

## 07.1–240 Removal and installation of injection timer

### Test values

End play of intermediate gear shaft	0.05–0.12
-------------------------------------	-----------

### Tightening torques

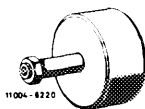
Hex nut for injection timer	70
-----------------------------	----

Hex bolt for injection timer	40
------------------------------	----

Fastening screw for camshaft sprocket	80
---------------------------------------	----

### Special tools

Impact puller for slide rail bolt  
(basic unit)



116 589 20 33 00

Threaded bolt M 6, 50 mm long



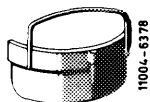
116 589 01 34 00

Threaded bolt M 6, 150 mm long



116 589 02 34 00

Holder



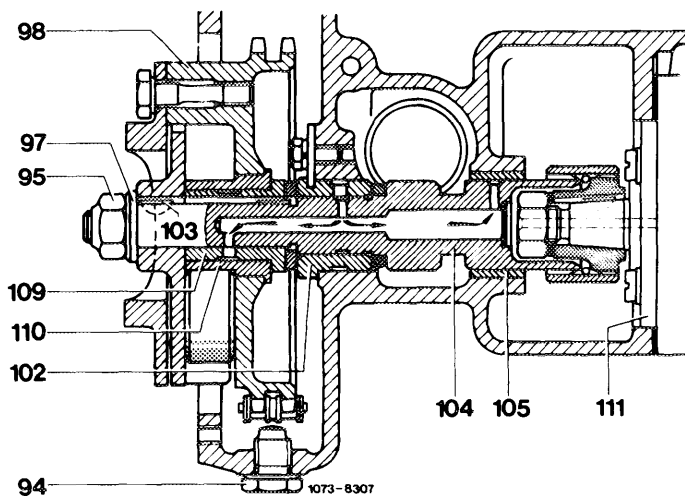
616 589 02 40 00

### Note

Fastening of injection timer changed.

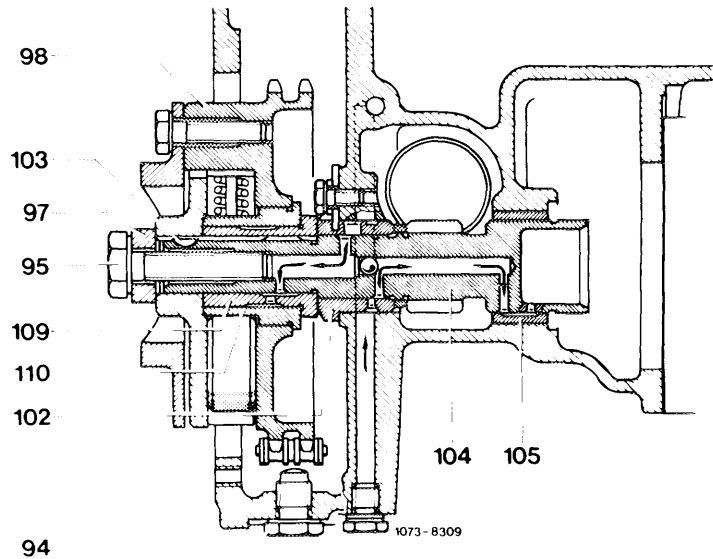
#### 1st version

Injection timer is attached to intermediate gear shaft by means of a nut (95) and a ground washer (97).



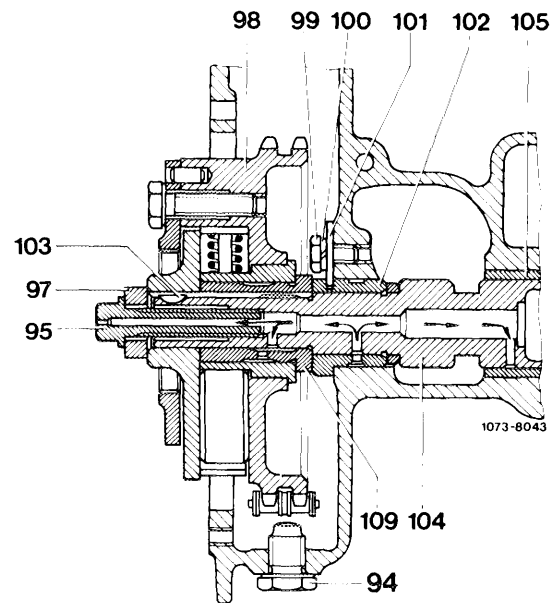
### 2nd version

Injection timer is attached to intermediate gear shaft by means of a hex screw (95) M 10 x 45.



