

46—130 Checking oil pressure of power steering pump

Data

Max. speed of power steering pump	7000/min.		
Circulation pressure	max. 5 bar gauge pressure		
Pressure relief valve opens at	65 ± 5 bar gauge pressure	82 ± 5 bar gauge pressure	90 ± 5 bar gauge pressure

Installation survey of power steering pump

Pump version	Opening pressure of pressure relief valve in bar gauge pressure	Color of type plate	Installed in model	Remark
Vickers VT 27	65 ± 5	black	116.020, 116.024 116.025 1st version	with separate supply tank
	82 ± 5	blue	116.028, 116.029 116.032, 116.033 1st version and 116.020 (USA)	
Vickers VT 49 and ZF	65 ± 5	black	116.020, 116.024 116.025 2nd version	with cast-on supply tank
	82 ± 5	blue	116.036, 116.120 1st version 116.028, 116.029 116.032, 116.033 2nd version 116.020, 116.024 116.025 3rd version	
	90 ± 5	blue	116.036 2nd version	

Note: The opening pressure of the pressure relief valve is punched into type plate.

Oil grades/filling capacity

ATF (automatic transmission fluid)
or gear oil

refer to specifications for service products page 236.2
refer to specifications for service products page 237

Filling capacity

approx. 1.5 liter

Oil level checkup With the oil at operating temperature (approx. 80 °C), the oil level in supply tank should be at the punched-in or cast-in mark (approx. 20 mm below rim of tank). With cold oil and at ambient temperature, oil level 6–8 mm below mark. For filling up, use only absolutely clean oil since even minute particles of dirt might cause trouble in hydraulic system.

Tightening torque

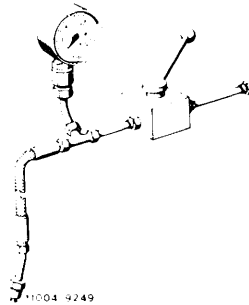
Nm

Cap screw on high pressure expanding hose

45–50

Special tool

Tester



115 589 13 21 00

Conventional tool

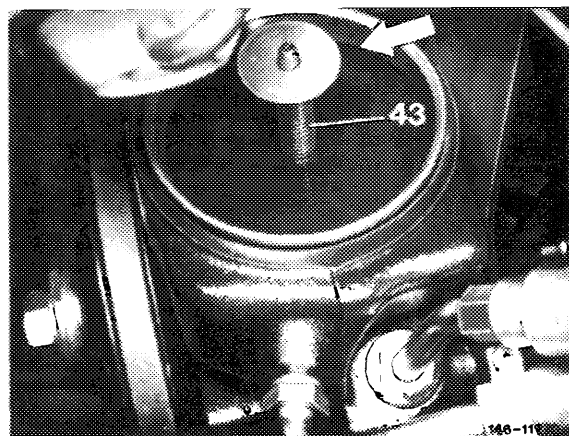
Open double-box wrench 17 x 19

e.g. made by Hazet, D-5630 Remscheid
order No. 612

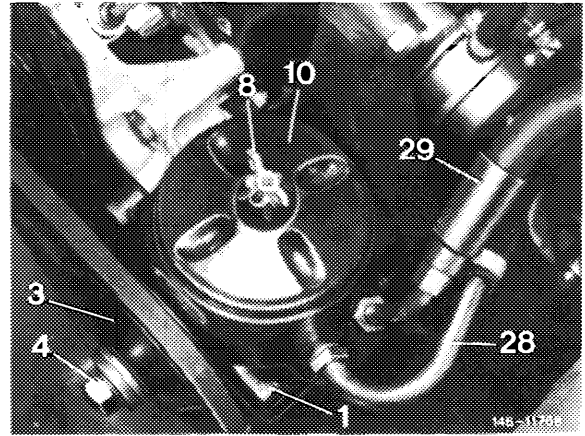
Checkup

1 Remove closing cover and drain oil with a syringe, since otherwise the oil will run out when unscrewing high pressure expanding hose.

Note: On Vickers power steering pump VT 49 1st version, pay attention to disc (arrow).



2 Unscrew high-pressure expanding hose (29) at power steering pump by means of open double-box wrench.

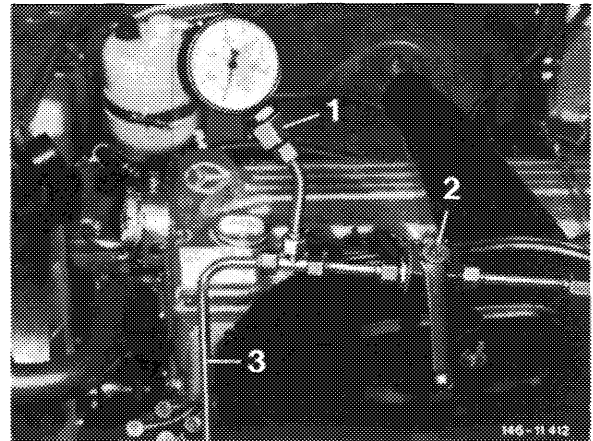


3 Connect high-pressure expanding hose to tester, fill supply tank with specified oil.

4 Run engine at idle speed and complete the following measurements:

a) **With throttle valve opened, measure circulation pressure which should not be higher than 5 bar.** Do not move steering wheel when measuring, since otherwise the control valve will be deactivated and the pressure will rise.

b) **Connect throttle valve to tester and measure max. pressure** of power steering pump, while accelerating engine to maintain the speed of approx. 1000/min.



The max. pressure can also be measured by turning the steering wheel to lefthand and righthand lock.

Caution, do not spend too much time for measuring, since this would cause the oil temperature to rise to non-permissible limit, which in turn would result in damage to power steering pump.

c) If the pump does not attain the specified pressure, check volume control valve and pressure relief valve and replace, if required.

5 Disconnect high-pressure expanding hose from tester, remove tester, connect high-pressure expanding hose to power steering pump. Tighten screw cap to 45–50 Nm.

6 Fill supply tank with oil. Top up oil with the engine running.

Note: Oil level with oil at operating temperature (approx. 80° C) up to punched-in or cast-in mark (approx. 20 mm below rim of tank).

Oil level with engine cold (ambient temperature) = 6–8 mm below mark.

7 Check power steering system for leaks.