

05--340 Removal and installation of slide rails

Tightening torques	Nm	(kpm)
Bolts for cylinder head cover (engine 615)	5	(0.5)
Nuts for cylinder head cover (engines 615, 616, 617)	15	(1.5)
Waisted bolt for camshaft sprocket	80	(8.0)
Fastening bolt, injection timing device	40	(4.0)
Nut for injection timing device	70	(7)

Special tools

Impact extractor for bearing pin (basic unit)		116 589 20 33 00
Threaded stud M 6, 150 mm long for impact extractor		116 589 02 34 00
Threaded stud M 6, 50 mm long for impact extractor		116 589 01 34 00
Socket 27 mm, 1/2" drive to crank engine		001 589 65 09 00

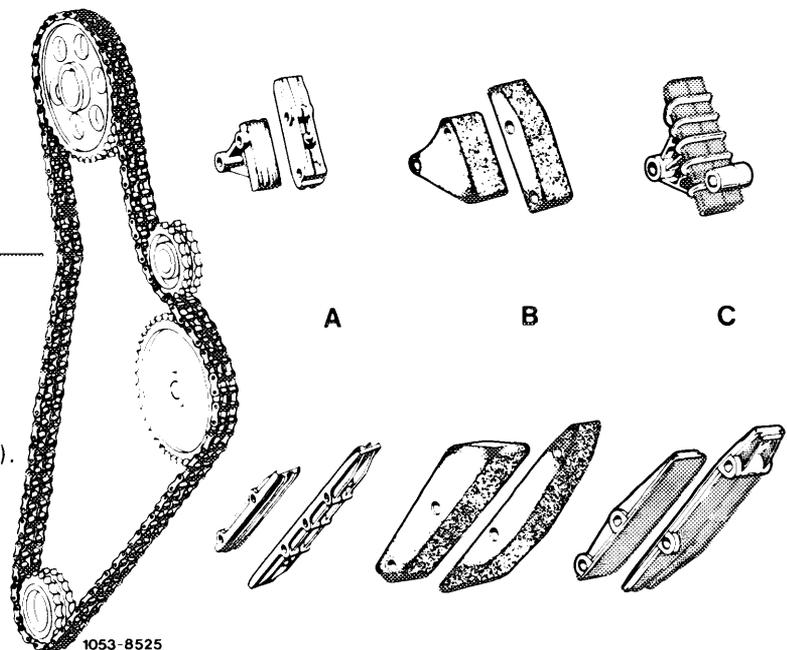
Note

There are 3 kinds of slide rail:

1st version

Lightweight slide rails with rubber backing (a).

- A Lightweight with rubber backing
- B Solid rubber
- C Plastic



2nd version

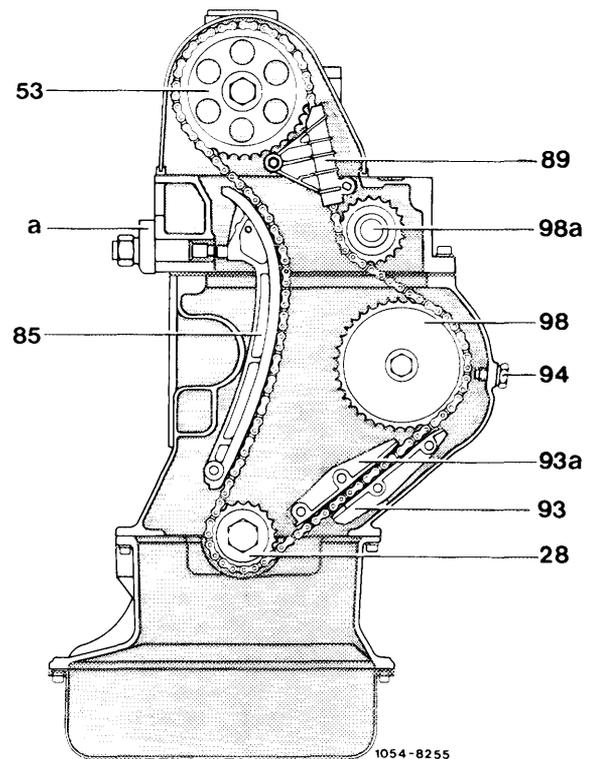
Solid rubber slide rails (B).

