

TB-2084

Issued: December 2006

## H-SERIES LENGTH REDUCTION

Our recent announcement that some “H-Series” rod bearings are being narrowed to provide greater crankshaft fillet clearance previously provided by a larger ID chamfer on one edge has raised a question concerning what affect this will have on bearing crush.

The simple answer is NONE.

Crush in a half shell bearing is analogous to press fit in a full round bearing. This is a measure of the amount of interference fit between the bearing OD and the housing ID. Press fit is typically expressed as a difference in diameters. Since it’s virtually impossible to directly measure the diameter of a half shell bearing, we measure it’s circumference instead. In a half shell bearing, the amount by which the circumference (distance around the OD from one parting line to the other) exceeds that of a half circle is referred to as “crush”. Since the change being made only reduces the axial length, commonly referred to as width, there will be no reduction in crush.

Since the same amount of crush will be applied over the narrower bearing back, the contact pressure between the bearing and housing will actually be a little higher resulting in a slight improvement in bearing retention.

The bearing operating surface area also remains unchanged due to the fact that the bearing has been narrowed on one end in place of the heavy chamfer.

All CLEVITE “VN-Series” rod bearings have always been made to the same shortened overall length that will be used for the comparable “HN-Series” parts in the future.

*NOTE: The suffix “HN” will be used to distinguish the “narrowed” parts from the former large chamfer H-Series parts. There is a weight difference between the H and the HN part of about one gram or so per half shell with the HN being lighter. Clevite does not recommend mixing H and HN parts in the same engine because of the effect it would have on unbalance from journal to journal. Also, the engine builder cannot assume that the bearings out of the box will accommodate every conceivable fillet radii. Always check for side clearance on any new bearing/crankshaft combination.*