

Installation Manual for S2000 & Type-E Mounted Spherical Roller Bearings

Installation:

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

Note: S2000 and Type-E Units are available in various housing shapes and expansion and non-expansion versions. Installation procedures are the same for all models. **Read the manual entirely before starting.**

1. Clean shaft, bearing bore, and mounting surfaces thoroughly. Lubricate the shaft with light oil. Ensure the mounting surfaces are flat. Consider filing flats on the shaft at set screw locations to assist removal of bearing.
2. Commonly, non-expansion and expansion bearings are used as pairs. Install the non-expansion bearing first. This unit is generally positioned nearest the drive if the shaft is driven.
3. If any inboard end covers or 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 use 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 bolt securely according to the recommendations in **Chart 2**.

6. Re-check tightness of all screws and hold-down bolts after 24 hours of operation to ensure nothing has loosened or moved. These checks 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:

Bearing Units have been filled to approximately 35% full with 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. A light showing of grease at the seals is expected and recommended to prevent wear of the elastomer contact seal. 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) are 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. Use a No. 2 or 3 lithium base grease or equivalent for standard applications.

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.

Installation Manual for S2000 & Type-E Mounted Spherical Roller Bearings

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	6-10 months
	120°F - 149°F	1-3 months
	150°F – 200°F	1-4 weeks
Dirty	32°F – 149°F	1-4 weeks
	150°F – 200°F	Daily to weekly
Moist	32°F – 200°F	Daily to weekly

Warning: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. All instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by High Temp Bearings, Inc., nor are the responsibility of High Temp Bearings, Inc. This unit and associated equipment in the system must be installed, adjusted, and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be invoked, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.