

## Tightening Torques in kpm

Hex. bolt for attaching cylinder head cover	0.5
Hex. bolt on crankshaft front	25–27
Fastening bolts for oil pan to crankcase	0.8–0.2
Hex. bolt for attaching chain tensioner to cylinder head	2.5

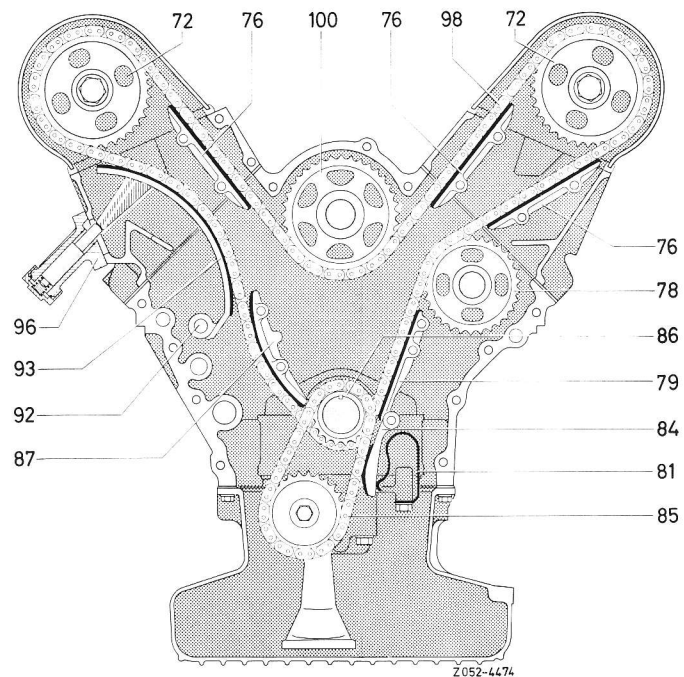
## Special Tools

Puller for slide rail bolts	115 589 12 33 00
Special wrench SW 6 for cylinder head bolts M 8	116 589 03 07 00

Fig. 1

### Chain drive

- 72 Camshaft gear
- 76 Slide rail
- 78 Intermediate gear
- 79 Slide rail
- 81 Spring chain tensioner
- 84 Clamp
- 85 Single roller chain
- 86 Crankshaft gear
- 87 Slide rail
- 92 Bearing bolt tensioning lever
- 93 Tensioning lever
- 96 Chain tensioner
- 98 Double roller chain
- 100 Guide wheel



# 05.1 Removal and Installation of Slide Rails

## Slide Rail in Righthand Cylinder Head

- 1 Remove cylinder head cover right.
- 2 Remove alternator with holder.
- 3 Pull out slide rail bolt with puller and remove slide rail (Fig. 2).

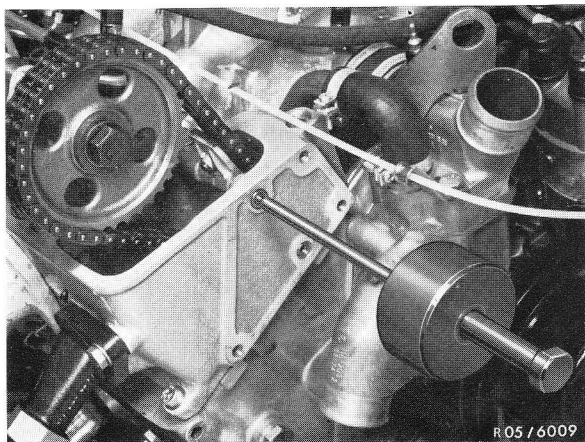


Fig. 2

For installation proceed vice versa.

## Slide Rails in Lefthand Cylinder Head

- 1 Remove cylinder head cover left.
- 2 Set engine to ignition TDC of first cylinder and remove ignition distributor (07.5.0—510).
- 3 Remove high-pressure oil pump with holder.
- 4 Pull out slide rail bolt with puller and remove slide rails.

For installation proceed vice versa.

## Slide Rails in Cylinder Crankcase

- 1 Completely drain cooling water and engine oil.
- 2 Remove air cleaner, radiator, shell, visco fan and electric supplementary filter.
- 3 Set piston of first cylinder to ignition TDC and remove ignition distributor.

