2 Technical data

2.1 Chassis

Sturdy steel sheet chassis, rubber-mounted engine.

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3.4 Maintenance plan (overview)

Work description

For servicing and maintenance on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer as well.

	Maintenance plan/operating hours (o/h)								
	Maintenance work (daily)	Every 50 o/h	Every 250 o/h	Every 500 s/h	Every 1000 o/h once a year	Every 1500 o/h	Every 2000 s/h	Customer	Authorized service center
Fluid and filter changes ( ):									
Perform the following oil and filter changes (check oil levels after test run):									
• Engine oil [1]			●						●
• Engine oil filter [2]			●						●
• Fuel filter [3]				●					●
• Air filter element according to dirt indicator [4]					●			●	
• Coolant					●				●
• Hydraulic oil filter insert [5]				●					●
• Hydraulic oil[6]				●	●				●
• Hydraulic oil reservoir breather filter					●				●
• Cabin air filter of heating system					●			●	
• Drain condensation water from the hydraulic oil reservoir (from serial no. AH02272)				●					●
• Drive gearbox oil [7]		●			●				●
Inspection work ( ):									
Check the following material. Refill if necessary:									
• Engine oil	●							●	
• Engine coolant	●							●	
• Hydraulic oil	●							●	
• Fuel	●							●	
• Drive gearbox oil			●						●
Clean water ducts [8]					●				●
Check pedal function	●							●	
Check radiator for engine and hydraulic oil for dirt. Clean if necessary	●							●	
Check cooling systems, heating and hoses for leaks and pressure (visual check)	●							●	

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Drain engine oil

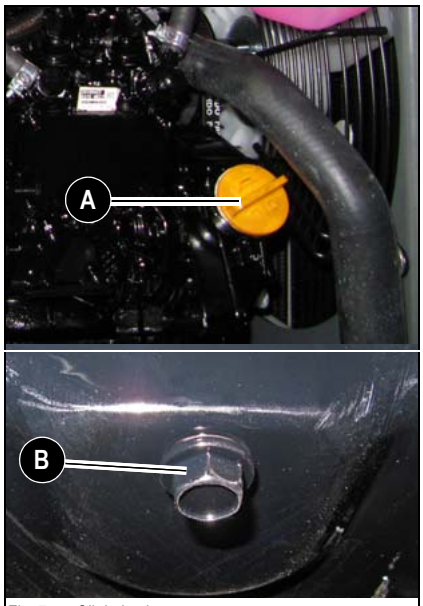


Fig. 7: Oil drain plug

The oil drain plug is located at the lower right in the engine compartment and is unscrewed through a recess in the chassis at the lower rear of the machine.

Drain engine oil

- Clean the area around oil filler cap **A** with a lint-free cloth
- Open filler cap **A**
- Place a suitable container under oil drain plug **B** to collect the oil as it drains
- Unscrew oil drain plug **B**

➥ Let the oil drain

- Then dispose of the oil by an ecologically safe method
- Screw the oil drain plug back on again
- Screw filler cap **A** back on again

Environment!

Use a suitable container to collect the engine oil as it drains and dispose of it in an environmentally friendly manner!

Adding engine oil

Caution!

Too much or incorrect engine oil can cause engine damage! For this reason:

☞ *Do not add engine oil above the MAX mark of oil dipstick* ***8/C***

☞ *Use only the specified engine oil*

☞ *– see Fluids and lubricants on page 3-2*

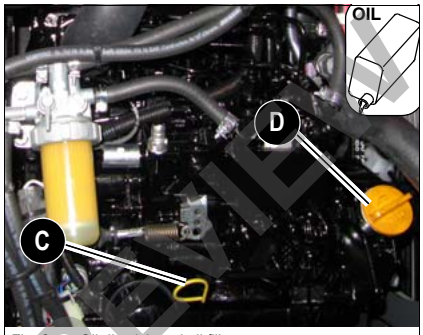


Fig. 8: Oil dipstick and oil filler cap

- Clean the area around oil filler cap **D** with a lint-free cloth
- Open filler cap **D**
- Pull out oil dipstick **C** and wipe it with a lint-free cloth
- Adding engine oil
- Approx. 3 minutes, until the oil has run into the oil sump completely.
- Check the oil level *– see Checking the oil level* on page 3-16
- Add oil if necessary and check the oil level again
- Close filler cap **D**
- Push oil dipstick **C** back in as far as possible
- Completely remove all oil spills from the engine
- Close and lock the engine cover

Caution!

