tool compartment on the left side of the loader.

(2) Move the bucket arm all the way to the left or right and remove the front cover plate below the driver's cabin in the swivel unit area.

(3) Unscrew check plug (8-7/arrow) and sealing plug (8-8/arrow) from the upper oil compartment (clutch compartment).

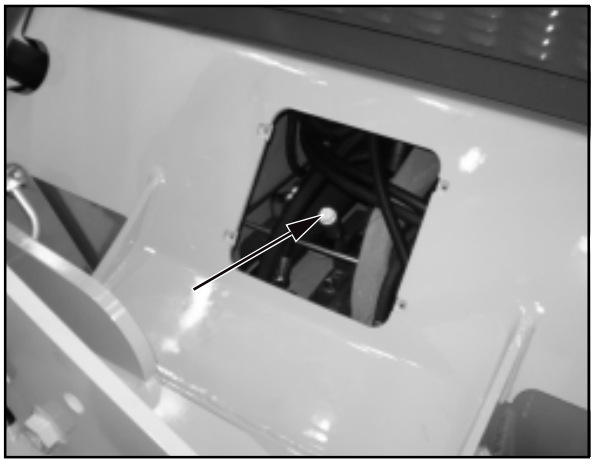


Figure 8-8

(4) Unscrew the plug (8-9/1 and 8-9/2) from the lower oil compartment (spur gear compartment).

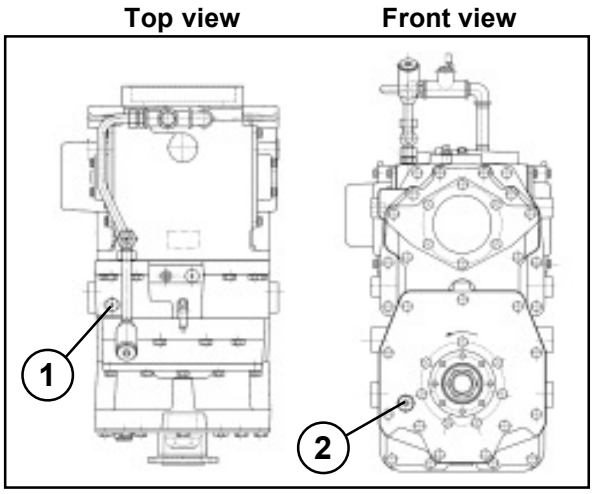


Figure 8-9

NOTE

- The loader must have been standing still for at least 15 minutes before you can check the oil level.
- The transmission housing temperature **must be at least 60 °C** (warm up if necessary).
- The oil level must reach the check hole (8-7/arrow) of the upper oil compartment or the sealing plug hole (8-9/2) of the lower oil compartment.
- If necessary, fill oil into oil filling hole 8-8/arrow (upper oil compartment) or 8-9/1 (lower oil compartment) until the oil reaches the required level.
- Collect any oil that escapes.

(5) Screw check plug (8-7/arrow) and sealing plugs (8-8/arrow, 8-9/1 and 8-9/2) back in with new sealing washers.

8.2.4 Oil level check of the hydraulic oil reservoir

(1) Park the loader in a level position.

(2) Move the bucket to its lowest position.

(3) Tilt the quick-change device and move out the locking bolts using the hand lever for the auxiliary hydraulics (4-6/5).

(4) Open the motor hood.

(5) Check the oil level in the view glass (8-10/arrow).

NOTE

- The oil level must be visible in the upper quarter of the view glass.
- If necessary, top up hydraulic oil via the filler neck (8-11/arrow). Use the special tool (flat open-ended spanner) to undo the lid of the hydraulic oil tank.

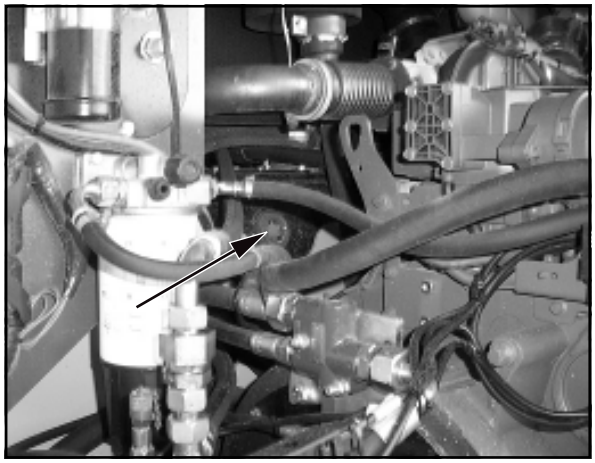


Figure 8-10

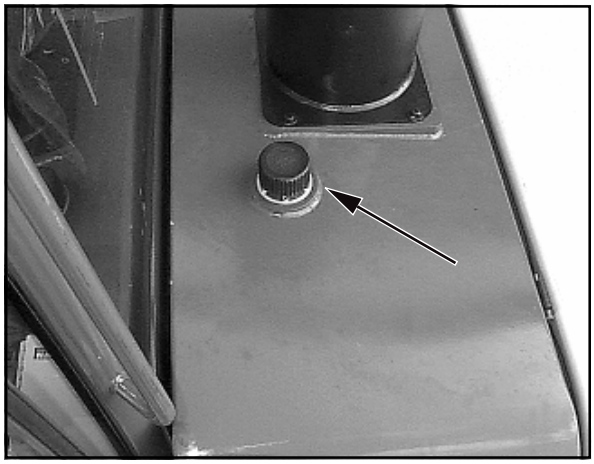


Figure 8-11

8.2.5 Oil change, engine

(1) Unscrew the maintenance flap from the motor protection (8-12/arrow).

(2) Place a sufficiently large oil drain pan underneath the axle.

(3) Open the motor hood.

(4) Unscrew the cover of the oil drain plug on the motor.

(5) Screw the drainage nozzle with hose from the tool box (4-1/13) to the oil drain plug.

(6) Remove the cover cap from the hose.

(7) Further procedures are to be found in the Engine Operating Manual.

