

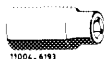
05-320 Replacement of timing chain

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)

Special tools

Socket 27 mm, 1/2" drive
to crank engine



001 589 65 09 00

Box wrench 20.8 mm for glow plugs



617 589 00 03 00

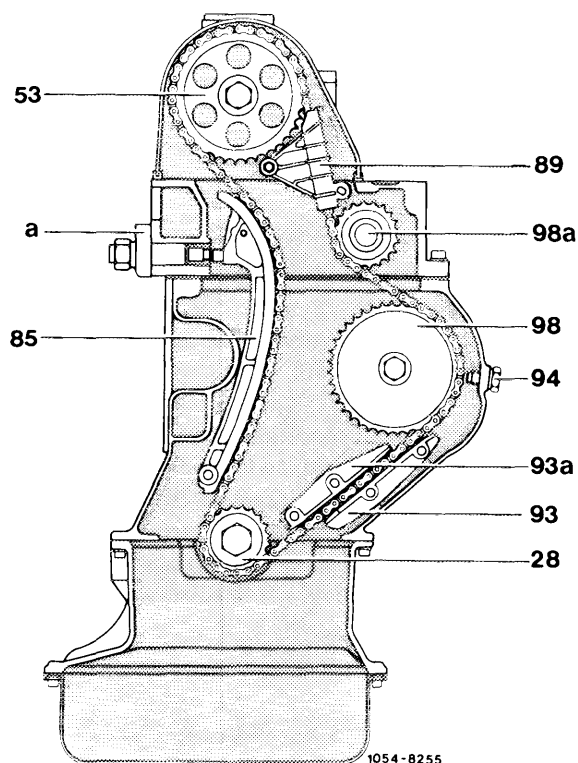
Note

A timing chain with a split link is available for repairs.

If you have only an endless timing chain you can open it prior to installation (see item 4).

For an engine overhaul, always use the endless type of timing chain.

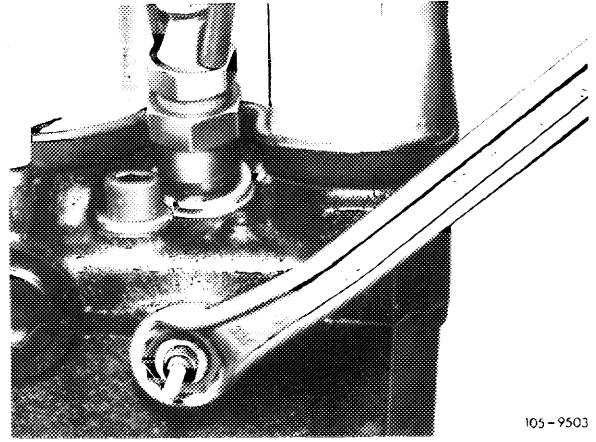
Check sprockets for scoring and pitting.



- 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

Replacement

- 1 Unscrew glow plugs using 20.8 mm box wrench.

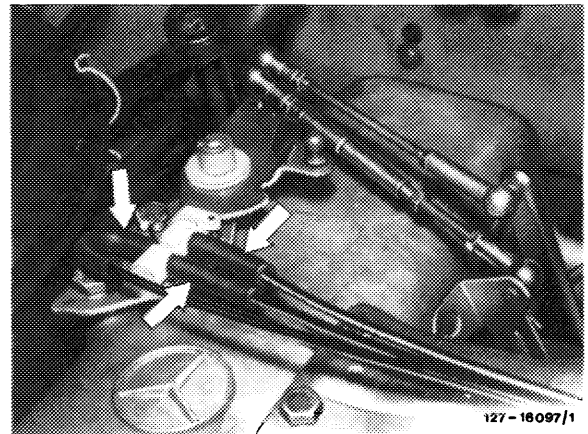


- 2 Remove cylinder head cover.

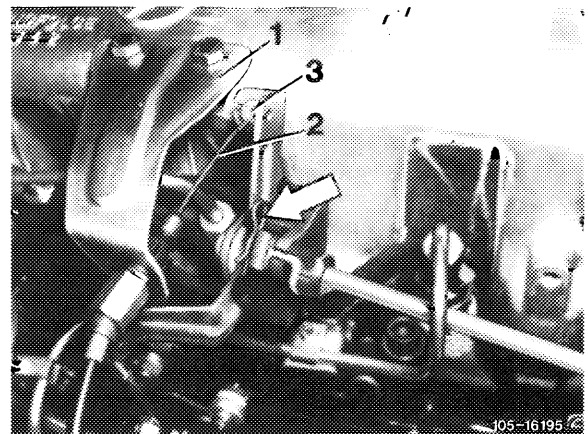
On vehicles with automatic transmissions and vacuum-controlled modulating pressure, additionally detach vacuum lines at switch-over valve.

Caution:

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

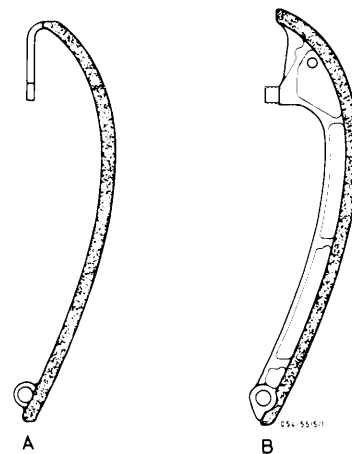


On engines with longitudinal control spindles, detach all control rods. Withdraw retainer (arrow) and force longitudinal control spindle in aft direction. Unscrew bracket (1) and unclip idle control cable (2) with plastic sleeve (3).