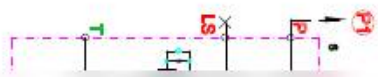
Adding engine oil too fast via filler inlet in the cylinder-head cover can cause engine damage.

☞ *Add the engine oil slowly so it can go down without entering the intake system.*

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Main valve block diagram

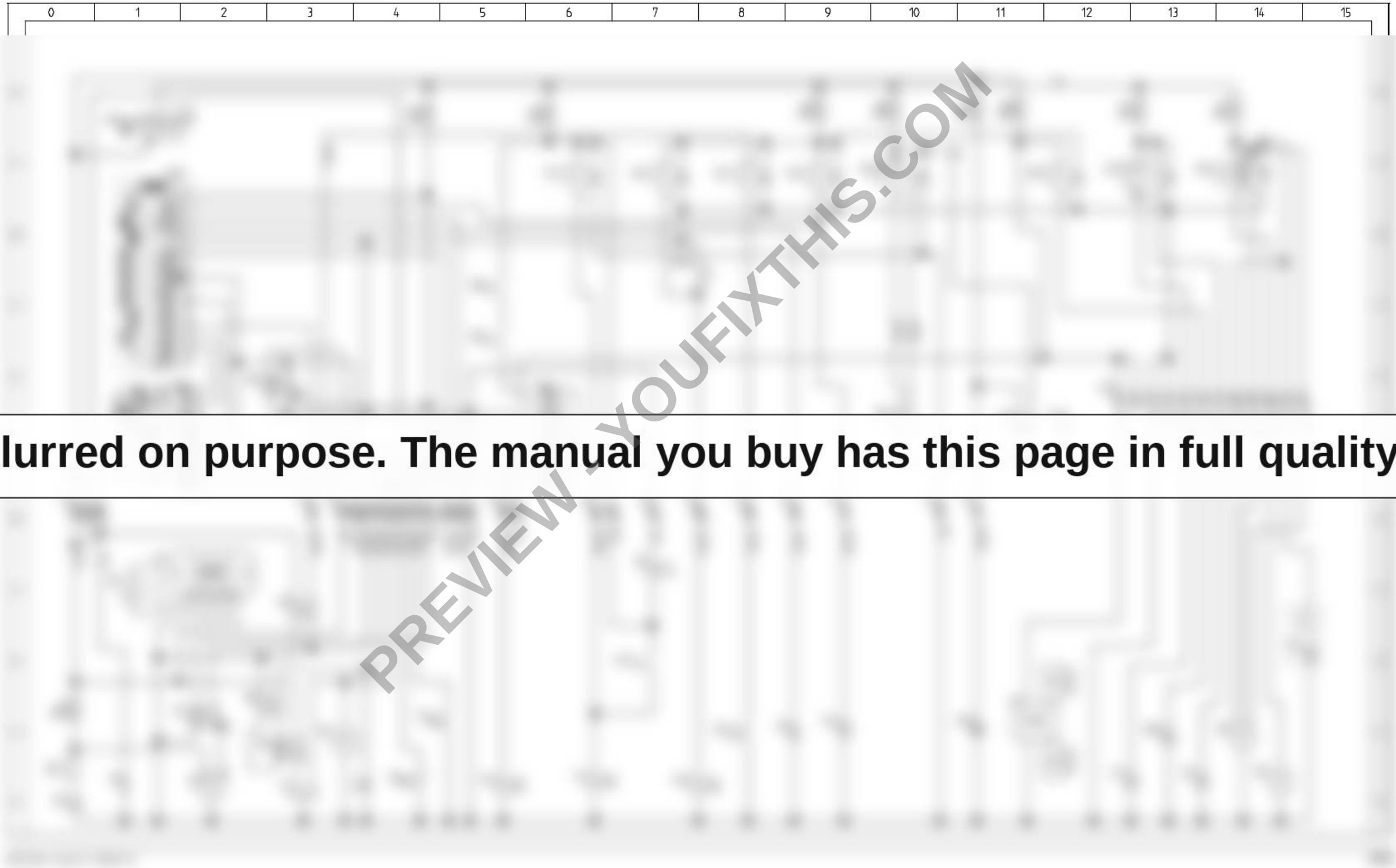


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6.21 Wiring diagram



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Tightening torques for high-resistance threaded fittings

