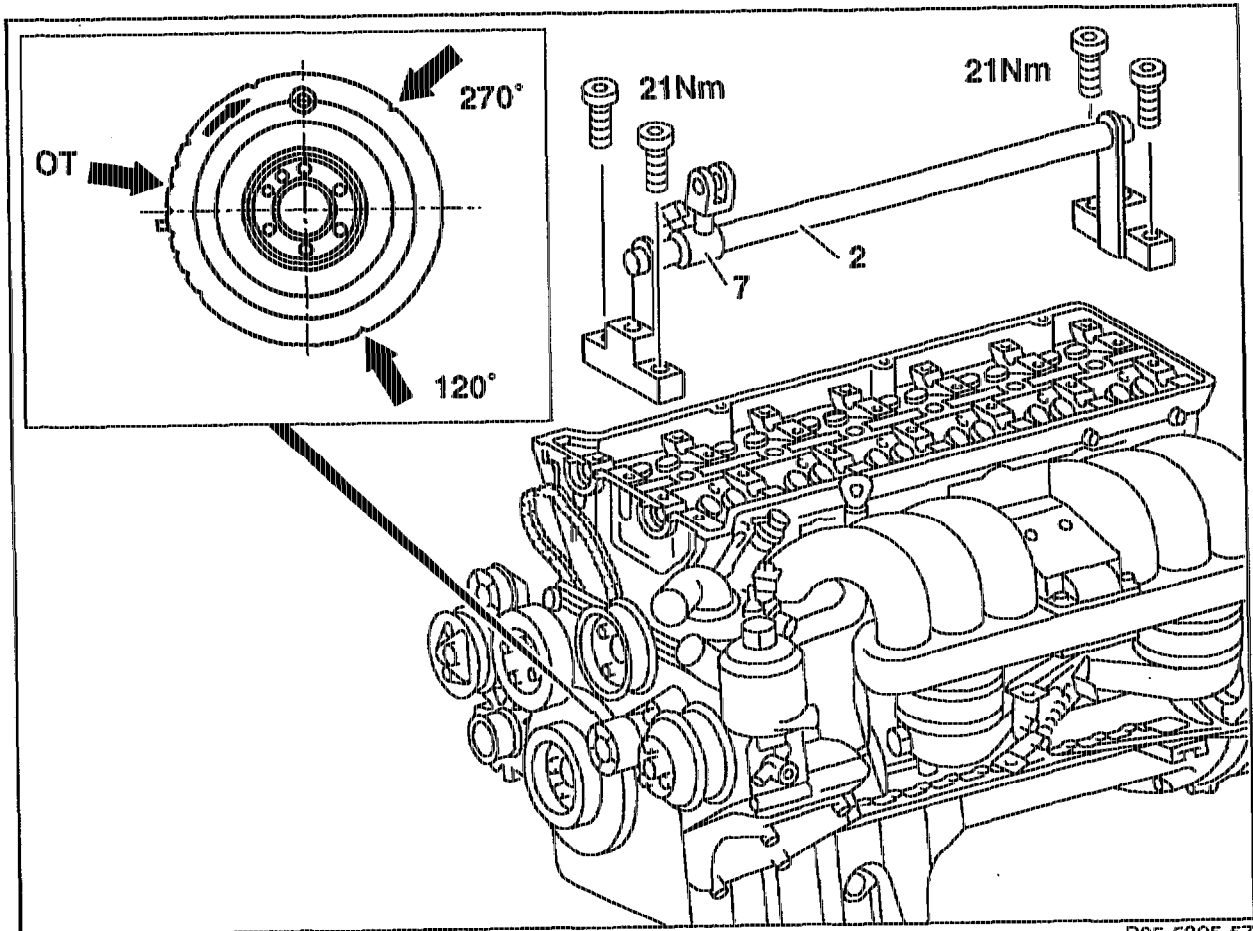


## 05-2500 Removing and installing valve springs

Preceding work:  
 Camshafts removed (05-2200).  
 Spark plugs removed (15-1031).  
 Fan shroud removed (20-3400).  
 Model 202: air cleaner top part removed (09-1051).

Operation no. of operation texts and work units or standard texts  
 and flat rates:  
 05-3500



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- |   |  |
|---|--|
| Model 124: .....                          | remove cover at component compartment panel, install.                        |
| Model 140: .....                          | remove fresh air blower housing, install.                                    |
| Model 140: .....                          | unbolt cable duct at component compartment panel, bolt on.                   |
| Model 140: .....                          | pull off centre partition, fit on.   |
| If automatic transmission fitted: .....   | unbolt dipstick guide tube at rear of cylinder head, bolt on.                |
| Supporting bar (2) 111 589 01 59 00 ..... | install with slide (7), bolt on with bolts of camshaft bearing caps (21 Nm). |

Piston of cylinder to be machined .....

turn with wrench socket to TDC; to do this, hold up timing chain so that it does not jam when turning (01-0120).

