

SERVICE INSTRUCTIONS

FOR PSE SERIES MIXER

CUSTOMER NAME:	
TAG:	

Serial No.:	Model No.
Belt Ratio:	
Motor HP:	Input RPM:
Output RPM:	



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TABLE OF CONTENTS

Initial Inspection	
Safety	1.2
Storage	
General	1.3
Installation	
Motors	1.3
V-Belt Drives	1.4
Mixer Positioning	1.4
Tank Cleansing	1.5
Operation	
General	1.7
Minimum Liquid Level	1.7
Mixer Assembly	
Mechanical Seals	1.8
Maintenance	
Mechanical Seal Replacement Instructions	1.9
Bearing Lubrication	1.11
Spare Parts	
Spare Parts for 2 Years Operation	1.11
Spare Parts for Major Maintenance	1.11
Troubleshooting	1.12
Appendix	
Belt information	
Mechanical Seal Information	



Please provide complete Mixer Model Number and Mixer Serial Number when information or service is required. The mixer nameplate information should be copied on to the cover of this manual for quick reference.

 HAYWARD GORDON MIXERS			
THIS UNIT MUST BE INSTALLED AND OPERATED IN ACCORDANCE WITH CURRENT INSTRUCTION MANUALS.			
MODEL	<input type="text"/>	HP / OUTPUT RPM	<input type="text"/>
SERIAL NO.	<input type="text"/>	EQUIPMENT NO.	<input type="text"/>
MADE IN CANADA BY HAYWARD GORDON LIMITED <small>MISSISSAUGA, ONTARIO L5N 2L9</small>			

INITIAL INSPECTION

Care should be exercised in uncrating and handling. **DO NOT DISCARD PACKAGING** without carefully making sure that all mixer parts have been removed. The unit should be inspected carefully and any shipping damage should be reported to Hayward Gordon Limited. A claim should be filed immediately with the carrier involved.

Damage resulting from improper handling can affect the operation and life of your Hayward Gordon Mixer. Particular care should be taken to prevent bending the shaft, which has been straightened within 0.003" TIR . Never lift or support the unit by the end of the shaft.

SAFETY

For the safety of you and your facility, it is recommended that you review this manual to ensure that you are aware of all the potential hazard in operating your Hayward Gordon Side Entry Mixer.



STORAGE

GENERAL

For storage of the mixer, do not remove the protective coating. Add additional protective coating as may be required for the condition and period of storage. Store the unit in a clean, dry location which is free from wide variations in temperature.

If an indoor area is not available with temperature and humidity control, the next best option, is indoors without these controls.

Outdoor storage is not recommended. If outdoor storage is unavoidable, keep all of the mixer components off the ground on skids or platforms and cover the equipment with a waterproof covering while still allowing good air circulation.

Belt drive units should be stored in a clean, dry location free from direct light. The shelf life of standard belts vary; but they should be replaced before placing the unit in operation if stored for longer than 6 months.

When in storage, it is necessary to perform regular maintenance checks as listed below.

- a) Belts should not be tensioned while in storage as this will reduce the working life.
- b) The mixer shaft should be rotated 4 revolutions every 4 weeks to ensure the bearings and mechanical seals are running free. The bearings supplied in the mixer are pre-packed with grease. It is important to ensure that the grease does not flow to its lowest point in the bearing.
- c) Avoid placing any object on the mixer shaft. This weight may bend the shaft and/or crack the stationary seat in the mechanical seal.

INSTALLATION

MOTORS

Variations in temperature, combined with a moist atmosphere result in condensation both inside and outside of the motor. When storage is necessary, select a clean, dry location which is not subject to rapid or wide variations in temperature and vibration free. Air should be permitted to circulate freely through the storage area. Rotate the motor shaft several revolutions every 3 weeks to redistribute grease in the bearings and re-lubricate bearings at six month intervals. Storage of motors outdoors is not recommended.

Before putting into service, after sitting outside for a considerable period of time, the winding insulation resistance should be tested and if this reading is below one mega-ohm, move to a warm dry place and leave until the insulation resistance rises.

For Swivel Angle units only

Allowance for electric cabling must be provided for swivel angle units.

**V-BELT DRIVES**

Belt driven mixers are shipped with the belts installed under proper tension, ready to operate. No attention is required until a few days of operation seats the belts in the sheave grooves. The drive centre distance should then be adjusted for proper belt tension. Avoid installing the unit where proper ventilation of the drive is blocked. Belts generate heat during operation where proper circulation of air is necessary. If belts slip, they require adjustment. If the belts are dirty, wipe clean with a clean dry cloth. **NEVER USE A BELT DRESSING.** During maintenance and lubrication be careful not to drip oil on the belts.

If motor is being supplied by others and mounted at installation, use the following procedure.

1. Remove belt guard and mount motor. Motor shaft must be parallel with the agitator shaft.
2. Install driver sheave on motor shaft. Align sheaves with a straight edge to insure proper tracking of belts.
3. Inspect sheaves carefully. Wipe off dust and smooth rusted spots. Sheave grooves must be free of burrs and rough places, which will greatly accelerate belt wear.
4. Shorten center distance until belts can be installed easily. Never pry or stretch belts to get them into sheave grooves.
5. Install belts and adjust center distance for proper belt tension. Tension is correct when a slight bow is observed on the slack side with unit running. Another way of testing belt tension is to turn unit off and deflect each belt inward with the thumb. Tension is correct when each belt deflects approximately one belt thickness under thumb pressure.

For Belt Tensioning information, please refer to Appendix A

MIXER POSITIONING**Fixed Angle Mixers**

Normally used in blending applications, maintaining homogeneity and maintaining temperature uniformity. These mixers are normally installed at a 10° Angle to the tank axis. Please refer to Figure 1 for recommended mounting based on tank diameter.

Swivel Angle Mixers

Normally used in suspension of sludge and solids with also a blending requirement. To maintain mixing efficiency, the placement and operation should be based on the schedule below.

