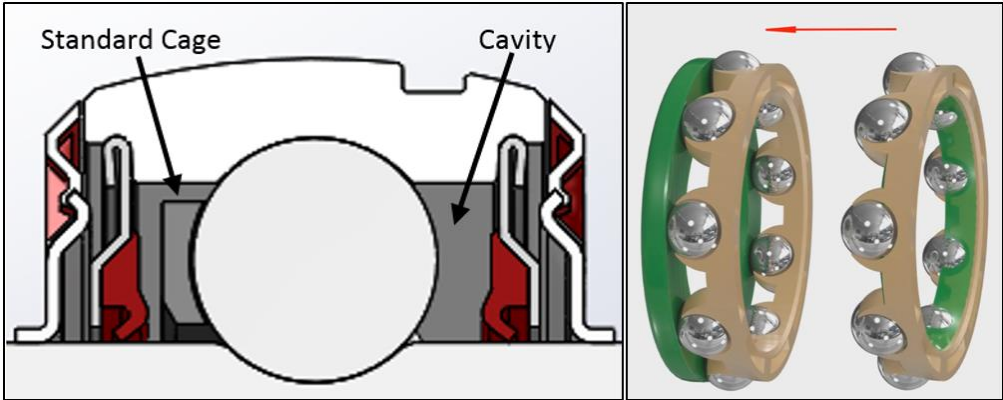


Dodge® mounted ball bearings: Maxlife cage

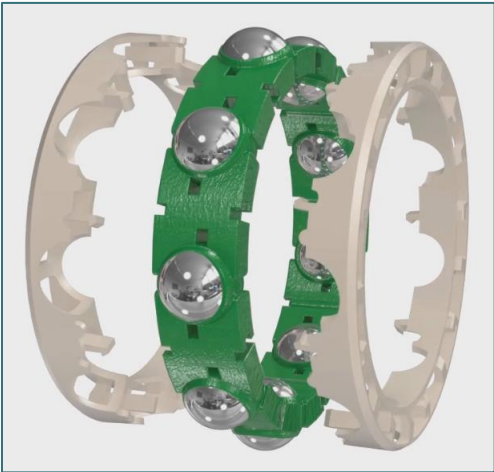
The Maxlife cage is the product of extensive research and development in retainer technology and industry leading engineering. The basic job of the cage is to hold the balls, or rollers, equally spaced apart, allowing them to make contact with both raceways. This allows the shaft to rotate smoothly and the load to be transmitted evenly between the raceway and the balls. But what if a cage could be designed to do more? This is exactly what Dodge engineering did.



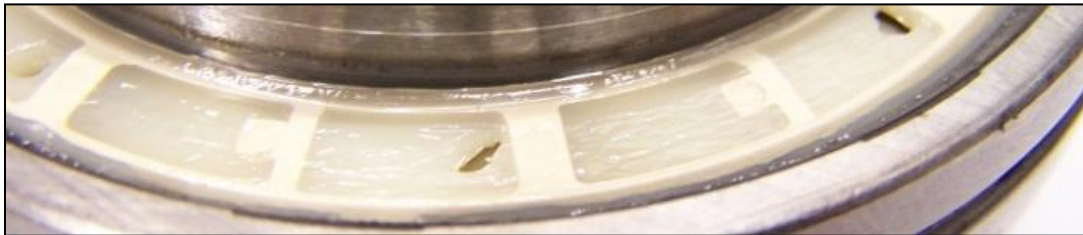
With most standard cages, as shown above, grease is blocked from reaching the back side of the bearing. Also, because there are no pockets to hold it in place, grease has a tendency to be pushed to the other side of the bearing cavity as the rollers churn through it. The graphic below simulates the grease moving to the side of the cavity.



Grease is the lifeblood of a bearing because it reduces the friction and wear between the balls and the raceways and removes generated heat. Proper lubrication is required for a bearing to reach its maximum life. In fact, an estimated 80% of all bearing failures can be attributed to lubrication related issues. The Maxlife cage was designed to optimize the contact between the balls and the grease to maximize bearing life. Unlike a standard cage, the Maxlife cage is symmetrical across its centerline perpendicular to the shaft, and features a two-piece design. This unique construction creates a grease compartment around each of the balls as simulated in the image below.



Several benefits result from this design. Most importantly, grease is trapped in the compartments and provides constant contact between the balls and grease. This ensures adequate lubrication exists around each ball to prevent wear and minimize friction and heat. Below, a bearing with the Maxlife cage was run in a dust box test under extreme conditions. In the photo below, taken after this test, observe the clean grease remaining in the compartments of the cage.



The Maxlife cage also helps to reduce grease wash-out. This is particularly important in the high-pressure cleaning cycles that are typical of the food and beverage industries. Compared to a traditional style cage that pushes grease to the sides of the bearing cavity, the Maxlife cage traps a large volume of grease around each of the balls.

Another benefit of the Maxlife cage is that relative motion between the balls and the grease is reduced, which results in lower operating temperatures and extended life. The grease in each compartment travels along with each ball, so that they are moving together at the same speed. Churning of the grease is avoided. Churning is the action of the balls pushing their way through grease that is obstructing their path.

The Dodge Maxlife cage is a highly engineered bearing retainer that provides constant contact between the balls and grease. The compartmental construction of the cage holds in grease and prevents it from being washed out in extremely wet conditions, such as washdown with a high pressure water spray. Additionally, relative motion between the balls and the grease is reduced which results in lower operating temperatures and extended life. All of these benefits help the Dodge ball bearings reach their maximum possible life.

EXTERNAL | WP0272

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May 01, 2018



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