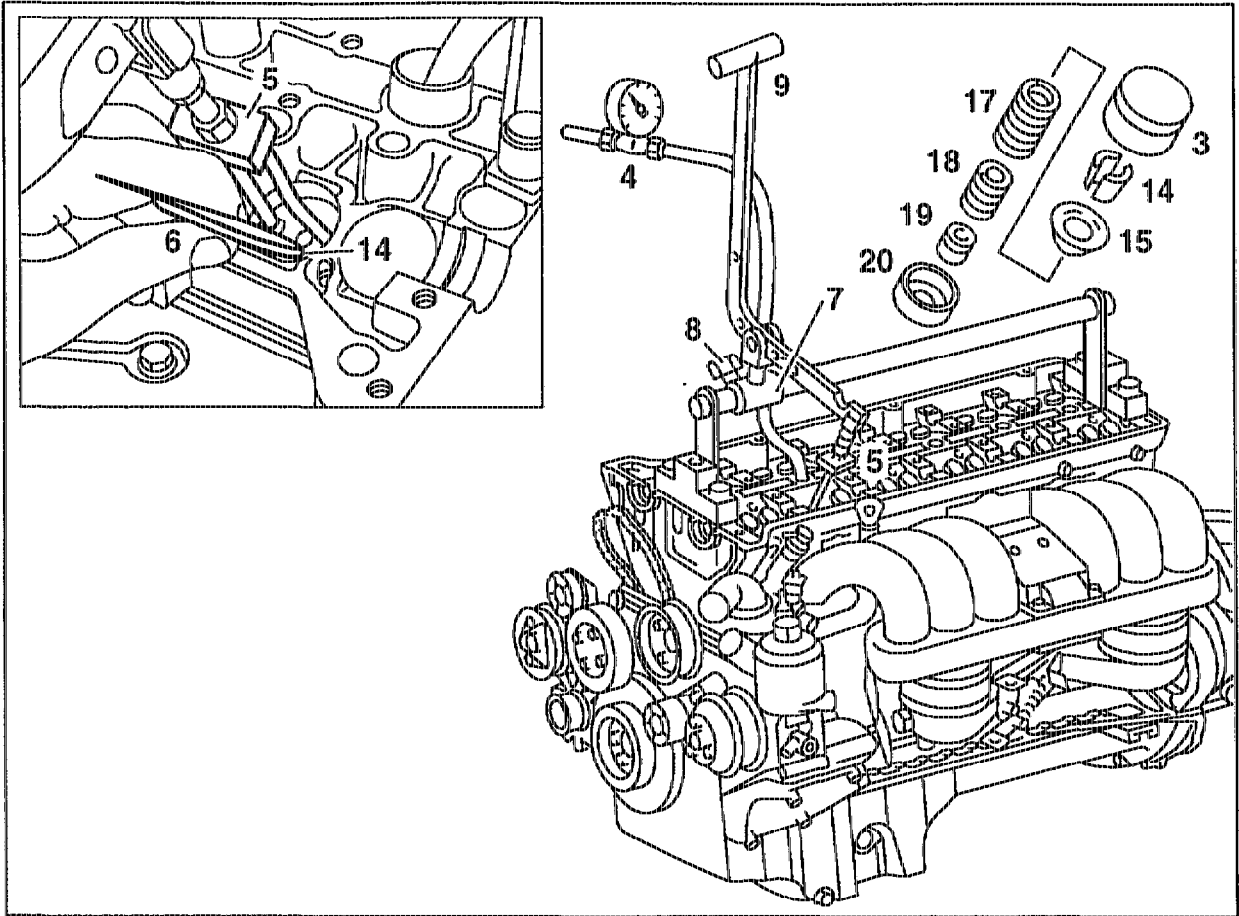


If the crankshaft is rotated, it must be ensured that the starting position is restored so that the coloured markings on the timing chain for setting the timing of the camshafts can be re-used. On no account rotate crankshaft back otherwise the guide rail will be damaged by the timing chain.

The relevant piston is in TDC position if the marking number on the vibration damper shown in the drawing on the page before is aligned with the TDC pointer.

Marking number	Piston at TDC
TDC	1 and 6
120°	2 and 4
240°	3 and 5





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Bucket tappet (3) of relevant cylinder ..... remove, install (05-2110).



On no account may a heavy bucket tappet (82 g) be installed together with the conical spring (yellow).

