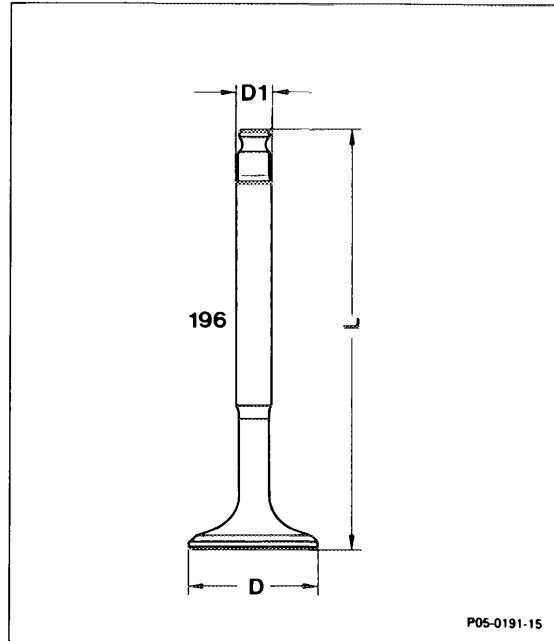
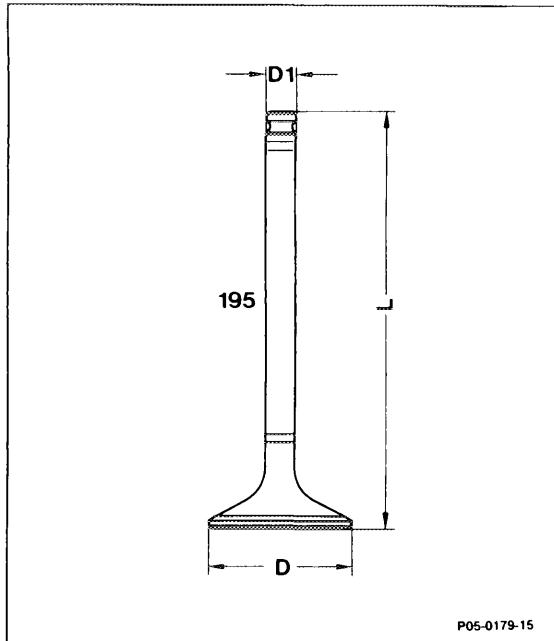


05-280 Checking and machining valves

Preceding work:
 Cylinder head removed (01-415).
 Valve springs removed (05-250).
 Valves removed.



Valves	
(Intake valve 195, exhaust valve 196)	clean, check visually.
Valve stem	check for eccentricity (max. 0.03 mm).
Valve seat	check for eccentricity (max. 0.03 mm), grind.
Dimensions and angles	check (table).

Data

		Intake valve		Exhaust valve	
Engine		602.91	602.96 603.96	602.91	602.96 603.96
Valve head \varnothing (D)		<u>37.90</u> 38.10	<u>37.90</u> 38.10	<u>34.90</u> 35.10	<u>34.90</u> 35.10
Height (h) of valve head	New value	1.75–2.05	1.75–2.05	1.75–2.05	1.75–2.05
	Limit	1.6	1.6	1.6	1.6
Setting angle (α) for machining the valve		45° + 15'	45° + 15'	45° + 15'	45° + 15'
Valve stem \varnothing (D 1)		<u>7.970</u> 7.955	<u>7.970</u> 7.955	<u>8.960</u> 8.945	<u>8.960</u> 8.945
Valve seat reinforcement		with	with	with	with
Sodium filled		without	with	without	with
Valve length (L)		<u>106.6</u> 106.2	<u>106.6</u> 106.2	<u>106.6</u> 106.2	<u>106.6</u> 106.2
Width of valve seat		2.0	2.0	2.0	2.0
Max. permitted eccentricity on valve stem and valve seat		0.03	0.03	0.03	0.03
Marking on end of stem		E 601 02	E 601 04	A 601 05	A 601 05

From 04/87 only exhaust valves with valve heads from revised material have been fitted.

