



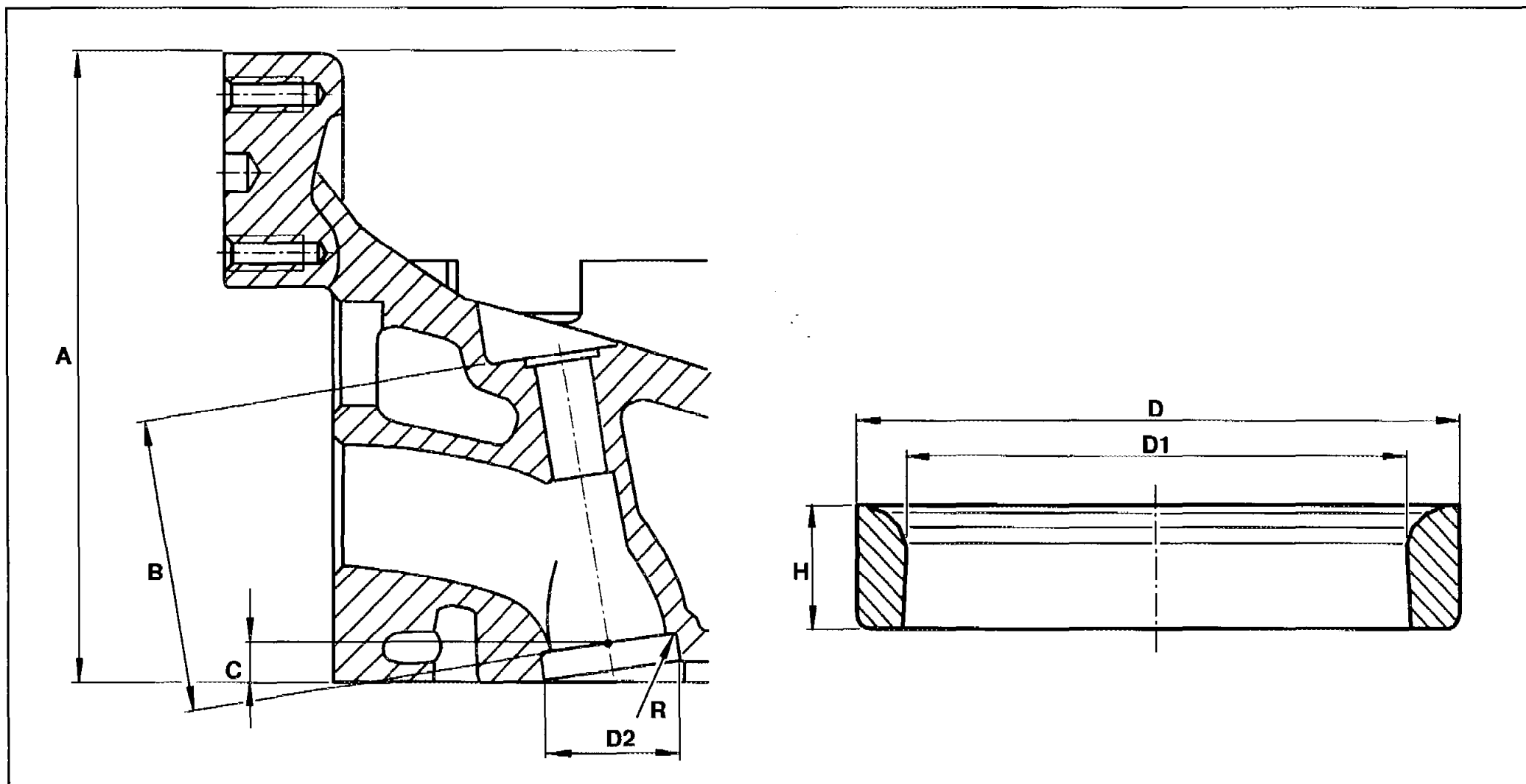
A6







AR05.30-P-3831A

Replacing valve seat rings

14.10.96

ENGINE 604, 605, 606 /



 	Removing, installing		
1	Remove valves		AR05.30-P-3511B <b>D5</b>
2	Inspect valve guides		
3	Use ring seat turning tool to remove valve seat ring	  Pay attention to operating instructions of the ring seat turning tool manufacturer	WH58.30-Z-1023-05A  WE58.40-Z-1001-11B  BE05.30-P-1005-03B
4	Measure basic bore (D2)	 Pay attention to overlap; a new valve seat ring of standard size can be used if the specified overlap exists. If necessary, widen to repair size and use a repair size valve seat ring; in this case ↓ compensate height of face which may have been machined.	BE05.30-P-1002-03B
5	Use liquid nitrogen to supercool valve seat ring and heat cylinder head in water bath of about 80 °C	 The valve seat ring must be located axially in the cylinder head	
6	Use a suitable guide drift to knock in valve seat ring		
7	Machine valve seats		AR05.30-P-4511B <b>L6</b>
8	Install in the reverse order		