Clean or New tanks

For this application, the mixer(s) do not need to be in constant operation. The mixer(s) should be operated about 10 hours before pump-down and during pump-down until the low liquid level requirement is reached

30° left, 10° right, 20° left, 20°right, 10° left, 30° right.

Swivel to be changed every 15-25 days



Dirty Tanks

For this application the swivel procedure should be as outlined above, but the time interval should be 6-8 hours, if after the completion of one swivel set the deposits are not at a reasonable level, please repeat. If the mixture is well mixed, then the mixer needs to be swivelled once every 2 months

Blending, Temperature Uniformity

For this application, the mixer should be installed at 10° to the tank axis to ensure top to bottom tank turnover.

TANK CLEANSING

During commissioning and schedule cleaning it is recommended to flush the mechanical seal with protective lubricant

Flushing Mechanical Seal Chamber

Castrol

Flush with Castrol Coledge B1 at dilution of twenty parts water to one of Coledge B1

Shell

Flush with Fresh water
Flush with Ensis 158



HAYWARD GORDON LTD
MAINTENANCE INSTRUCTIONS
PSE - SIDE ENTRY MIXERS

PAGE: 1.6
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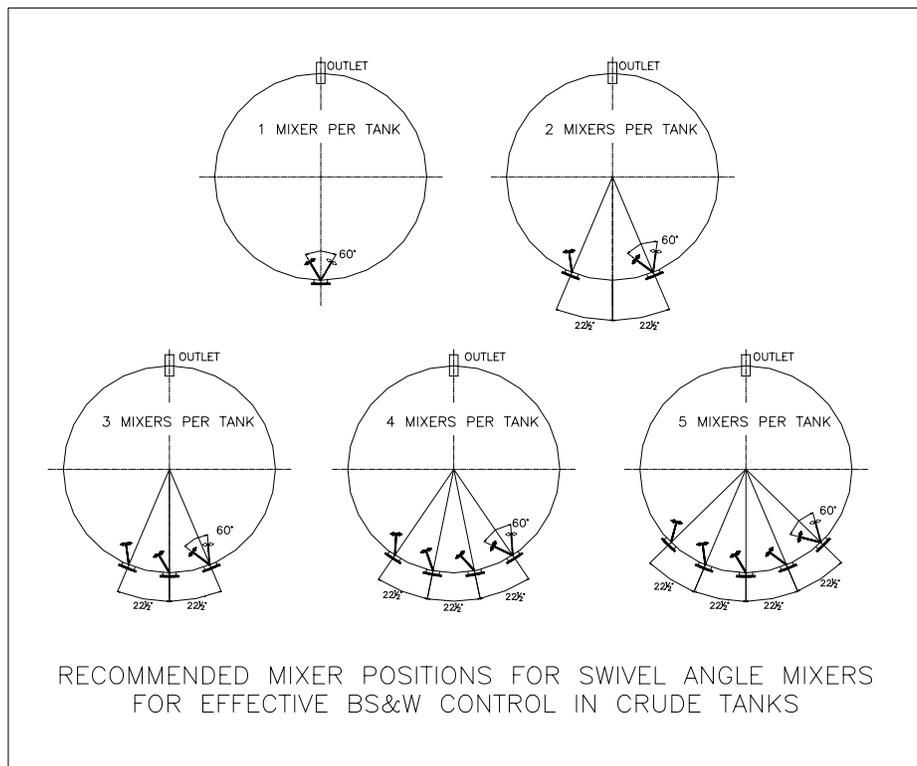
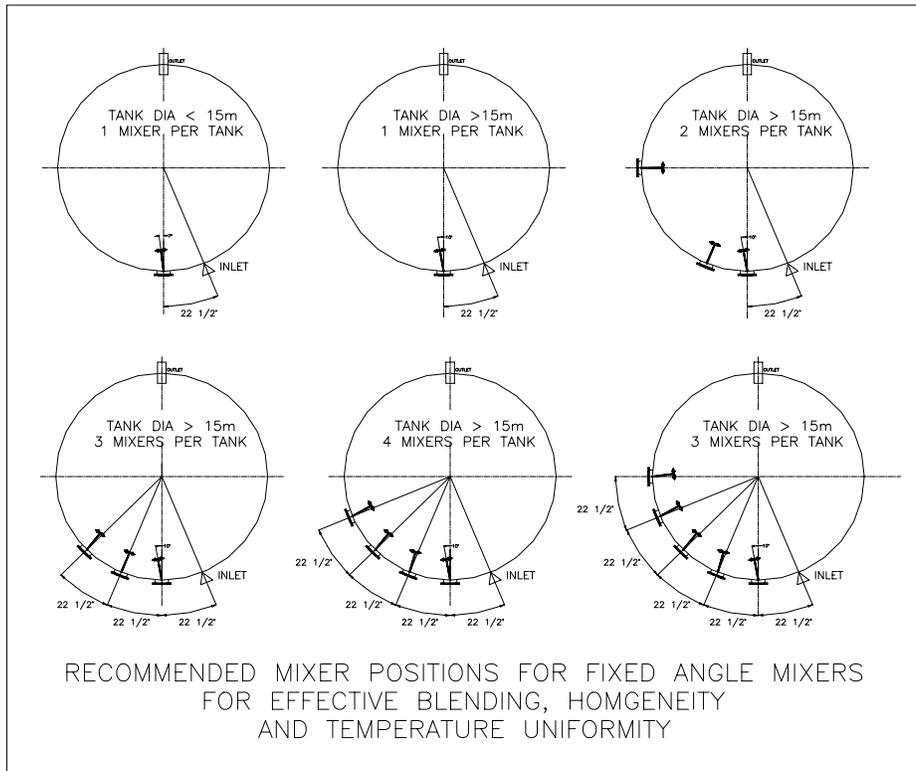


Figure 1



OPERATION

GENERAL

To install the mixers, particularly where the nozzle is smaller in diameter, it is necessary to manipulate the propeller. The shaft must then be moved and rotated to allow the second blade to enter the tank.

