



**WP0224**

**Dodge® mounted bearings: high temperature modification**

Dodge Customer/Order Engineering

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Dodge products are known in the many industries for being able to fit the need for a wide variety of modified parts from the standard product line. One specific modification that is consistently requested is the high temperature modification on anti-friction bearings. Each anti-friction bearing product line can be modified with high temperature features that will bring the maximum operating temperature from 225°F to 400°F. This paper will discuss what goes into a high temperature modification for each product line and the limitations of each line.

The high temperature modification for the Dodge ball bearing consists of five changes to the standard product line:

1. Removal of the rubber from the seal carrier
2. Replacing the standard cage with a Max-Life cage
3. Heat stabilizing the outer ring of the bearing insert
4. Adding additional radial clearance (C4) in the bearing
5. Adding high temperature grease; DuPont Krytox 206

The Dodge EZ Kleen, Ultra Kleen Washdown and Extreme Duty products are excluded from the high temperature modifications.

The high temperature modification for the Dodge tapered roller bearing line consists of two changes to the standard product line: (1) removal of the rubber from the seals, leaving metal labyrinth seals, and (2) adding high temperature grease; Mobilgrease HTS #2. The complete tapered roller bearing line has the capability of being modified for high temperature.

The high temperature modification for the Dodge spherical roller bearing line consists of two changes to the standard product line: (1) removal of the rubber from the seals and (2) adding high temperature grease, Mobilgrease HTS #2. The S-2000 spherical roller bearing is the only spherical roller bearing that is not capable of the high temperature modification. The S-2000 bearing contains a non-metallic cage that has a maximum temperature rating of 225°F.

The maximum operating temperature for all Dodge high temperature bearings is 400°F. An anti-friction bearing that will operate above 400°F will experience microstructure changes which effect the metallurgical properties of the bearing steel. This in turn affects the bearing's strength, capacity and longevity. If there is a requirement for a bearing to operate above 400°F, Dodge offers a variety of sleeve bearings to help with that need.

For any questions concerning Dodge brand anti-friction bearings or PT Component parts, contact Dodge C.O. Engineering at 864.284.5700 or email to [DodgeEngineering@abb.com](mailto:DodgeEngineering@abb.com)

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