3rd version

Plastic slide rails (C).

Plastic slide rails are replacing the lightweight and solid rubber types.

- 28 Crankshaft sprocket
- 53 Camshaft sprocket
- 85 Tension rail
- 89 Slide rail
- 93 Outer slide rail
- 93a Inner slide rail
- 94 Chain retainer
- 98 Injection timing device
- 98a Idler
- a Chain tensioner



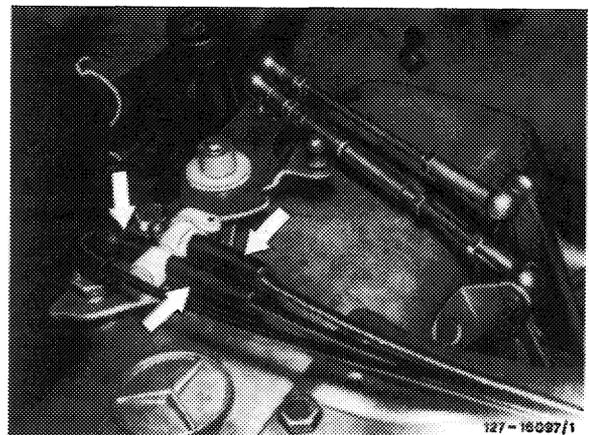
Removal of slide rail or slide rails (89)

- 1 Remove cylinder head cover.

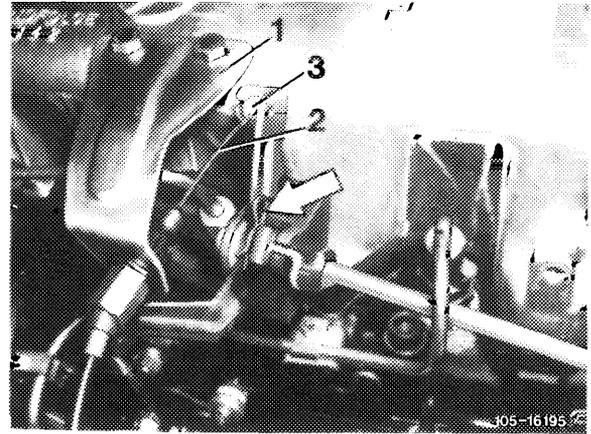
On vehicles with automatic transmissions and vacuum-controlled modulating pressure, additionally detach vacuum lines at switch-over valve.

Caution:

Be sure not to cross vacuum lines. The pipe unions and vacuum lines are color coded.

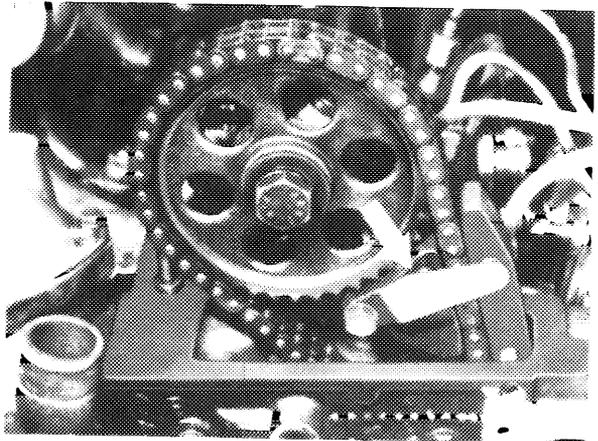


On engines with longitudinal control spindles, detach all control rods. Withdraw retainer (arrow) and force longitudinal control spindle in aft direction. Unscrew bracket (1) and unclip idle control cable (2) with plastic sleeve (3).