Connection hose (4) of cylinder leak tester ..... screw into spark plug hole.

Crankshaft ..... fix in position to prevent rotating (03-5000).

Compression chamber ..... pressurize.

Lever pusher (9) 111 589 18 61 00 with thrust piece (5) 111 589 25 63 00 ..... attach to slide (7).

Thrust piece (5) at valve spring retainer (15) ..... fit vertically.

Thrust piece (5) and slide (7) ..... align relative to each other.

Slide (7) ..... fix in position with bolt (8).

Valve springs (17) and (18) ..... compress.



Valves must not sit on the piston crown otherwise they will be bent.

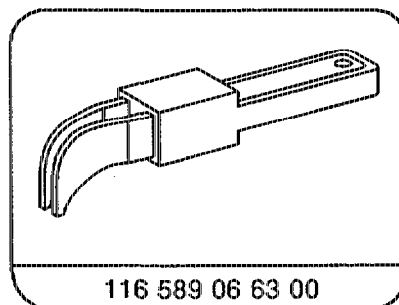
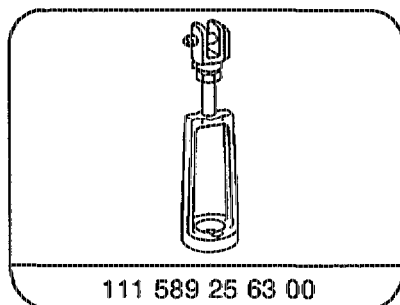
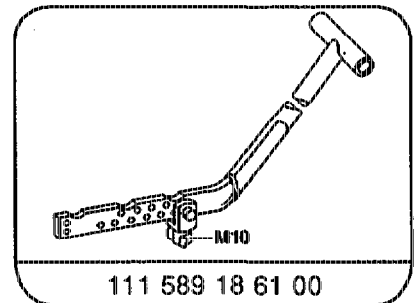
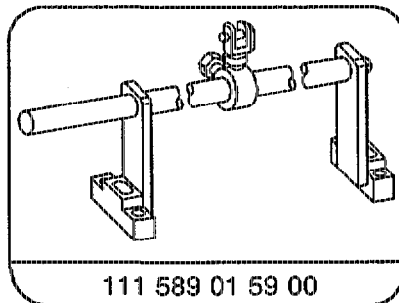
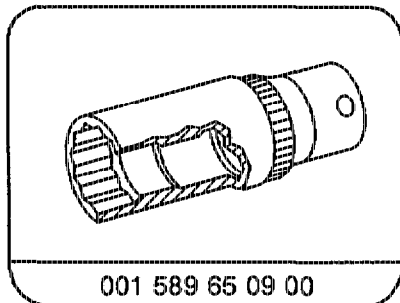
- Valve collets (14) ..... remove with tweezers (6) or magnetic finger 116 589 06 63 00, install.
- Valve spring retainer (15) with valve springs (17) and (18) ..... remove, install.
- Valve stem seal (19) ..... remove, install (05-2700).



Valve stem seals (19) with bent metal casing must be replaced.

- Bottom valve spring retainer (20) ..... remove and check for pitting, install.

### Special tools



**Note**

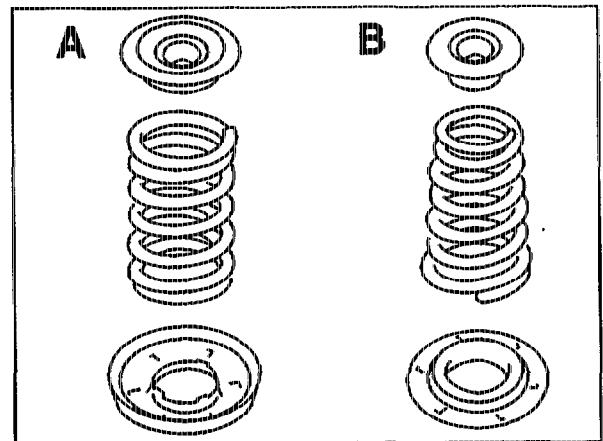
Valve springs, top and bottom valve spring retainers with pittings must be replaced.  
The valve springs of the inlet and exhaust valves are identical.

**Note:**

As of 11/93 conical valve springs version (B) have been installed in place of the cylindrical double valve springs (A).



Pay attention to matching of bucket tappets, see (05-2110)



P05-5499-13

**Commercially available tools**

Cylinder leak tester	e. g.	Bosch E F A W 210 A Sun, CLT 228
Rubber sucker $\varnothing$ 30 mm	e. g.	Hazet No. 735-2
Tweezers, straight 160 mm with rounded tips	e. g.	Stahlwille 42349 Wuppertal