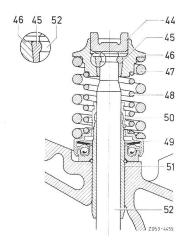
M 116, M 117

## Tightening Torques in kpm

Hex. bolt for fastening cylinder head cover		0.5
Special Tools		
Removal and installation tool for rocker arm	1	116 589 00 61 00
Magnetic lifter		108 589 09 63 00
Assembly sleeve		115 589 10 59 00
Assembly mandrel for valve seals	Valve stem dia. 9.0 mm	116 589 00 43 00
	Valve stem dia. 11.0 mm	116 589 01 43 00

### Inlet and exhaust



49 Valve rotating device (Rotocap)

52 Valve with round groove

50 Teflon sealing ring

for valve cone

51 Valve guide

Fig. 1 44 Thrust piece

- 45 Valve cone half
- 46 Valve spring retainer
- 47 Outer valve spring
- 48 Inner valve spring

# Inlet and exhaust

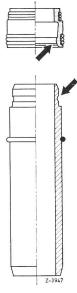


Fig. 2

Teflon sealing ring with coil spring at top and bottom, with groove in valve guide and bead in sealing ring (arrow).

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### Removal

- 1 Remove rocker arm (05.1–230).
- 2 Set piston of respective cylinder to ignition TDC and support valve by compressed air.

Caution! Valves should not seat on piston crown, since the inclined arrangement of the valves in relation to the piston will bend the valves.

- 3 Apply one hammer blow against valve spring retainer to loosen the valve cone halves.
- 4 Use removal and installation tool and push valve spring retainer downwards until the valve cone halves (45) are free and can be removed with the magnetic lifter (Fig. 3).



Fig. 3 45 Valve cone halves

5 Remove valve spring retainer, valve springs and valve stem seals (50) (Fig. 1).

### Installation

- 6 Deburr valves on groove, replace dented valve cone halves and spring retainers.
- 7 Lubricate valve stem seal slightly. Place assembly sleeve on inlet valve.
- 8 Slide on valve shaft seal with assembly mandrel (Fig. 4).

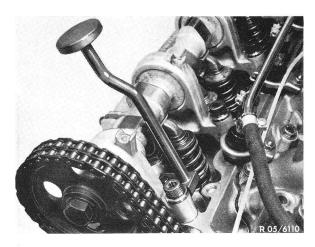


Fig. 4

9 For further installation proceed vice versa; also observe the following point:

The gap between the two valve cone halves should be the same on both sides.