

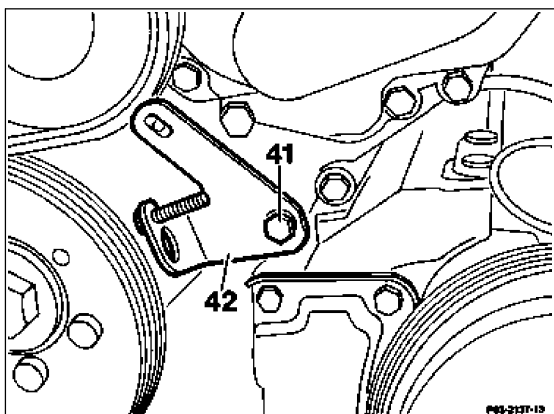
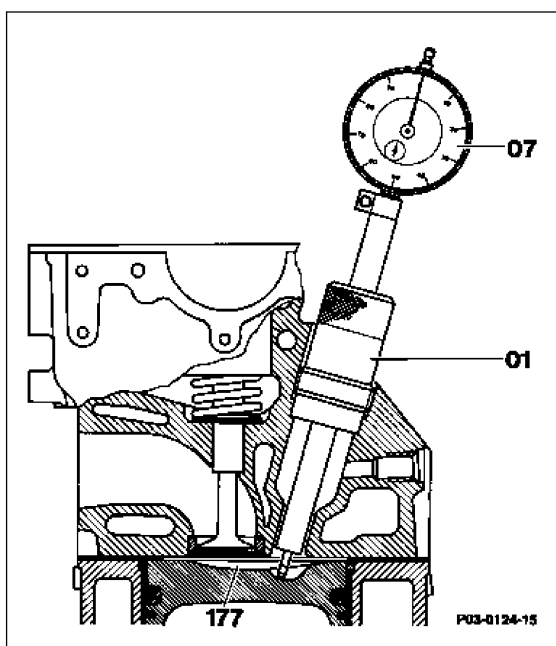
## 03-345 Checking and correcting adjustment of TDC sensor

Preliminary jobs:

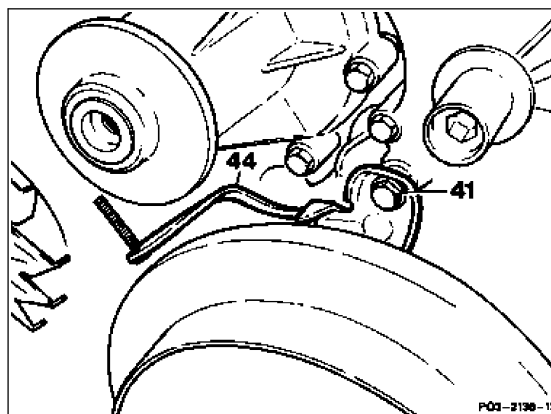
Radiator removed (20-420).

Precombustion chamber on cylinder 1 removed (01-417).

Operation No. of operation texts and operation values or standard texts and flat rates \_\_\_\_\_ 03-1101



Holder for TDC sensor, engines 601.911/921 and engine 601.912 1st version



Holder for TDC sensor, engine 601.912 2nd version starting 10/85 and engines 602 and 603 from start of production

Cylinder 1 \_\_\_\_\_

turn to approx. 10° BTDC, ignition stroke (item 1).

Gauge (01) \_\_\_\_\_

screw into preignition chamber bore and set dial gauge (07) on gauge to 5 mm pretension (item 2).

### Note

If cylinder head is removed, position gauge pin of dial gauge directly on piston crown (177). Use dial gauge holder 363 589 02 21 00.

Engine \_\_\_\_\_ turn in running direction until dial gauge pointer stands still (TDC position), set dial gauge scale to zero (item 3).

Engine \_\_\_\_\_ turn until dial gauge moves back 3.22 mm on engines 601.911/912, 602, 603 or until dial gauge moves back 3.65 mm on engines 601.921, 603.97 (item 4).

