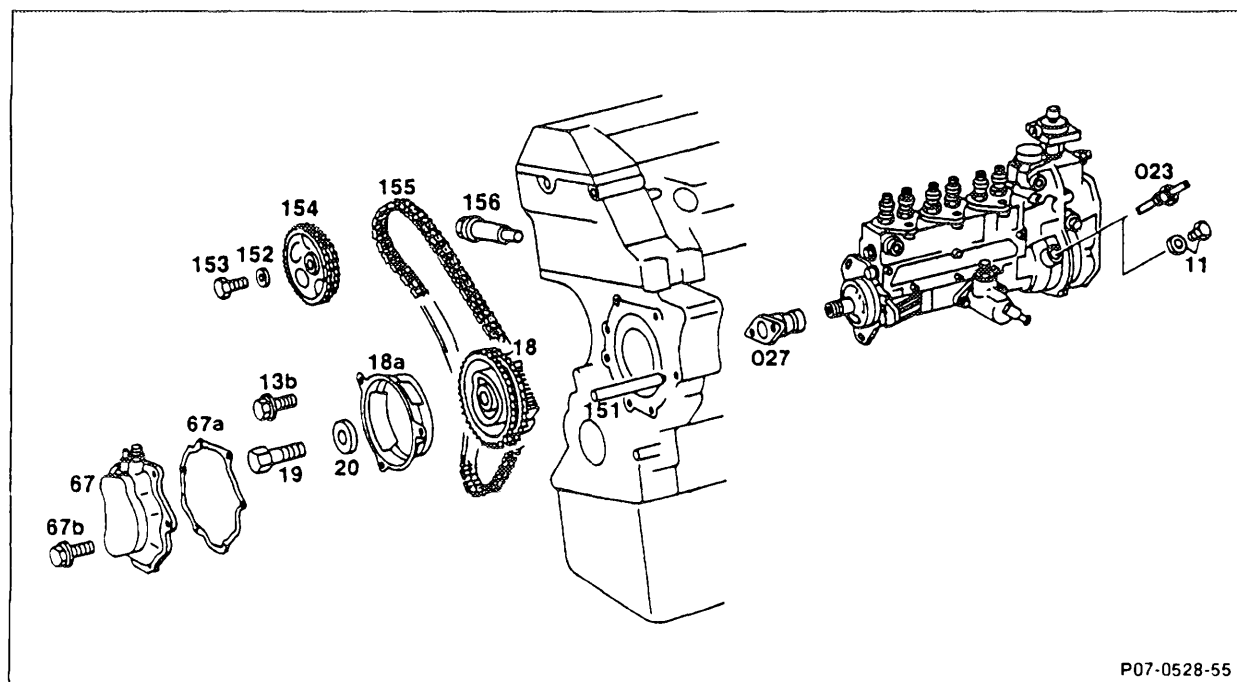


07.1-240 Removal and installation of injection timing device

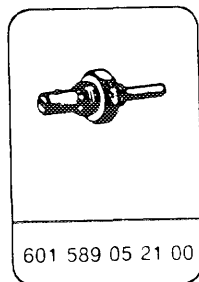
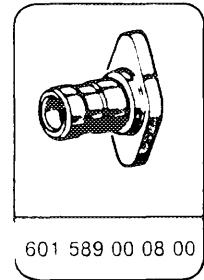
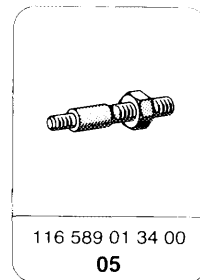
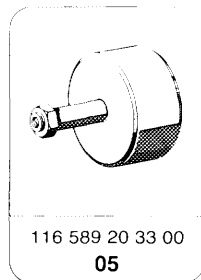
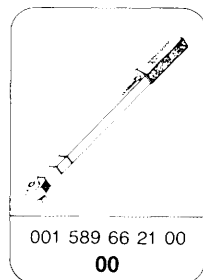
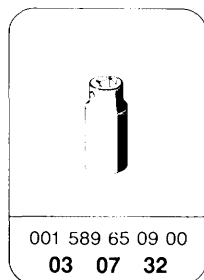