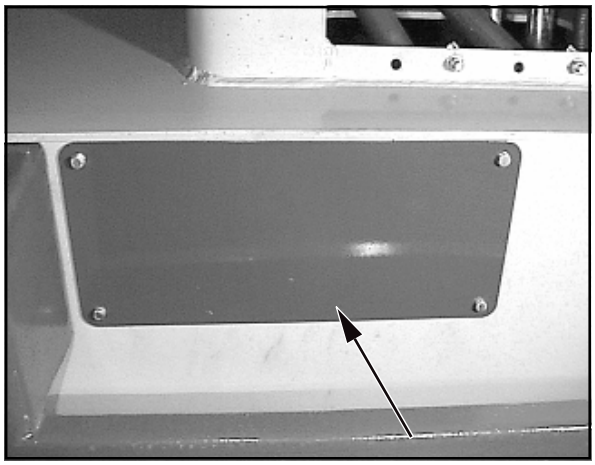


Figure 8-12

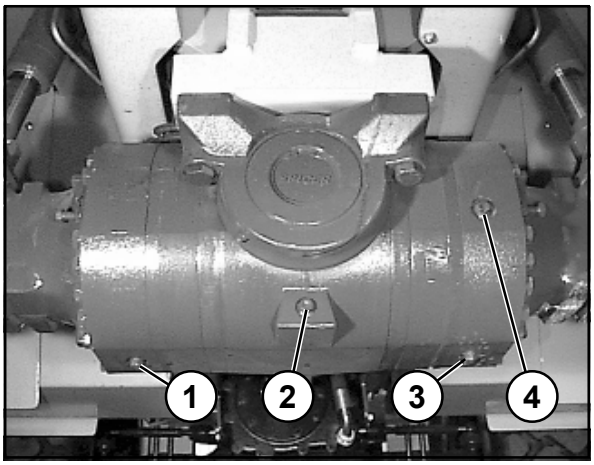


Figure 8-13

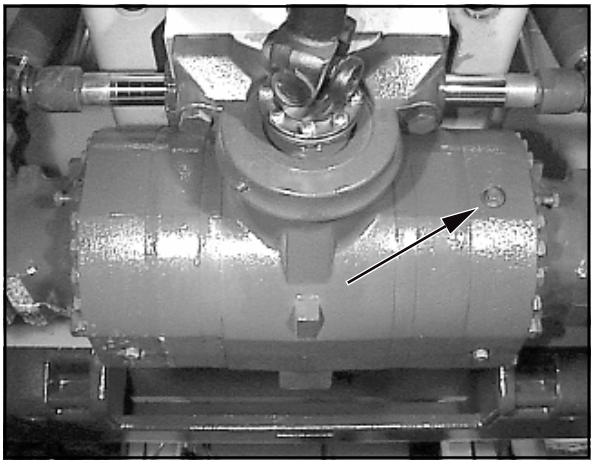


Figure 8-14


Figure 8-15

8.2.6 Oil change, axles

8.2.6.1 Rear axle

(1) Place a sufficiently large oil drain pan underneath.

(2) Unscrew the plugs from the axle arch (8-13/1, 8-13/2, 8-13/3, 8-13/4 and 8-14/arrow) and drain the oil.

CAUTION

Waste oil must be disposed of in such a way that it will not cause pollution!

(3) Replace the plugs for the axle arch (8-13/1, 8-13/2 and 8-13/3).

(4) Fill oil into the plug bore of the axle arch (8-13/4 or 8-14/arrow) until the oil level reaches the opening.

NOTE

- Details regarding the amount of oil required are given in the maintenance plan (page 8-1).
- After a few minutes, when the oil level has lowered, top up the oil until the oil level reaches the marked level and remains stable.
- The vent valve of the axle (8-15/arrow) must be free from dirt.

(5) Screw in the plugs of the axle arch (8-13/4 and 8-14/arrow) again.

8.2.6.2 Planetary gear

(1) Move the loader so that the plug (8-16/arrow) is positioned at 6 o'clock.

(2) Place an oil drain vessel with a drain channel underneath the gear.

(3) Unscrew the drain plug and let the oil drain out.

CAUTION
Waste oil must be disposed of in such a way that it will not cause pollution!

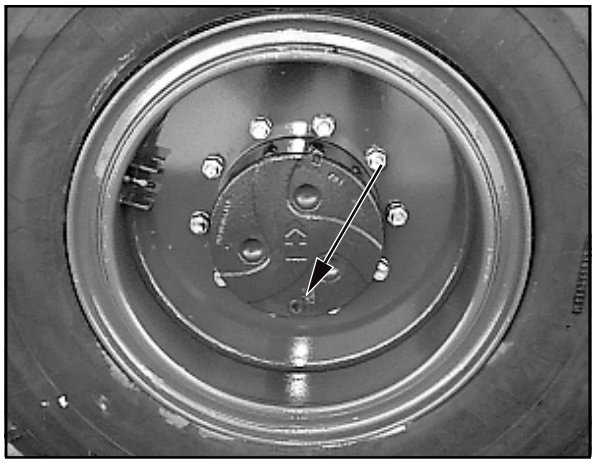


Figure 8-16

(4) Move the loader until the marking line "OIL LEVEL" is horizontal and the plug is located above the top left of the marking line (8-17/arrow).

(5) Fill in oil via the plug bore until the oil level reaches the opening.

(6) Use a new gasket when screwing the plug back in.

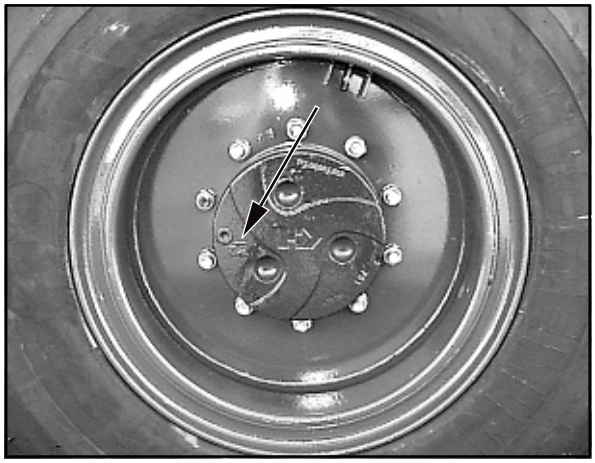


Figure 8-17

8.2.6.3 Front axle

(1) Place a sufficiently large oil drain pan underneath.

(2) Remove the plugs from the axle arch (8-18/1, 8-18/2, 8-18/3, 8-18/4 and 8-19/Pfeil) and drain the oil.

CAUTION
Waste oil must be disposed of in such a way that it will not cause pollution!

(3) Screw the plugs (8-18/1, 8-18/2 and 8-18/3) back in.