### 3rd version

Models 123.125 (sedan long) and 123.183 (T-sedan) with increased additional load are provided with a double diaphragm vacuum pump. The double diaphragm vacuum pump is driven via a toothed coupling sleeve, attachment and lubrication are by means of a hollow hex screw (95).



### Attention!

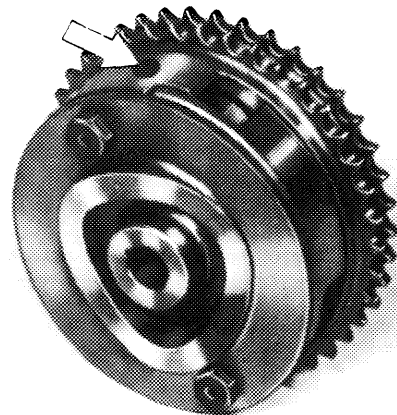
Do not mix up the different hex screws and injection timers.

Adjusting range of injection timer changed from 6° to 7.5°.

A yellow dot outside on housing serves for identification.

This injection timer is also installed on engines 617.95 (turbodiesel).

On former engines with filament glow plugs the injection timer (7.5° adjusting range) may not be installed to prevent damage to glow plugs.

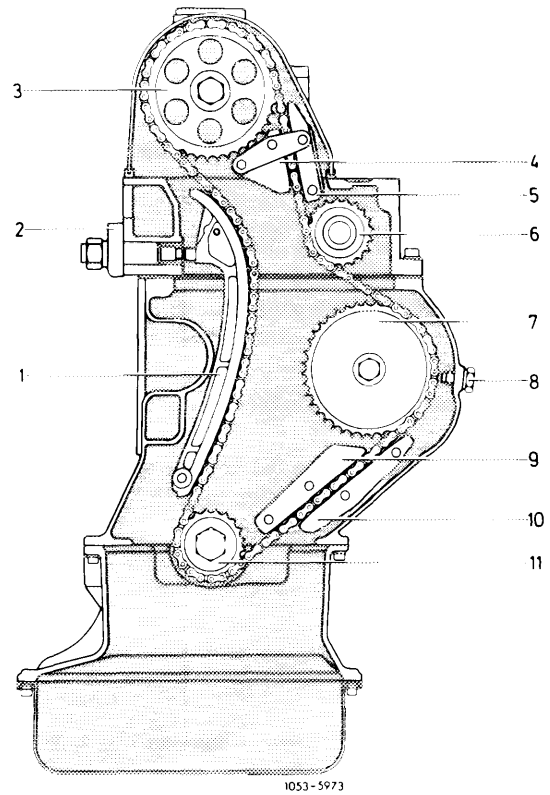


103-17177

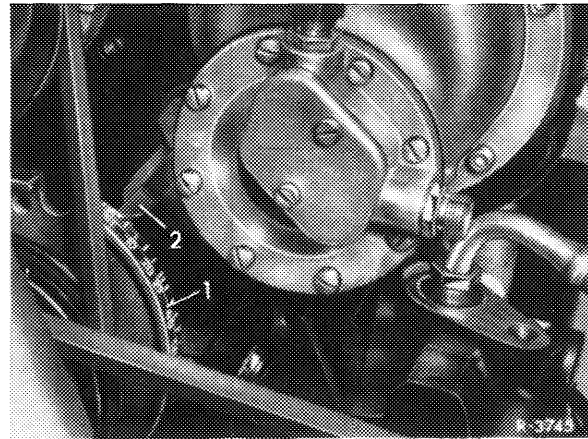
## Removal

- 1 Remove radiator (20–420).
- 2 Unscrew suction and pressure line from vacuum pump and remove vacuum pump from cylinder crankcase.
- 3 Unscrew fastening nut or hex screw of injection timer.
- 4 Remove cylinder head cover.
- 5 Unscrew fastening screw for camshaft sprocket (3).