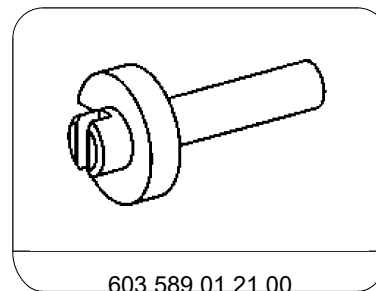
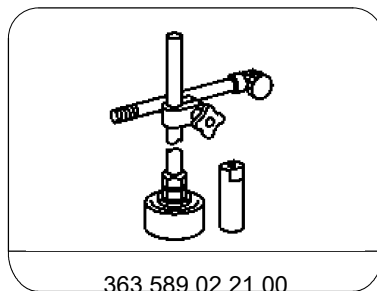
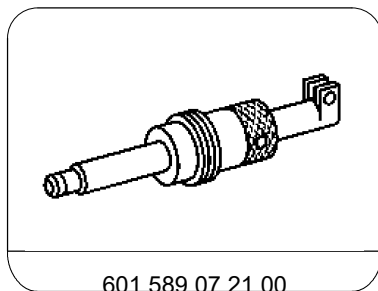
**Note**

Holder for TDC sensor (42) or (44) \_\_\_\_\_ Corresponds to crankshaft position of 20° ATDC. install locating device 603 589 01 21 00 (item 5).

**Note**

Holder for TDC sensor (42) or (44) \_\_\_\_\_ The pin on the crankshaft pulley or on the vibration damper must catch in the groove on the locating device, if not, correct position of holder. correct by loosening bolt (41), move holder for TDC sensor until pin on crankshaft pulley or vibration damper catches in locating device 603 589 01 21 00 and tighten bolt (41) (items 6 - 8).

**Special tools**



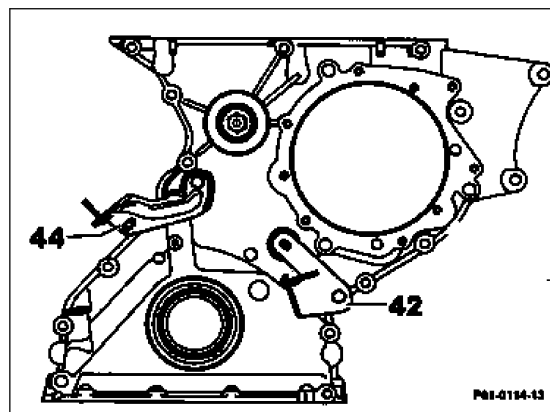
**Commercially available tools and testers**

Designation	e. g. make	Order no.
Dial gauge A 1 DIN 878	Mahr, 73457 Esslingen	810

**Note**

The holder for the TDC sensor is fastened to the timing case cover.

- 42 Holder for TDC sensor, engines 601.911/921 and engine 601.912 1st version
- 44 Holder TDC sensor, engine 601.912 2nd version starting 10/85 and engines 602 and 603 from start of production



Check adjustment of holder and correct, if required:

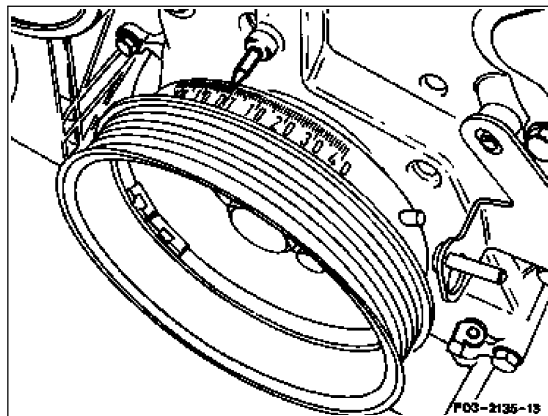
- a) When holder is replaced.
- b) When crankshaft and hub, vibration damper and crankshaft pulley are replaced.
- c) When timing case cover is removed, installed or replaced.

