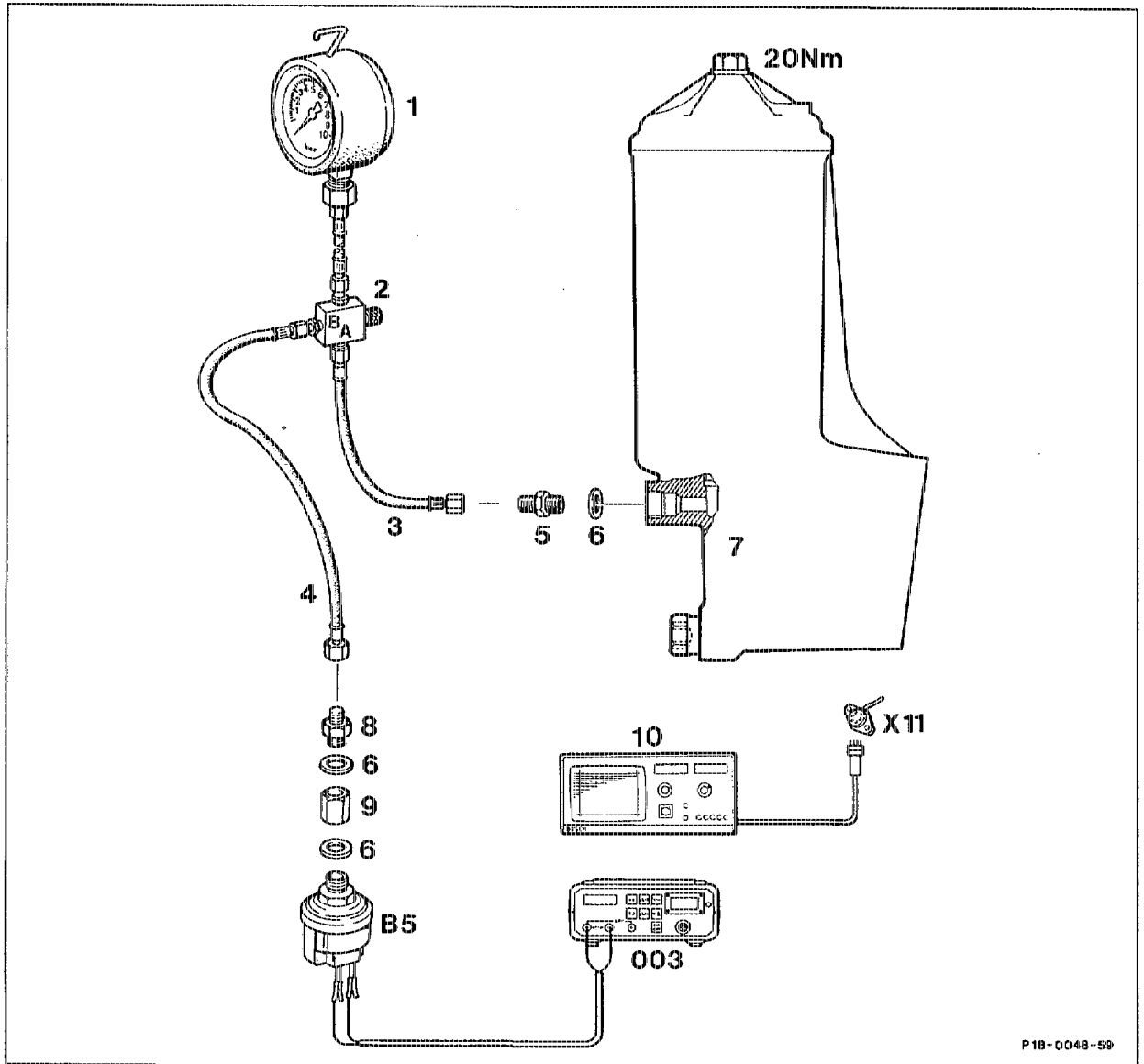


18-0070 Testing oil pressure and oil pressure sensor

Model 129

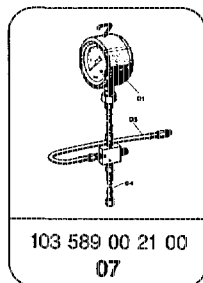
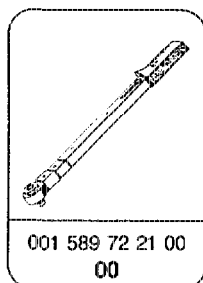


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- | | | | |
|----|--|-----|--|
| 1 | Pressure gauge 0-10 bar 103 589 00 21 01 | 7 | Oil filter |
| 2 | T valve | 8 | Adapter fitting M10×1 – M12×1.5 |
| 3 | Pressure line A | 9 | Threaded connection M12×1.5 (shop-made) |
| 4 | Pressure line B | 10 | Tachometer |
| 5 | Connection fitting M12×1.5 | X11 | Diagnosis socket |
| 6 | Seal | 003 | Resistance measuring instrument (multimeter) |
| B5 | Oil pressure sensor | | |

Coolant temperature	approx. 80 °C
Oil level in engine	check, adjust to correct level.
Oil filter element with oil cap	raise, introduce.
Oil filter cap	tighten (20 Nm).
Pressure gauge (1)	install in place of oil pressure sensor (B5).
T valve (2) at pressure gauge (1)	close.
Oil pressure at indicated engine speeds	measure (Step 8).
Oil pressure sensor (B5)	connect to pressure gauge (Steps 4 to 6).
T valve (2) at pressure gauge (1)	open.
Oil pressure sensor (B5)	connect to multimeter (003).
Electrical resistance at engine speeds	test (Step 12).

