

Valve Seat Rings

Model M 116, M 117		Inlet	Exhaust
Basic bore "D 1" in cylinder head	Standard	<u>46.000</u> 46.016	<u>40.000</u> 40.016
	Repair stage 1	<u>46.500</u> 46.516	<u>40.500</u> 40.516
	Repair stage 2	<u>47.000</u> 47.016	<u>41.000</u> 41.016
Required overlap of valve seat ring in cylinder head		0.074 to 0.100	0.074 to 0.100
Diameter "D" of valve seat ring	Standard	<u>46.090</u> 46.100	<u>40.090</u> 40.100
	Repair stage 1	<u>47.300</u> <u>46.590</u> 46.600	<u>41.300</u> <u>40.590</u> 40.600
	Repair stage 2	<u>47.090</u> <u>47.100</u>	<u>41.300</u> <u>41.090</u> 41.100
Depth of bore in cylinder head		<u>20.500</u> 20.600	
Height "H" of valve seat ring	Standard	<u>10.500</u> 10.390	
	Repair stage 1		
	Repair stage 2		
Distance between parting surface cylinder head and valve seat ring		9.8—10.2	

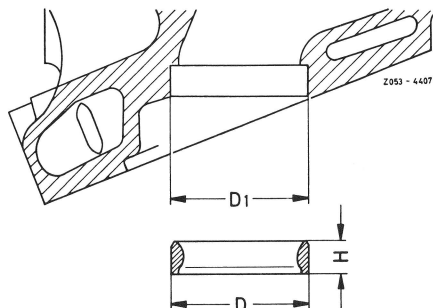


Fig. 1
Inlet

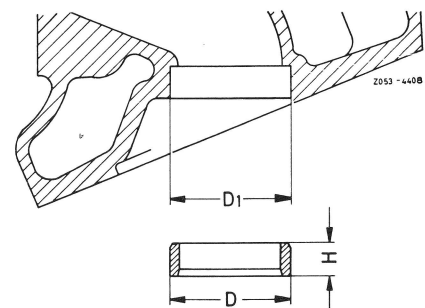


Fig. 2
Exhaust

05.0 Replacement of Valve Seat Rings

Special Tools

Valve seat ring turning tool	000 589 17 69 00
Valve holder	000 589 56 63 00
Internal measuring instrument 35–60 mm dia.	000 589 03 19 00

Removal

- 1 Clean valve guide and check, remove if required (05.1–135).
 - 2 Carefully remove valve seat ring by machining with valve seat ring turning tool (refer to operating instructions of valve seat ring turning tool).
- Caution!** Do not remove valve seat ring completely by machining, but leave a remainder of 0.3–0.4 mm. Remove this remainder with the aid of a screw driver or a pointed tool.
- 3 Clean bore and check diameter with internal measuring instrument (Fig. 3).

If the diameter is still within the specified tolerance, another valve seat ring of the same size can be installed.

If not, machine bore to next repair stage. Note again that the specified overlap must be maintained.

Installation

- 4 Heat cylinder head in water bath to approx. 60°C and place valve seat ring, undercooled if possible, into receiving bore and knock in with the aid of an installation mandrel with thrust ring until the valve seat ring rests well on bottom of bore.

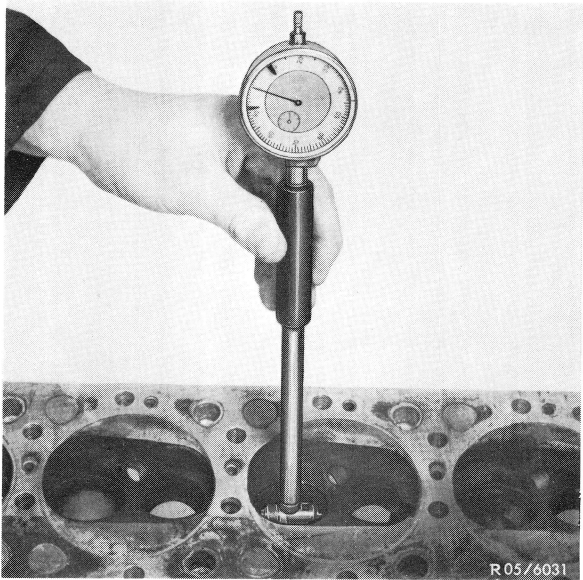


Fig. 3

Note: Liquid air or dry ice may be used for under-cooling valve seat ring.

- 5 After pressing in valve seat ring,peen ring well at three points.
- 6 Refinish valve seats (05.0–155).