SEALMASTER®

Ball Bearing Installation Instructions
PN Gold, SS Gold

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FORM
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⚠ DANGER Indicates a hazard which, if not avoided, will result in serious injury or death.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

⚠ CAUTION Indicates a hazard which, if not avoided, could result in minor or moderate personal injury.

NOTICE Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

GENERAL SAFETY INSTRUCTIONS

⚠ WARNING

- Read and follow all instructions carefully.
- Disconnect and lock out power before installation and maintenance. Working on or near energized equipment can result in severe injury.
- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.
- Read and understand the information in this section and in this manual completely before installing, operating or maintaining this equipment. Failure to follow this instruction could result in severe injury or death.

⚠ CAUTION

- Perform periodic inspections. Equipment may fail prematurely and could become unsafe if not properly inspected and maintained. Failure to follow this instruction could result in mild or moderate personal injury.

INSTALLATION:

1. Ensure shafting is clean and within spec. See Table 1. Remove all burrs.
2. Place back-side shield on shaft, if used. Drain slot must be face down.
3. Place first bearing onto shaft. Do not hammer.
4. Install bolts and stainless steel washers (if used). **Tighten down housing mounting bolts.**
5. Repeat steps 2-4 for the second bearing but do not tighten down housing mounting bolts yet.
6. Align bearings and shaft. Shaft should be within ±2 degrees. **Tighten mounting bolts.**
7. Set Screw Inserts
   a. Set screws on both bearings should be aligned to grip shaft in the same direction
   b. Torque set screw A to one half the recommended torque in Table #2. Torque set screw B to full torque. Torque set screw A to full torque.
   c. Repeat step 7b for second bearing
8. Skwezloc® Inserts
   a. Be sure that the Skwezloc collar is fitted square and snug against the shoulder on the inner ring.
   b. Torque the Skwezloc collar cap screw to torque recommended in Table 3.
   c. Repeat steps a and b for second bearing.

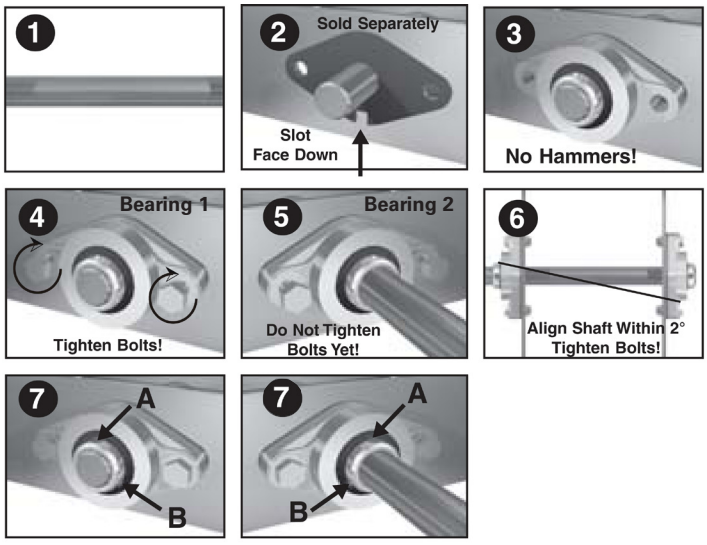


TABLE 1

RECOMMENDED SHAFT TOLERANCES	
NOMINAL BORE DIAMETER	**TOLERANCE (INCHES)**
1/2 - 1 15/16	+0.0000 / -0.0005
2 - 3 3/16	+0.0000 / -0.0010
3 1/4 - 4 15/16	+0.0000 / -0.0015

TABLE 2

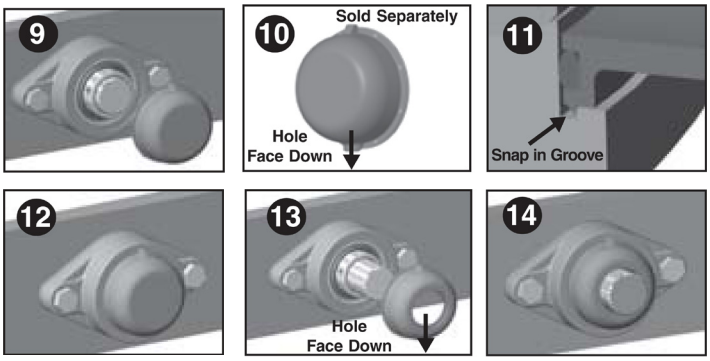
SETSCREW TORQUE		
SCREW SIZE	**HEX SIZE**	**INCH-POUNDS**
		PN-GOLD & SS GOLD
1/4-28	1/8	35 - 45
5/16-24	5/32	75 - 100
3/8-24	3/16	125 - 145
7/16-20	7/32	130 - 160

TABLE 3

SKWEZLOC CONCENTRIC LOCKING COLLAR CAP SCREW TORQUE		
SCREW SIZE	**HEX SIZE**	**INCH-POUNDS**
# 8-32	T-25	70
# 10-24	T-27	100
1/4-20	T-30	240
5/16-18	T-45	495

INSTALLATION (CONTINUED):

9. Optional closed end cap instructions: the polymer end cap snaps into the housing.
10. The drain hole should be placed so it is facing down when the cap is installed
11. Press the cap into the housing until it snaps into the groove in the housing.
12. Closed end cap assembly completed.
13. Optional open end cap instructions: the polymer end cap snaps into the housing. The drain hole in the cap must face down.
14. Slide the cap over the shaft. Make sure there is no contact between the shaft and the end cap.
15. Rotate bearing several times. Look, feel and listen for anything unusual.
16. To remove cap, pry the cap off the housing using the pry tab on the top of the cap.