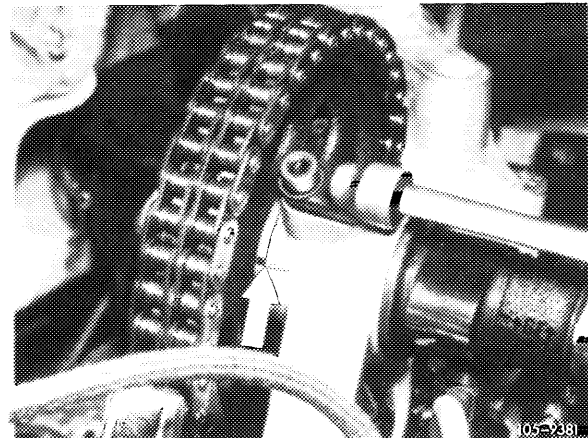
- |   |                   |    |            |
|---|-------------------|----|------------|
| 3 | Camshaft sprocket | 9  | Slide rail |
| 4 | Slide rail        | 10 | Slide rail |
| 8 | Lock screw        |    |            |



- 6 Rotate crankshaft in direction of rotation of engine to TDC mark.



Camshaft must be in alignment with marking of compensating washer and 1st camshaft bearing (arrow).



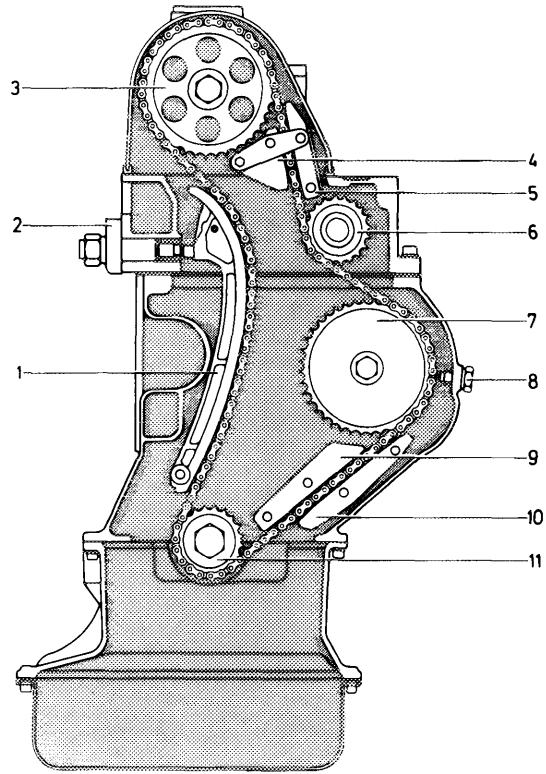
7 Mark meshing point of chain on injection timer and position of injection timer in relation to crankcase with paint.

8 Remove chain tensioner or push back pressure pin (05-310).

9 Remove slide rail (4) after removing hex screw.

10 Remove camshaft sprocket, while paying attention to compensating washer between camshaft and camshaft sprocket. Leave chain on camshaft and place together into chain box.

11 Unscrew lock screw (8) for chain drive and pull out upper bearing pin of slide rail (10) by means of puller.



- |                     |               |
|---------------------|---------------|
| 3 Camshaft sprocket | 9 Slide rail  |
| 4 Slide rail        | 10 Slide rail |
| 8 Lock screw        |               |

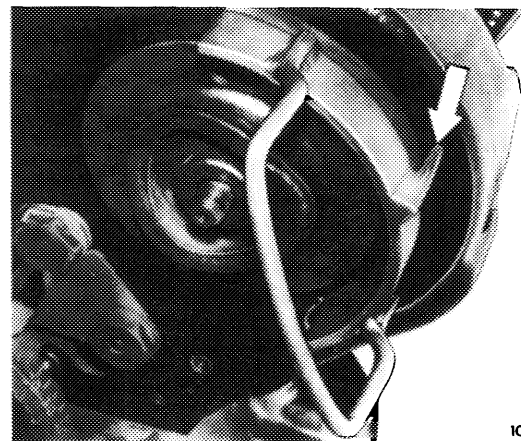
1053-5973

12 Lift chain from injection timer. For this purpose, slip holder in-between injection timer and chain. For better location, introduce guide pin (arrow) into threaded bore.