With coarse-pitch thread					
Thread	Screws according to DIN 912, DIN 931, DIN 933, etc.			Screws according to DIN 7984	
	8.8	10.9	12.9	8.8	10.9
	Nm (ft.lbs.)	Nm (ft.lbs.)	Nm (ft.lbs.)	Nm (ft.lbs.)	Nm (ft.lbs.)
M5	5.5 (4)	8 (6)	10 (7)	5 (4)	7 (5)
M6	10 (7)	14 (10)	17 (13)	8.5 (6)	12 (9)
M8	25 (18)	35 (26)	42 (31)	20 (15)	30 (22)
M10	45 (33)	65 (48)	80 (59)	40 (30)	59 (44)
M12	87 (64)	110 (81)	147 (108)	69 (51)	100 (74)
M14	135 (100)	180 (133)	230 (170)	110 (81)	160 (118)
M16	210 (155)	275 (203)	350 (258)	170 (125)	250 (184)
M18	280 (207)	410 (302)	480 (354)	245 (181)	345 (254)
M20	410 (302)	570 (420)	690 (509)	340 (251)	490 (361)
M22	550 (406)	780 (575)	930 (686)	460 (339)	660 (487)
M24	710 (524)	1000 (738)	1190 (878)	590 (435)	840 (620)
M27	1040 (767)	1480 (1092)	1770 (1305)	870 (642)	1250 (922)
M30	1420 (1047)	2010 (1482)	2400 (1770)	1200 (885)	1700 (1254)

DIN 912 - hexagon socket head cap screws; DIN 931/DIN 933 - hexagon bolts with / without shaft;
DIN 7984 – hexagon socket head cap screw with short head
All values subject to a friction coefficient of μ = 0.12 and are to be used as approximate figures.

With fine-pitch thread					
Thread	Screws according to DIN 912, DIN 931, DIN 933, etc.			Screws according to DIN 7984	
	8.8	10.9	12.9	8.8	10.9
	Nm (ft.lbs.)	Nm (ft.lbs.)	Nm (ft.lbs.)	Nm (ft.lbs.)	Nm (ft.lbs.)
M8X1.0	25 (18)	37 (28)	43 (32)	22 (16)	32 (24)
M10X1.0	50 (37)	75 (55)	88 (65)	43 (32)	65 (48)
M10X1.25	49 (36)	71 (52)	83 (61)	42 (31)	62 (46)
M12X1.25	87 (64)	130 (96)	150 (111)	75 (55)	110 (81)
M12X1.5	83 (61)	125 (92)	145 (107)	72 (53)	105 (77)
M14X1.5	135 (100)	200 (148)	235 (173)	120 (89)	175 (129)
M16X1.5	210 (155)	310 (229)	360 (266)	180 (133)	265 (195)
M18X1.5	315 (232)	450 (332)	530 (391)	270 (1991)	385 (284)
M20X1.5	440 (325)	630 (465)	730 (538)	375 (277)	530 (391)
M22X1.5	590 (435)	840 (620)	980 (723)	500 (369)	710 (524)
M24X2.0	740 (546)	1070 (789)	1250 (922)	630 (465)	900 (664)
M27X2.0	1100 (811)	1550 (1143)	1800 (1328)	920 (679)	1300 (959)
M30X2.0	1500 (1106)	2150 (1586)	2500 (1844)	1300 (959)	1850 (1364)

DIN 912 - hexagon socket head cap screws; DIN 931/DIN 933 - hexagon bolts with / without shaft;
DIN 7984 – hexagon socket head cap screw with short head
All values subject to a friction coefficient of μ = 0.12 and are to be used as approximate figures.

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Important information for the use of biodegradable oil

- Use only the biodegradable oils that have been tested and released by Wacker Neuson. Refer to the Operator's Manual of the machine for more information.
- Add only biodegradable oil of the same type. The joint use of two different biodegradable oils can affect the quality of one of the oil types. When replacing the biodegradable oil, always comply with national regulations and the manufacturer's specifications.
- In order to avoid misunderstandings, attach a label near the hydraulic oil filler inlet providing clear information regarding the type of oil currently used.
- Do not add any mineral oil to prevent foaming problems, and avoid negative effects on the biodegradability of the biodegradable oil.
- When running the machine with biodegradable oil, the same oil and filter replacement intervals are valid as for mineral oil.
- Always drain the condensation water in the hydraulic oil reservoir before the cold season. The water content may not exceed 0.1 % by weight.
- The instructions in the Operator's Manual concerning environmental protection are also valid for the use of biodegradable oil.
- Additional hydraulic attachments must be filled with the same oil as the one in the hydraulic system of the excavator.

