B. Re-Bedding of Crankshaft

The procedure for models 180 a, 180 b, 180 c, 190 SL, 220 a, 219, 220 S and 220 SE is the same as for model 190.

Bearing Play of Crankshaft

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

Radial[1])	End Play of locating bearing[2])
0.045–0.060	0.09–0.236*

[1]) The above radial play for new engines is attained by proper selection of crankshafts and bearing shells, with a bearing play of 0.05 mm the goal. This radial play should be definitely maintained also during repairs.
[2]) During repairs, an end play of 0.30 mm is permitted.

Diameter of Crankshaft Bearings with Bearing Shell Halves Fitted

Model	Standard	Overhaul Stages I	II	III	IV
180 a, 180 b 180 c, 190 190 b, 190 SL	69.99 70.02	69.74 69.77	69.49 69.52	69.24 69.27	69.99 69.02
220 a, 219 220 S, 220 SE	59.99 60.02	59.74 59.77	59.49 59.52	59.24 59.27	58.99 59.02

Base Bore in Crankcase

Model	180, 180 b, 180 c, 190, 190 b, 190 SL	220 a, 219, 220 S 220 SE
Housing bore	74.500–74.519	67.000–67.019
Perm. out-of-round of base bore	0.01	
Perm. conicity of base bore	0.01	
Crush of bearing shell halves	+ 0.01	

Thickness of Check Plates on Locating Bearing

Model	Standard	Overhaul Stages I	II	III	IV	V	VI	VII
180 a, 180 b, 190, 190 b, 190 SL	1.980 1.965	2.030 2.015	2.080 2.065	2.130 2.115	2.180 2.165	2.230 2.215	2.280 2.265	2.330 2.315
220 a, 219, 220 S, 220 SE	2.980 2.965	3.030 3.015	3.080 3.065	3.130 3.115	3.180 3.165	3.230 3.215	3.280 3.265	3.330 3.315

To fix crankshaft in axial direction the engines were provided with a shouldered locating bearing, as well as with check plates. The check plates are fastened to the second crankshaft bearing cap on both sides with heavy dowel pins (Fig. 03–5/1).

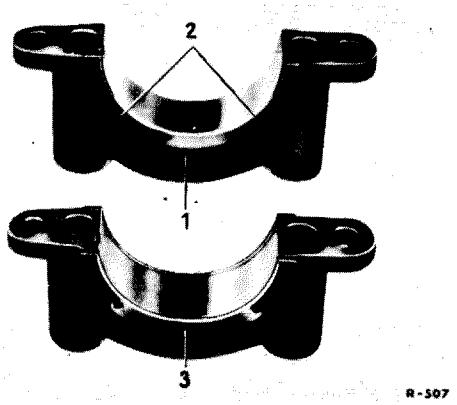

Fig. 03–5/1

1 Crankshaft bearing cap 2 Heavy dowel pin 3 Check plates

Here, the heavy dowel pins may not project more than 1.5 mm from the hole. They should be sufficiently withdrawn with regard to the check plate that any contact with the crankshaft is made impossible.

When repairs are made, and the crankshaft bearings are replaced, the former, and now still partially used check plates are replaced on all our engines by a shouldered locating bearing in the cylinder crankcase (upper bearing shell half) and in part also in the crankshaft bearing cap (lower bearing shell half). For the overhaul stages these shouldered bearings – bearing shell halves also as to width – are supplied in oversizes for refinishing to the specified end play.