- 3 On engines with tension rail version (A) remove chain tensioner (05-310).

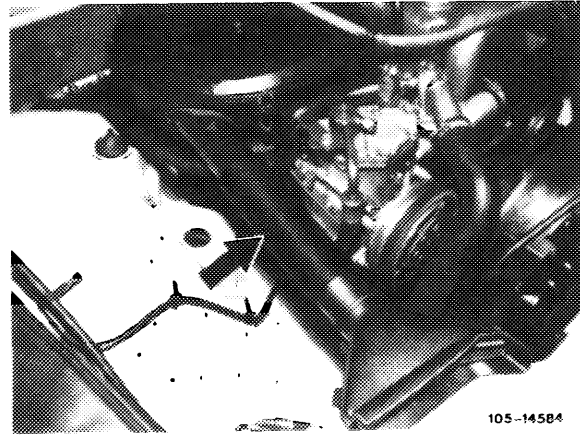
On vehicles with air-conditioners, detach York A/C compressor together with connected lines, depositing on one side. However, first remove fan and water pump pulley, additionally removing air cleaner cover on engines with oil bath air cleaners. Drain coolant and detach thermostat body.



4 On engine 617.912 remove adapter at air cleaner.

5 Cover chain guard with cloth and grind open both pins of a link in timing chain.

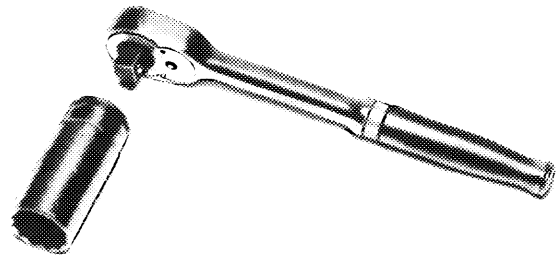
6 Using split link, attach new timing chain to old one, forcing out open link (illustration, job No. 8).



7 Using tool combination, slowly turn crankshaft in normal direction, simultaneously raising old timing chain until split link arrives at top of camshaft sprocket.

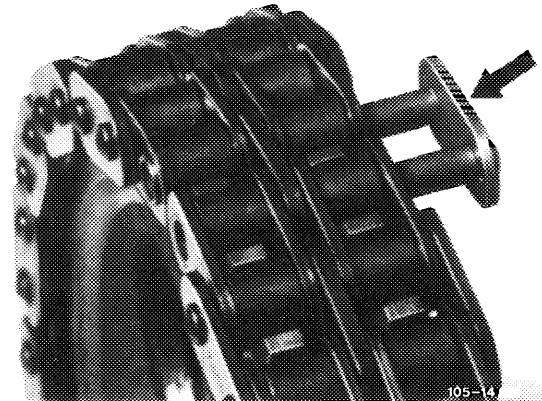
Caution:

Timing chain must continue to mesh with camshaft sprocket and crankshaft sprocket.

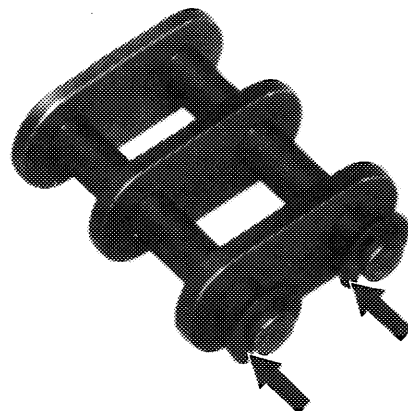


8 Detach old timing chain and connect ends of new one with split link. Fit retainers.

For this purpose hold chain ends on camshaft sprocket with a piece of wire.

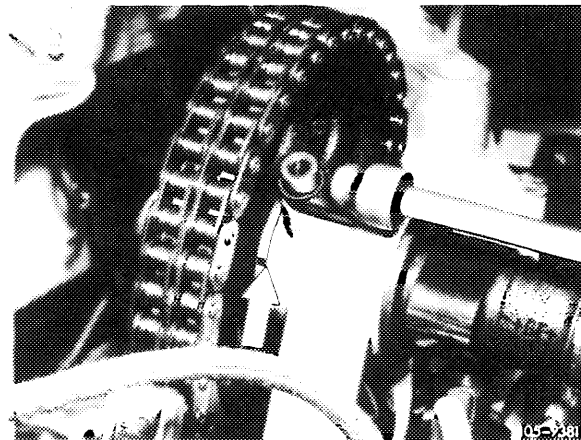


Note: Insert new split link from behind so that retainers can be seen from front (arrows).



9 Turn crankshaft and check adjusting marks at engine TDC.

Note: Should adjusting marks not agree it will be necessary to check camshaft timing (05–215), and start of delivery at injection pump (07–110).



10 Install chain tensioner (05–310).

11 Using 20.8 mm box wrench, insert glow plugs and then connect.

12 Fit cylinder head cover.

13 On vehicles with tension rail version (A in illustration, job No. 3) fill cooling system with coolant (20–010) and then pressure-test.