Proper installation and operation is the key to long trouble free mixer service. The following is a list of points to cover.

1. Check for proper rotation of shaft before permanently wiring the motor.
2. Read all tags, nameplates and this manual prior to start-up.
3. Check operating full load motor amperage against motor nameplate.
4. Do not operate in a fluid other than the specific gravity and viscosity it was designed for.
5. Do not start-up unit with the impeller buried in solids or in a "set up" fluid.
6. Maintain operating temperatures and pressures of vessel within design limitations for stuffing box and mechanical seal units.
7. A minimum 4" radial clearance is required between the tank internals and the mixer wetted parts.
8. Check that the seal housing is flooded by opening the check valve on the seal cover until constant flow of liquid is seen, then turn off valve.
8. NOTIFY Hayward Gordon Ltd. prior to any modifications made.

MINIMUM LIQUID LEVELS

To avoid excessive hydraulic loading, it is recommended that the mixers are not operated when the liquid level is less than 2 propeller diameters above the mixer shaft.

MIXER ASSEMBLY

Hayward Gordon PSE Side Entry Mixers mount directly to the vessel nozzle using standard ASA flange sizes (other sizes and types are available). When properly installed, the mixer weight should be distributed between the mounting nozzle, tie rods and the outboard support (if applicable). In mounting the unit, block it in position allowing the flange bolts to draw up freely. Then affix pipe leg support and draw up snug.

Install the impeller with the concave side of its blades away from the driver. Rotate the shaft by hand before applying power; to be sure there are no obstructions. Proper rotation is indicated by an arrow on the nameplate

**MECHANICAL SEALS**

The mechanical seal in your Hayward Gordon mixer is assembled, adjusted, and ready to operate when received. Special care should be exercised in handling. Any type of shock is to be avoided -- the seal faces are fragile and can be easily damaged.

Units having single mechanical seals (standard design on the side entry mixers) must not be operated until vessel liquid level is two impeller diameters above the mixer shaft.

Seal leakage indicates the need for replacement of worn or damaged parts. Follow Hayward Gordon removal and replacement instructions. Always handle seal parts with extreme care, paying particular attention to the lapped seal faces and packing members. Before reassembling, inspect shaft carefully for burrs and longitudinal grooves. Smooth any rough spots, keyway edges, etc., which might cut shaft packing member as seal is slid over shaft. Duplicate exactly the original positions of members, so that spring tension is correct.

It is recommended that a complete spare seal be carried in stock, so any damaged part can be quickly replaced. Ordering from Hayward Gordon will insure receipt of the correct seal parts.

MAINTENANCE**WEDGE BELTS**

After the initial inspection at 50 hours, the belt tensioning should be checked every 6 months

TIMING BELTS

Periodic checks every 6 months to ensure proper belt tensioning is recommended

BEARINGS

The bearings supplied in your Hayward Gordon Mixer are pre-packed with grease and hermetically sealed for life.

MECHANICAL SEAL

Depending on the service, the mechanical seal in your mixer may need replacement or refurbishment. Refer to Mechanical seal replacement instructions to inspect the seal faces.



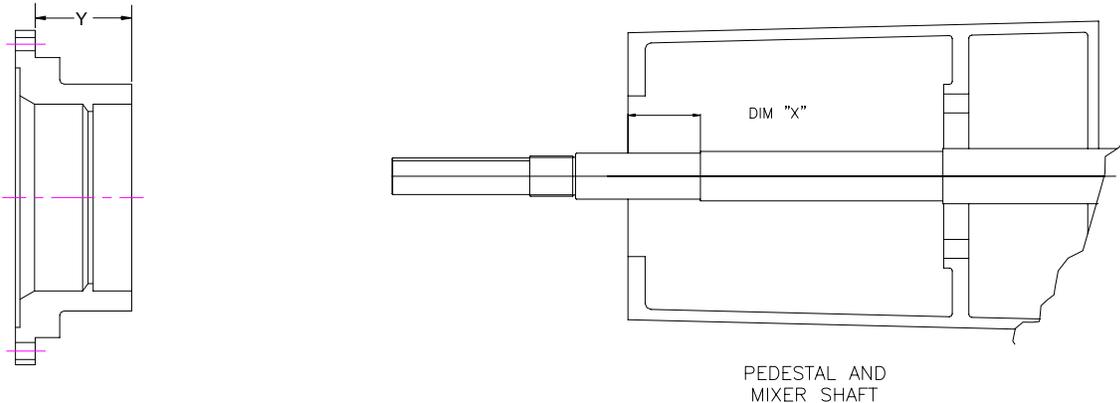
MECHANICAL SEAL REPLACEMENT INSTRUCTIONS

Hayward Gordon model PSE side entering agitators are equipped with a special auxiliary sealing device which permits changing of worn mechanical seal parts without draining the tank contents. This procedure must be followed to remove the seal, even if the tank is empty.

1. Remove belt guard cover
2. Relieve drive tension by shortening the centre distance between the two sheaves
3. Lift off belts
4. Release lock bushing and remove key from shaft
5. Remove large drive sheave
6. Remove bearing locknut (7)
7. Slowly undo three backing screws (57₃), do not adjust shoulder screws (61₃)
8. Tighten up two remaining jacking screws (57₂) thus bringing the seal and shaft assembly forward. The shaft will lock against the mounting flange via taper in shaft and flange.
9. Open check valve and drain and remaining process fluid. If fluid continues to flow, repeat previous step.
10. Remove outboard bearing housing using set bolts (9) & (26). If required bolts (26) can be used as jacking screws.
11. Slide spacer (14) off shaft
12. Remove bolts (20) from inboard bearing housing and use them as jacking bolts to remove bearing assembly from housing.
13. Ensure shaft is clean from all burrs
14. Remove screws (63). Slide seal cover down shaft, exposing mechanical seal. Take extreme care in removing the seal if faces are to be re-lapped.
15. Slide remainder of seal parts down shaft
16. Clean all parts thoroughly and oil.