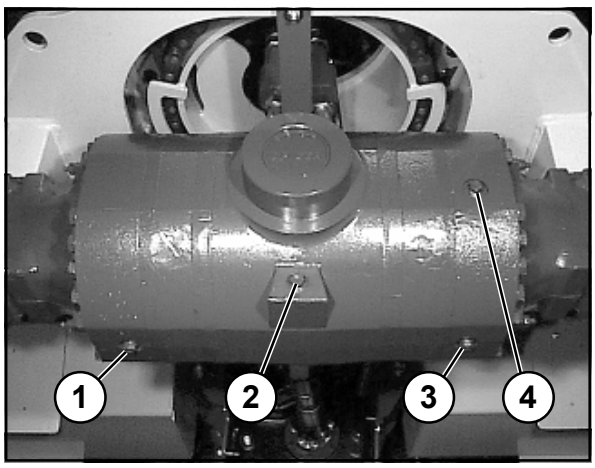


Figure 8-18

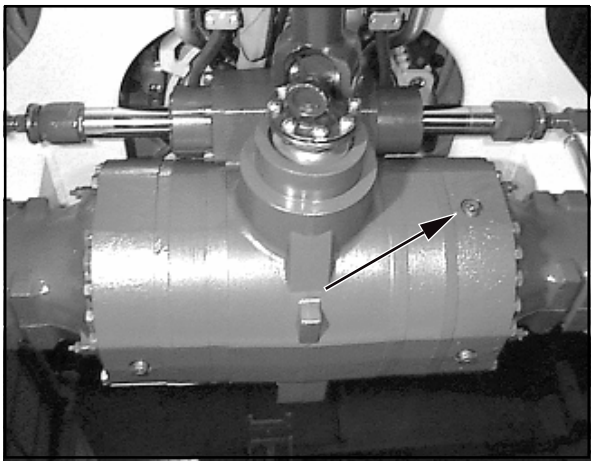


Figure 8-19

(4) Fill oil into the plug bore (8-18/4 or 8-19/arrow) until the oil level reaches the opening.

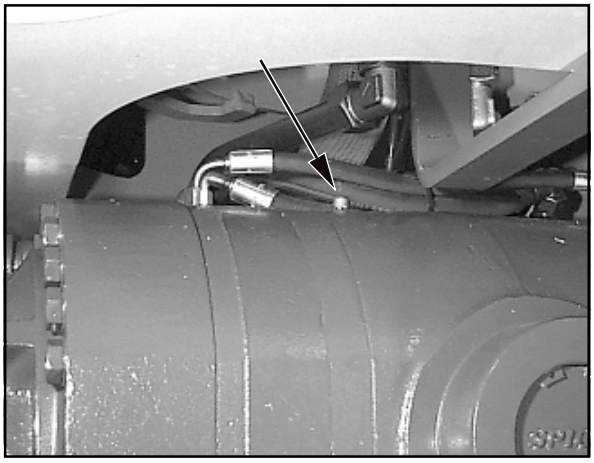


Figure 8-20

NOTE

- Details regarding the amount of oil required are given in the maintenance plan (page 8-1).
- After a few minutes, when the oil level has lowered, top up the oil until the oil level reaches the marked level and remains stable.
- The vent valve of the axle (8-20/arrow) must be free from dirt.

(5) Screw the plugs (8-18/4 and 8-19/arrow) back in.

Top view

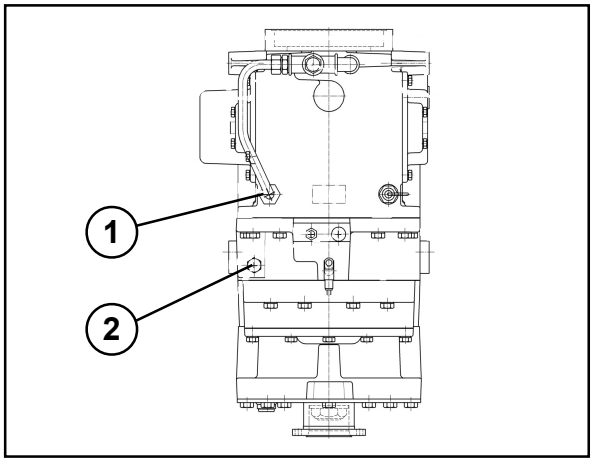


Figure 8-21

8.2.7 Oil change, distribution gear

8.2.7.1 Oil change, distribution gear

Type 1:

(1) Remove the foot mat in the footwell of the operator's cabin.

(2) Dismantle the floor plate under the foot mat.

(3) Place a sufficiently large oil drain pan with a drain channel underneath.

(4) Unscrew the filling (8-21/1 and 8-21/2) and drain plugs (8-22/2) and let oil drain from the upper oil compartment through the drain channel.

(5) Unscrew the drain (8-22/3) and inspection plugs (8-22/4) and drain the oil from the lower oil compartment.

CAUTION
Waste oil must be disposed of in such a way that it will not cause pollution!

(6) Screw the plugs (8-22/2 and 8-22/3) back in with new gaskets.
(7) Fill in oil through the filling plug bore of the upper oil compartment (8-21/1) until the oil reaches the mark on the dipstick (8-22/1).
(8) Fill in oil through the filling plug bore of the lower oil compartment (8-21/2) until the oil reaches the lower edge of the oil inspection bore (8-22/4).

NOTE
- The transmission housing temperature must be at least 60 °C (warm up if necessary).
- Details regarding the amount of oil required are given in the maintenance plan (page 8-1).
- When the oil level has lowered – not earlier than after 15 minutes - top up the oil until the oil reaches the marked level and remains stable.

(9) Screw the filling (8-21/1 and 8-21/2) and inspection plugs (8-22/4) back in with new gaskets.

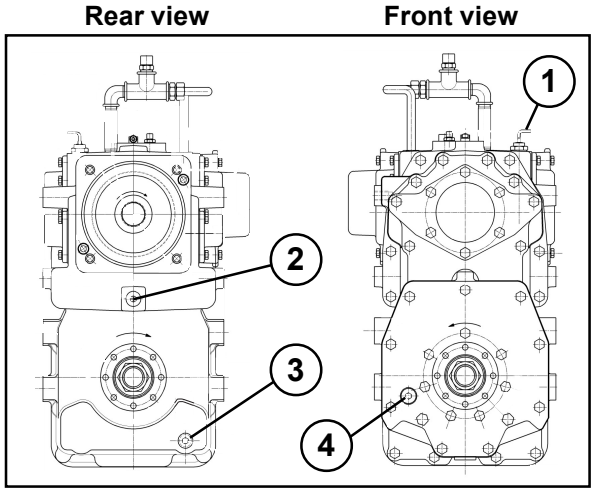


Figure 8-22

8.2.7.2 Oil change distribution gear Type 2:

(1) Open battery and tool compartment on the left side of the loader.
(2) Move the bucket arm all the way to the left or right and remove the front cover plate below the driver's cabin in the swivel unit area.
(3) Place a sufficiently large oil drain pan with a drain channel underneath.
(4) Unscrew check plug (8-7/arrow), filling plug (8-8/arrow) and drain plug (8-24/1) of the upper oil compartment (clutch compartment) and let the oil drain off via a drain channel.
(5) Unscrew check plug (8-24/3), filling plug (8-23/arrow) and drain plug (8-24/2) of the lower oil compartment (spur gear compartment) and let the oil drain off via a drain channel.

