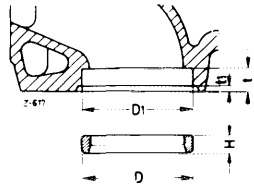
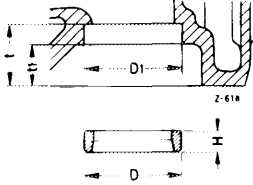


05—290 Renewal of valve seat rings

Data

		Intake		Exhaust
Engines		115.923/926 115.938/939	115.951 115.954	all
Overlap of valve seat rings in cyl. head		+0.074 up to 0.100		
D 1	Normal dimension	$\frac{48.500}{48.516}$		$\frac{42.000}{42.016}$
	Repair stage	max. up to 49.5	max. up to 49.0	max. up to 43.0
D	Normal dimension	$\frac{48.600}{48.590}$		$\frac{42.100}{42.090}$
	Rough dimension Repair stage	49.80	49.30	43.300
t		$\frac{12.40}{12.50}$		$\frac{27.500}{27.600}$
H	Normal dimension	$\frac{10.40}{10.29}$	$\frac{11.00}{10.89}$	$\frac{9.500}{9.410}$
	Repair stages			
t 1		2—2.1	1.4—1.5	17.9—18.20
		Intake 		Exhaust 

Special tools

Plug gauge 9 mm dia. for intake valve guide

117 589 03 23 00

Plug gauge 11 mm dia. for exhaust valve guide



117 589 04 23 00

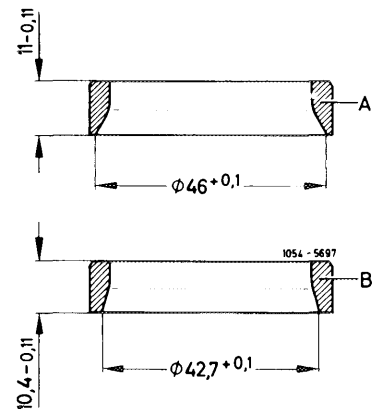
Conventional tools

Cylinder head clamping device	e.g. made by Rothenberger, D-6233 Kelkheim order No. 2.9900
Ring seat machining tool	e.g. made by Hunger, D-8000 München 70 order No. 220.03.110 size 2
Valve seat machining tool	e.g. made by Hunger, D-8000 München 70 type VDNSL 1/45/30 order No. 236.03.308
Internal measuring instrument (range 25–60 mm)	e.g. made by Mahr, D-7300 Esslingen order No. 844
External micrometer (range 25–50 mm)	e.g. made by Mahr, D-7300 Esslingen order No. 40 S

Note

The intake valve seat rings for engines 115.923/926/938/939 differ from intake valve seat rings for engines 115.951/954 in diameter and height.

- A Engines 115.951/954
- B Engines 115.923/926/938/939

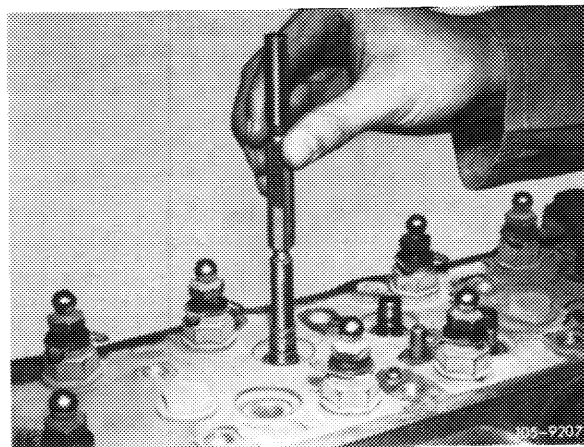


The exhaust valve seat rings of engines (USA) starting 1975 and (J) starting 1976 are harder. For external identification, these valve seat rings are provided inside with a red dot. No other valve seat rings may be installed on these engines.

Renewal

1 Remove old valve seat ring by means of ring seat machining tool.

2 Check valve guides and replace, if required (05–285).



3 Measure basic bore D 1.

A new valve seat ring standard dimension can be used when the specified overlap is available.

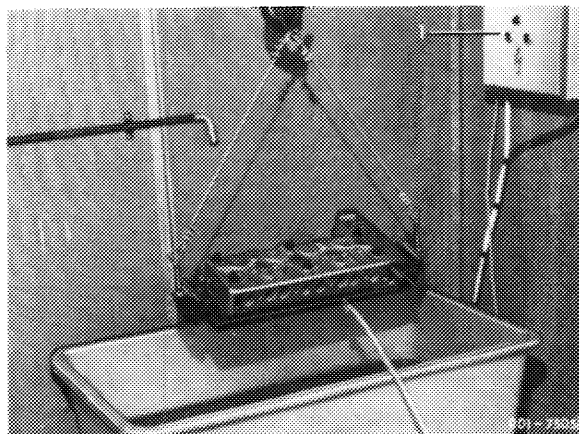
4 Machine basic bore repair stage D 1 by means of ring seat machining tool to the extent that the bore is just machined clean.

5 Measure machined basic bore.

6 Machine valve seat ring repair stage so that the specified overlap is established.

7 Heat cylinder head in water bath to approx. 80 °C.

8 Undercool valve seat ring with liquid nitrogen.



9 Knock-in valve seat ring with a suitable punch.

10 Machine valve seats (05–291).

