Re-bedding of Camshaft

Job No.
05–39

A. OM 636

The camshaft bearings are available in 2 versions, standard size and repair size, as far as the inner diameter, the outer diameter and width of the 1st camshaft bearing (lapped bearing) are concerned and are delivered ready for assembly. The camshaft must be reground to the corresponding dimensions.

The three camshaft bearings have different outer diameters. In order to obtain satisfactory seating of the bearings in the crankcase bores the outer diameters of the bearings and the bores in the crankcase must be within the specified tolerance ranges.

Camshaft bearings seated too loosely at their outer diameter can be the cause of a reduced oil pressure.

Bearing Base Bores in Crankcase

	1st bearing	2nd bearing	3rd bearing
Diameter of bore in crankcase	50.500 / 50.530	50.000 / 50.025	49.000 / 49.025
Clearance and/or force-fit of the bearings in the bore	−0.028 / +0.021	−0.023 / +0.018	−0.023 / +0.018

Camshaft Bearings

Camshaft bearing		1st bearing	2nd bearing	3rd bearing
Outer diameter	Standard size	50.521 / 50.502	50.018 / 50.002	49.018 / 49.002
	Overhaul stage*	50.539 / 50.520	50.033 / 50.017	49.033 / 49.017
Inner diameter	Standard size	28.000 / 28.021	28.000 / 28.021	28.000 / 28.021
	Overhaul stage	27.750 / 27.771	27.750 / 27.771	27.750 / 27.771
Width of 1st camshaft bearing (lapped bearing)	Standard size	39.920 / 39.881	–	–
	Overhaul stage	40.170 / 40.131	–	–

* marked with a blue paint dot

Part No. 136 050 12 51 for 1st bearing with standard size of outer diameter, inner diameter and width
Part No. 136 050 14 51 for 1st bearing with standard size of outer dia., overhaul stage of inner dia., overhaul stage of width
* Part No. 136 050 16 51 for 1st bearing with overhaul stage of outer dia., standard size of inner dia. and width
* Part No. 136 050 18 51 for 1st bearing with overhaul stage of outer dia., inner dia. and of the width
Part No. 181 050 00 53 for 2nd bearing with standard size of outer dia., standard size of inner dia.
Part No. 181 050 02 53 for 2nd bearing with standard size of outer dia., overhaul stage of inner dia.
* Part No. 181 050 04 53 for 2nd bearing with overhaul stage of outer dia., standard size of inner dia.
* Part No. 181 050 06 53 for 2nd bearing with overhaul stage of outer and inner dia.
Part No. 136 051 00 14 for 3rd bearing with standard size of outer dia., standard size of inner dia.
Part No. 136 051 02 14 for 3rd bearing with standard size of outer dia., overhaul stage of inner dia.
* Part No. 136 051 03 14 for 3rd bearing with overhaul stage of outer dia., standard size of inner dia.
* Part No. 136 051 04 14 for 3rd bearing with overhaul stage of outer and inner dia.

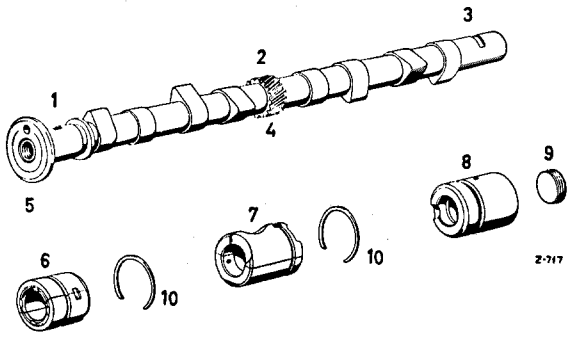

Figure 05–39/1

1 Journal pin of the 1st camshaft bearing
2 Journal pin of the 2nd camshaft bearing
3 Journal pin of the 3rd camshaft bearing
4 Spiral gear of oil pump drive
5 Flange to mount camshaft timing gear
6 1st camshaft bearing (lapped bearing)
7 2nd camshaft bearing
8 3rd camshaft bearing
9 Screw plug in 3rd camshaft bearing
10 Retaining ring to hold the bearings together

Before the installation of the camshaft bearings in the crankcase, mount the 1st camshaft bearing (lapped bearing) on the journal pin of the camshaft and measure the end play of

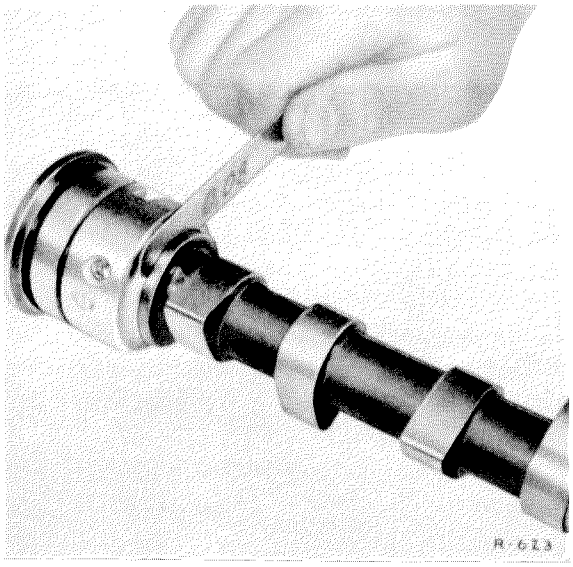

Figure 05–39/2

the camshaft with a tolerance gauge (see Figure 05–39/2).
Install the camshaft bearings and the camshaft (see Job No. 05–35, Paragraph 15, through 21).

B. OM 621

1. Removal and checking of camshaft (see Job No. 05–36).

Note: When installing new camshaft bearing brackets, a complete set of brackets should be used. If, as an exception, one individual bearing bracket is replaced, take special care to a faultless alignment of the bores.

2. Before installing the camshaft bearing brackets, measure the bores and possibly regrind the camshaft on the basis of the bearing clearances (see Job No. 05–38). For reground camshafts, bearing brackets the bore of which is smaller by 0.25 mm, are available (see Job No. 05–0, page 05–0/6).

3. Installation of camshaft (see Job No. 05–36, items 5–24).