CAUTION
Waste oil must be disposed of in such a way that it will not cause pollution!

(6) Screw the plugs (8-24/1 and 8-24/2) back in with new gaskets.
(7) Fill in oil through the filling of the upper oil compartment (8-8/arrow) until the oil reaches the lower edge of the oil check hole (8-7/arrow).
(8) Fill in oil through the filling plug bore of the lower oil compartment (8-23/arrow) until the oil reaches the lower edge of the oil inspection bore (8-24/3).

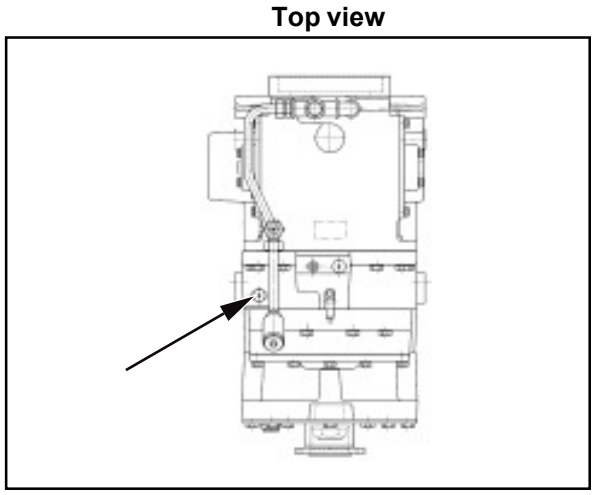


Figure 8-23

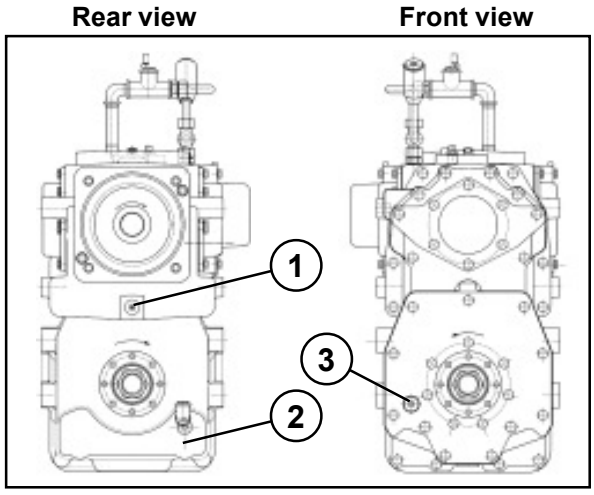


Figure 8-24

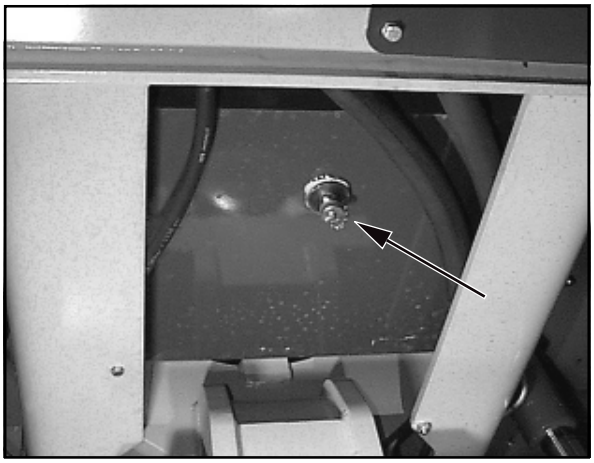


Figure 8-25

NOTE

- The transmission housing temperature **must be at least 60 °C** (warm up if necessary).
- Details regarding the amount of oil required are given in the maintenance plan (page 8-1).
- When the oil level has lowered – not earlier than after 15 minutes - top up the oil until the oil reaches the marked level.

(9) Screw filling plug (8-8/arrow) and check plug (8-7/arrow) of the upper oil compartment back in with new sealing washers.
(10) Screw filling plug (8-23/arrow) and check plug (8-24/3) of the lower oil compartment back in with new sealing washers.
(11) Move the loader for a short period of time (approx. 10 to 15 minutes) and then check the oil level (see chapter 8.2.3).

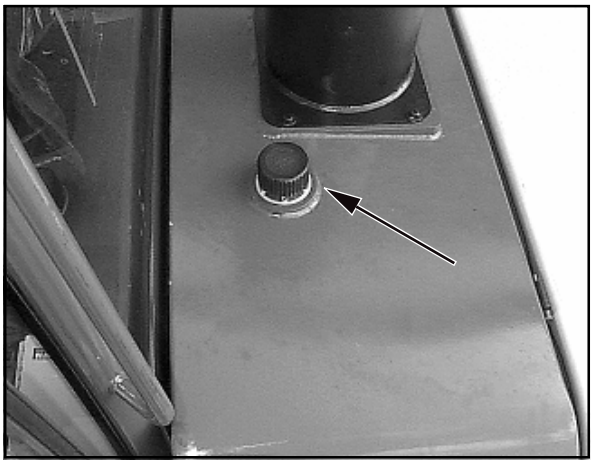


Figure 8-26

8.2.8 Oil change, hydraulic system

(1) Open the motor hood.
(2) Have an oil drain pan ready (for the minimum size, refer to section 11.11).
(3) Unscrew the covering flap of the oil drain plug (8-25/arrow).
(4) Screw the drainage nozzle with hose from the tool box (4-1/13) to the oil drain plug.
(5) Remove the cover cap from the hose.
(6) Drain the oil into the oil vessel.

CAUTION

Waste oil must be disposed of in such a way that it will not cause pollution!

