

WP0090**Dodge® SNX Mounted Bearings**

Dodge Customer/Order Engineering

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Continuing with the theme, International bearing series of articles, the SNX Plummer block product is the next product line to visit. As noted in previous articles International Bearings are metric bearing products that are generally marketed in Europe but are used throughout the world. We obtained this bearing product line when the German company, HFH, was acquired in 1995. Since then ABB continued to manufacture, inventory and market these products, although the SNX units are currently manufactured in both US and Mexico Dodge manufacturing facilities.



A Plummer block bearing by definition are 'blocks' or 'standards' that are used to support a journal or shaft. In the United States they are referred to as pillow blocks.

The SNX bearings are dimensionally interchangeable with the SN series bearings marketed around the world. They are similar in design to the Dodge USAF & SAF series bearings except that the major dimensions would be metric with metric hardware. The housings are similar to the USAF since they use the same castings.

As with USAF housings, these housings are used in a variety of heavy duty applications including mining, construction, manufacturing, sand & gravel, conveying, lumber industry. The housings are split and made from cast iron and ductile iron. Either direct mount or metric bore adapter mountings are available both with a variety of sealing options. As with USAF, housings can use either grease or oil lubrication.

Standard features for the SNX housings include:

- a) Pry slots to allow easy disassembly of the housing top from the base
- b) Offset dowels and match marks to ensure positive positioning of the housing cap and base
- c) Cast in dimples to allow users to drill the unit for additional features for positioning , lubrication, temperature & vibration monitoring, breathers valves
- d) Four cap bolts holding the housing halves together for additional strength
- e) Two drain holes supplied, can be used for oil draining, grease escape or for a oil sight gauge
- f) Oil return slots in the seal area to minimize seal leakage
- g) Flat top surface on the housing to enable mounting of the Dodge Smart monitoring sensors for vibration, and temperature.
- h) Housing incorporates a passage way for lubrication to flow from side to side

The biggest difference between SNX housings and USAF housings is that the SNX bearings are designed to be used for more than one series of bearings. The USAF has to be machined differently to utilize a different series. As an example 210 series SNX housing is used for the 210, 510, 308 & 608 units. The spherical bearings used within the housing will have the same outer diameter but the shaft size going through the bearing will be a different size. In this example the 210 would use a 22210 direct mount bearing with a shaft size at the seal of 60 mm, 510 would use an adapter mount bearing with the shaft size at the seal of 45 mm; 308 uses a 22310 direct mount bearing with 50 mm shaft seal diameter, & 608 use a 22310 adapter mount bearing with 35 mm shaft seal diameter.

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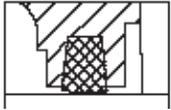
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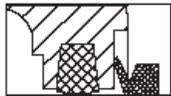
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Since the housings are the same, the seals must be designed to accommodate the different shaft sizes. This is accomplished by incorporating reducer rings or spacer rings to minimize the number of seals needed. The reducing ring has an O-ring on its circumference and fits into the groove in the housing to create a sealing surface that is in compression as the reducing ring would be stationary in the housing. The seal would then fit into the groove that is on the inner diameter of the reducing ring. The reducing ring fills the gap between the housing and the different shaft seal sizes.

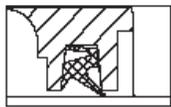
The SNX bearing series have many seal options:



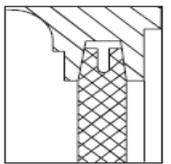
- a) FS: Felt seal: A strip of woven felt is placed in the groove of the housing or reducing ring. This seal is the industry standard economical seal and is provided unless the user specifies a different seal. The felt is soaked in oil and prevents debris from entering the bearing.



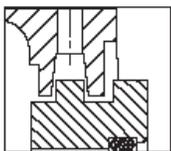
- b) VR: Felt seal with V ring seal: A V ring seal is placed along side of the felt seal. The V lip rubs against the housing or reducing ring and acts as a flinger as it rotates with the shaft.



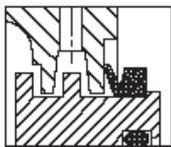
- c) LD: Lip seal: A 2 piece contact seal is placed in the grooves of the housing or reducing rings.



- d) DK: End cover that fits into the housing grooves to close off the open end of the housing. The shaft would not extend beyond the housing.



- e) TS: This labyrinth seal fits in the grooves of the housing or reducing ring to provide a non-contact seal. In the bore of the seal is an O-ring to seal off the bore area and ensure that the seal rotates with the shaft. Similar to the LER seal.



- f) TT: This seal incorporates the TS labyrinth seal design but also includes a V-ring seal that rubs against the housing. This is similar to the Triple Tect (TT) seal

As noted above the SNX bearing line is available with 4 different series of bearings. A similar comparison to the USAF / SAF series is as follows:

- 500 series – uses 222xx K spherical roller bearing with standard SNW adapters
- 600 series -- uses 223xxK spherical roller bearing with standard SNW adapters
- 200 series – uses 222xx spherical roller bearing direct mounted to the shaft
- 300 series – uses 223xx spherical roller bearing direct mounted to the shaft

These are standard bearings and adapters that are currently used in the USAF 500, 600, 200, & 300 series. The load and speed rating are identical. Mounting of the bearings is similar as well.

When ductile iron housings are required the series would change to SSND. The bearing, adapters and seals would be the same as described above. When ductile



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iron is used, the housing strength is more than doubled that of cast iron and only 90% of cast steel. These housing are not available in cast steel.

If you need bearings for those applications that require metric shafts and hardware equivalent to the SN series for either grease or oil lubrication, then here is the Dodge bearing that meets those requirements. Contact CO engineering to answer any questions you may have on this product at 864-284-5700. Product Information is also available on the internet at: www.baldor.com