

A. OM 636

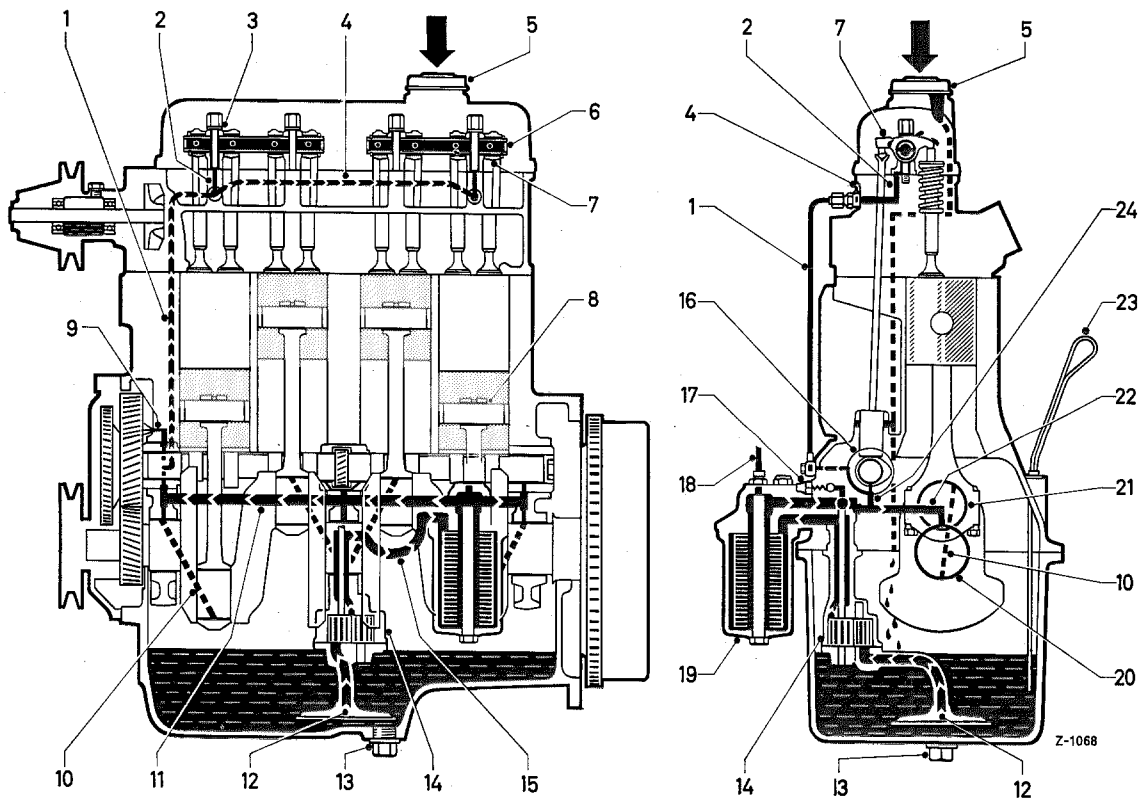


Figure 18-1/1

Lubrication System for Engine OM 636

- | | | |
|---|---|--|
| 1 Oil line from crankcase to cylinder head | 10 Oilways in crankshaft | 18 Oil pressure gauge line |
| 2 Oilway in cylinder head | 11 Main oilway | 19 Oil filter |
| 3 Rocker bracket | 12 Suction strainer | 20 Main bearing |
| 4 Oil line connecting rocker brackets 1 and 4 | 13 Screw plug (oil pan) | 21 Big-end bearing |
| 5 Oil filler | 14 Oil pump | 22 Oilway from main oilway to main bearing |
| 6 Rocker shaft | 15 Oil line from oil pump to oil filter | 23 Oil dipstick |
| 7 Rocker | 16 1st camshaft bearing | 24 Oilway to camshaft bearing |
| 8 Piston pin | 17 Oil relief valve | |
| 9 Oil jet | | |

The engine lubrication is designed as a forced oil circulation. The oil pump (14) sucks the oil from the oil pan through the suction strainer (12) and discharges the oil through the oil filter into the main oilway (11) (Figure 18-1/1).

From the main oilway (4) the oil flows through the passages (8) to the main bearings (10) and through the passages (9) to the camshaft bearings (1) (see Figure 18-1/2). From the main bearings (20) the oil flows through the crankshaft oilways (10) to the big-end bearings. The hole (9) in the front end of the crankcase serves as an oil jet lubricating the timing gears (see Figure 18-1/1 and 07-27/4).

