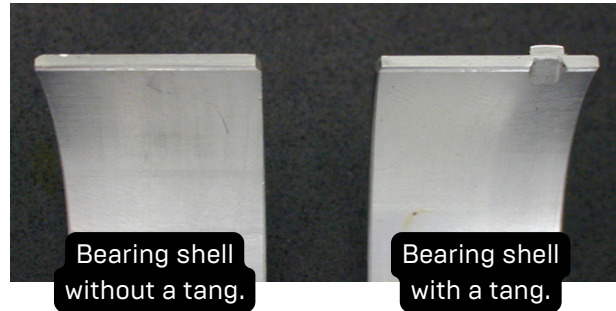


Facts about Engine Bearings

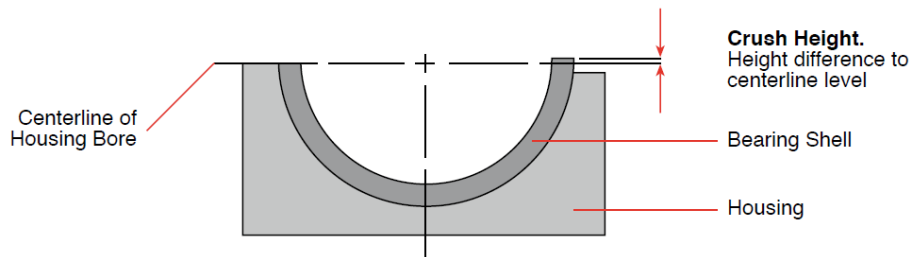
Tang/Lug:

The only function of the location tang (also referred to as lug) is to position the bearing shell laterally in the housing. The location tang does not prevent the bearing from turning inside the housing. Tang-less bearing shells can be installed in housings that have provision for tang's but not vice-versa.



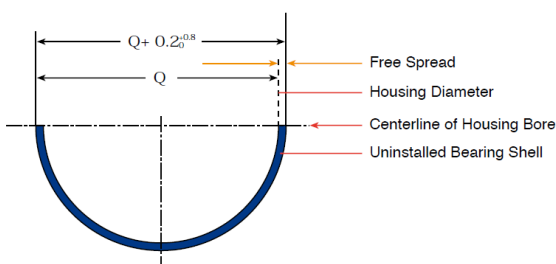
Crush:

To prevent the bearings from turning inside the housing, the bearings are manufactured with a feature known as "crush". Crush height is the difference between the diameter of the bearing shell and bearing housing. I.e. the bearing housing has a smaller diameter than that of the bearings. The difference in diameters creates a 'press-fit', which keeps the bearing pair in place. This feature can be seen during installation, as the shell will stand slightly proud of the housing.



Free-spread:

When installing shell bearings, it is common to note a 'spring' force as the shell is pushed into the housing. This results from a condition known as "free-spread" and is due to the outer diameter of the bearing shell being larger than the diameter of the housing bore (unrelated to crush). The purpose of free-spread is to ensure that the back of the bearing makes full contact with the housing, whereby assisting in heat transfer from bearing to housing. In addition, free spread exerts a spring force on the housing, holding the bearing in the position during engine assembly.



Free Spread:

Difference of outer Joint distance (Q+) to normal housing diameter (Q).
When bearing shell is not installed.