SEALMASTER®

SLEEVELOC Installation Instructions
SERIES 2000 / 3000
Spherical Roller Bearing

These instructions cover the installation and re-lubrication of Sealmaster Sleevloc type spherical roller bearings. It is important that they be read in their entirety before attempting installation or removal. The procedures indicated should be carefully followed. Failure to do so can result in mis-installation which could cause bearing performance problems as well as serious personal injury.

NON-EXPANSION AND EXPANSION BEARING TYPES

In most applications where two or more bearings are used on the same shaft, one bearing should be of the non-expansion type to fix the shaft, while the other bearing should be of the expansion type to allow for mounting variables and normal expansion (heat growth) of the shaft. Ideally, the expansion bearing should be located on the shaft end furthest from a belt or chain drive. Two non-expansion bearings may be used on short shaft applications if the shaft growth (shaft temperature change) is minimal. For long shafts and extensive temperature changes, consult Sealmaster engineers*.

Note: The bearing part number indicates whether the unit is an expansion or non-expansion type.

Example: SPB2207-C2 non-expansion
ESPB2207-C2 **E** - expansion

INSTALLATION

⚠CAUTION This is a unit assembly. No attempt should be made to disassemble the unit prior to installation. **The mounting set screws must under no condition be tightened unless the unit is mounted on a shaft since this may damage the unit.** Read through all instructions carefully before mounting or dismounting.

Note: The mounting side of the unit is marked "MOUNTING".

1. **CHECK AREA -** Clean and organize bearing installation area, keep well lit. Be sure mounting surfaces are clean and flat.

2. **CHECK SHAFT -** Shaft should be within tolerance range shown in Table #1, clean and free of nicks and burrs. Mount bearings on unused section of shafting or repair/replace shafting as required. Lubricate the shaft with light oil.

TABLE #1

RECOMMENDED SHAFT TOLERANCES	
Nominal Shaft Size (inches)	**Shaft Tolerances (inches)**
1 7/16 1 1/2 to 4	+.0000 / -.003 +.0000 / -.004

3. **CHECK SUPPORT SURFACE -** Make sure the base of the housing and the support surface are clean and free from burrs. If the housing elevation is adjusted with shims these must cover the entire contact area between the housing and the support surface.

4. **INSTALL UNIT -** Slide the unit on the shaft with the mounting side (marked "MOUNTING") facing outward. If it is difficult to mount bearing on shaft, ***do not hammer on any component of the bearing.*** use a piece of emery cloth to reduce any high spots on shaft. Fit the housing attachment bolts in the feet but do not tighten. Leave 1 1/2" minimum spacing behind pillow blocks if the dismounting screws are to be used.

5. **TIGHTEN SCREWS -**

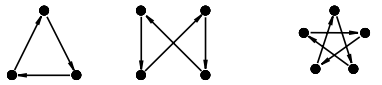
⚠CAUTION **Do not use auxiliary equipment such as a hammer or a pipe when tightening the screws.**

1. Using the hex key provided, snug all set screws.
2. Tighten all set screws, following the pattern shown in Table 2, until the long end of the hex key deflects about 2 1/2 inches.
3. Repeat step 2 to ensure the set screws are tightened properly.

TABLE #2

TIGHTENING PATTERNS

Three Bolt Four Bolt Five Bolt



6. **CENTER INSERT -** The expansion unit must be centered in the housing to allow axial shaft expansion. Move the bearing as far as it will go in both directions in the housing and determine the centered position. It may be necessary to unload the bearing while moving the assembly.

7. **CHECK HOUSING ALIGNMENT -** The maximum permissible misalignment of the shaft is 1.5°. To check for alignment, observe the clearance between the sealing shield and the housing or collar. The clearance should be evenly distributed around the circumference.

8. **FINISH BOLTS -** Tighten the housing attachment bolts to final tightening torque.

*SEALMASTER Engineering Department: Phone 630-898-9620.
Email: Sealmaster.Engineering@Emerson-ept.com

REMOVAL

⚠CAUTION Be careful not to strike any of the components other than the shaft end. Doing so may result in internal bearing damage or fracture of one or more of the bearing components.

