

## Dodge® Imperial ISAF mounted bearings: hydraulic assist line addition for larger shaft sizes

Dodge has a product line addition based on the Imperial spherical bearing design for shaft sizes from 8” to 15”. The addition includes larger bore sizes but also includes the following features.

1. A patented hydraulic assisted adapter mounted system to provide easy installation and removal
2. Higher strength ductile iron housing
3. Unitized, preassembled inserts that reduce installation time, eliminate contamination during assembly, no loose parts
4. Triple lip seals that provide superior sealing capability
5. Re-purgeable labyrinth auxiliary seals
6. Reduced grease consumption, no voids in the housing to fill
7. Directly interchangeable with USAF / SAF 500 series bearings.

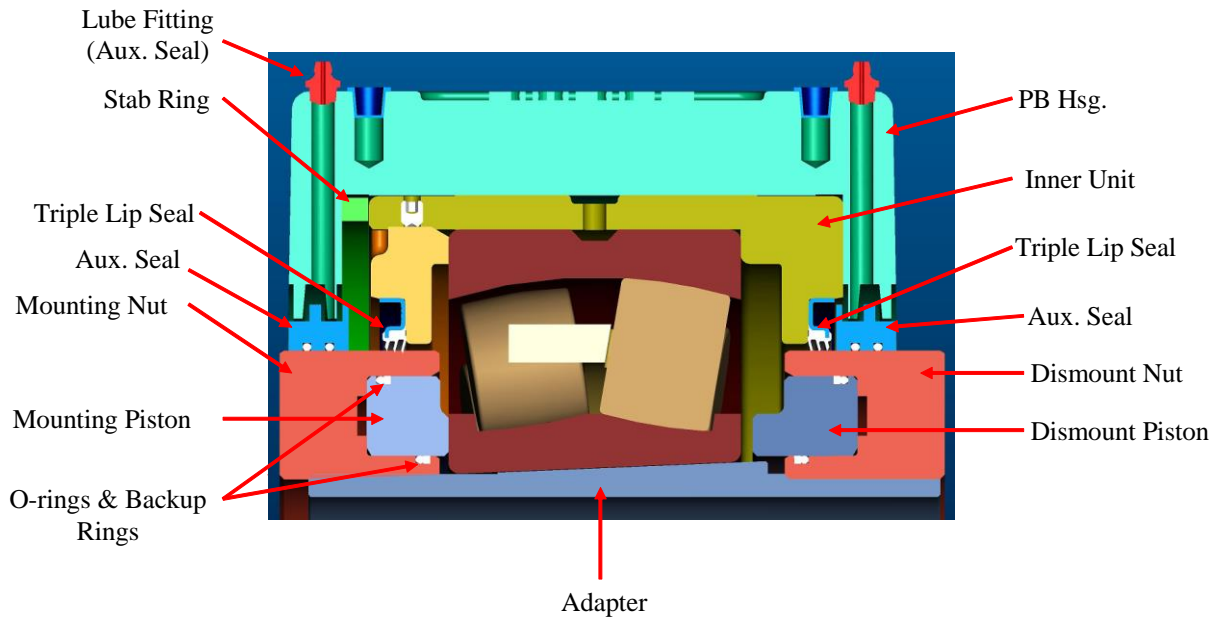
The patented hydraulic assisted adapter uses pressurized hydraulic fluid to install and remove the bearing from the shaft. This system will accurately set the clearance by utilizing a dial indicator rather than using feeler gauges.

To install the bearing unit to the shaft the user connects a portable hydraulic pump to the bearing’s mounting nut. Then a dial indicator is utilized between the shaft and the bearing to measure axial movement of the bearing relative to the mounting adapter and shaft. At a pre-determined axial distance, as measured by the indicator, the proper clearance is reduced in the bearing and the bearing is tight on the shaft. There is a direct linear correlation between axial movement and clearance reduction which allows this mounting method to replace the feeler gauge method. When pressure is applied from the portable pump to the mounting piston, the bearing is pushed up the taper of the adapter.

Dismounting is just as easy. Pressure is applied to the bearing’s dismount piston which would push the bearing off of the adapter.

The installation time to assemble the bearing to the shaft with the Dodge hydraulic bearing takes less than 15 minutes. A similar USAF bearing would take more than 60 minutes. Not only is the installation time reduced but the Dodge Hydraulic insert is sealed and is not subjected to on site contamination. No longer does one have to worry about contamination from the environment during the installation process.

The factory assembled and tested insert would include all the components as shown in the cross-section picture below.



The four-bolt pillow block housing are manufactured with ductile iron 65,000 PSI tensile strength material that is more than 2 times stronger than standard gray cast iron and 90% of the strength of cast steel. The housing is dimensionally equivalent to the USAF / SAF housings. The housing comes with capability to use the Dodge Smart Sensor. The bearings have dynamic and static capacities identical to the 222/230xx series bearings. Similar to USAF housings designs spacer rings are utilized to field convert the bearing from a fixed to an expansion bearing.

The sealing system is the premier, standard seal in the industry. It utilizes dual seals which include triple lip seals and re-purgeable 'LER' type labyrinth seals. These seals still allow the same speed capacities as the standard USAF /SAF units and provide 1/2 degree of misalignment capability.

Dodge leads the competition again with innovated bearing designs to ensure that users can obtain the maximum bearing life. For applications that use shaft sizes in the 8" to 15" remember the Dodge ISAF Hydraulic assisted bearing. For questions concerning these new Dodge additions you can contact Dodge CO Engineering at 864-284-5700. Product Information is also available on the internet at [www.dodgeindustrial.com](http://www.dodgeindustrial.com).