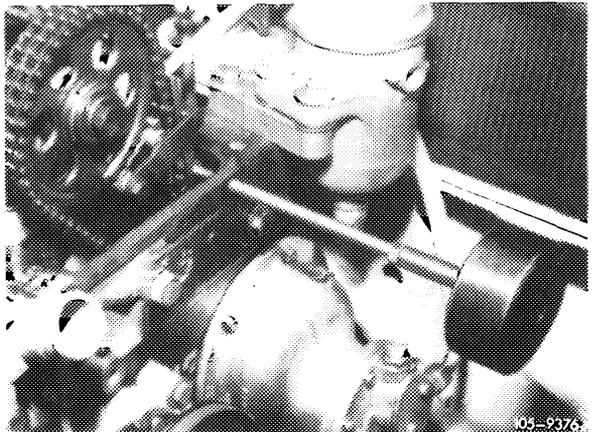


2 On vehicles with level control, detach delivery oil pump together with connected lines, depositing on one side.

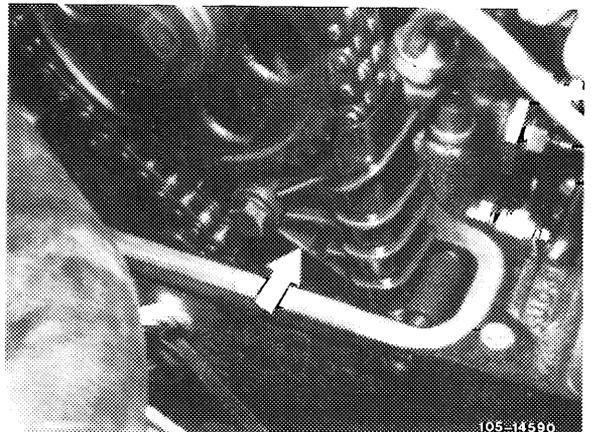
3 For 1st and 2nd slide rail versions (lightweight and rubber) unscrew bolt and remove bracket with inner slide rail.



Withdraw bearing pin using impact extractor, and remove outer slide rail in upward direction.

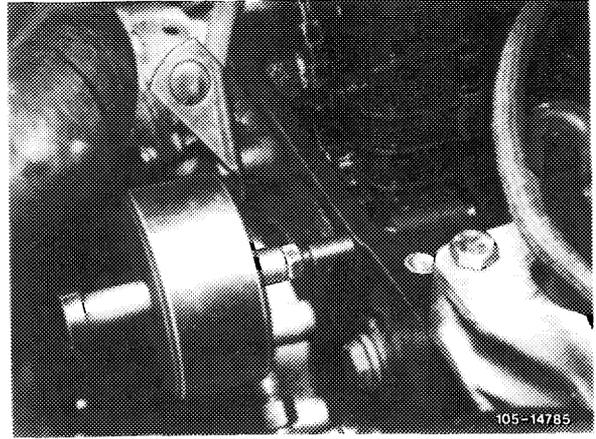


For 3rd slide rail version (plastic) unscrew bolt.



Withdraw bearing pin using impact extractor.

Remove slide rail in upward direction.



Installation

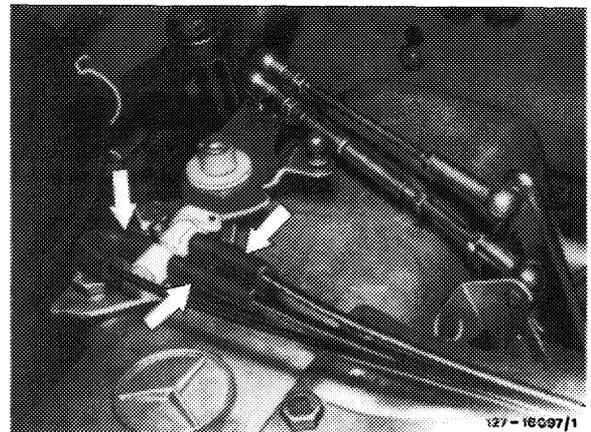
- 4 Coat bearing pin collar with sealant.
- 5 Position slide rail and drive bearing pin home using impact extractor.
- 6 Insert bolt or apply with inner slide rail and then tighten.
- 7 Fit delivery oil pump and cylinder head cover.