13 Remove or push off injection timer.

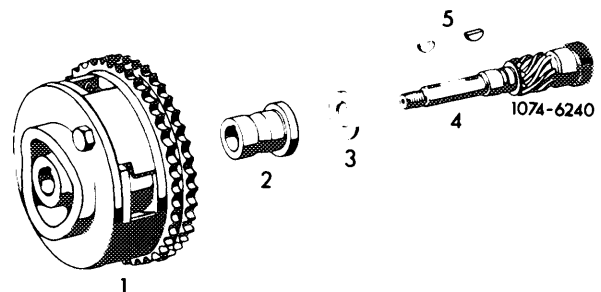
**Attention!**

Do not rotate crankshaft and camshaft following removal of injection timer.



107-10267

14 Remove bushing (2) for injection timer and thrust ring (3) from intermediate gear shaft.



- |                   |                           |
|-------------------|---------------------------|
| 1 Injection timer | 4 Intermediate gear shaft |
| 2 Bushing         | 5 Woodruff key            |
| 3 Thrust ring     |                           |

1074-6240

15 Check slide rails (9 and 10) (visual checkup) and replace, if required.

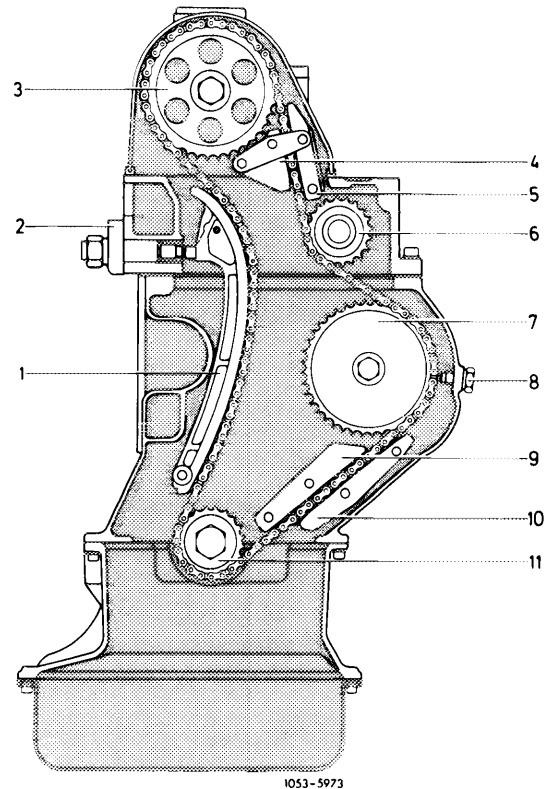
### Installation

16 Lubricate thrust ring (3) and bushing (2) and slip on intermediate gear shaft. Pay attention to correct seat of both Woodruff keys (5) (Fig. item 14).

**Note:** If an injection timer must be replaced, place used injection timer on new injection timer in such a manner that the splines of both injection timers are in alignment. Then transfer painted mark on old injection timer on new injection timer.

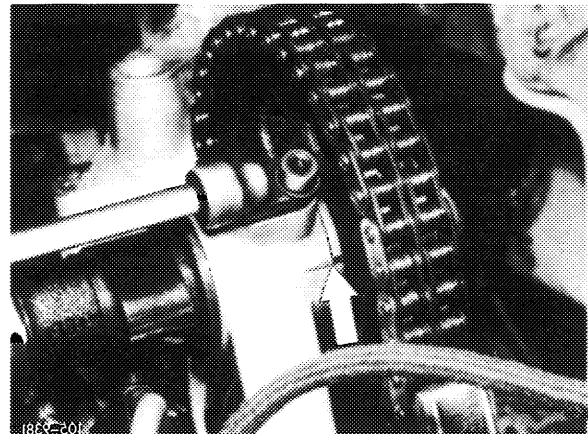
17 Slip injection timer on intermediate gearshaft.

9 Slide rail  
10 Slide rail

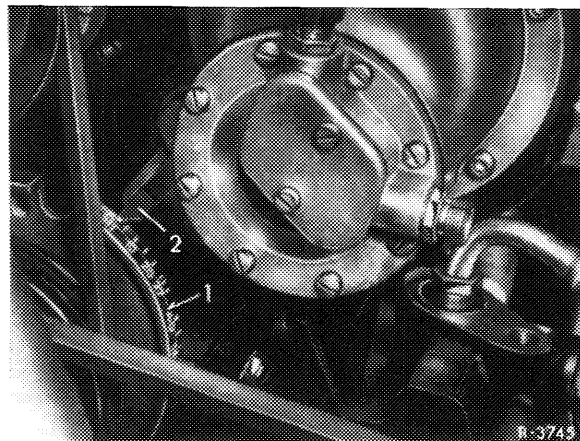


18 Pull chain in upward direction or lift camshaft sprocket with chain, making sure that the markings of injection timer and cylinder crankcase are in alignment. If required, rotate injection timer until the markings of injection timer and cylinder crankcase are in alignment. Then pull out holder.

