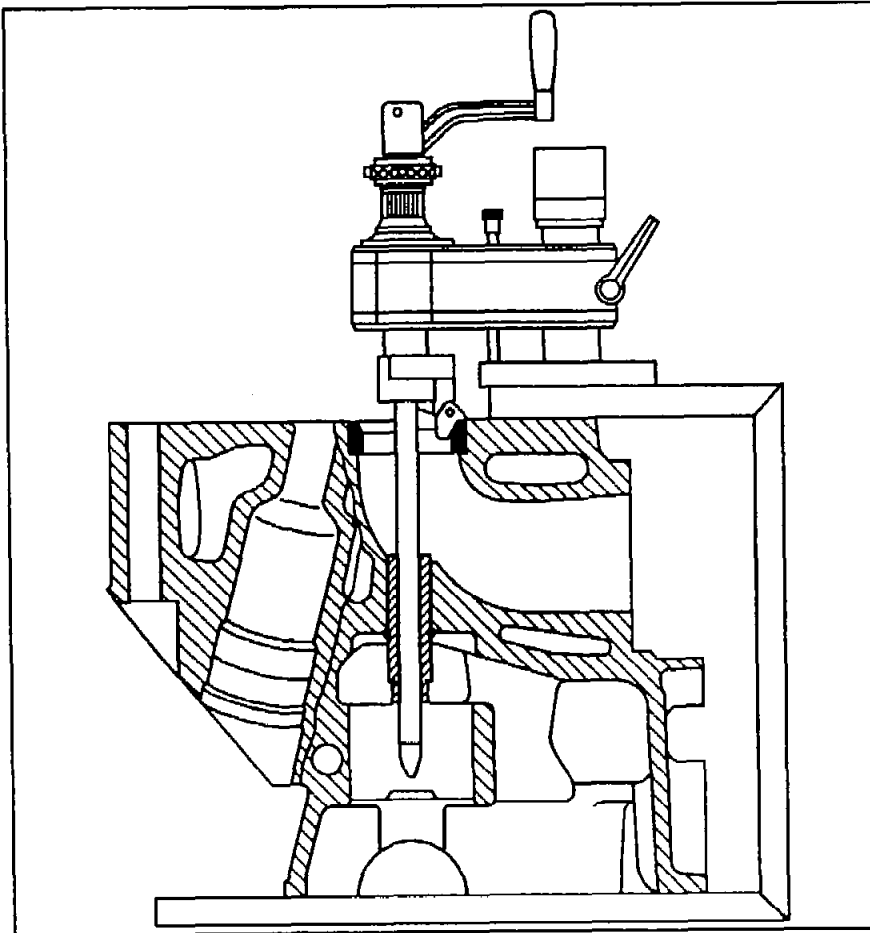


## 05-291 Machining valve seats

### Preliminary work:

Cylinder head removed (01-415).  
 Valve springs removed (05-250).  
 Valves removed.  
 Valve guides checked (05-285).

Operation no. of operation texts and work units  
 or standard texts and flat rates ..... 05-4511

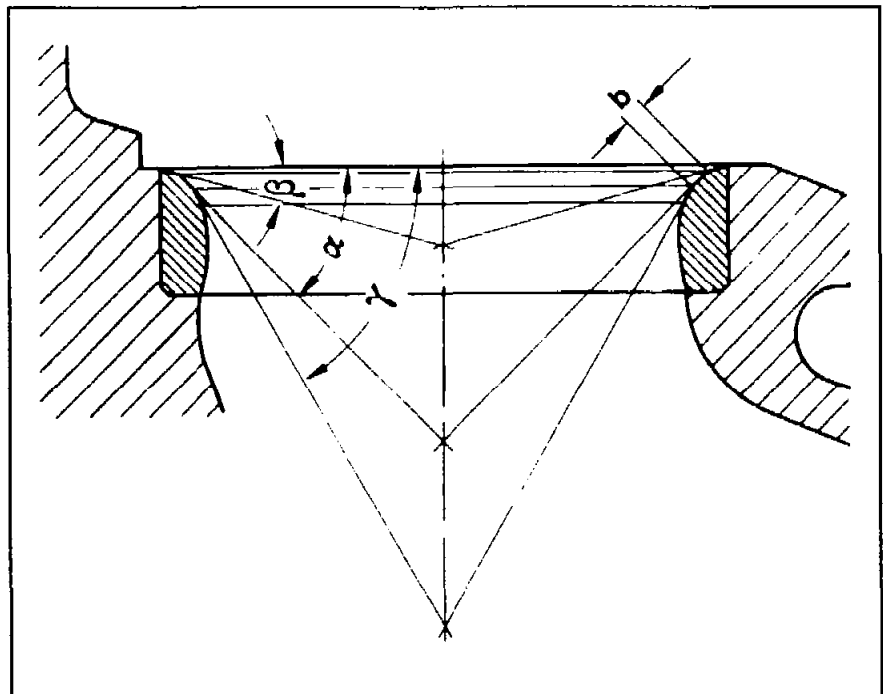


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Valve guides .....	check (05-285).
Valve seats .....	machine according to tool manufacturer's operating instructions. See data sheet for settings.
Valve seat .....	check for leakage (item 3).
Valves .....	insert and measure dimension "a".