Removal of inner slide rail (93a)

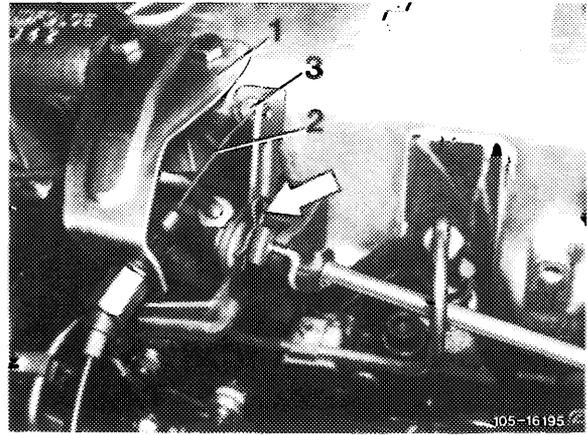
- 1 Remove radiator and fan.
- 2 Remove vacuum pump (42-610).
- 3 On engines 615, 616 remove pulley, and on engine 617 remove pulley and vibration damper (03-340).
- 4 Remove cylinder head cover. On vehicles with automatic transmissions and vacuum-controlled modulating pressure, additionally detach vacuum lines at switch-over valve.

Caution:

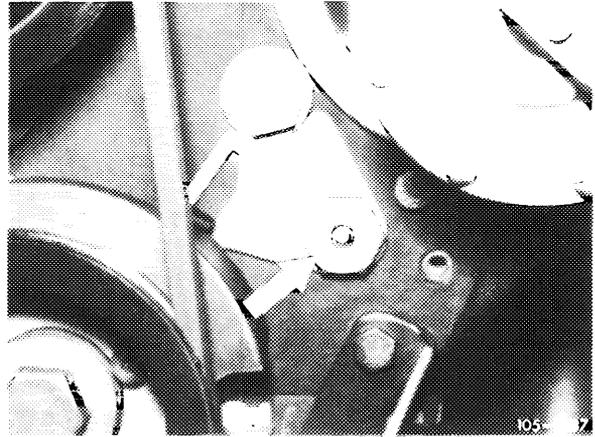
Be sure not to cross vacuum lines. The pipe unions and vacuum lines are color coded.



On engines with longitudinal control spindles, detach all control rods. Withdraw retainer (arrow) and force longitudinal control spindle in aft direction. Unscrew bracket (1) and unclip idle control cable (2) with plastic sleeve (3).



- 5 Remove injection timing device (07.1–210).
- 6 Remove screw plug with upper bearing pin (arrow).
- 7 Withdraw lower bearing pin using impact extractor.
- 8 Remove slide rail in upward direction.



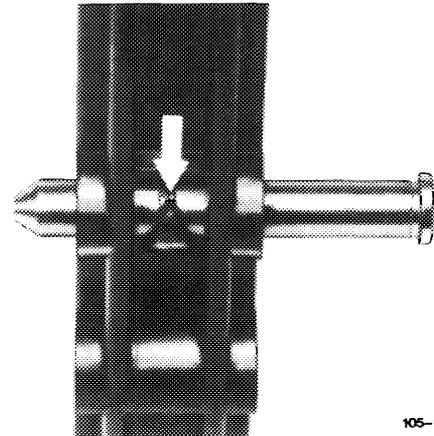
Installation

- 9 Coat collar of lower bearing pin with sealant.
- 10 Apply slide rail and drive bearing pin home using impact extractor.

Caution:

The locating lug of slide rail must fit in locating groove in bearing pin (arrow).

- 11 Insert and tighten screw plug.
- 12 Fit injection timing device (07.1–210).
- 13 Attach vacuum pump (42–610).
- 14 Fit pulley and vibration damper (03–340).



