



UNDERSIZE BEARING APPLICATIONS

When crankshaft bearings fail, either from oil contamination or lack of lubrication, the crankshaft journals become heavily scratched or scorched. To salvage a crankshaft, these journals must be re-ground to provide a smooth-running surface for new bearings. Re-grinding a crankshaft is grinding or removing a small amount of surface material to restore the journals.



Before



After

After grinding, the crankshaft journal dimensions are smaller, and therefore to provide the manufacturer's recommended oil clearance, the bearings must be thicker. Undersize bearings provide extra thickness on the internal dimension (undersize bearings for an undersized crankshaft). Undersize bearings are available in many sizes; .010" (0.25MM), .020" (0.50MM), .030" (0.75MM) etc...

Some bearings are also manufactured as "Oversized." An oversized bearing is larger on the outside or OD. These oversized bearings are used when the engine block requires machining on the bearing saddles due to damage. The engine block is repaired by "line boring", a process where a small amount of material is removed from the bearing saddles until a smooth surface is acquired. Usually, only a small amount is required (0.010" / 0.25MM). Bearings are also available as a combination of both; undersize and oversized, for example, bearing part no. 8N9019 is a .020"/ 0.50MM undersize and a .010"/ 0.25MM oversize. The 8N9019 bearings are available for a 3208 engine where the crankshaft mains have been re-ground to .020"/ 0.50MM, and the engine block saddles have been machined to .010"/ 0.25MM.