The lubrication of the rockers is handled by way of the 1st camshaft bearing (16) and an adapter which also serves as a locating screw for the first camshaft bearing. From here the oil passes through the line (1) to adapters at the cylinder head, through the passage (2) in the cylinder head into the 1st rocker bracket (3) and through another line (4) and a passage in the cylinder head into the 4th rocker bracket (see Figure 18-1/1). From the rocker brackets 1 and 4 the oil passes through the hollow rocker shafts (6) and the passages to the rocker bushes.

Part of the oil is forced through the grooves, which are machined into the top side of the rocker brackets, splashes on the rocker arms and push rods and lubricates the pressure surfaces of the rockers. The oil dripping off returns through the push rod bores into the oil pan.

The valve tappets are lubricated by splash oil from below and also through holes in the oil-collector pockets.

The cylinder bores and the piston pins are lubricated by splash oil thrown up from the crankcase. The connecting rod and the small-end bush are furnished with a lubricating groove to lubricate the piston pin.

The bearing of the injection pump drive is lubricated by oil mist and splash oil from the timing housing.

The oil relief valve (8) attached to the oil filter will open the inflow to the lubricating points of the engine, even if the resistance of the oil filter is higher than normal for some reason, e.g. during starting when the oil is still cold and viscous, or if the oil filter is clogged due to insufficient maintenance (Figure 18-1/3).

The oil relief valve (5) installed in the main oilway prevents the surpassing of a certain maximum oil pressure (see Figure 18-1/3).

The opening pressure of the oil relief valve (8) in the oil filter is 2 atm.

The opening pressure of the oil relief valve (5) in the main oilway is 8 atm.

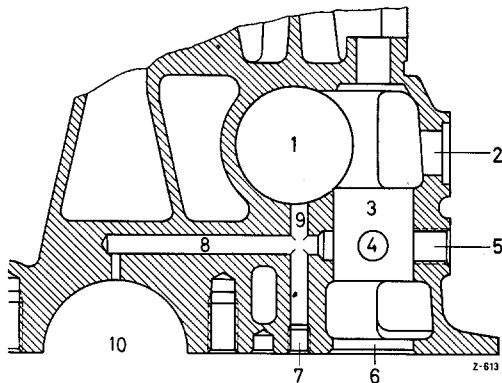


Figure 18-1/2

- 1 Base bore for camshaft bearing
- 2 Machining bore with cover plate
- 3 Bore seating the oil pump
- 4 Main oilway
- 5 Tapped hole to connect oil line to oil filter
- 6 Bore seating the oil pump
- 7 Screw plug in machining bore to camshaft bearing oilway
- 8 Oilway to main bearing
- 9 Oilway to camshaft bearing
- 10 Base bore for main bearing

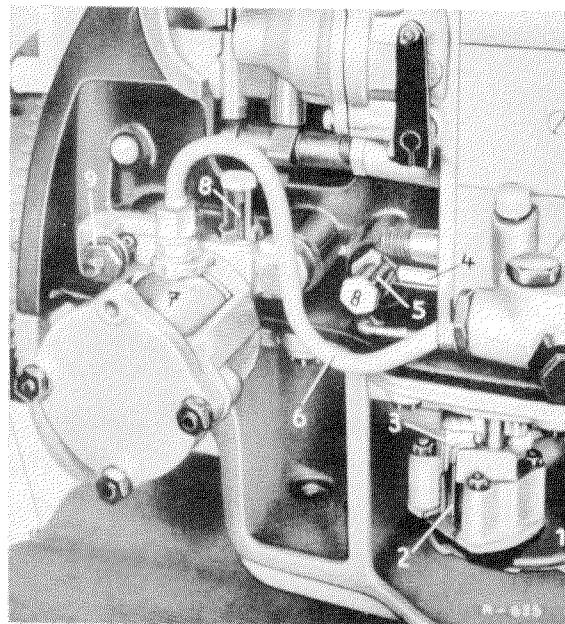


Figure 18-1/3

- 1 Suction strainer with suction pipe
- 2 Geared pump
- 3 Pressure passage in pump housing
- 4 Main oilway in crankcase
- 5 Relief valve (8 atm.) in main oilway
- 6 Line from oil pump to oil filter
- 7 Wire coil and/or metal filter element
- 8 Relief valve in filter housing (2 atm.)
- 9 Adapter for passage of filtered oil from the filter housing to the main oilway and connector for the oil pressure gauge line