Special tools

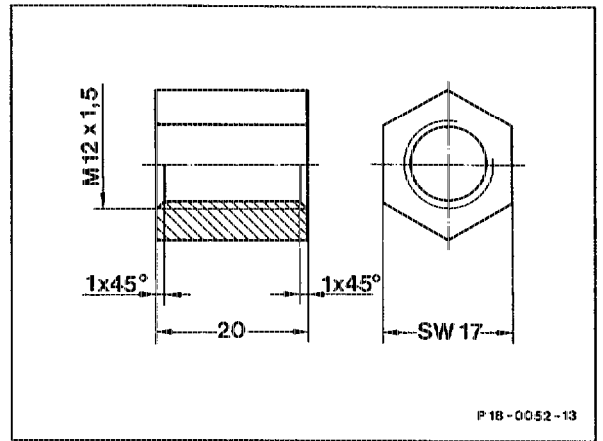


Commercially available tools

Connection fitting (5) M12 × 1,5	915 006 004 002 (DIN)
Adapter fitting (8) M10 × 1 – M12 × 1.5	915 007 004 001 (DIN)
Resistance measuring instrument (003)	e.g. multimeter Sun DMM-5
Tachometer (10)	e.g. engine tester or multimeter

Shop-made tools

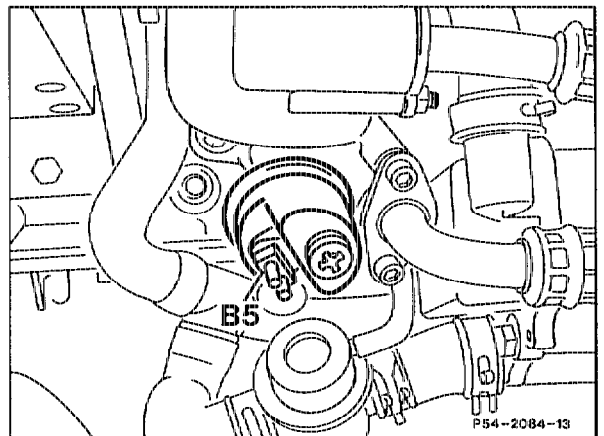
Threaded connection (9) M12×1.5 for oil pressure sensor (B5) to pressure gauge (1).



Measuring oil pressure

Test condition: coolant temperature approx. 80 °C.

- 1 Check oil level in engine; adjust to correct level, if necessary.
- 2 Raise oil filter cap together with oil filter element so that the engine oil flows out of the oil filter housing into the sump.
- 3 Install oil filter cap with oil filter element. Tightening torque 20 Nm.
- 4 Detach plug connection at oil pressure sensor (B5). Unscrew oil pressure sensor (B5).
- 5 Screw in connection fitting (5) together with seal (6) in place of oil pressure sensor (B5).
- 6 Connect pressure gauge (1) with pressure line A (3).
- 7 Close T valve (2) at pressure gauge (1).



8 Measure oil pressure at the indicated engine speeds.

Model 129

Engine speed in rpm	Oil pressure in bar
600–750	0.3–1.5
1000	0.7–3.0
2000	1.6–5.0
2500	2.0–5.5
3000	2.5–5.5
4000	2.7–5.5
5000	2.8–5.5

The readings obtained must reach the indicated minimum oil pressure.

If the oil pressure is lower than the indicated smaller figure (minimum oil pressure), the oil pressure warning lamp is activated and the oil pressure pointer is deflected to the bottom stop.

Testing oil pressure sensor

Perform Steps 1 to 6.

9 Connect oil pressure sensor (B5) together with threaded connection (9), seals (6) and adapter fitting (8) to the pressure line B(4).

10 Open T valve (2) at the pressure gauge (1) .

11 Connect oil pressure sensor (B5) to resistance measuring instrument (003) (multimeter).

12 With engine running, test resistance (Ω) of oil pressure sensor (B5).

The readings obtained must agree with the figures indicated.

Model 129

Engine oil pressure in bar (gauge pressure)	Oil pressure sensor resistance in ohms
0	3-16
0.3	17-34
1.8	102-125
3.0	163-195
3.5	170-223

If the resistance of the oil pressure sensor (B5) is outside of the tolerance of the indicated values, the oil pressure sensor should be replaced.

For testing wiring from oil level sensor and instrument cluster refer to Diagnosis Manual Chassis.