15 Install radiator and fan.

16 Fill cooling system with coolant (20-010) and then pressure-test.

Removal of outer slide rail (93)

1 Remove radiator and fan.

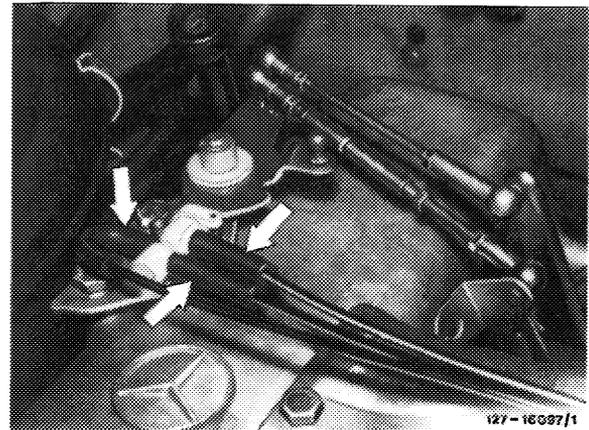
2 Remove vacuum pump (42-610).

3 On engines in type 115.1 with power steering, unscrew power steering pump with bracket. On engines 615 and 616 release bracket of engine stop and engine shock absorber for this purpose.

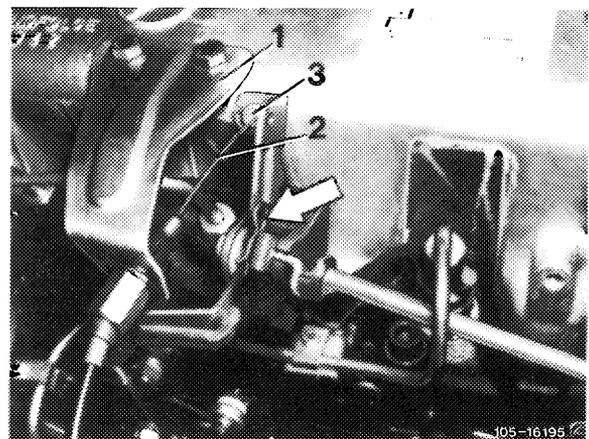
4 Remove cylinder head cover. On engines with automatic transmissions and vacuum-controlled modulating pressure, additionally detach vacuum lines at switch-over valve.

Caution:

Be sure not to cross vacuum lines. The pipe unions and vacuum lines are color coded.



On engines with longitudinal control spindles, detach all control rods. Withdraw retainer (arrow) and force longitudinal control spindle in aft direction. Unscrew bracket (1) and unclip idle control cable (2) with plastic sleeve (3).



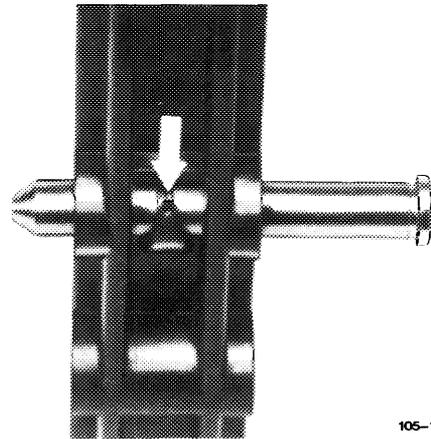
- 5 Remove injection timing device (07.1–210).
- 6 Withdraw both slide rail bearing pins using impact extractor.
- 7 Remove slide rail in upward direction.

Installation

- 8 Coat collars of both bearing pins with sealant.
- 9 Position slide rail and drive bearing pins home using impact extractor.