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4.13 Checking the thermal switch

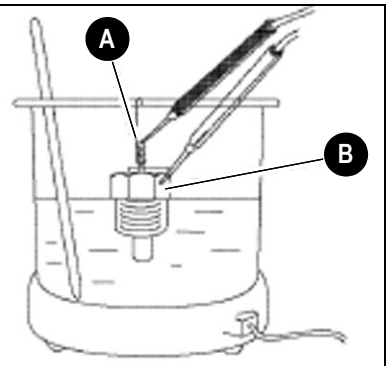


Fig. 21: Checking the thermal switch

☞ *Remove the temperature switch*

➥ The temperature switch is located at the side on the water pump – *see* Checking the coolant thermostat on page 4-15

☞ *Warm up the temperature switch in a container with antifreeze*

➥ Check the temperature with a thermostat

☞ *Measure the resistance of the temperature switch by means of an ohmmeter*

➥ One test prod on connection **A** and the other on housing **B** of the temperature switch

➥ The switch must allow the coolant to pass at a temperature of 107 – 113 °C (225 – 235 °F)

4.14 Oil pressure switch

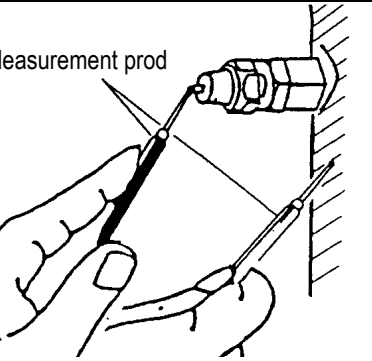


Fig. 22: Oil pressure switch

☞ *Remove the cable connection from the oil pressure switch (in the area of the cutoff solenoid)*

☞ *Start the engine, check for correct idling speed*

☞ *Measure the resistance of the oil pressure switch by means of an ohmmeter.*

➥ Oil pressure switch OK: infinite resistance

➥ The oil pressure switch is malfunctioning if the oil can pass

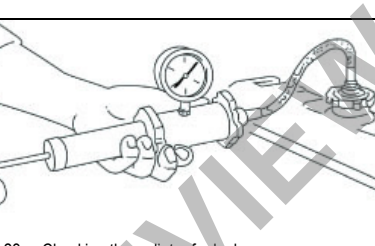
The oil pressure can also be measured with a mechanical dial gage

☞ *Remove the oil pressure switch and replace it with the dial gage*

☞ *Start the diesel engine and measure the oil pressure*

➥ Replace the oil pressure switch if malfunctioning or determine the cause for insufficient oil pressure

4.15 Checking the coolant circuit


Fig. 23: Checking the radiator for leaks

Leakage check

☞ *Fill up the radiator completely*

☞ *Fit the adapter on the radiator*

☞ *Increase the pressure in the cooling system by means of a hand pump to about 0.75 – 1.05 bar (10.8 – 15.3 psi)*

➥ Check the lines and the connections for leaks if the pressure drops at the pressure gage

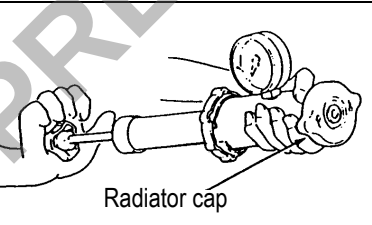


Fig. 24: Checking the radiator cap

Checking the radiator cap

☞ *Remove the radiator cap and place it on the adapter*

☞ *Increase the pressure to about 0.75 – 1.05 bar/10.8 – 15.3 psi (stamped onto the radiator cap) with the hand pump*

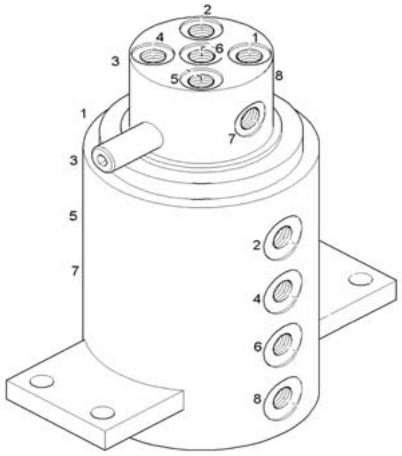
➥ The radiator cap must open within this pressure range