## Testing

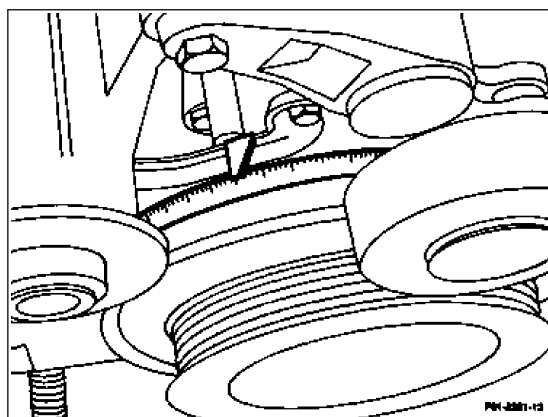
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- 1 Position piston in cylinder 1 to approx. 10° BTDC, ignition stroke.

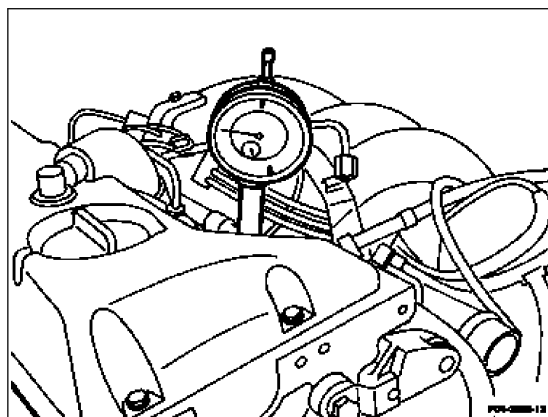
Holder for TDC sensor, engines 601.911/921 and engine 601.912 1st version



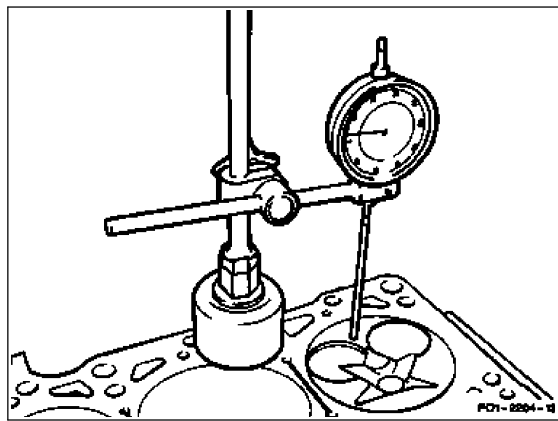
Holder for TDC sensor, engine 601.912 2nd version starting 10/85 and engines 602 and 603 from start of production



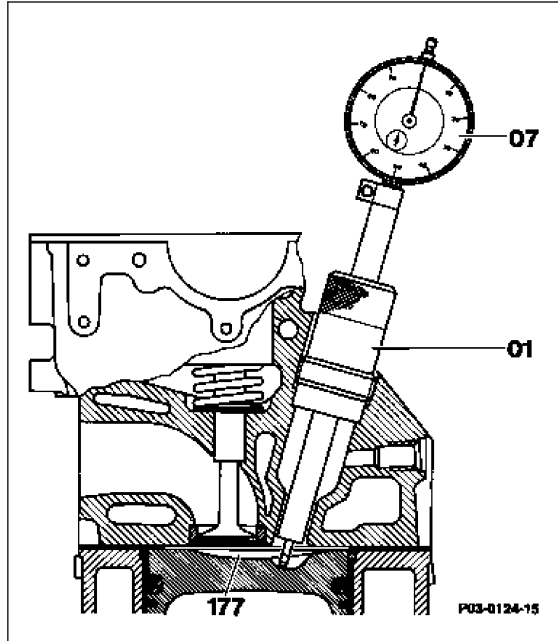
- 2 Screw gauge 601 589 07 21 00 into precombustion chamber bore and attach dial gauge to gauge with 5 mm pretension (small pointer on dial gauge).



