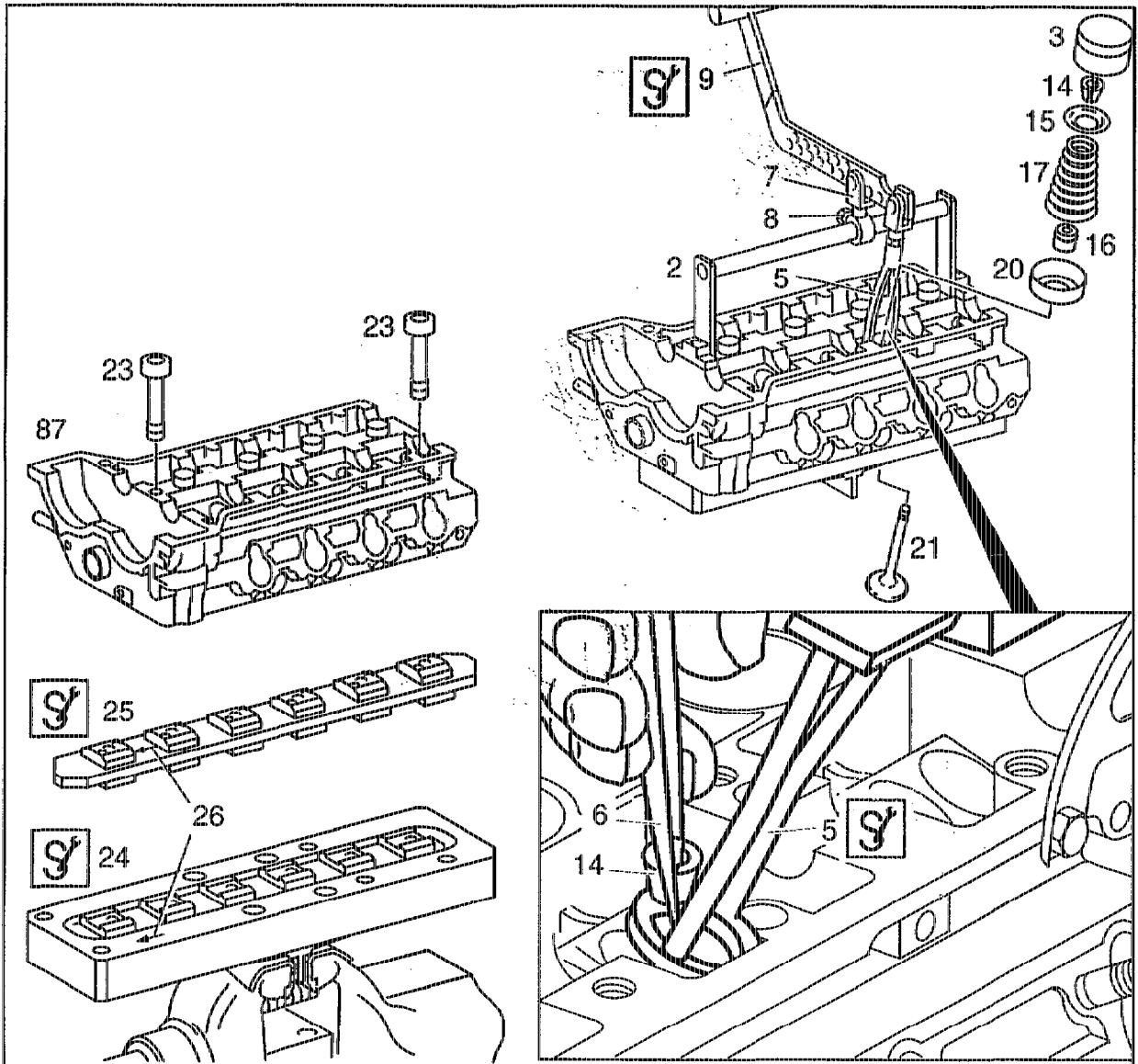


## 05-2550 Removing and installing valves

Preceding work:  
Camshafts removed (05-2200).  
Cylinder head removed (01-4150).