Re-Assembly

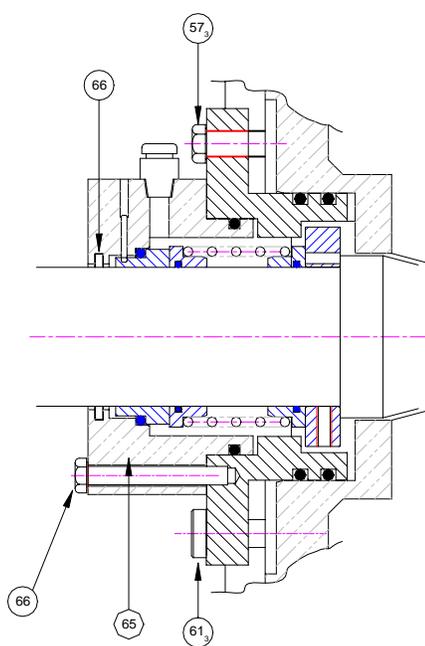
1. Lubricate O-ring on ID of rotating seal assembly and slide onto shaft. Ensure that the drive pin is engaged
2. Install stationary seal on seal cover (65) ensuring that the slot is aligned with the anti-rotation pin..
3. Lubricate seal faces with light oil
4. Lubricate O-ring on OD of seal cover with grease. Slide Seal cover with stationary seal onto shaft ensuring that the air release valve is positioned at the highest point. Bolt seal cover into position.
5. To allow for future dismantling, apply inhibiting grease to all shaft areas and housing bores.
6. Slide inboard bearing housing onto shaft using bolts (20) to pull bearing flange onto frame.
7. Slide the inner bearing of the outer bearing set into the outer bearing housing and measure the distance from the inner race to the bolting face of the bearing housing (dimension "Y") as illustrated below.



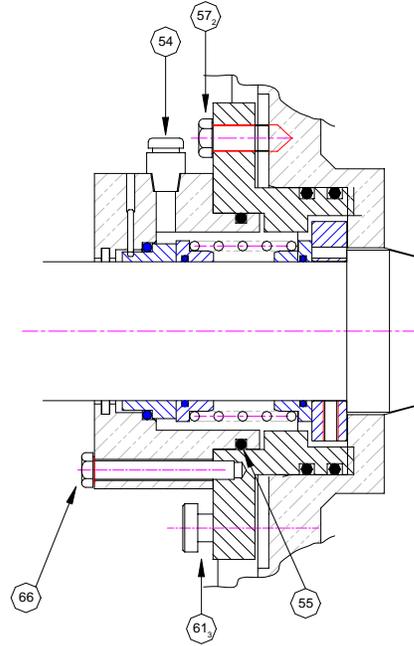
8. With the mechanical seal shut-off device engaged, place a straight edge along the rear face of the mixer pedestal. Measure the distance from the face to the shoulder of the shaft (dimension "X")
9. Using the X and Y dimensions measure, calculate the spacer width required to ensure proper operation of the mixer

$\text{Spacer width (Z)} = \text{Dimension "X"} - \text{Dimension "Y"} - 3 \text{ mm}$
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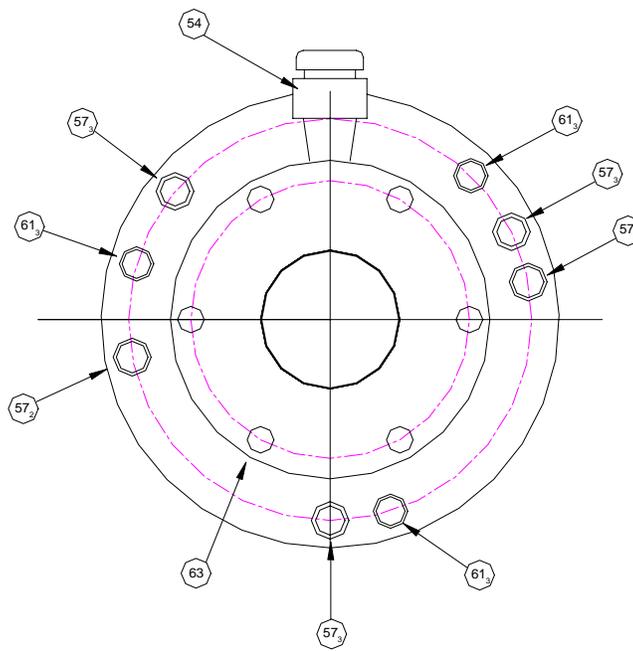
10. Slide clamp ring, spacer and assembled bearing housing onto shaft. Secure with set bolts (26) and (9).
11. Disengage the mechanical seal shut-off device by unbolting jacking screws (57₂) until heads are 30 mm from mounting flange face.
12. Loosen three backing screws (57₃) evenly until it bears equally on the three shoulder screws (61₃). Check there is no leakage from the seal assembly.
13. Assemble bearing locknut (7) onto shaft and tighten until the shoulder on the shaft and spacer are locked tight. Use Loctite 241 to secure locknut on shaft.
14. Slide key, taper lock bushing and drive sheave onto shaft, making note of proper alignment with motor sheave.
15. Fit belts onto sheaves
16. Replace Belt Guard Cover
17. Rotate shaft by hand ensuring that the shaft spins freely with minimal tightness



WORKING POSITION



SHUT-OFF POSITION



FRONT VIEW

**BEARING LUBRICATION**

Both shaft Bearings are grease lubricated and are shipped with grease applied. However, we recommend that additional grease be added to ensure adequate lubrication. See the attached SealMaster Instructions for Greasing Intervals, Procedures and Type.