Production breakpoint: 04/87

Model	Engine	Engine end No.		Vehicle identification end No.	
		Manual transmission	Automatic transmission	A	F
201.126	602.911	040584-051637	009509-011200	374038- 407495	357034- 320983

Note

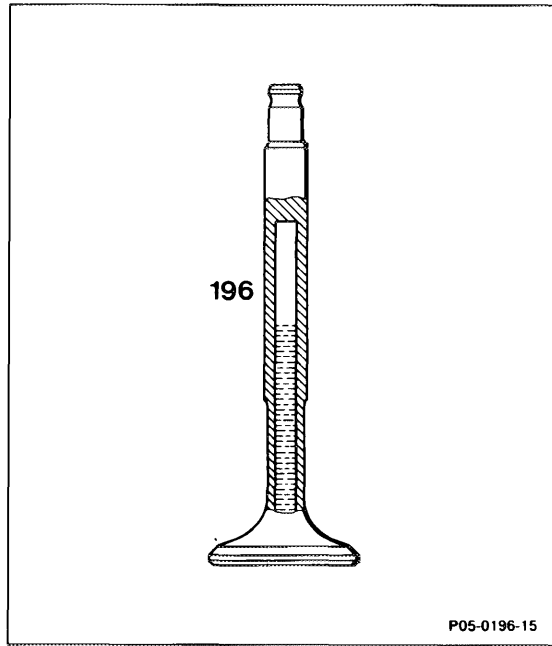
On turbo engines the surface of the inlet valve head is ground (non-machined on naturally aspirated engines).

The stem of the exhaust valve (196) is chrome-plated and filled with sodium on turbo engines.

Warning

Unserviceable sodium-filled valves must be neutralised before scrapping. They must therefore be collected by the respective departmental supervisor and dispatched to:

Mercedes-Benz AG
Werk Marienfelde
Daimlerstraße 145
Anlieferstelle KST 3153
Arbeitsvorbereitung TAI



196 Exhaust valve

The location of the hydraulic valve clearance compensating elements must be checked after machining or replacing the valves, and corrected if required (05-211).

Conventional tools

Valve grinder
or
Valve poppet turning equipment

- e. g. Krupp,
D-5309 Meckenheim
Model VS
- e. g. Hunger,
D-8000 München 70
Model VKDR 1
Part No. 203.00.200

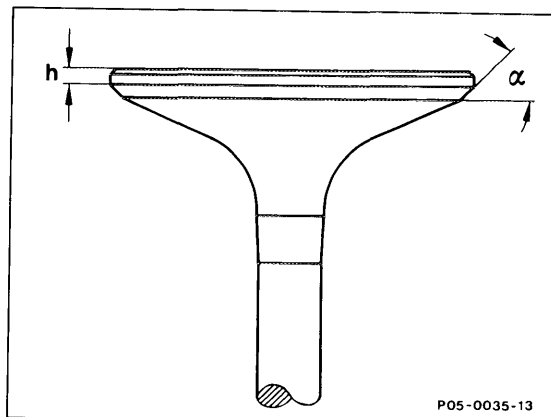
Dial gauge

- e. g. Mahr
D-7300 Esslingen
Part No. 810

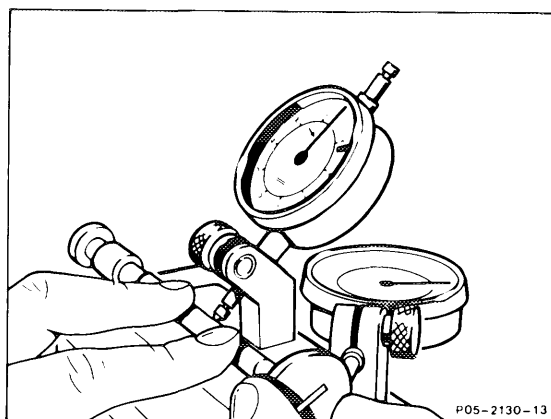
Checking and machining

- 1 Clean valves and carry out visual inspection.

Valves with a burnt valve head, with insufficient valve head height (h) and with worn or scored valve stem should be replaced.



- 2 Measure eccentricity on valve stem.
Replace valve if eccentricity exceeds 0.03 mm.



- 3 Machine valve seat.

Note operating instructions for the machining equipment and adjustment angle (α) $45^\circ + 15'$.

- 4 Measure eccentricity on valve seat and height (h) of valve head.

If eccentricity is more than 0.03 mm or the height (h) less than 1.6 mm, valve should be replaced.

