Main Bearings

General

Main bearings 1, 2, and 3 are split, steel shell, insert bearings with bearing No. 1 (flywheel side) the crankshaft thrust bearing. These steel shell bearings are so called tri-metal bearings which consist of a steel shell, and a lead bronze base, a very thin layer of nickel, and the white metal bearing surface (0.02 to 0.025 mm thick). Besides the bearing layers a fine coat of lead alloy covers the entire insert to act as corrosion inhibitor, break-in surface, and an aid in sliding the insert into the bearing seat.

Bearing inserts are supplied to the repair shops ready to be installed. They are available in one crankshaft undersize and one crankcase seat oversize.

The crankshaft main bearings should always be replaced in complete sets.

The crankshaft must be sent to the factory to be reground on either the main or connecting rod journals. Lapping the bearing surfaces will damage the mild-nitrated surface and would result in rapid crankshaft wear. Therefore all crankshaft reworking must be done by the factory.

Removing and Installing Main Bearings

Removal

1. Disassemble crankcase.
2. Remove crankshaft.
3. Remove bearing inserts from the crankcase halves, and inspect whether white metal surface is reusable. If the lead bronze layer is visible a complete set of new main bearings should be installed.

Inspection

1. Clean crankcase and bearing seats thoroughly.
2. Assemble empty crankcase and tighten cap nuts to 4 mkg (29 ft. lb.) torque.
3. Using VW 247 gauge ring measure the bearing bores in the crankcase (for dimensions see SE 15).