## Test data of valve seat rings

Number	Designation			Engine 604, 605, 606
BE05.30-P-1002-03B	Bore depth of valve seat rings in cylinder head (C) with standard size valve seat rings	Inlet	mm	7.94–8.04
		Exhaust	mm	7.92–8.02
		Fig. see		AR05.30-P-4510-01A
BE05.30-P-1003-03B	Bore depth of valve seat rings in cylinder head (C) with repair size valve seat rings	Inlet	mm	8.14–8.24
		Exhaust	mm	8.12–8.23
		Fig. see		AR05.30-P-4510-01A
BE05.30-P-1004-03B	Radius (R)	Inlet	mm	0.2–0.4
		Exhaust	mm	0.2–0.4
		Fig. see		AR05.30-P-4510-01A
BE05.30-P-1005-03B	Bore $\varnothing$ of valve seat rings standard size (D2)	Inlet	mm	30.060–30.070
		Exhaust	mm	28.000–28.013
		Fig. see		AR05.30-P-4510-01A
BE05.30-P-1006-03B	Bore du of valve seat rings repair size I (D2)	Inlet	mm	30.250–30.266
		Exhaust	mm	28.250–28.263
		Fig. see		AR05.30-P-4510-01A
BE05.30-P-1007-03B	Valve seat ring overlap in cylinder head	Inlet	mm	0.2–0.4
		Exhaust	mm	0.2–0.4

## Test data of valve seat rings

Number	Designation	Engine 604, 605, 606	
BE05.30-P-1008-03B	Valve seat ring height (H)	Inlet	mm 5.6
		Exhaust	mm 5.6
		Fig. see	AR05.30-P-4510-01A
BE05.30-P-1009-03B	Valve seat ring height repair size I (H)	Inlet	mm 5.6
		Exhaust	mm 5.6
		Fig. see	AR05.30-P-4510-01A
BE05.30-P-1010-03B	Valve seat ring outer $\varnothing$ (D)	Inlet	mm 30.00–30.013
		Exhaust	mm 27.97–28.07
		Fig. see	AR05.30-P-4510-01A
BE05.30-P-1011-03B	Valve seat ring outer $\varnothing$ repair size I (D)	Inlet	mm 30.31–30.32
		Exhaust	mm 28.31–28.32
		Fig. see	AR05.30-P-4510-01A

**Commercially available tools (see Workshop Equipment Manual)**

Number	Designation	Make (e.g.)	Order number
WH58.30-Z-1071-12A	Internal measuring instrument for $\varnothing$ 20 – 40 mm	Hahn und Kolb Borsigstr. 50 70469 Stuttgart	33 520 080
WH58.30-Z-1067-12A	Micrometer 25 – 50 mm	Hahn und Kolb Borsigstr. 50 70469 Stuttgart	31414 150
WH58.30-Z-1055-12A	Gage for micrometer	Hahn und Kolb Borsigstr. 50 70469 Stuttgart	31414150
WH58.30-Z-1023-05A	Valve seat turning tool	Serdi GmbH Bregenzer Str. 69 D-88131 Lindau	SP 1050
WH58.30-Z-1016-05A	Motor for valve seat turning tool	Serdi GmbH Bregenzer Str. 69 D-88131 Lindau	SCL 640
WH58.30-Z-1012-05A	Form cutting tool	Serdi GmbH Bregenzer Str. 69 D-88131 Lindau	L 12

**Workshop equipment / MB testers (see Workshop Equipment Manual)**

WE58.40-Z-1001-11B	Wall support, Serdi GmbH D-88131 Lindau, order number SL 1100
WE58.40-Z-1002-11B	Workplace, Serdi GmbH D-88131 Lindau, order number SL 1200
WE58.40-Z-1003-11B	Machining center, Serdi GmbH D-88131 Lindau, order number SL 1300