Issue 33A: Follow- Up on Bud's Take on Be Aware of the Grease in Your Bearings

Follow-up on Be Aware of the Grease in Your Bearings

A few weeks ago, we released Bud's Take Issue 33. In this article I addressed the standard grease commonly found in aftermarket bearings in the United States. I was focused on **deep groove ball bearings with shields.** I did not address sealed bearings; I will do so here.

Other items to consider are different bearing types and contact vs. non-contact seals.

Bearing Seals

In general, the primary purpose of a seal is to keep external contaminants, including cavity grease from entering the bearing. Looking at multiple seal designs including full contact to labyrinth type you will notice the close proximately or constant contact to the inner ring.
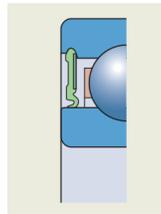
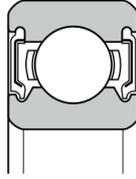Picture 1: SKF RS Design.
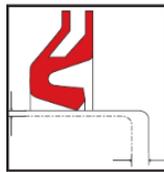
Picture 2: Schaeffler (FAG) RSR design.

Picture 3: Koyo RD design.

Picture 4: Nachi NSE design.

Picture 5: NTN LLB design.

Some call the labyrinth designs non-contact or light contact but when contamination is present the seal lip will contact the inner ring surface.

Bearing Shields

Bearing shields have a clear gap between the shield edge and the inner ring. Your true non-contact seals are similar to the shield in terms of the gap between the seal and the inner ring. The concept is the non-contact allows for running speeds up to the speeds of an open bearing. They do keep out large particles but are subject to external grease entering the bearing cavity.
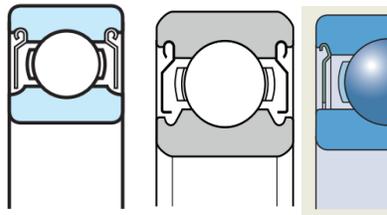
Picture 6: Common shielded designs.

Back to the original issue

Many sealed bearings in the US Aftermarket use Polyrex EM, but not a 100% guarantee. This is acceptable because a seals job is to keep everything out of the bearing including cavity grease. They are not intended to be re-greased.

Shields do not completely stop the ingress of cavity grease. Mixing may occur. Be sure your cavity grease and bearing grease are the same brand. I am not a fan of using greases deemed compatible. There are always unknown variables with the thickeners and additives.

Manufacturer's Take

Most bearing manufacturers tell us that we are voiding warranty if we remove a seal or shield. We know this is a common practice.

If you pull a seal or shields and you do not recognize the grease, contact your factory authorized distributor. I would suggest obtaining the correct grease to ensure compatibility.

Other Bearing Types

Other types of sealed or shielded bearings are common. Polyrex EM grease is designated for US aftermarket electric motor bearings. Double row angular contact ball bearings are not specifically linked to electric motor applications so the standard grease may not be Polyrex EM. Pay close attention to the grease codes and if they do not match the noted grease codes in Bud's Take Issue 33 your bearing will not have Polyrex EM.

Summary

Looking specifically at deep groove ball bearing with shields, the USA aftermarket product designated for the electric motor program moving through authorized EM program distributors will have Polyrex EM as standard.

The majority of sealed deep groove ball bearings are supplied with Polyrex EM grease. There are other greases supplied in a small number of sizes.

I walked my warehouse and identified one single size that did not come with Polyrex EM. Again, bearing manufacturers suggest not removing the seals, it voids warranty. If you use the bearing as intended mixing will not occur.

Conclusion

In order to address questions posed, I confirmed that all deep groove ball bearing ZZ sizes stocked in our EM program are supplied with Polyrex EM grease.

There are a handful of sealed sizes that may not have Polyrex EM grease.

For double row angular contact ball bearings, I would recommend reviewing the grease codes if using a shielded type. If you have any questions you should reach out to your factory authorized distributor.

If you have any questions, comments, ideas for future topics please feel free to contact me directly at
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