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



P05.30-0293-59

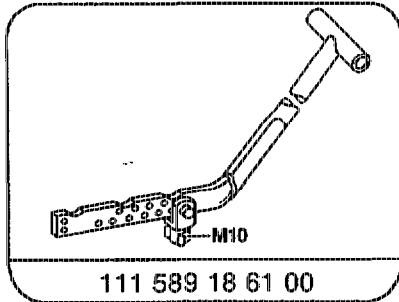
Cylinder head (87) ..... place on assembly base (24), special tool  
111 589 02 59 00.

### Note

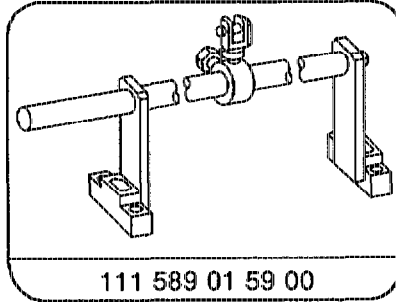
Place insert (25) 111 589 02 59 09 into  
assembly base (24) with the direction of travel  
arrow (26) facing forward and with the  
appropriate side.

Cylinder head (87) .....	bolt on to assembly base (24).
	<b>Note</b>
	Bolt cylinder head (87) onto the assembly base (24) with a cylinder head bolt (23) at the front and rear and with its front end facing toward the direction of travel arrow (26).
	The cylinder head (87) can be installed with the exhaust manifold.
Supporting bar (2) with slide (7) .....	fit onto the relevant cylinder head off-centered, take off, special tool 111 589 01 59 00.
Supporting bar (2) .....	bolt on with two M7×35 bolts (camshaft bearing cap bolts), unbolt.
Bucket tappet (3) of the relevant cylinder .....	remove, install (05--2110).
Lever depresser (9) with thrust piece (5) .....	attach to slide (7), special tools 111 589 18 61 00 and 111 589 25 63 00.
Thrust piece (5) .....	attach vertically to valve spring retainer (15).
Slide (7) .....	fix in position with bolt (8).
Valve spring (17) .....	compress.
Valve collets (14) .....	remove, install with tweezers (6), magnetic finger, special tool 116 589 06 63 00.
	<b>Installation note</b>
	Coat valve spring retainer (15) with grease in order to fix collets (14) in position.
Valve spring retainer (15) together with valve spring (17) .....	remove, install.
Valve stem seal (19) .....	replace (05--2700).
Bottom valve spring retainer (20) .....	remove and inspect for pitting, install.
Cylinder head (87) .....	remove from assembly base (24), remove valves (21).

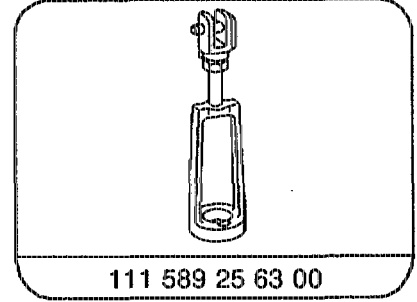
## Special tools



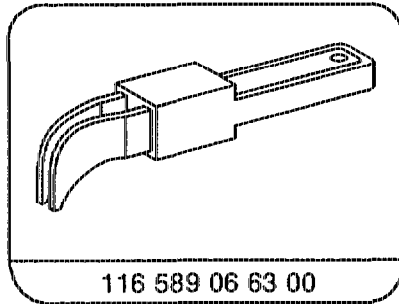
111 589 18 61 00



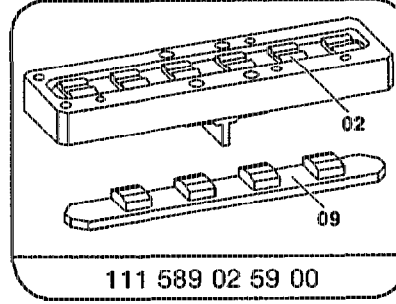
111 589 01 59 00



111 589 25 63 00



116 589 06 63 00



111 589 02 59 00

## Commercially available tools

Cylinder leak tester

e.g. Bosch E F A W 210 A  
Sun, CLT 228

Rubber suction cup  $\varnothing$  30 mm

e.g. Hazet Nr. 735-2

Straight tweezers 160 mm with rounded tips

e.g. Stahlwille  
D-42331 Wuppertal 12

## Note

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

As of 01/1993 conical-shaped valve springs have been installed together with modified valve spring retainers and weight-optimized bucket tappets. The inner valve spring is eliminated.