SPARE PARTS

Recommended Spare parts for 2 years of operation

Part Reference	Part Number	Description	Quantity
10		Bearing, Rear	
18		Bearing, Front	
152		O-ring, Outboard Seal Cover	
62		Mechanical seal	
144		O-ring, Back-up seal	
100		Motor Bearing / Lip seal	
104		Timing / Wedge Belt	

Additional Spare Parts required for Major Maintenance

Part Reference	Part Number	Description	Quantity
73		Soloseal (Swivel Units)	
77		Bush (Swivel Units)	
84		O-ring (Swivel Units)	
91		Thrust Washer (Swivel Units)	
92		Hinge Pin (Swivel Units)	

When ordering spare parts, please reference the mixer serial number from the nameplate. This will ensure that the proper parts are selected for your mixer.

**TROUBLE SHOOTING**

The mixer should be checked often for abnormal temperatures, oil leaks, abnormal noise, vibration etc. In the event of difficulties, the unit should be shut down immediately. The following trouble shooting table should be reviewed and if no solution is obvious, contact Hayward Gordon Limited.

TROUBLE	WHAT TO INSPECT	ACTION
NOISY OPERATION	1. Worn or damaged parts	a) Check bearings and gears for excessive wear. Replace worn parts. b) Attempt to find cause of wear. c) Check for abrasives in grease, inadequate or improper grease. Overload, incorrect rotation, excessive shock, etc..
	2. Overloading	Overloading can cause loud operation. Check process fluid, mixer speed, impeller diameter against unit assembly drawing.
	3. Worn or improperly installed or maintained couplings	Couplings can generate noise. Check for proper alignment, or worn parts.
	4. Structure amplification.	Steel mounting structures and nozzles can act as a diaphragm and amplify small amounts of normal noise. This can only be corrected by adding additional stiffness to the structure or nozzle.
	5. Loose or worn belts.	Tighten or replace belts.
ABNORMAL HEATING	1. Incorrect/Insufficient Lubricant.	Review manual, grease where applicable.
	2. Unusual ambient conditions.	Units installed in a hot area of a plant where air flow is restricted can overheat. Remove obstruction and if necessary force circulate air.
	3. Improper liquid level.	Single mechanical seals require lubrication from the process fluid. Double mechanical seals require lubrication from the seal pot.
	4. Loose belts.	Tighten belts.



TROUBLE SHOOTING, continued

TROUBLE	WHAT TO INSPECT	ACTION
VIBRATION	1. Inspect Impeller	Is the impeller securely attached to the shaft?
	2. Bolts tightened	Be certain that all mounting, and coupling bolts are tightened to the correct wrench torque.
	3. Mixer support structure	Does the mounting arrangement for the mixer provide sufficient support to prevent wobbling or vibration of the assembly, from unbalanced hydraulic forces on the impeller.
	4. Agitator shaft	Agitator shaft should not be bent. The rigid coupling halves must be connected according to instructions.
GREASE LEAKAGE	1. Worn Lip Seals	Replace defective seals.

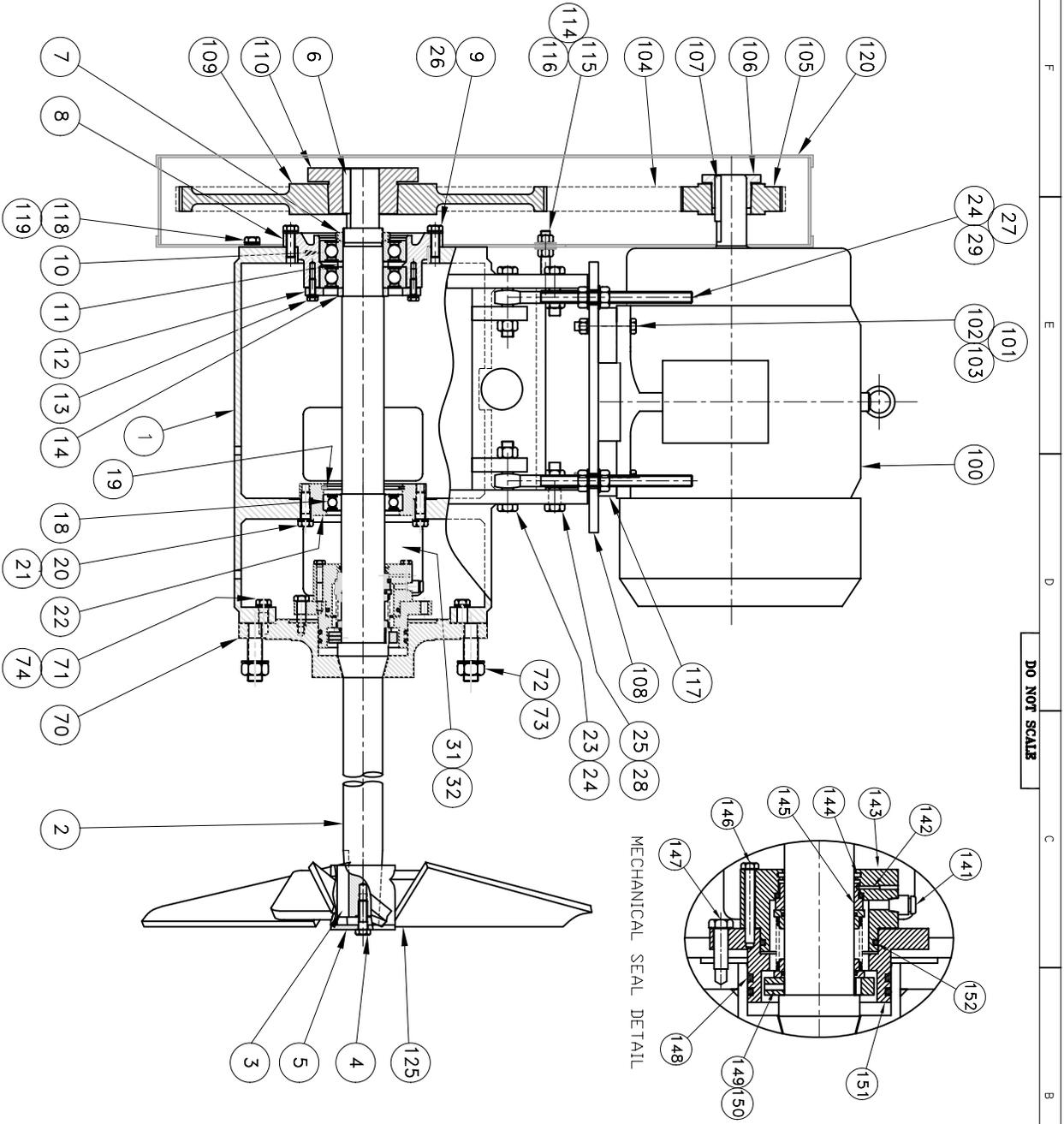


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PAGE: 1.15
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MAINTENANCE INSTRUCTIONS
PSE - SIDE ENTRY MIXERS