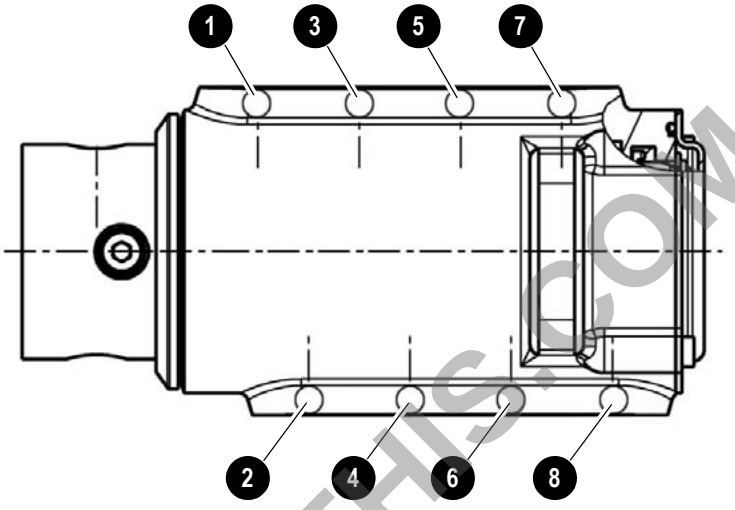
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5.7 Swivel joint

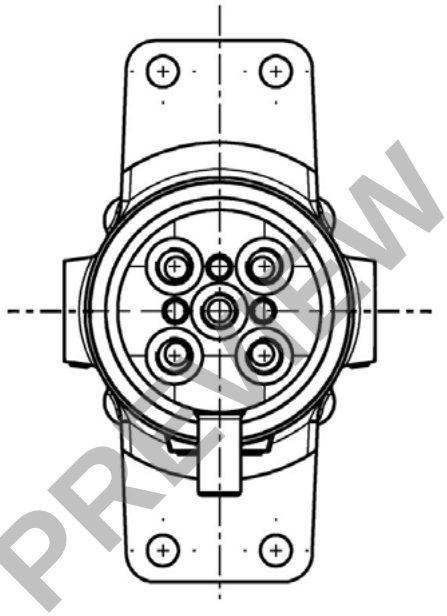
The swivel joint ensures the oil flow between the upper carriage and the undercarriage.

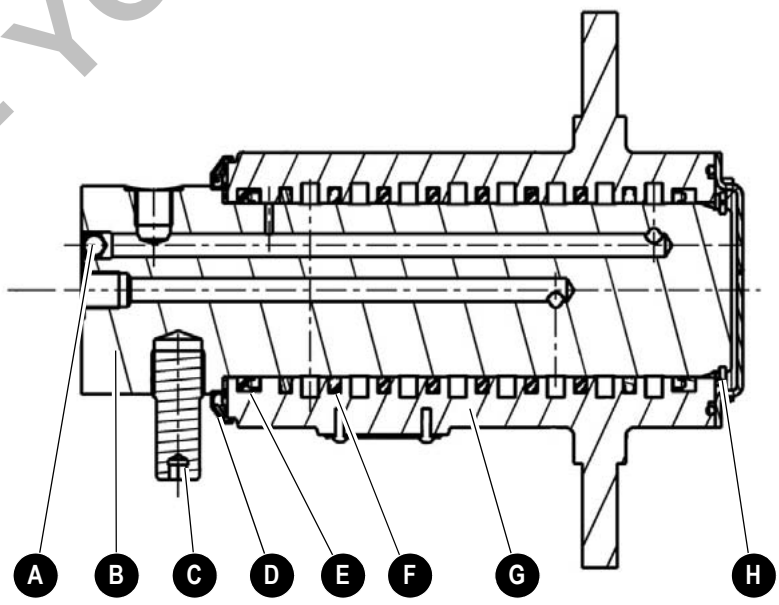




Pos.	Connection
1 and 7	Telescopic undercarriage cylinder
2 and 4	Machine travel (right)
3 and 5	Machine travel (left)
6 and 7	Stabilizer blade
8	Traveling drive leak oil line

