B. Boring and Honing of Cylinder Bores

For Models 180 a, 180 b, 190 SL, 220 a, 219, 220 S, and 220 SE these procedures are the same as described for Model 190.

Machining Dimensions of Cylinder Bores

Overhaul stage	180 a, 180 b 190, 190 b 190 SL	220 a, 219 220 S, 220 SE
Standard size	85.000 / 85.022	80.000 / 80.019
Intermediate stage	85.250 / 85.272	80.250 / 80.272
1st Overhaul stage	85.500 / 85.522	80.500 / 80.522
2nd Overhaul stage	86.000 / 86.022	81.000 / 81.022
3rd Overhaul stage	86.500	81.500

Machining Tolerances of Cylinder Bores

Models 180 a, 180 b, 190, 190 b, 190 SL, 220 a, 219, 220 S, and 220 SE

Permissible degree of out-of-round	0.013
Permissible conicity	0.013
Permissible departure of cylinder bores from vertical to crankshaft axis, calculated over total height of cylinder	0.05
Permissible roughness	0.003—0.005
Average depth of corrugation	max. 50% of roughness

The pistons must be so chosen that the difference in weight of the pistons in any one engine does not exceed 4 grams and that the running clearance is 0.04 mm.

C. Machining and Pressure-Testing of Cylinder Head

Machining Dimensions for Cylinder Head

Model		180 a, 180 b 190, 190 b 190 SL	220 a 219 220 S 220 SE
Total height		84.8—85.0	
Permissible stock removal		1	0.8
Permissible departure from plane	in a longitudinal direction	0.1	
	in a lateral direction	0	
Permissible departure from parallelity between upper and lower separating surface in a longitudinal direction		0.1	
Test pressure with air in hot water (70° C)		2 atm.	

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.

After machining the cylinder head separating surface, remachine the valve seats in order to ensure that the minimum distance between valve head and cylinder head separating surface is maintained (see Section F).