P07-0528-55

Vacuum pump (67)	remove, reinstall (43-610).
Gasket (67a)	replace.
Combination bolt (67b)	Caution! 2 versions, see table. dismount, mount.
Cylinder head cover	remove, install.
Camshaft sprocket (154) and injection timing device (18)	remove, reinstall, with paint mark relative to timing chain (155).
Central mounting bolt (19)	remove, tightening torque 40-50 Nm. Caution! Left-hand thread.
Washer (20), bolt - camshaft sprocket (153)	remove, tightening torque 45 Nm.
Washer - camshaft sprocket (152), engine	set to 15° ATDC.
Chain tensioner (156)	remove, reinstall (05-310), tightening torque 80 Nm.

Camshaft sprocket (154)	remove, reinstall.
Locking pin (151)	remove with threaded pin part no. 116 589 01 34 00 and impact puller part no. 116 589 20 33 00.
Assembly cage (18a)	remove, reinstall. Note: The assembly cage (18a) and the fixing bolts (13b) are deleted on the engines, see table below.
Timing chain (155)	with sheet metal strip (approx. 0.5 x 70 x 120) force outward and pull out injection timing device (18) with combination pliers.
Screw plug with gasket (11)	remove from injection pump (1).
Injection pump (1)	turn with splined wrench (027) and lock with locking bolt (023). Caution! Remove locking bolt. manually turn 1 revolution and check TDC mark crankshaft-camshaft.
Engine	check (07.1-112), adjust if required (07.1-117).
Start of delivery	

Special tools



Note

Up to the production breakpoints mentioned it is necessary to install a gasket with oil pocket when replacing the gasket (67a) of the vacuum pump.

As of the production breakpoint a gasket without oil pocket has been installed.

Production breakpoint: May 1986

Engine model designation	Transmission	
602.911	manual	019187
	automatic	004738

Note

The assembly cage (18a) and the fixing bolts (13b) on the timing device drive are deleted on the 602 engine.

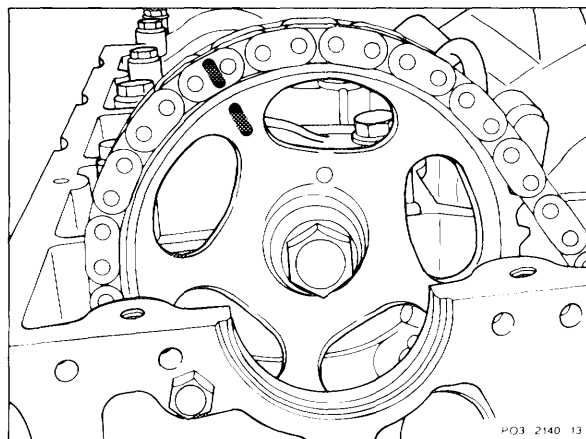
Production breakpoint: September 1989 (assembly cage deleted)

Model	Engine	Engine end no.	Engine end no.
		Manual transmission	Automatic transmission
201.126	602.911	085358	016711

Removal, reinstallation

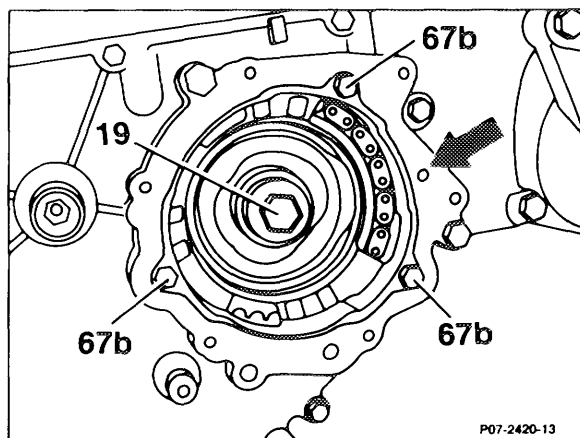
- 1 Remove cylinder head cover.
- 2 Mark camshaft sprocket and injection timing device with paint relative to the timing chain.