(7) Fit the cover cap on the hose and unscrew the drainage nozzle with the hose.
(8) Screw the covering plate onto the oil drain plug.
(9) Change the hydraulic oil filter cartridge (section 8.2.9).
(10) Fill oil into the filler neck (8-26/arrow).

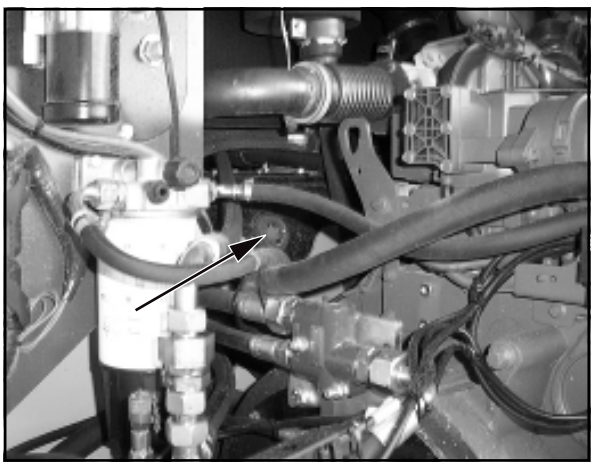


Figure 8-27

CAUTION

For loaders which are fitted to run with biodegradable hydraulic oil (ester-based synthetic hydraulic oil of viscosity class ISO VG 46 VI > 180) - (designation can be found on the hydraulic oil reservoir and on the dashboard), only this type of oil may be used for oil changes. Mineral and biodegradable hydraulic oils must **never** be mixed!
Biodegradable hydraulic oil must be changed every **1000 operating hours.**
Changing the oil type from mineral oil to biodegradable oil must be performed according to the VDMA 24 569 conversion guidelines.

(11) Check the oil level at the sight glass (8-27/arrow).

NOTE

- The bucket arm must be in the lowest position.
- The quick-change device must be tipped and the locking bolts extended with the hand lever for the auxiliary hydraulics (4-6/5).
- The oil level must be visible in the upper quarter of the view glass.

(12) Close the filler neck with the special tool (flat open-ended spanner).

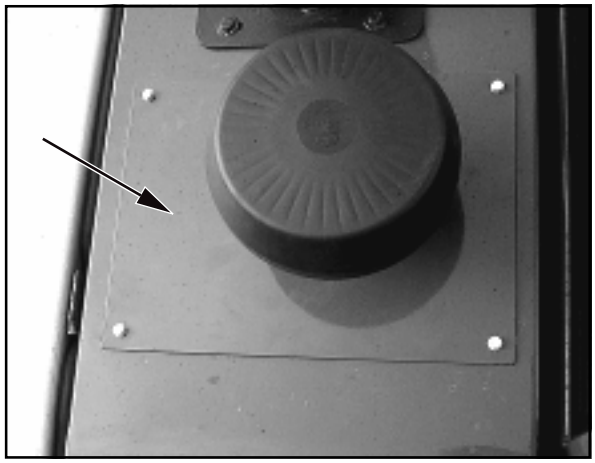


Figure 8-28

8.2.9 Replacing the suction return flow filter cartridge

CAUTION

Replace the filter insert according to the maintenance plan or when the clogging indicator lamp (4-10/13) lights up.

NOTE

The clogging indicator may light up prematurely after a cold start. It will go out when the hydraulic oil warms up.

(1) Unscrew the maintenance plate (8-28/arrow).
(2) Undo the hose clamp on the rubber bellows (8-29/3) and pull of the bellows.
(3) Loosen but do not unscrew both screws of the hydraulic oil filter lid (8-29/1).
(4) Lift out the hydraulic oil filter lid with the magnetic tube (8-30/2).
(5) Swing up the handle (8-30/3), pull out the filter cartridge (8-30/4) and replace it with a new one.

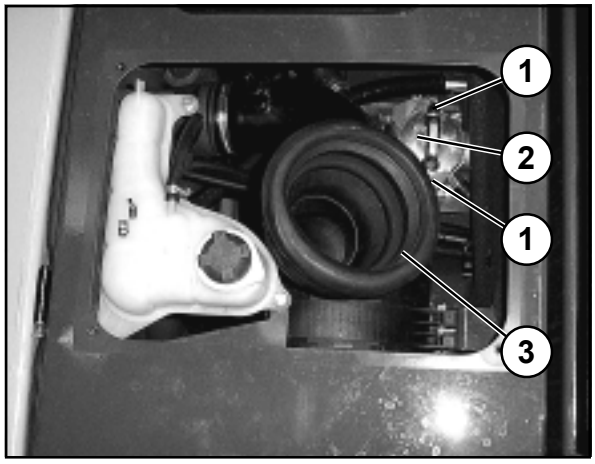


Figure 8-29

CAUTION

The used hydraulic oil filter cartridge must be disposed of in such a way that it does not cause pollution.

(6) Use a clean cloth to wipe the magnet tube (8-30/2) before fitting it back in.
(7) Refit the hydraulic oil filter lid with magnet tube and fasten it again.
(8) Connect the ventilation hose to the ventilation valve (8-29/2 or 8-30/1).
(9) Start the engine.
(10) Have an oil drain pan ready and open the ventilation valve.

NOTE

Keep the ventilation valve open until there are no more bubbles in the escaping oil.

(11) Close the ventilation valve.
(12) Push the rubber bellows (8-29/3) on the air filter hose and fasten it with the hose clamp.
(13) Screw the maintenance plate (8-28/arrow) back on.