APPENDIX



DO NOT SCALE

ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	PEDESTAL	100	MOTOR
2	MIXER SHAFT	101	HEX HEAD CAP SCREW
3	KEY	102	HEX NUT
4	HEX HEAD CAP SCREW	103	LOCKWASHER
5	THRUST PLATE	104	BELT
6	KEY	105	DRIVE SHEAVE
7	LOCK-NUT	106	BUSHING
8	BEARING HOUSING	107	KEY
9	LOCKWASHER	108	MOTOR PLATE
10	BEARING	109	DRIVEN SHEAVE
11	BEARING SPACER	110	BUSHING
12	BEARING SETTING RING	114	HEX NUT
13	HEX HEAD CAP SCREW	115	CLAMP WASHER
14	SPACER RING (SHAFT/BRG)	116	THREADED ROD
15	BEARING	117	MOTOR BLOCK (AS REQ'D)
16	RETAINING RING	118	HEX HEAD CAP SCREW
17	HEX HEAD CAP SCREW	119	FLAT WASHER
18	LOCKWASHER	120	BELT GUARD
19	BEARING HOUSING	125	IMPELLER ASSEMBLY
20	BEARING	141	AIR RELEASE VALVE
21	HEX HEAD CAP SCREW	142	PIN
22	LOCKWASHER	143	SEAL FLANGE
23	HEX HEAD CAP SCREW	144	BACK UP SEAL
24	HEX NUT	145	HEX HEAD CAP SCREW
25	HEX HEAD CAP SCREW	146	MECHANICAL SEAL
26	HEX HEAD CAP SCREW	147	HEX HEAD CAP SCREW
27	ROD END EYE BOLT	148	HEX HEAD CAP SCREW
28	HEX NUT	149	"O" RINGS
29	FLAT WASHER	150	COLLAR
30	COVER PLATES	151	SET SCREW
31	HEX HEAD CAP SCREW	152	SEAL HOUSING
32	SEAL FLANGE		
70	HEX HEAD CAP SCREW		
71	HEX NUT		
72	LOCKWASHER		
73	LOCKWASHER		
74	LOCKWASHER		

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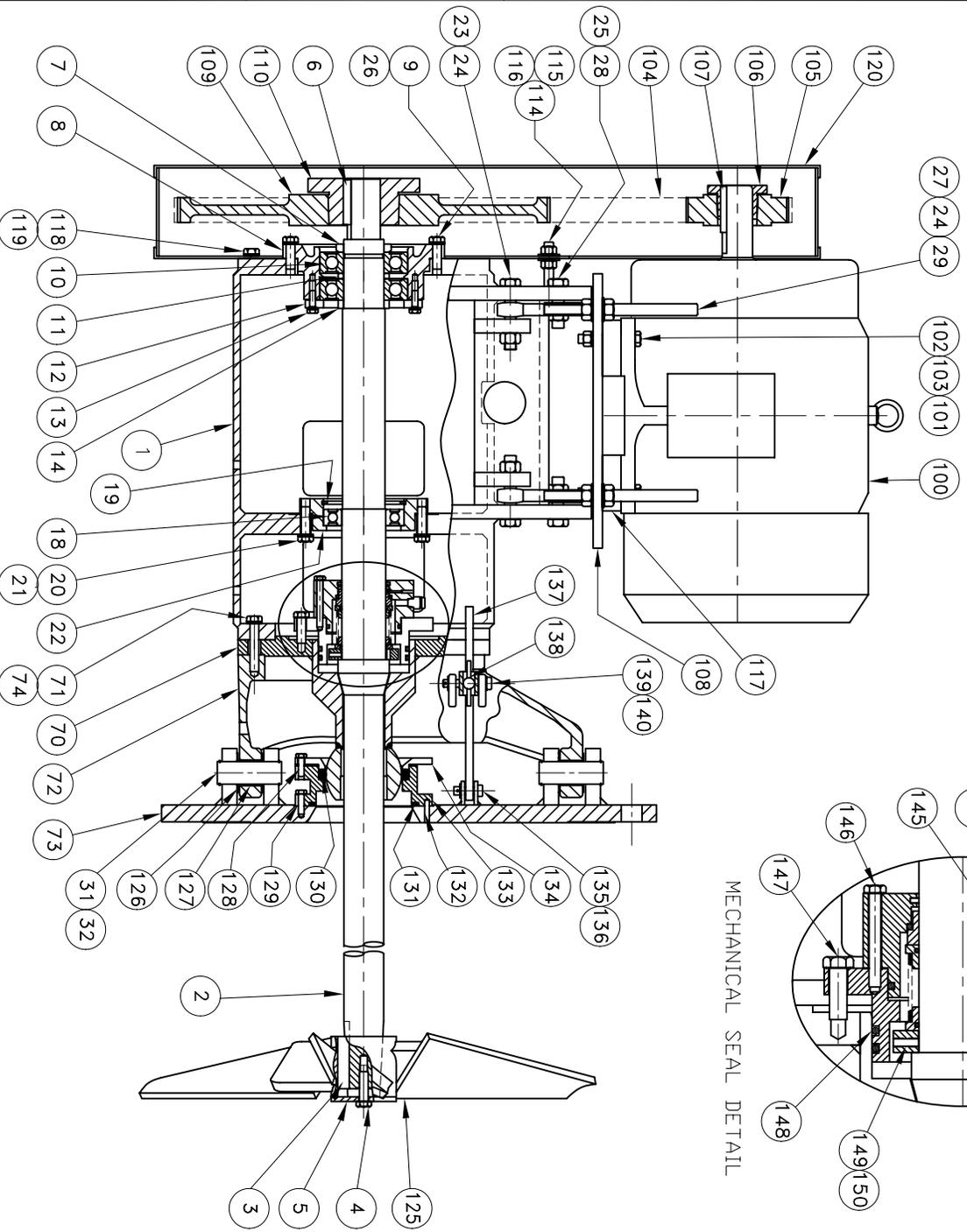
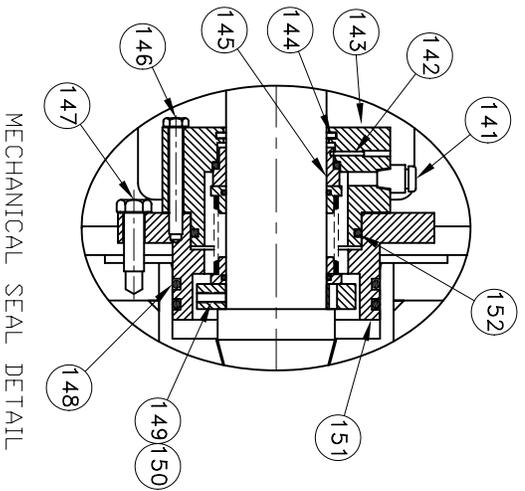
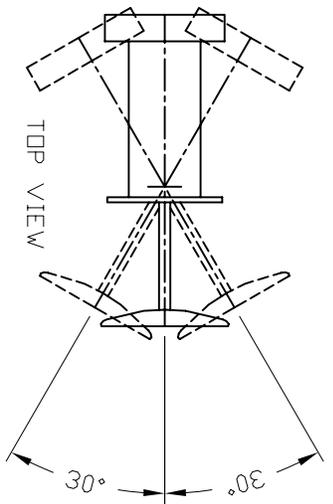
PSE ASSEMBLY DRAWING
MIXER SIDE ENTRY
MIXER