Pos.	Designation	Pos.	Designation
A	Plug	E	Rotor seal
B	Rotor	F	Rotor seals
C	Driver	G	Housing
D	Ring	H	Circlip





Replace the sealing rings

☞ *Loosen circlip **H** on the lower side*

☞ *Pull the swivel joint apart*

☞ *Replace the sealing rings*

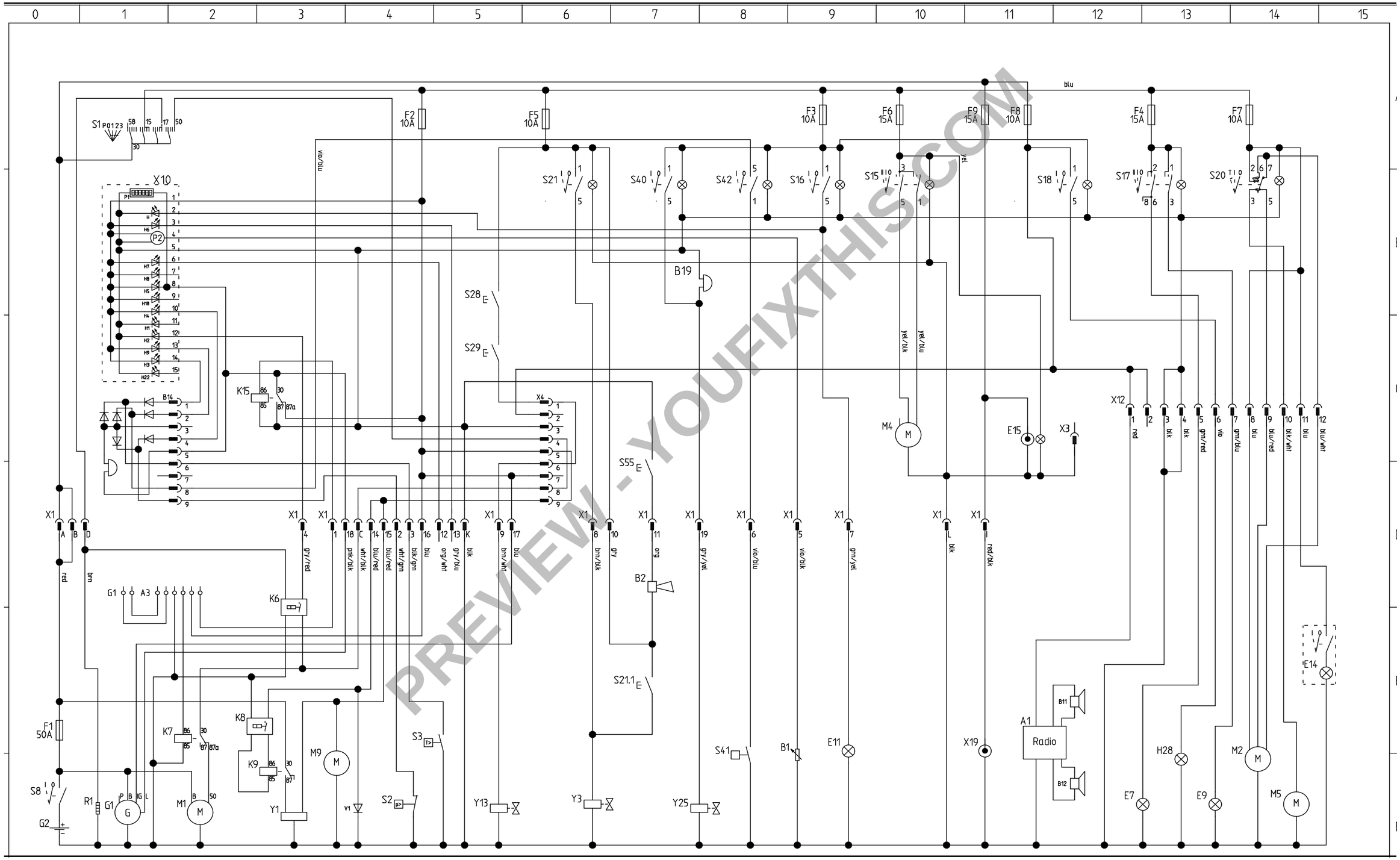
☞ *Push together again*

☞ *Insert the circlip back in again*

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6.25 Wiring diagram with alternator (option)



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