- 4 Remove alternator and high-pressure oil pump together with holder.
- 5 On engine 116.981 and 117.981 remove air compressor with holder.
- 6 Remove cylinder head covers.
- 7 Remove chain tensioner (05.1—240).
- 8 Loosen bolt for attaching hub to crankshaft. Pull off hub manually together with vibration damper and pulley (03.1—340).
- 9 Remove water pump.
- 10 Loosen oil pipe on timing housing cover.
- 11 On engines 116.982 and 117.982 remove righthand engine damper (00.1—240).
- 12 On vehicles with air-conditioning system, remove refrigerant compressor with holder.
- 13 Remove oil pan and oil pump (03.1—210).
- 14 Force out crankshaft sealing ring by means of screw driver. Do not damage bore and crankshaft journal (03.1—324).
- 15 Unscrew all bolts of timing housing cover, do not forget cylinder head bolts M 8 (refer to arrows in Fig. 3).

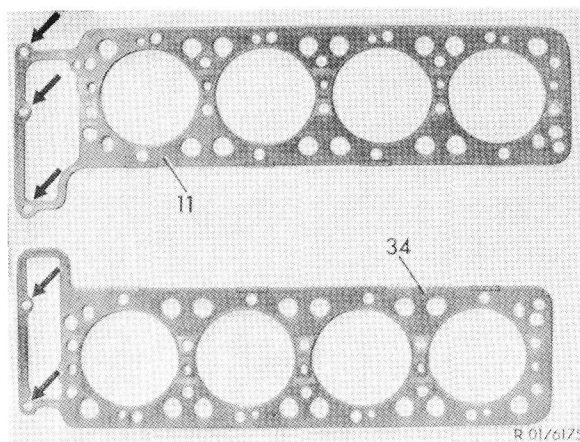


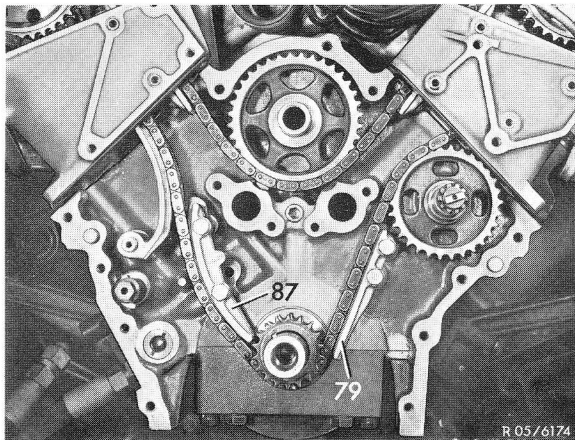
Fig. 3

- 11 Righthand end  
34 Lefthand end

**16** Knock timing housing cover loose with plastic hammer and carefully force off a portion of the cover.

**17** Lift oil pump chain from sprocket wheel through bore in timing housing cover and remove timing housing cover.

This job requires maximum care so that cylinder head gaskets are not damaged.



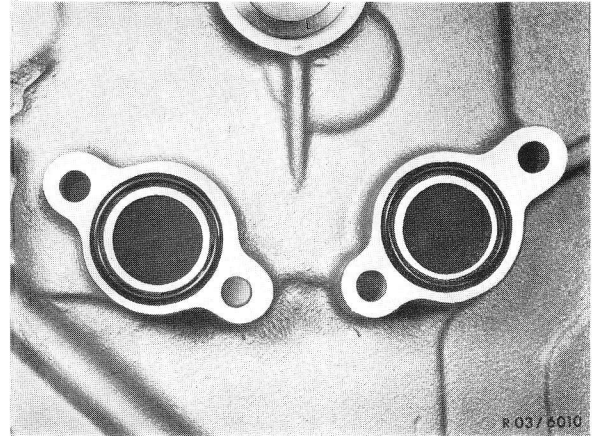
**Fig. 4**

79 Slide rail  
87 Slide rail

**18** Loosen hex. bolts and remove slide rails (79 and 87) (Fig. 4).

## Installation

**19** Clean timing housing cover and engine block from remainders of gasket. Be sure to replace the two O-rings for sealing the water ducts in the timing housing cover (Fig. 5).



**Fig. 5**

**20** When installing the slide rails into the cylinder head make sure that the securing wire of the slide rail rests in groove provided in slide rail bolt.

**21** Slightly coat cylinder head gaskets with grease.

**22** When mounting the cover, hold oil pump chain with hand through bore in timing housing cover until chain can be placed on crankshaft journal. When oil pump chain rests against sprocket wheel, mount chain on sprocket wheel by means of a bent piece of sheet metal.

**23** When installing the timing housing cover, screw-on M 8 cylinder head bolts first.

**24** For installation of the remaining parts proceed remaining parts proceed vice versa to removal.