Camshaft sprocket



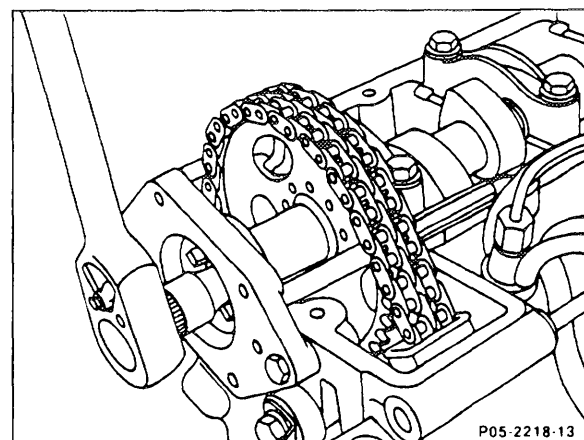
- 3 Remove center mounting bolt (19) by counterholding the crankshaft.

Caution!
LEFT-HAND THREAD

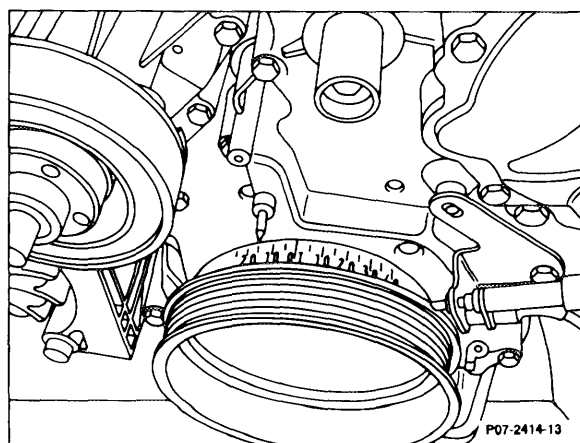


- 4 Remove camshaft sprocket bolt from camshaft while counterholding the crankshaft.

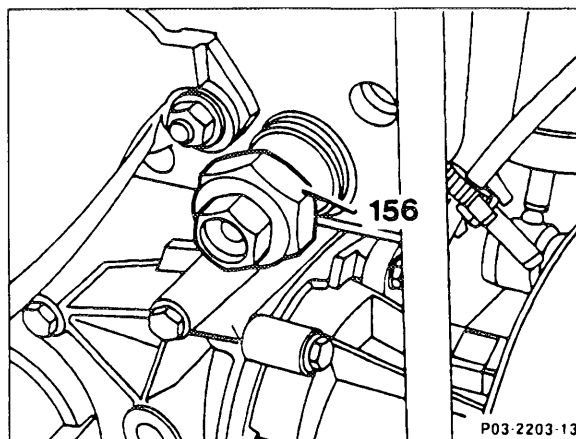
Tightening torque 45 Nm.



- 5 Turn engine to 15° ATDC of 1st cylinder.



6 Remove camshaft sprocket and chain tensioner (156) to loosen the timing chain (05-310).

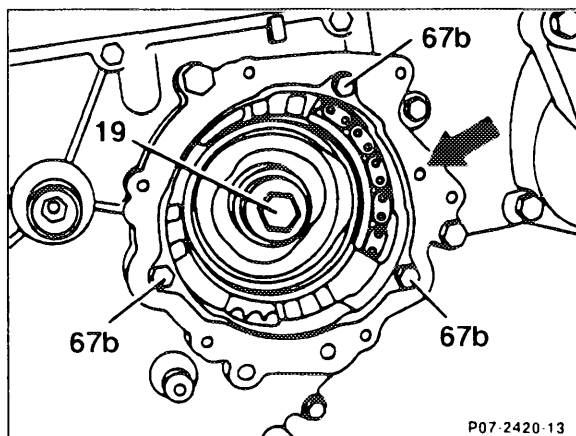


7 Pull out locking pin (arrow) and remove assembly cage.

Note

Assembly cage is deleted on all engines, see table.