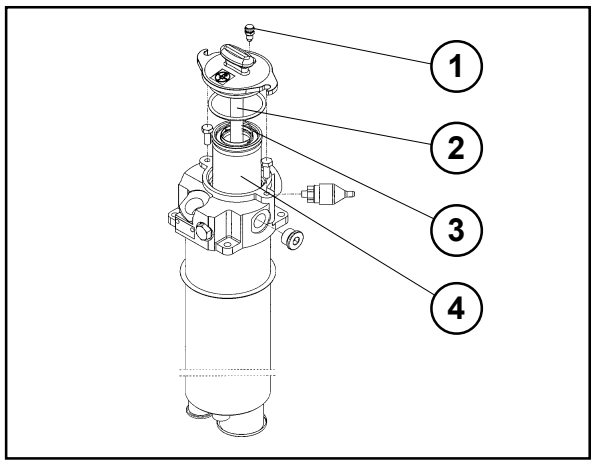


Figure 8-30

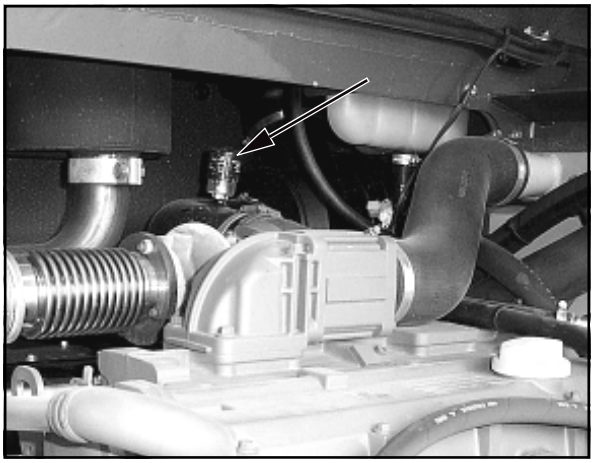


Figure 8-31

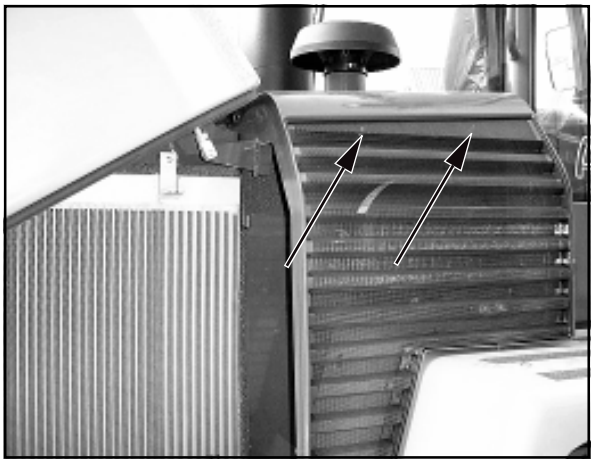


Figure 8-32

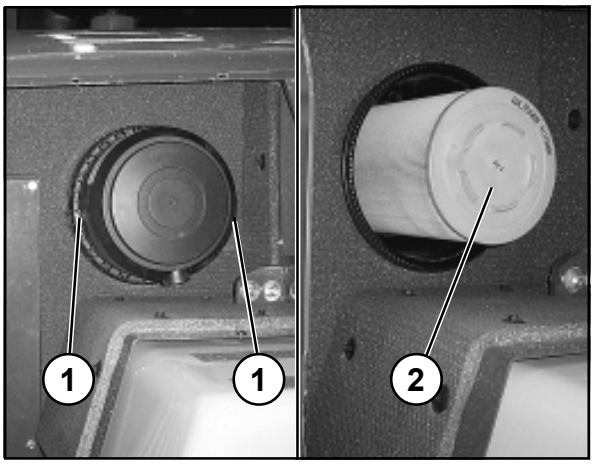


Figure 8-33

8.2.10 Maintaining/replacing the air filter

NOTE

Maintenance of the filter cartridge is necessary when either the red range is visible in the maintenance indicator (8-31/arrow) or after 12 months, whichever is sooner.

(1) Open the motor hood.

(2) Unscrew the two upper wing nuts on the maintenance grille (8-32/arrows). Push the grille outward at the upper section and lift it out.

(3) Loosen the two retaining clamps of the air filter lid (8-33/1) and remove the air filter lid.

(4) Pull out the filter cartridge (8-33/2) by carefully turning it back and forth.

(5) Clean the filter cartridge.

CAUTION

- For cleaning, use a compressed air gun to which a pipe (angled at 90°) has been attached. The pipe must be sufficiently long to reach the bottom of the cartridge. Use dry compressed air of no more than 5 bar to blow out the car tridge by moving the pipe back and forth in the interior of the cartridge. Cleaning can be stopped when dust formation ceases.
- Do not use petrol or hot liquids for cleaning.

(6) Use a hand-held lamp to check the cartridge paper and the rubber gasket of the filter cartridge for damage. If the cartridge or the gasket is damaged, replace the cartridge.

(7) Carefully insert the filter cartridge.

(8) Install the air filter lid on the filter housing in such a way that the direction arrow in the marking "**OBEN-TOP**" points upwards. This ensures that the dust removal valve faces downwards.

(9) When the indicator field becomes red (8-31/arrow), push the reset button. The field becomes clear.

(10) Screw the maintenance plate (8-32/arrows) back on.

CAUTION

Check all connection pipes and hoses of the air filter system for damage before starting the engine.

8.2.11 Replacing the safety cartridge

CAUTION
- The safety cartridge must not be cleaned.
- The safety cartridge must be replaced after the filter cartridge has been maintained/ cleaned 5 times, but no later than after two years.
- Make sure that no dirt or dust can enter the filter housing during replacement of the safety cartridge.

(1) Remove the filter cartridge (section 08/02/2010).
(2) Pierce the seal of the safety cartridge (8-34/arrow) from the inside by using a screwdriver or similar tool and pull up both strips.
(3) Hold the safety cartridge by both strips and pull it out by carefully turning it back and forth. Replace the safety cartridge and the filter cartridge by new ones.
(4) The remaining installation is performed as described in section 8.2.10 (7)...(10).

Figure 8-34

8.2.12 Replacing the fuel filter

See the operating instructions for the engine.

8.2.13 Replacing the starter batteries

NOTE
- The starter batteries are maintenance-free according to DIN 72311, section 7. They are located on the left side of the cabin access area.
- The batteries are to be kept clean and dry.

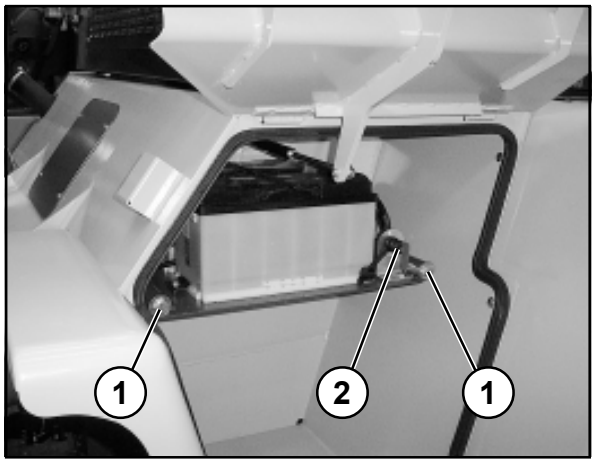


Figure 8-35

(1) Remove the main battery switch (8-35/2).
(2) Use a square spanner to open the maintenance flap.
(3) Unscrew both securing screws (size 19) (8-35/1) of the battery drawer.
(4) Pull out the drawer with the batteries until it stops.
(5) Loosen and remove the fastening screws (size 17) (8-36/1) of the battery holders.
(6) Loosen and remove the connecting cables (8-36/2) from the batteries (size 13).

