

E. Replacement of Valve Seat Rings

For Models 180 a, 180 b, 190 SL, 220 a, 219, 220 S, and 220 SE this procedure is the same as described for Model 190.

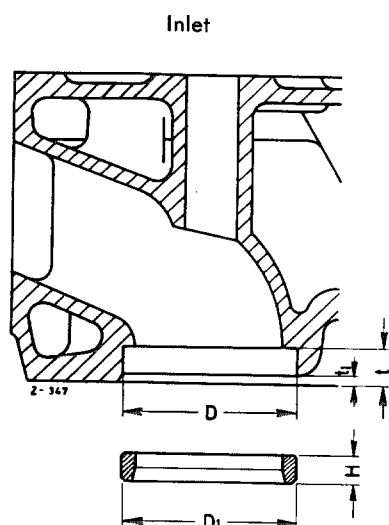


Fig. 01-5/5

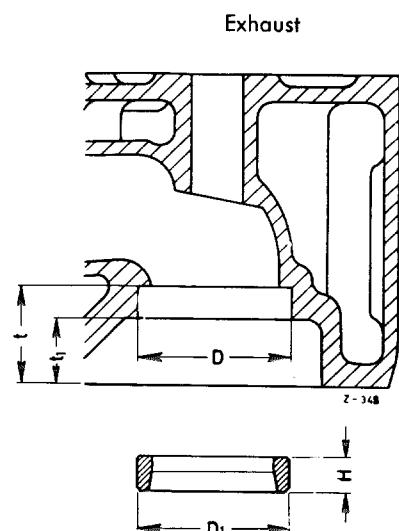


Fig. 01-5/6

Dimensions of Cylinder Head Bores and Valve Seat Rings

Valve seat rings		Inlet			Exhaust	
Model		180 a, 180 b, 190 SL	220 a and 219 220 S with $\epsilon = 7.6:1$	220 SE and 219, 220 S with $\epsilon = 8.7:1$	180 a, 180 b, 190 SL	220 a, 219, 220 S 220 SE
Part number	Standard size	121 053 02 31	180 053 01 31	180 053 05 31	121 053 02 32	180 053 07 32
	1st Overhaul stage	121 053 03 31	180 053 02 31	180 053 06 31	121 053 03 32	180 053 08 32
Base bore "D" in cylinder head	Standard size	$\frac{48.000}{48.016}$	$\frac{44.000}{44.016}$	$\frac{43.000}{43.016}$	$\frac{42.000}{42.016}$	$\frac{39.000}{39.016}$
	1st Overhaul stage	$\frac{48.500}{48.516}$	$\frac{44.500}{44.516}$	$\frac{43.500}{43.516}$	$\frac{42.500}{42.516}$	$\frac{39.500}{39.516}$
Diameter "D ₁ " of valve seat ring	Standard size	$\frac{48.106}{48.090}$	$\frac{44.150}{44.140}$	$\frac{43.100}{43.090}$	$\frac{42.100}{42.090}$	$\frac{39.100}{39.090}$
	1st Overhaul stage	$\frac{(49.300)^{1)} }{48.600}$ $\frac{48.590}{48.590}$	$\frac{(45.300)^{1)} }{44.650}$ $\frac{44.640}{44.640}$	$\frac{(44.300)^{1)} }{43.600}$ $\frac{43.590}{43.590}$	$\frac{(43.300)^{1)} }{42.600}$ $\frac{42.590}{42.590}$	$\frac{(40.300)^{1)} }{39.600}$ $\frac{39.590}{39.590}$
Height "H" of valve seat ring	Standard size	$\frac{8.00}{7.91}$	$\frac{6.80}{6.71}$	$\frac{7.70}{7.61}$	$\frac{9.50}{9.41}$	$\frac{9.00}{8.91}$
	1st Overhaul stage	$\frac{8.00}{7.91}$	$\frac{6.80}{6.71}$	$\frac{7.70}{7.61}$	$\frac{9.50}{9.41}$	$\frac{9.00}{8.91}$
Depth in cylinder head	t	$\frac{10.00}{10.10}$	$\frac{8.50}{8.60}$	$\frac{9.70}{9.80}$	$\frac{27.50}{27.60}$	$\frac{27.00}{27.10}$
	t ₁	2	$\frac{1.2}{1.3}$	$\frac{1.2}{1.3}$	$\frac{17.70}{18.30}$	$\frac{18.00}{18.30}$
Force-fit oversize of valve seat ring		$\frac{0.074}{\text{to}}$ 0.100	$\frac{0.124}{\text{to}}$ 0.150	$\frac{0.074}{\text{to}}$ 0.100	$\frac{0.074}{\text{to}}$ 0.100	$\frac{0.074}{\text{to}}$ 0.100

¹⁾ Rough-turned diameter. Re-turn or regrind the valve seat ring to make sure that the prescribed force-fit oversize is always maintained.