

McKINNEY

To Whom It May Concern:

The following is information regarding "**TA**" versus "**TB**" bearings.

Ball bearings (TB) which have been used for years in all industries are constructed with 2 races, a cover and a specified number of balls in the races, then packed with grease.

The oil-impregnated (TA) bearing so widely used now days may not be familiar to you. Powdered bronze, under heat and pressure, is formed into the desired shape and this porous part is then impregnated with oil. It accepts and holds the oil by capillary action, just like a sponge. When something (a hinge knuckle or pin) moves against it, the oil comes to that surface and lubricates the points of friction. One of the greatest advantages in using oil-impregnated bearings is that they are less likely to be affected by adverse conditions such as dust or sand.

Second, the original oil is considered to be a lifetime lubricant and such a bearing is ideal in situations where lubrication maintenance is difficult or uncertain. If it ever did have to be re-oiled simply pull the pin, separate the leaves and apply oil to any exposed point on the bearing. The capillary action will pull the oil throughout the bearing. Compare this with trying to repack grease - **NOT OIL** - in a ball bearing assembly.

The top hinge generally carries the bulk of the load and if its a two bearing hinge only one bearing is working. Since an oil-impregnated bearing has the ability to "wear in," soon the middle, and then all three hinges, will be doing their share and the wear from this point will be almost non-existent.

Conversely, ball bearings with their hardened steel or stainless steel balls and races do not have this advantage and so the load continues to ride on the tangent points where the balls contact the races and, primarily, on that one ball bearing assembly of the top hinge. Occasionally, this proves insufficient and as the races turn within the jacket they score and ultimately cut through it, allowing the balls to burst out, causing the door to drag on the threshold.

Oil-impregnated bearings are the best type for use in hinges for they are intended for moderate speed, heavy load situations. However, we will continue to produce both types of bearings to meet the requirements of all our customers.

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