Instruction Manual for PTI
SRE & SR2200 Spherical Roller Bearing Mounted Units

Installation

Warning: ***To ensure the drive is not unexpectedly started, turn off and lockout the power source before proceeding. Failure to observe these precautions could result in bodily injury.***

Note: *SRE and SR2200 Units are available in a wide variety of housing configurations, in expansion and non-expansion versions, some are shown on the right. Installation procedures are the same for each type.* ***Read manual completely prior to starting.***

1. Clean shaft, bearing bore, and mounting surfaces thoroughly. Lubricate the shaft with a light oil. Ensure the mounting surfaces are flat. Consider filing flats on the shaft at set screw locations to assist removal of bearing.

2. Normally, non-expansion and expansion bearings are used as pairs. Install the non-expansion bearing first. If the shaft is driven, this unit is generally positioned nearest the drive.

3. If any inboard end covers / wiper seals are being used, slip them onto the shaft ahead of the bearing. Slip bearing units into position. Be sure the bearing is not on a worn section of the shaft. If the shaft fit is snug, tap gently with a soft driver on the inner ring of the bearing face only with a soft driver. DO NOT HAMMER ON THE OUTER RING OR HOUSING.

4. Snug the hold-down bolts, but do not tighten completely.

5. Slip the Expansion bearing into position. Before tightening the set screws, center the bearing insert within the housing. The bearing insert can slide axially within the housing and is limited by snap rings on each side of the insert. Centering the insert allows for shaft expansion or contraction during operation. (For flange mounted bearings it may be necessary to help center the bearing insert in the housing to avoid shimming behind the flange to ensure expansion ability). Snug hold-down bolts and check the shaft alignment. Adjust shaft alignment by loosening the hold down bolts and repositioning the housing or shimming the base. Re-check the expansion unit to ensure the bearing insert is still centered in the housing. Once bearing position and alignment are achieved, tighten the set screws to the shaft according to the recommended screw torque listed in Chart 1. Tighten hold down bolts securely according to the recommendations in Chart 2.

Closed End Cover

Open End Cover w/ Wiper Seal

6. Re-check tightness of all screws and hold-down bolts after 24 hours of operation to ensure nothing has loosened or moved. This check should become part of periodic maintenance and include re-lubrication intervals provided in Charts 3 & 4.

7. Install open or closed end covers if used.

Lubrication

SRE and SR2200 Spherical Roller Bearing Units have been filled to approximately 35% full with a high quality lithium-based grease. This allows initial operation at all speed ranges. For lower speeds, additional grease may be added. For higher speeds some grease may appear at the seals during start up. Operating bearings self-determine how much lubricant to retain. A light showing of grease at the seals is normal and recommended. No grease purging from the seal contact area may indicate more lubricant is required. Small amounts of grease at frequent intervals (while the bearing is running) is preferred rather than large quantities at infrequent intervals. If the bearing runs hot to the touch after re-greasing, remove a lube fitting to allow excess grease to purge more quickly. Re-install the fitting after the excess grease purges. Establish a re-lubrication schedule. For normal applications, use a No. 2 or 3 lithium base grease or equivalent.

Chart 3 & 4 provide lubrication guidelines based on operating conditions. Re-lube intervals are better determined by experience. A slight amount of purged grease at the bearing seals is normal and helps keep contaminants out of the unit. Monitor and record re-lubrication intervals.

2-Bolt Pillow Block

4-Bolt Pillow Block

4-Bolt Flange

Piloted Flange

Take-Up

P.T. International Corp.

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Recommended Tightening Torques

Set Screw Torque & Allowable Axial Loads **Chart 1**

Shaft Size (in)	Set Screw	Torque	Allowable axial load
	No. & Size	in-lbs	lbs
1-7/16, 1-1/2	(2) 3/8-24	250	515
1-11/16, 1-3/4	(2) 3/8-24	250	515
1-15/16, 2	(2) 3/8-24	250	515
2-3/16	(2) 3/8-24	250	515
2-7/16, 2-1/2	(2) 1/2-20	620	900
2-11/16, 2-3/4, 2-15/16, 3	(2) 1/2-20	620	900
3-7/16, 3-1/2	(2) 1/2-20	620	900
3-11/16, 3-15/16, 4	(2) 5/8-18	1325	1200
4-7/16, 4-1/2	(2) 5/8-18	1325	1200
4-15/16, 5	(2) 5/8-18	1325	1200

Hold Down Bolts* **Chart 2**

Size (in)	Grade 2	Grade 5
	ft-lbs	ft-lbs
1/2	50	75
5/8	100	150
3/4	175	260
7/8	170	430

* Use washer under bolt

Lubrication Guide by Bearing Speed
Suggested Lubrication Period in Weeks **Chart 3**

Hours Run per Day	1 to 249 RPM	250 to 499 RPM	500 to 750 RPM	750 to 999 RPM	1000 to 1499 RPM	1500 to 1999 RPM	2000 to 3000 RPM
8	12	12	10	7	5	4	3
16	12	7	5	4	2	2	1
24	10	5	3	2	1	1	1

Lubrication Guide by Bearing Temperatures & Conditions **Chart 4**

Conditions	Bearing Temperatures	Grease Interval
Clean	32°F – 119°F 120°F - 149°F 150°F – 200°F	6-10 months 1-3 months 1-4 weeks
Dirty	32°F – 149°F 150°F – 200°F	1-4 weeks Daily to weekly
Moist	32°F – 200°F	Daily to weekly

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