End caps and backside shields not available on all units.
Sold separately.

LUBRICATION:

All Sealmaster PN Gold and SS Gold Ball Bearings are delivered with a high quality food grade grease with an EP additive. The bearing is ready for use with no initial lubrication required. The grease consists of a calcium sulfonate thickener, mineral oil, and NLGI grade 2 consistency. Compatibility of grease is critical; therefore consult with Application Engineering and your grease supplier to insure greases are compatible. For best performance it is recommended to relubricate with calcium sulfonate thickened grease with a comparable NLGI consistency and base oil properties.

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! If possible, it is recommended to lubricate the bearing while rotating, until grease purge is seen from the seals. If this is not an option due to safety reasons, follow the alternate lubrication procedure below.

ALTERNATE LUBRICATION PROCEDURE:

Stop rotating equipment. Add one half of the recommended amount shown in Table 4. Start the bearing and run for a few minutes. Stop the bearing and add the second half of the recommended amount. A temperature rise after lubrication, sometimes 30°F (17°C), is normal. Bearing should operate at temperatures less than 200°F (94°C) and should not exceed 250° (121°C) for intermittent operation. For lubrication guidelines, see Tables 4 and 5.

Note: Table 5 is a general recommendation. Experience and testing may be required for specific applications.

Note: Grease charges in Table 4 are based on the use of calcium sulfonate thickened grease with a NLGI grade 2 consistency.

SPEED LIMITS:

Note: The Maximum Operational Speeds listed in Table 6 are based on the use of a single lock setscrew insert, with HPS seals.

PN/SS GOLD TABLE 4

GREASE CHARGE FOR RELUBRICATION			
SERIES	BORE SIZE		GREASE CHARGE (MASS - OUNCES)
	STANDARD DUTY	MEDIUM DUTY	
2-012	1/2 - 3/4	---	.03
2-015	13/16 - 1	---	.04
2-13	1 1/16 - 1 1/4R	15/16 - 1	.09
2-17	1 1/4 - 1 7/16	1 3/16	.13
2-19	1 1/2 - 1 9/16	1 7/16	.18
2-111	1 5/8 - 1 3/4	1 1/2	.20
2-115	1 13/16 - 2R	1 11/16 - 1 3/4	.22
2-23	2 - 2 3/16	1 15/16	.30
2-27	2 1/4 - 2 7/16	2 3/16	.38
2-211	2 1/2 - 2 11/16	2 7/16 - 2 1/2	.53
2-215	2 13/16 - 2 15/16	2 11/16	.62
2-33	3 - 3 3/16	2 15/16	.88
2-37	3 1/4 - 3 7/16	3 3/16	1.11
2-38	3 1/2	3 7/16	1.37
2-43	3 15/16 - 4 3/16	3 15/16 - 4	2.50

PN/SS GOLD TABLE 5

RELUBRICATION RECOMMENDATIONS			
ENVIRONMENT	TEMPERATURE (°F)	SPEED (% CATALOG MAX)	FREQUENCY
Dirty	-20 to 220	0 - 100%	Daily to 1 Week
Clean	-20 to 125	0 - 25%	4 to 10 Months
		26 - 50%	1 to 4 Months
		51 - 75%	1 Week to 1 Month
		76 - 100%	Daily to 1 Week
	125 to 175	0 - 25%	2 to 6 Weeks
		26 - 50%	1 Week to 1 Month
		51 - 75%	Daily to 1 Week
		76 - 100%	
	175 to 220	0 - 100%	Daily to 1 Week

PN/SS GOLD TABLE 6

MAXIMUM OPERATIONAL SPEED		
BORE SIZE (INCH)		SPEED (RPM)
STANDARD DUTY	MEDIUM DUTY	PN GOLD & SS GOLD
1/2 - 3/4	x	3100
13/16 - 1	x	2700
1 1/16 - 1 1/4R	15/16 - 1	2300
1 1/4 - 1 7/16	1 3/16	2000
1 1/2 - 1 9/16	1 7/16	1750
1 5/8 - 1 3/4	1 1/2	1600
1 13/16 - 2R	1 11/16 - 1 3/4	1500
2 - 2 3/16	1 15/16	1350
2 1/4 - 2 7/16	2 3/16	1250