

## **Subject: Determination Of Bearing Suitability for Future Service**

The following comments are offered to assist in determining the suitability of **Link-Belt<sup>®</sup>** ball and roller bearing products, **MB<sup>®</sup>** ball bearing products and **Rex<sup>®</sup>** roller bearing products which have experienced either short term storage, long term storage or idle periods between machine usages.

The care of new, unmounted bearings and / or bearings on new, unused machines fall into two storage categories - short term and long term. The instructions for these two categories are fairly well defined and outlined in the attached instruction sheet.

The subject of determining the condition of new bearings stored for "many" years or used bearing units having sat idle for long periods of time is a difficult problem to address. What makes an assessment difficult is the lack of direct visual access to all bearing components.

The Link-Belt 200 and 300 series ball bearing units, B22400,500 & 600 series roller bearing units, all MB ball bearing units and all Rex roller bearing units are unitized assemblies. As a result, disassembly to check internal bearing components is not practical. On these types of units, a visual examination of the unit exterior and perhaps a dynamic evaluation are the only methods of determining suitability for use.

The most common damage caused during long term storage of bearings is corrosion degradation of the internal ring and rolling element raceway surfaces. Either condensation from typical environmental temperatures and humidity and / or direct moisture ingress will cause corrosion at the rolling elements / ring raceway contact points. This condition may be characterized by rough rotation when turned by hand or an elevated vibration signature when placed into service. Also, if allowed to operate with corrosion pitted raceways, a bearing will likely fail prematurely from raceway fatigue spalling at each corroded area.

Unfortunately, without being able to visually inspect the raceway surfaces, an accurate assessment of the true condition is difficult. Since obtaining a vibration signature on all suspect bearings is likely not feasible, the following recommendations are offered for all of the above mentioned bearing brands and series. (Continued on next page)

# **Rexnord<sup>®</sup>** Industrial Bearing Products

Product Engineering Group

Rexnord Corporation

<u>Level Of Bering Exposure</u>	<u>Max. Period Before Discarding Bearing</u>
New Bearing Units Original Packaging Clean, Dry Storage No Additional Preservative	3 Years
New Bearing Units Original Packaging Clean, Dry Storage Area Re-preserved Regularly (every 6 months)	5 Years
New Bearing Units Removed From Original Packaging Clean, Dry Storage No Additional Preservative	1 Year
New Bearing Units Removed From Original Packaging Clean, Dry Storage Area Re-preserved Regularly (every 6 months)	5 Years
New Bearing Units Installed On Unused Equipment Stored In Clean, Dry Area (Indoors) No Preservative Added During Storage	1 Year
New Bearing Units Installed On Unused Equipment Stored In Clean, Dry Area (Indoors) Preserved & Rotated On a Regular Basis (Monthly)	5 Years
Any Bearing Units Installed On Used Equipment Stored In Unprotected And/Or Humid Area (Outdoors) No Preservative Added During Storage	3 Months
Any Bearing Units Installed On Used Equipment Stored In Unprotected And/Or Humid Area (Outdoors) Preserved & Rotated On a Regular Basis (Monthly)	3 Years
Any Bearing Units Stored In Dirty, Moist Environment Without Proper Storage Procedures	3 Months

Manufacturers of and **Link-Belt<sup>®</sup>**, **MB<sup>®</sup>** and **Rex<sup>®</sup>** Power Transmission Products

The above table can also be used for PLB6800R series split block roller bearing units. Proper long term storage procedures for 6800 units is more critical since these units are supplied from the factory with preservative only - no lubricant. The end user or equipment builder is responsible for the addition of grease or oil lubricant.

Unmounted split block roller bearing units, like the Link-belt PLB6800R series units, can often be visually inspected. A PLB6800R series unit is supplied as components where the bearing insert is one of the components along with the housing, seals, stabilizing ring, adapter assembly and installation hardware. The condition of a new or used bearing insert can be evaluated by misaligning the outer ring to expose the outer ring and roller raceway surfaces.

If these surfaces are free of defects or abnormal tracking patterns, then the inner ring is likely satisfactory, as well. If the bearing inserts have no objectionable visual features, then the unit is likely suitable for service. Again, this inspection procedure assumes the bearings are not installed on a shaft seat.

If the PLB6800R units are mounted in place on a piece of equipment, then the inspection is less accurate. Removal of the housing cap will allow for internal housing cavity inspection.

If there is no evidence of moisture or other contaminant material and the grease or oil appears in satisfactory condition, then the bearing may be suitable for service. Ultimately, for mounted units, a vibration or noise check shortly after start-up will be required to determine the condition of the bearing.

The Rexnord Corporation Product Engineering Group can be consulted for additional technical assistance at 317.273.5500.