19 Slip camshaft sprocket with chain mounted on camshaft, making sure that the marking of the compensating washer is in alignment with marking of first camshaft bearing.



Check again whether all markings are in alignment, similar to removal and TDC position on balancing disc.



20 Install chain tensioner (05–310).

21 Introduce bearing pins of slide rail (10) into cylinder crankcase (Fig. item 5). Coat bearing pin at end with sealing compound. When knocking-in, make sure that the locking wire of the slide rail engages in notch of bearing pin.

22 Screw in lock screw (8) with new sealing ring and tighten (Fig. item 30).

23 Check begin of delivery and adjust, if required (07.1–110 and 115).

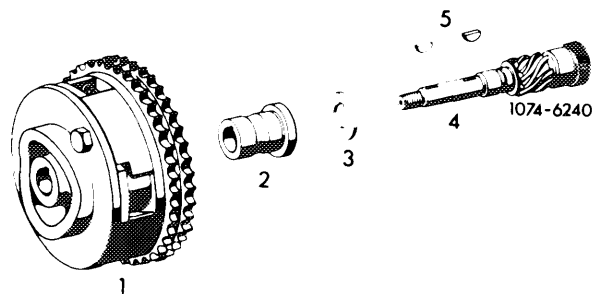
24 Vent injection system (07.1–140).

25 Mount hex nut and ground washer or hex screw.

**Attention!**

Use only specified **ground washer**, part no. 615 990 03 40.

26 Check end play of intermediate gear shaft. Should be 0.05–0.12 mm, touch up thrust ring (3), if required.



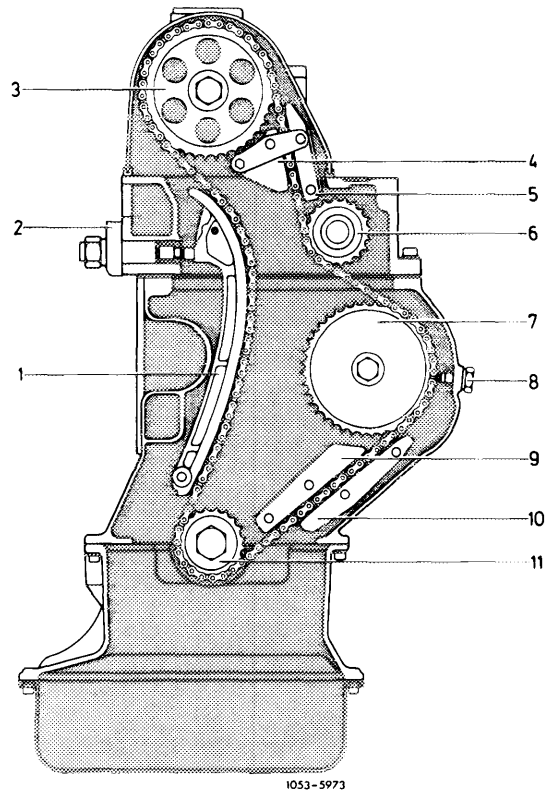
27 Mount fastening screw for camshaft sprocket and tighten to 80 Nm.

28 Check injection timer for function. For this purpose, turn hex nut or hex screw to the right up to stop by means of a wrench. Upon release, injection timer should return automatically to its old position.

29 Mount vacuum pump with new gasket and connect vacuum lines.

30 Introduce slide rail (4) with holder into bore of outer slide rail (5) and tighten.

- 3 Camshaft sprocket
- 4 Slide rail
- 8 Lock screw
- 9 Slide rail
- 10 Slide rail



31 Mount cylinder head cover, while paying attention to correct seat of rubber gasket.

32 Mount regulating linkage, check and adjust, if required (30--300).

33 Install radiator and connect all lines.

34 Run engine and check for leaks.