If the cylinder head is removed, the measuring pin on the dial gauge can be positioned directly on the piston crown. Set dial gauge holder 363 589 02 21 00 on crankcase parting surface.



3 Turn crankshaft slowly in normal direction of rotation until large pointer on dial gauge (07) stops (TDC position). Turn dial gauge scale until large pointer points to zero.

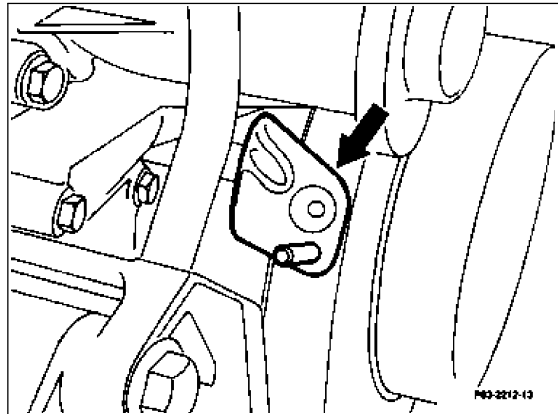


01 Gauge  
177 Piston crown

4 Turn crankshaft in normal direction of rotation slowly until the gauge moves back 3.22 mm on engines 601.911/912, 602 and 603 or 3.65 mm on engines 601.921 and 603.97.

**Note**

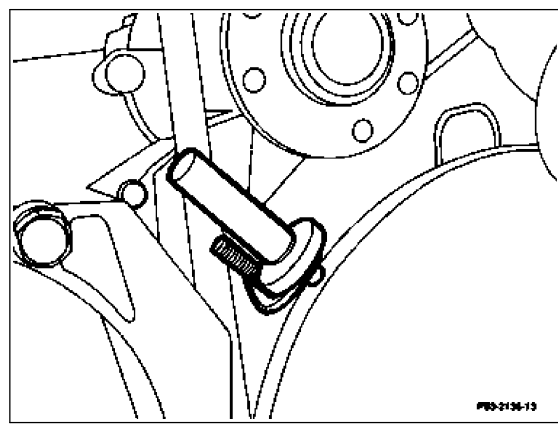
After the dial gauge has moved back (crankshaft position 20° ATDC) the pin in the crankshaft pulley or in the vibration damper should be located exactly below the TDC sensor (arrow).



5 Position locating device 603 589 01 21 00 in holder for TDC sensor.

The pin on the crankshaft pulley or on the vibration damper must catch in the groove in the locating device.

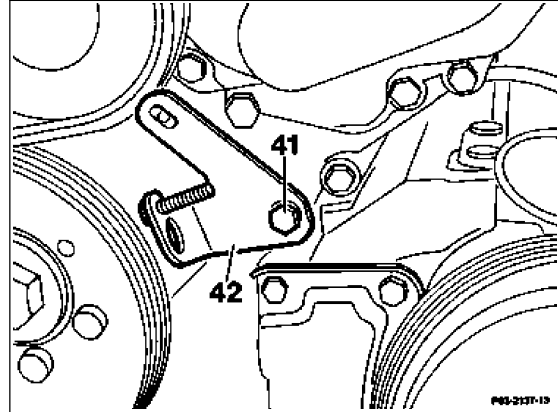
If the pin on the crankshaft pulley or on the vibration damper does not catch, correct position of holder for TDC sensor.



### Correcting

6 Loosen holder (42 or 44) with screw (41) and move until pin on crankshaft pulley or on vibration damper catches in the groove in the locating device 603 589 01 21 00.

42 Holder for TDC sensor, engines 601.911/921 and engine 601.912 1st version



7 Screw holder for TDC sensor down tight.

8 Remove dial gauge and gauge 601 589 07 21 00 and locating device 603 589 01 21 00.

44 Holder for TDC sensor, engine 601.912 2nd version starting 10/85 and engines 602, 603 from start of production