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DESIGN BY	DRAWN BY	CHECKED BY	DATE
SCALE	SHEET #	SHEET	1 OF 1
NTS	A	PSE-F-ASSY	

F E D C B A

1 2 3 4 5



#	DESCRIPTION	#	DESCRIPTION
1	PEDESTAL	126	THRUST WASHERS
2	MIXER SHAFT	127	BUSHING
3	KEY	128	HEX HEAD CAP SCREW
4	HEX HEAD CAP SCREW	129	HEX HEAD CAP SCREW
5	THRUST PLATE	130	SEAL
6	KEY	131	"O" RING
7	LOCK-NUT	132	DOWEL
8	BEARING HOUSING	133	SWIVEL PEDESTAL
9	LOCKWASHER	134	SWIVEL COVER
10	BEARING	135	CLEVIS PIN
11	BEARING SPACER	136	COTTER PIN
12	BEARING SETTING RING	137	ADJUSTMENT BAR
13	HEX HEAD CAP SCREW	138	CLAMPING BKT W/SCREW
14	SPACER RING (SHAFT/BRG)	139	CLEVIS PIN
18	BEARING	140	COTTER PIN
19	RETAINING RING	141	AIR RELEASE VALVE PIN
20	HEX HEAD CAP SCREW	142	SEAL FLANGE
21	LOCKWASHER	144	BACK UP SEAL
22	BEARING HOUSING	145	MECHANICAL SEAL
23	HEX HEAD CAP SCREW	146	HEX HEAD CAP SCREW
24	HEX NUT	147	HEX HEAD CAP SCREW
25	HEX HEAD CAP SCREW	148	"O" RING
26	HEX HEAD CAP SCREW	149	COLLAR
27	ROD END EYE BOLT	150	SET SCREW
28	HEX NUT	151	SEAL HOUSING
29	FLAT WASHER	152	"O" RING
31	HINGE PIN	153	
32	RETAINING RING		
70	SWIVEL PLATE		
71	HEX HEAD CAP SCREW		
72	SWIVEL PEDESTAL		
73	MANHOLE COVER		
74	LOCKWASHER		
100	MOTOR		
101	HEX HEAD CAP SCREW		
102	HEX NUT		
103	LOCKWASHER		
104	BELT		
105	DRIVE SHEAVE		
106	BUSHING		
107	KEY		
108	MOTOR PLATE		
109	DRIVEN SHEAVE		
110	BUSHING		
114	HEX NUT		
115	CLAMP WASHER		
116	THREADED ROD		
117	MOTOR BLOCK (AS REQ'D)		
118	HEX HEAD CAP SCREW		
119	FLAT WASHER		
120	BELT GUARD		
125	IMPELLER ASSEMBLY		

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MIXER ASSEMBLY
PSES Side Entry Swivel

DESIGN BY: CC	DRAWN BY: CC	CHECKED BY:	DATE: OCT 20/03
SCALE: GENERIC NTS	SIZE: NA	DWG.# PSE-S-ASSY	SHEET 1 OF 1



Eagle Pd (Polyurethane) Drive Installation Procedure

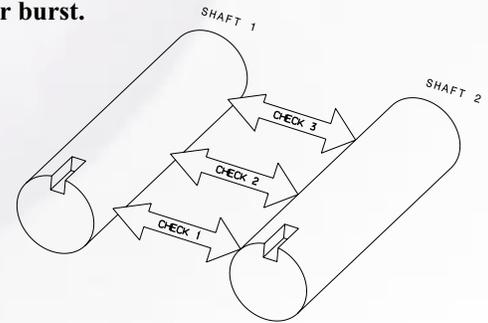
The installation of Eagle Pd belts and sprockets will not be difficult for those familiar with other linear motion, conveyor or power transmission belt products and QD bushings. The following instructions are written so that those less familiar with these products can easily install an Eagle Pd drive. Drive size and location may mandate different assembly methods than the one outlined here.