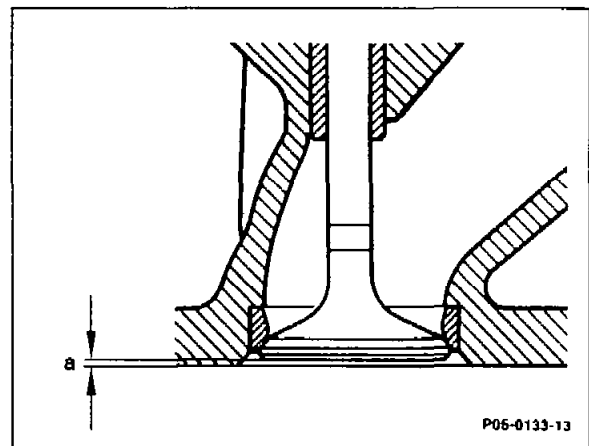
**Data**

Valve seat	Intake	Exhaust
Valve seat width (b)	1.2-1.7	1.7-2.0
Valve seat angle ( $\alpha$ )	45°	45°
Upper correction angle ( $\beta$ )	15°	15°
Bottom correction angle ( $\gamma$ )	65°	65°
Permissible deviation in concentricity of valve seat	0.03	0.03
Min. dimension (a) on new valves and valve seats	0.1-0.5	0.1-0.5
Dimension (a) on remachined valve seats and reground valves	- 1.0	- 1.0



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Dimension (a) is reduced by the amount the cylinder head face is ground down (see RI 01-418).



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### Commercially available tools and test equipment <sup>1)</sup>

Designation	e.g. company	Order no.
Valve seat turning tool with hand drive	Serdi GmbH Bregenzer Str. 69 88131 Lindau	SL 1050
Holding device for cylinder head and valve seat turning device	Serdi GmbH Bregenzer Str. 69 88131 Lindau	
e.g. Wall support or work place or machining center		SL 1100 SL 1200 SL 1300
Forming cutter for	Serdi GmbH Bregenzer Str. 69 88131 Lindau	
Intake valve seat		41 191
Exhaust valve seat		41 192
Vacuum tester for leakage check	Serdi GmbH Bregenzer Str. 69 88131 Lindau	8000
Motorization	Serdi GmbH Bregenzer Str. 69 88131 Lindau	SCL 660

<sup>1)</sup> Other approved valve seat turning equipment and accessories are listed in the catalog "Test Reports for Test Benches and Equipment for Mercedes-Benz Workshops", Volume 1.

#### Note

With the machining tools listed under commercially available tools the various angles on the valve seat are machined in one operation. Clamp cylinder head in clamping device to disassemble and machine. Machine valve seats with valve seat turning device, with valve seat grinder or valve seat mill.

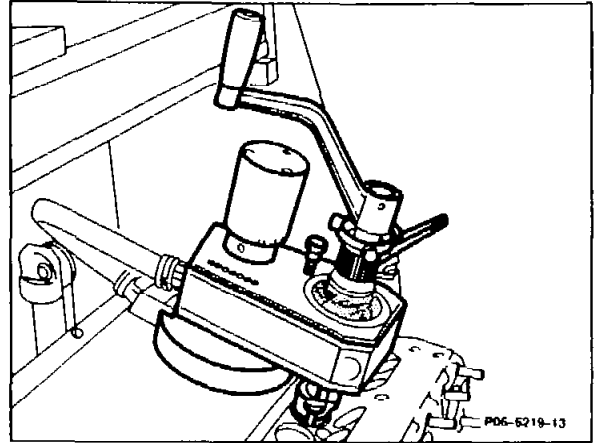
After machining the valve seat inserts check the installation position of the hydraulic valve clearance compensating elements and correct, if required (05-211).

It is also necessary to check the distance between the end of the valve stem and base of the camshaft bearing (01-418).

1 Check valve guide, replace, if required (05-285).

2 Machine valve seats (see tool manufacturer's operating instructions).

3 Insert valves and check leakage of valve seat with vacuum tester.



4 Insert valves and measure distance (a).  
If dimension (a) is not within tolerance, replace valve seat insert (05-290).