PILLOW BLOCKS

1. Make sure the exposed shaft extension is free from rust and burrs.
2. Loosen the housing attachment bolts on one of the two bearing units on the shaft.
3. Switch location to the other bearing on the shaft. Loosen the small installation hex screws on the side marked "MOUNTING", 3-4 turns.
4. Strike the end of the shaft (where the loosened hex screw bearing is) with a sharp blow. This should free the bearing lock.
5. Remove the housing attachment bolts and slide the unit off the shaft.
6. Switch location. Loosen the small hex installation (MOUNTING SIDE) set screws 3-4 turns and tighten the housing attachment bolts.
7. Repeat the sharp blow to the end of the shaft.

FLANGE UNITS

1. Make sure the shaft extension is free from rust and burrs.
2. Loosen the housing attachment bolts on one unit.
3. Switch location to the other bearing on the shaft. Loosen the housing attachment bolts and small hex installation set screws.
4. Pull the bearing housing away from the mounting surface until the bearing frees.
5. Switch location. Loosen the small hex installation set screws.
6. Strike the end of the shaft with a sharp blow. This should free the bearing lock.
7. Remove the housing attachment bolts and slide the unit off the shaft.

USING DISMOUNTING SCREWS

Note: This procedure will only work with units where the dismounting screws are accessible, namely pillow blocks and take-ups.

Follow steps 1-3 as above.

4. Using a screw driver or other suitable tool, remove the 2 plastic protection plugs.
5. Alternately tighten the dismounting hex set screws in 1/4 turn increments until the bearing is released from the shaft.
6. Loosen the dismounting hex set screws, unbolt the unit and remove.

⚠CAUTION Failure to observe safety precautions could cause personal injury or equipment damage.

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RELUBRICATION INSTRUCTIONS

SEALMASTER SLEEVLOC bearing units are delivered with a high quality NLGI 2 lithium soap grease with an EP additive. The bearing is ready for use with no (initial) additional lubrication required.
Any good quality lithium or lithium complex base grease, using mineral oil, conforming to NLGI grade 2 consistency, and an oil viscosity of 455-1135 SUS at 100°F (100-250 cSt at 40°C) may be used for relubrication.

READ CAREFULLY

Compatibility of grease is critical, therefore consult with SEALMASTER Application Engineering and your grease supplier for current grease specifications to insure greases are compatible.
Relubricatable SEALMASTER bearings are supplied with grease fittings or zerks for ease of lubrication with hand or automatic grease guns. Always wipe the fitting and grease nozzle clean.

⚠CAUTION

For safety, stop rotating equipment. Add one half the recommended amount shown in Table #4. Start bearing and run for a few minutes. Stop bearing and add the second half of the recommended amount. A temperature rise, sometimes 30°F (1°C), after relubrication is normal. Bearing should operate at temperatures less than 200°F (94°C) and should not exceed 225°F (107°C) for intermittent operation. For a relubrication schedule see Table #3. For any applications that are not in the ranges of the table contact SEALMASTER Application Engineering.

Note: The tables below state general lubrication recommendations based on our experience and are intended as suggested or starting points only. For best results, specific applications should be monitored regularly and lubrication intervals and amounts adjusted accordingly.

TABLE #3

RELUBRICATION SCHEDULE			
A QUALITY LITHIUM SOAP GREASE WITH AN EP ADDITIVE SHOULD BE USED			
Speed RPM	**Temperature**	**Cleanliness**	**Greasing Interval**
100 500 1000	-20°F to 125°F -20°F to 150°F -20°F to 210°F	Clean Clean Clean	6 Months 2 Months 2 Weeks
1500 to Maximum Catalog Rating	Up to 150°F Over 150°F Up to 250°F Up to 250°F	Dirty Dirty Very Dirty * Extreme Conditions *	1 week to 1 month Daily to 1 week Daily to 1 week Daily to 1 week

*daily lubrication is required.

TABLE #4

GREASE CHARGE FOR RELUBRICATION	
Shaft Size (inches)	**Grease Charge (ounces)**
1 7/16	0.22
1 1/2 to 1 11/16	0.32
1 3/4 to 2	0.50
2 to 2 3/16	0.55
2 1/4 to 2 1/2	0.65
2 11/16 to 3	0.85
3 3/16 to 3 1/2	1.25
3 15/16 to 4	2.50

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E-mail: Sealmaster.Engineering@Emerson-ept.com

⚠CAUTION Failure to observe saftey precautions could cause personal injury or equipment damage.

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Emerson Power Transmission
Aurora, IL 60507
Phone: 630-898-9620