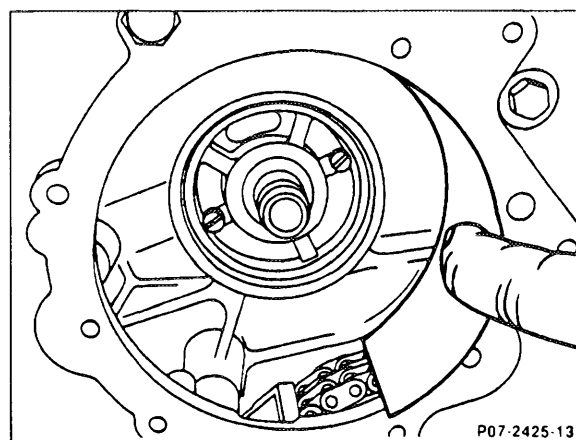
Impact puller
 Special tool 116 589 20 33 00
 Threaded pin M 6
 Special tool 116 589 01 34 00



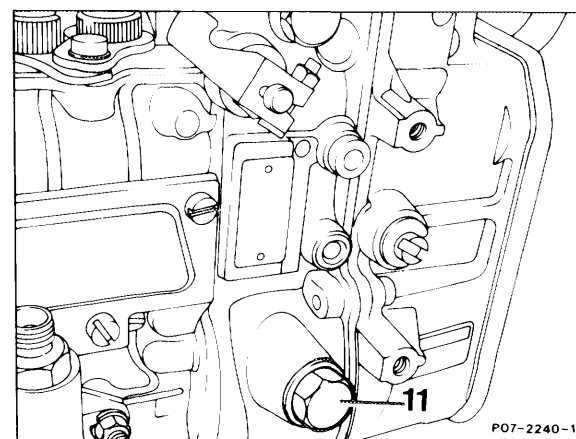
8 Force timing chain with sheet metal strip to the outside and pull out injection timing device with combination pliers.

Self-made sheet metal strip

Thickness	approx.	0.5 mm
Length	approx.	140 mm
Width	approx.	70 mm

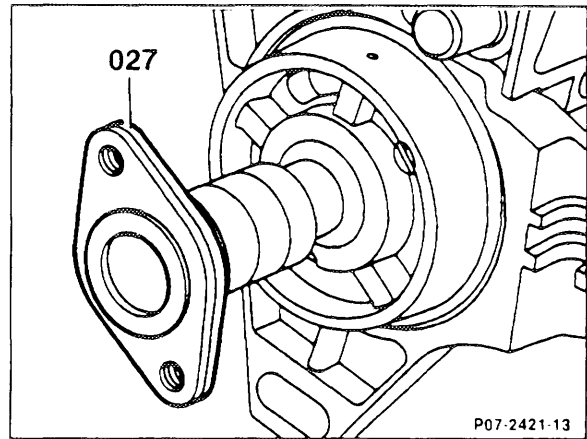


9 Remove screw plug (11).



10 Turn injection pump with splined wrench (027) on the injection pump camshaft until the lug of the governor is visible in the bore. In this position insert locking bolt (023) and engage in the lug, then tighten union nut by hand.

027 Splined wrench
Special tool 601 589 00 08 00



11 Install injection timing device. Secure central mounting bolt (**left-hand thread**) to 40-50 Nm (observe paint mark).

12 **Remove locking bolt (023)** in order to avoid damage to the injection pump during starting.

13 Reassemble engine.

14 Manually crank engine 1 revolution and recheck TDC mark of crankshaft and camshaft.

15 Check start of delivery with digital tester (07.1-112) and correct if required (07.1-117).

023 Locking bolt
Special tool 601 589 05 21 00