Caution:

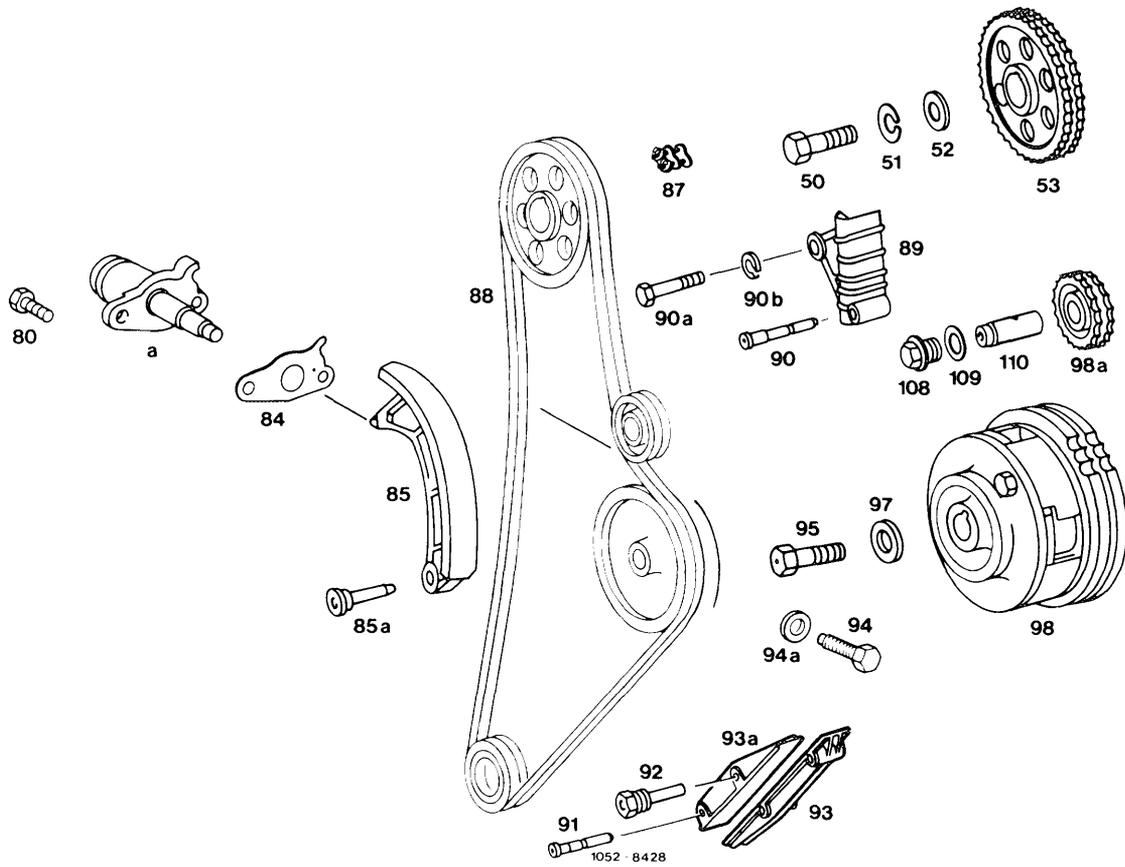
The locating lug of slide rail must fit in locating groove in lower bearing pin (arrow).



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- 10 Fit injection timing device (07.1–210).
- 11 Attach vacuum pump (42–610).
- 12 Install radiator and fan.
- 13 Fill cooling system with coolant (20–010) and then pressure-test.

Timing chain, tension and slide rails



- | | | | |
|-----|------------------------------|-----|-----------------------------|
| 50 | Waisted bolt M 14 x 1.5 x 40 | 91 | 3 bearing pins |
| 51 | Lock washer B 14 | 92 | Screw plug with bearing pin |
| 52 | Shim | 93 | Outer slide rail |
| 53 | Camshaft sprocket | 93a | Inner slide rail |
| 80 | 2 bolts M 8 x 20 | 94 | Chain retainer |
| 84 | Gasket | 94a | Sealing ring A 12 x 17 |
| 85 | Tension rail | 95 | Bolt M 10 x 45 |
| 85a | Bearing pin | 97 | Washer |
| 87 | Split link | 98 | Injection timing device |
| 88 | Timing chain | 98a | Idler |
| 89 | Slide rail | 108 | Screw plug |
| 90 | Bearing pin | 109 | Sealing ring |
| 90a | Bolt M 8 x 50 | 110 | Shaft |
| 90b | Lock washer A 8 | a | Chain tensioner |