

	Title: Assembly: Model 7SP pump	Effective Date: 11/22/13
	Procedure #: W_AB_D3XXXXXXXXXX Rev: b	
This is a controlled document.		

1.0 **PURPOSE**

The purpose of this procedure is to provide instruction for assembly of a model 7SP pump

2.0 **SCOPE**

This procedure applies to all Model 7SP pumps.

3.0 **PROCEDURE**

3.01 Place the motor on its back end (with the shaft pointing up in the air).

3.02 Place the motor adapter plate on the motor register. The motor adapter should fit snugly around the register of the motor. There should not be more than 0.010” of total movement between the adapter and register.

3.03 Screw in the 4 adapter bolts by hand. Torque the socket head cap screws with a ratchet to 12.0 ft-lbs.



- 3.04 Install the stationary half of the seal into the sealplate (Part 400). Use water with a little soap (with no abrasives) for lubrication. The stationary seat needs to be pressed in with less than 0.005” total tilt. If an arbor press is available it will help press the seal uniformly into the bore in the sealplate. If a press is not available in the field, use the butt of a screwdriver and press the seal in as straight as possible. Check the underside of the sealplate to ensure there is no gap between the seat and the bore.



- 3.05 Insert the sealplate onto the motor adapter plate and line up the holes.
- 3.06 Place the case o-ring around the sealplate. This will seal the case and the sealplate to prevent water from leaking.
- 3.07 Lubricate the inside of the rotating half of the mechanical seal. Be careful not to let any debris or fingerprints get onto the face of the seals.



- 3.08 Place the rotating half of the seal gently over the shaft. Do not scratch the seal face. Press down with your thumbs and slide the seal over the shaft. Do not press the seal past the shoulder of the motor shaft.



- 3.09 Screw the impeller onto the shaft. You will need to lay the motor on its side and prevent the shaft from turning to ensure the impeller is tightened completely. This can be done with a screwdriver or wrench being inserted into the back of the motor. There is either a flat on the shaft for a wrench or a slot for a screwdriver tip. The hub (threaded bottom “post” in the center of the impeller) should butt up against the shoulder on the motor shaft.

- 3.10 **Single phase motors do not require this step. If the motor is 3 phase (and can rotate both directions),** apply 2 drops of threadlocker onto the locking screw. Insert the locking screw into the motor shaft. The washer and screw should be pressing against the impeller hub to help prevent the impeller from spinning off the shaft during a reverse rotation start. The washer should not be able to move. If the washer can move, the impeller lock screw has bottomed out.

- 3.11 Place the o-ring around the impeller shroud (extrusion on top of the impeller).



- 3.12 **For pump using the stainless steel baseplate, skip to step 3.13.** For 3 phase motors: Place the case on the top of the assembly. The 8 bolt holes on the flange should line up with the 8 bolt holes in the sealplate and adapter plate. Thread the 8 case screws down by hand to ensure the threads in the adapter plate are in good condition. This also helps reduce occurrences of galling. Tighten the 8 case bolts to approximately 8 ft-lbs.

3.13 **For pump using the SS baseplate:** Place the case on the top of the assembly. The 8 bolt holes on the flange should line up with the 8 bolt holes in the sealplate and adapter plate. Thread the top 6 case screws down by hand to ensure the threads in the adapter plate are in good condition. Place the baseplate on top of the case flange, so the two holes in the baseplate align with the bottom two holes in the case and adapter plate. Tighten the last 2 case bolts by hand. Tighten the 8 case bolts to approximately 8 ft-lbs.

3.14 Look into the suction nozzle of the case. Check the alignment of the impeller with respect to the case. There must be clearance between the shroud and suction nozzle.



3.15 Rotate the impeller by hand to be sure it is not rubbing. This can be done by sticking your finger in the discharge nozzle and rotating the impeller or with a screwdriver placed in the back of the motor.

3.16 If the impeller is rubbing, remove the case and see what is restricting the impeller. Note: the mechanical seal will provide some resistance so the impeller will not rotate freely.

3.17 Cross Sectional Drawing of Model 7SP