DANGER
Always remove the negative terminal first and then the positive terminal. Installation is in reverse order.

(7) Remove the batteries and replace them.
(8) Lightly grease the terminals and battery poles with acid-free and acid-resistant grease before fastening.
(9) Installation is in reverse order.

DANGER
Make sure the fastenings are secure.

(10) Close the maintenance flap again.

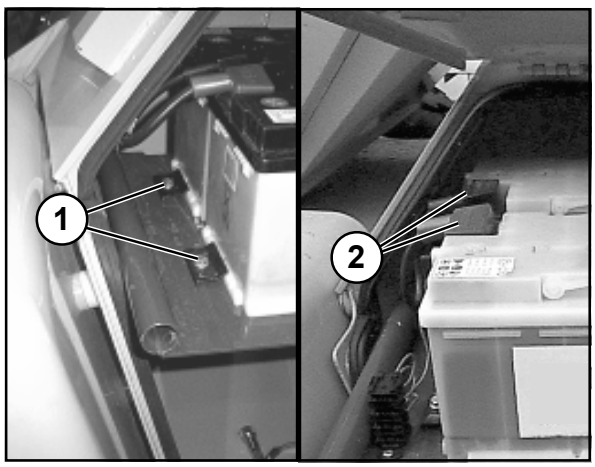


Figure 8-36

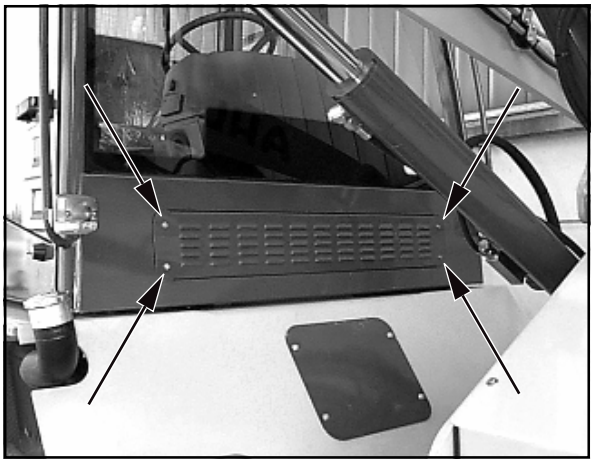


Figure 8-37

8.2.14 Maintaining/replacing the fresh air filter

(1) Lift and mechanically prop up the bucket arm [e.g. by inserting the bucket arm support (option) (1-1/arrows)], lower the bucket arm until it rests on the bucket arm support and swivel it all the way to right or left.

(2) Loosen the four fastening screws (8-37/arrows) of the heater cover and remove the cover.

(3) Remove the filter elements (8-38/arrows) and clean them with compressed air.

CAUTION

Do not use any petrol, hot fluids or industrial compressed air for cleaning.

(4) Check the filter elements for damage.

NOTE

The filter elements must be replaced when they are damaged or every **1500 operating hours**.

(5) Insert the filter elements and install the heater cover.

Figure 8-38

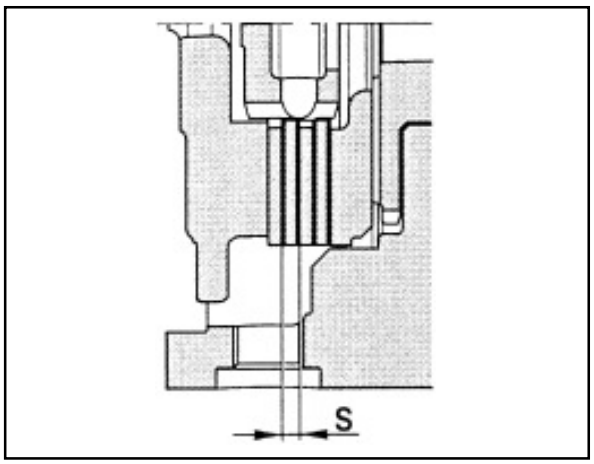


Figure 8-39

8.2.15 Checking the lining play

(1) Apply the parking brake (4-7/4).

(2) Unscrew the plugs (8-14/arrow and 8-19/arrow) from the axle arch.

(3) Use the special tool (feeler gauge) to check the dimension “S” between the center brake discs (8-39).

CAUTION

- “S” minimum: 5 mm.
- If necessary, replace the centre brake discs on both sides.

(4) Screw the plugs (8-14/arrow and 8-19/arrow) back in.

8.3 Lubrication points

NOTE

The grease points are marked in red on the loader.

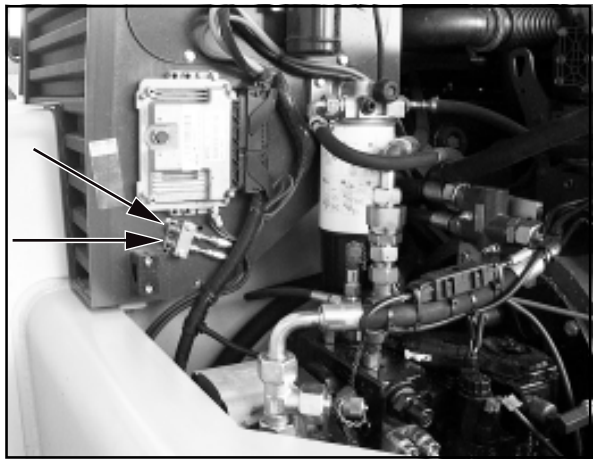


Figure 8-40

8.3.1 Rear axle pivot bolt (8-40/arrows)

CAUTION

- The rear axle pivot bolt must be lubricated **every 10 operating hours**.
- Release the rear axle from load before lubricating the rear axle pivot bolts.

8.3.2 Rear axle (8-41/arrows)

CAUTION

The spindle bolts must be lubricated every **50 operating hours**.

NOTE

Lubricate the top and the bottom of the axle spindle bolts on both sides of the axle.

