

Testing Capacity:

12. After the assembly check the oil pump for leaks and test the capacity. (Test data see the following table.) Oil pumps with a lower capacity must be repaired or replaced.

Output

Pump speed rpm	2000
Motor oil	SAE 10
Oil temperature °C	100
Vacuum mm Hg	400
Overpressure atm.	5
Capacity kg/min for 2nd version with 24 mm high gears	10.2–13.6
Capacity kg/min for 3rd and 4th version with 29 mm high gears	12.5–16.5

B. OM 621

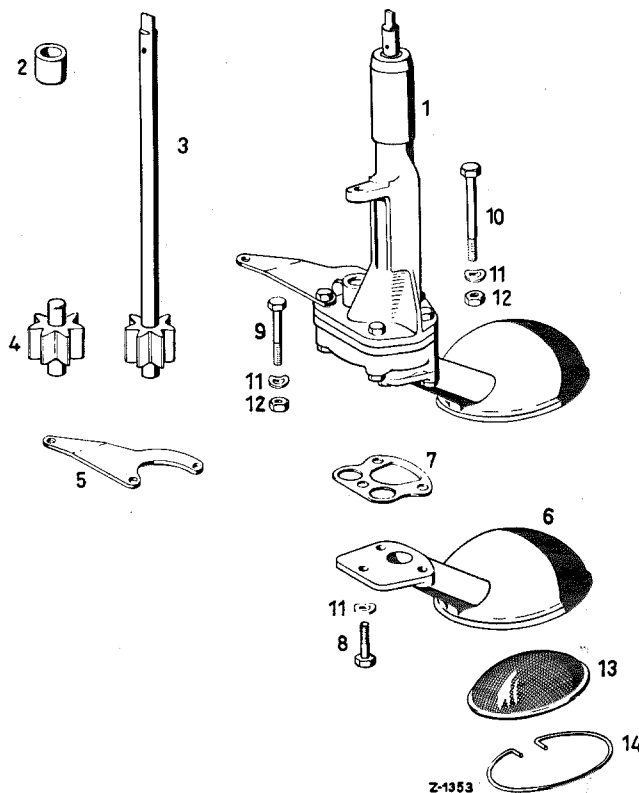


Figure 18-14/7

- 1 Oil pump
- 2 Bearing bushing, top
- 3 Drive shaft with gear
- 4 Oil pump shaft with gear
- 5 Bracket
- 6 Suction strainer
- 7 Gasket
- 8 Hex. hd. screw M 6×22 DIN 931-8 G
- 9 Hex. hd. screw M 6×35 DIN 931-8 G
- 10 Hex. hd. screw M 6×55 DIN 931-8 G
- 11 Spring washer B 6
- 12 Hex. nut M 6
- 13 Strainer
- 14 Snap ring

The oil pump is of the gear-type design; it is driven by the intermediate gear shaft (10) via the helical gear (39) (see Figure 18-16/1).

Disassembly:

1. Unscrew the suction strainer (6).
2. Unscrew the oil pump housing lower part and remove the oil pump shaft with gear (4) as well as the drive shaft (3) with gear.

Checking parts:

3. Clean all parts and check for wear; measures and tolerances (see Job No. 18-0).

If worn, the bearing bushing (2) should be pressed out and replaced by a new one.

If the cast-in bushings in the housing upper part and lower part are worn, it is necessary to replace the complete housing (see Figure 18-14/7).

Worn shafts should be replaced with the pressed on gear as a complete assembly.

The separating surfaces of the housing should be checked for evenness by blue-printing and, if necessary, remachined slightly.

Assembly:

4. Before assembling the oil pump, check the radial and axial clearances of the gears (Figure 18-14/8 and 18-14/9).

Clearances and backlash of gears (measures in mm)

radial	0.025–0.057
axial	0.016–0.052
backlash	0.05 –0.10

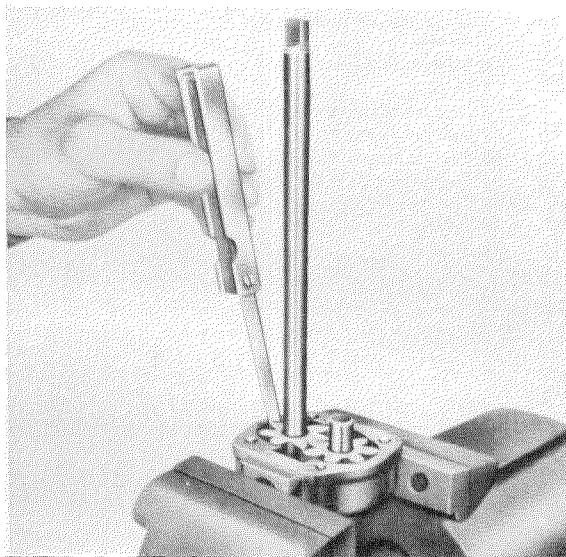


Figure 18-14/8

The radial clearance is the distance between addendum and housing wall (Figure 18-14/8).

The axial clearance is the distance between the front face of the gear and the separating surface of the housing lower part (Figure 18-14/9).

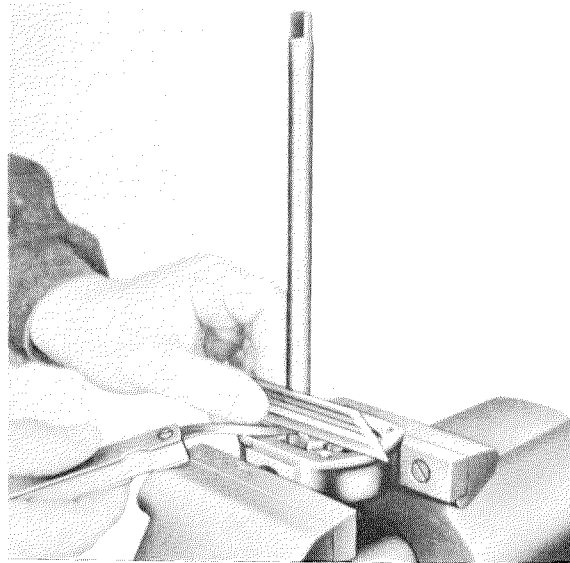


Figure 18-14/9

When checking the radial and axial clearances, always take the measurements on both gears.

5. Screw the housing lower part to the upper part. A gasket is not required.

When screwing on the lower part, also fix the bracket (5) at the same time. Then check the gears for ease of movement (see Figure 18-14/7).

6. Tighten the suction strainer (6), using a new gasket (7) (see Figure 18-14/7).
7. After assembly, check the oil pump for leaks and feed capacity.