CRANKSHAFT AND MAIN BEARINGS

General

The crankshaft is supported in the crankcase by replaceable insert bearings. The precision-type bearings are not adjustable. When running clearances become excessive, replacement is necessary.

The connecting rods and all crankshaft journals are rifle-drilled to provide positive lubrication. Each main bearing cap, which contains the lower half of the insert bearings, is numbered consecutively to correspond with a number stamped on the camshaft side of the crankcase. The bearing caps are not interchangeable. No. 1 bearing cap is at the front of the engine.

CAUTION: Extreme care must be taken to guarantee cleanliness of the crankcase, crankshaft and bearings after service has been completed. Whenever possible, the crankshaft should be removed when new bearings are being installed in order to clean the crankcase thoroughly. All bearing surfaces must be free of grit and burrs. Small particles of dust and dirt left between the crankshaft and bearings will cause rapid wear and scoring of the crankshaft journal and insert. Any foreign material left between the bearings and the crankcase and bearing caps will cause distortion of the bearing and a reduction in operating bearing clearance at localized point. The frictional heat thus produced will in turn cause the bearing material to melt away from the steel back of the bearing at that point. Such melted material will create further hot spots until complete bearing failure takes place. Anything that interferes with the operating clearance of any bearing or the proper heat dissipation has its effect upon bearing life. Cleanliness cannot be overstressed.

The crankshaft front and rear oil seals will also be worn and should be replaced. This cleaning of the crankcase and replacing of oil seals is the best insurance against early bearing failures through dirt or foreign material left in the crankcase oil distribution bores or from dirt entering worn oil seals.

Main bearings are available in standard production size for new shafts or for used shafts having little or no wear and .002 inch undersize for shafts slightly worn. Also available are .010, .020 and .030 inch undersize for use with regound crankshafts. When servicing main bearings, one defective bearing will require the replacement of all three bearings; otherwise crankshaft "lay" or alignment cannot be maintained.

The replacement of crankshaft main bearings without removing the crankshaft should be done only in an emergency. When these bearings are worn sufficiently to require replacement or have failed through lack of lubrication, the entire crankcase and its oil distribution bores should be thoroughly cleaned. This cannot be accomplished without the removal of the crankshaft.