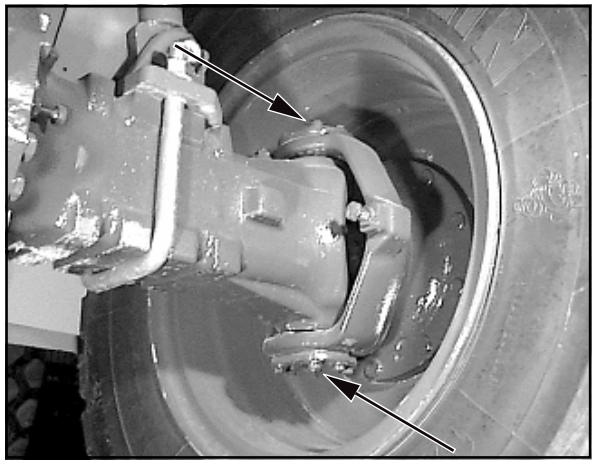


Figure 8-41

8.3.3 Front axle (8-42/arrows)

CAUTION

The spindle bolts must be lubricated every **50 operating hours**.

NOTE

Lubricate the top and the bottom of the axle spindle bolts on both sides of the axle.

Figure 8-42

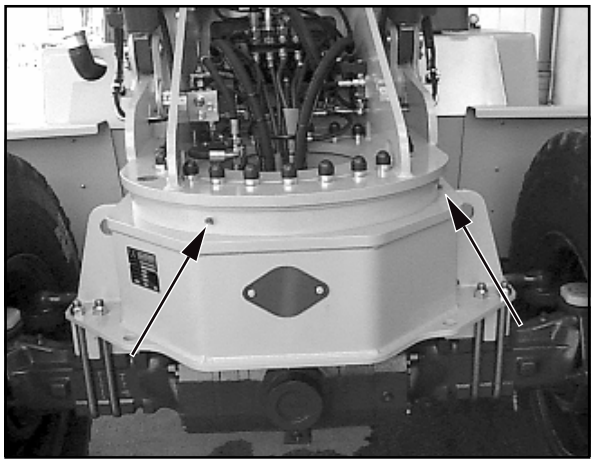


Figure 8-43

8.3.4 Ball bearing ring (8-43/arrows)

The grease filling is to avoid friction, and to provide sealing and protection against corrosion. Therefore, the bearing must be lubricated **every 10 operating hours** until grease becomes visible on the outside. When lubricating the ball bearing ring, swivel the bucket arm by 20° at a time. Grease all four grease nipples in each position. It is absolutely necessary to lubricate the machine before and after a longer period of inactivity.

DANGER

- Before you start lubricating, mechanically support the bucket arm [e.g. by inserting the bucket arm support (optional) (1-1/arrow)], apply the parking brake (4-7/4) and set the drive direction switch (4-7/3) to the "0" position.
- **During** swivelling, no-one may be present in the swivel area of the bucket arm.

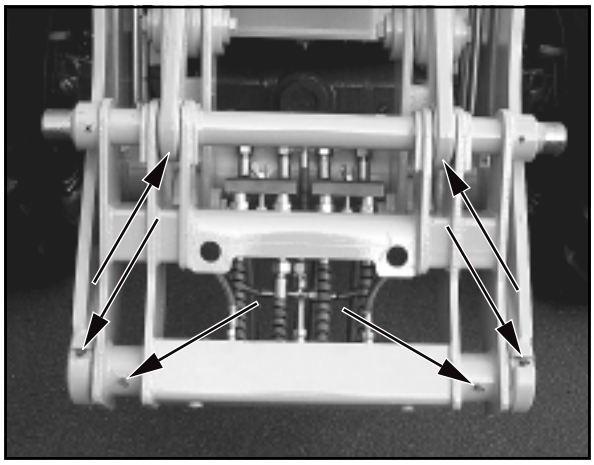


Figure 8-44

8.3.5 Bucket assembly

CAUTION

The bolts/lubrication points of the bucket assembly must be lubricated **every 10 operating hours**.

Figure 8-45

8.3.6 Driver's cabin doors (8-45/arrows)

CAUTION

The hinges of the driver's cabin doors must be lubricated **every 50 operating hours**.

NOTE

Lubricate the hinges on both doors of the driver's cabin.

8.3.7 Engine hood

CAUTION
The hinges of the engine hood (8-46/arrows) must be lubricated **every 50 operating hours**.

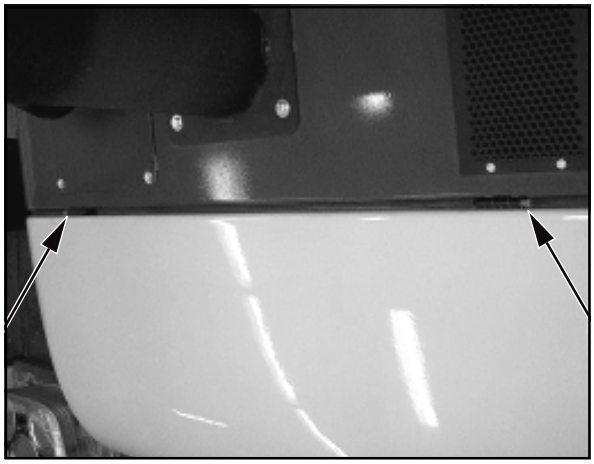


Figure 8-46

8.4 Oil lubrication points

8.4.1 Supporting valve actuator

CAUTION
The leverage of the supporting valve actuator must be lubricated with engine oil **every 50 operating hours**.

(1) Lift the bucket arm, insert the bucket arm support and swivel the bucket arm all the way to the right or to the left.

(2) Unscrew the four screws (8-47/arrows) that fix the maintenance plate and remove the plate.

Figure 8-47

NOTE
Lubricate only the visible surface of the spring housing piston rod (8-48/arrow).

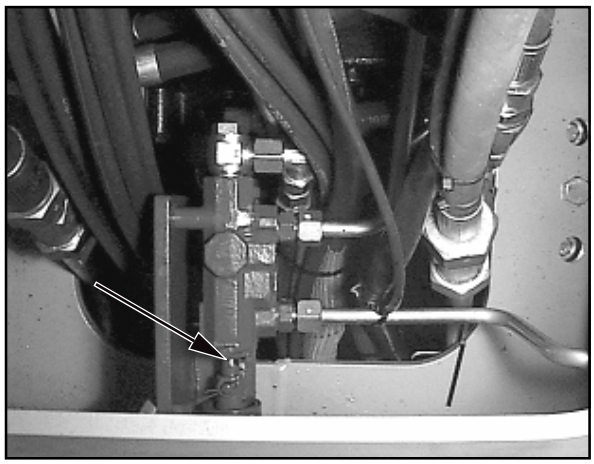


Figure 8-48