When working on power equipment, follow all safety policies and requirements of federal, state and local authorities, as well as the regulation of the employer. Always lock out the power source to the machinery before performing any work.

Step 1: Preparation

Objective: Verify that all necessary tools and parts are available and ready for installation.

- Eagle Pd belts and sprockets from Goodyear are identified with a unique Alphabet Code System. Each letter represents a different size so that "B" belts are made to operate with "B" sprockets. Make sure that the same letter belt and sprockets have been obtained.
- The following tools are recommended for proper belt and sprocket installation.
 - o A straightedge
 - o A tape measure
 - o Socket and open end wrenches
 - o A file and sand paper
 - o A torque wrench
 - o A clean cloth
 - o A belt tension gauge
 - o Deflection force values for tensioning the belt
- Make sure that the components are ready for installation. Clean all shafts, removing any nicks or burrs. Clean all mating surfaces of the sprocket, bushing, and shaft. **No lubrication or anti-seize should be used on any of these surfaces, including threaded holes. Use of lubrication can create higher hoop stress which can cause sprockets to crack or burst.**
- Make sure that the shafts are true and parallel by accurately measuring the distance between the shafts at three points along the shaft. The distance between the shafts should be the same at all three points as shown in the attached figure. Also make sure that the shafts are rigidly mounted. Shafts should not deflect when the belt is tensioned.



Step 2: Sprocket and Bushing installation

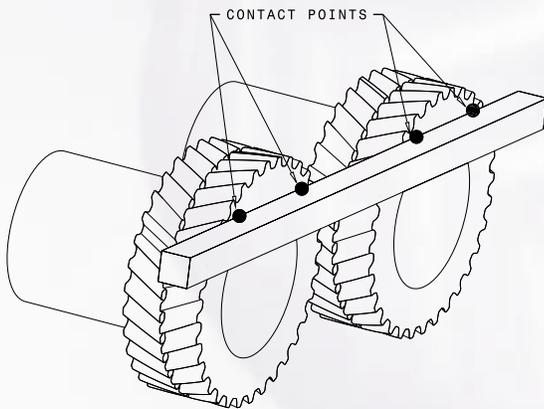
Objective: Align the Eagle Pd sprockets and secure them to the shafts.

- Goodyear recommends that the bushing flange be installed facing outward in order to minimize bearing load and increase bearing life.
- Insert bushing into the sprocket, aligning the drilled holes in the bushing flange with the tapped holes in the sprocket hub.
- Insert capscrews through the drilled holes and into the tapped holes.
- Insert the key into the keyseat of the shaft.
- With capscrews to the outside, place the Eagle Pd sprocket and bushing assembly on the shaft, positioning the assembly as close as possible to the motor bearing.
- Repeat the procedure for the other Eagle Pd sprocket.
- Ensure that the teeth of both sprockets are pointing in the same direction.
- Snug the capscrews so that the sprocket/bushing assembly can still move on the shaft.

...Continued

9. Align the sprockets using a straight edge. Check for contact in 4 places as shown in the attached figure. Do not use bearings or drive shafts as reference points for sprocket alignment.
10. Using a torque wrench, progressively and uniformly tighten the capscrews to the final torque values listed in the attached table. If a gap of 1/8" to 1/4" is not there between the bushing flange and the sprocket hub, then disassemble the parts and determine the reason for the faulty assembly.
11. The sprocket will draw onto the bushing during tightening. Always recheck alignment after tightening the capscrews. If alignment has changed return to step 8.
12. Tighten the setscrews over the keyway to the torque values listed in the attached table.
13. If the sprockets are straight bore use the above alignment procedure and then tighten the setscrews to the correct torque for the setscrew size listed in the Torque Specifications table.

Note: QD bushings can be installed with the capscrews on either side, excluding M and N sizes. Drives with opposing shafts require one of the sprockets be mounted with the capscrews on the flange side and one with the capscrews on the hub side.



Torque Specifications

Bushing	Capscrew Torque		Setscrew Torque	Setscrew Size
	(in-lb)	(ft-lb)	(in-lb)	(in)
H	95	8	-	-
SH	108	9	87	1/4
SDS	108	9	87	1/4
SK	180	15	87	1/4
SF	360	30	165	1/4
E	720	60	290	5/16
F	900	75	290	3/8
J	1620	135	290	3/8
M	2700	225	290	3/8
N	3600	300	620	1/2

Step 3: Belt Installation

Objective: The Eagle Pd belt must be installed and tensioned properly to ensure optimum performance. Sprocket alignment must be preserved while tensioning the drive.

Before beginning, inspect the belt for damage and verify that the sprockets are properly mounted with the teeth pointing in the same direction. Belts should never be crimped or bent to a diameter less than the minimum sprocket diameter (approximately 2 inches for 8mm pitch belts and 5.5 inches for 14mm pitch belts).

1. If the belt is a spliced-endless or truly-endless configuration, shorten the center distance or release the tensioning idler to install the Eagle Pd belt. Do not pry the belt onto the sprocket. If the belt is an open-end configuration, slide the open ends of the belt over the sprockets and then use the Eagle Pd Clamping Plate to bolt the open ends of the belt together.
2. Place the belt on each sprocket and ensure proper engagement between the sprocket and belt teeth.
3. Lengthen the center distance or adjust the tensioning idler to remove any belt slack.
4. Tension the belt to the appropriate installation tension by adjusting the center distance or the tensioning idler. The installation tension for the drive can be obtained either from the drive design steps listed in the appropriate Engineering Manual or from the output of the Drive Design Wizard Web Software Program. Refer to the 'Belt Tensioning' section of the appropriate Engineering Manual or web site for the various methods and devices available for properly installing the belt to the correct installation tension.
5. After the belt is properly tensioned, lock down the center distance adjustments and recheck the sprocket alignment. Recheck the belt tension, alignment, and capscrew torque after 8 hours of operation to ensure that the drive has not shifted.