

Shaft No.: _____

Used On: _____

Resource Drawing No.: _____

Manufacturing Date: _____

Notes:

Air Shaft Operating Instructions:

1. Air Shaft should be used on the machine for which it is designed. The shaft design is based on the data sheet and design parameter provided by you. They are Reel Weight, Core ID, Minimum Reel Width, Tension and speed. The shaft will get damaged in case of using it for unplanned parameters.
2. Air Shaft needs 5 to 6 Bar (90 to 100 psi) air pressure. Make sure the line pressure is above the required pressure. It is also advisable to use FRL (Filter, Regulator and Lubricator) unit near Air Shaft. **(There is a myth that if you fill more air, the rubber bladder will get punctured. In fact, fill as much air as possible to get the best gripping.)**
3. Air Shafts are designed for a particular web width or reel width. When the total width is not used as shown in Figure 1, do not operate the shaft. Life of the rubber tube will be deteriorating. In those cases, use the dummy core on the sides to cover remaining lugs.

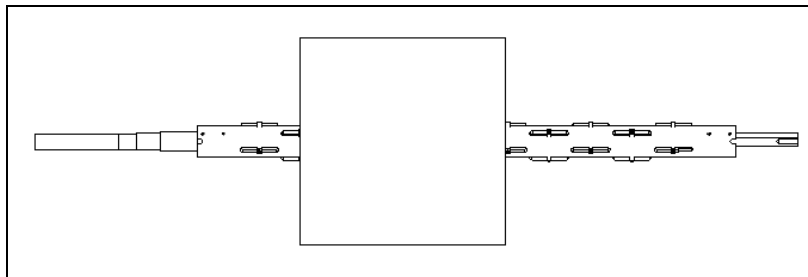


Figure 1: One Reel Mounted on the Shaft. Do not keep the Gripping Area open.

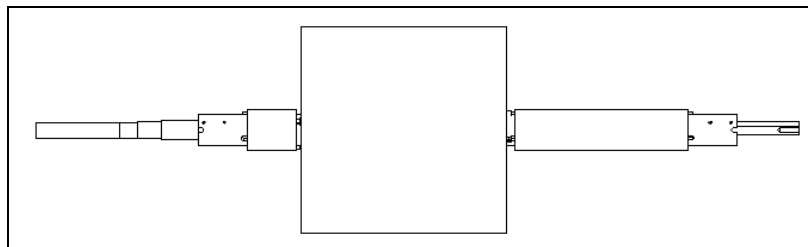


Figure 2: One Reel Mounted on the Shaft, sides cover with Dummy Core to avoid damage to Rubber Bladder.

4. To Grip the Core inflate the shaft: Press the Air Valve (NRV) by Air gun nozzle, shown in Figure 3. The press the Air Gun lever to the extent that the 5 – 6 Bar Air Pressure is developed in the bladder. For 3" Air Shaft, apply the air pressure for 45 seconds. For 6" Air Shaft, apply the air pressure for 80 – 100 seconds. If you fill more air, rubber bladder will not burst. In fact, it will give you better gripping.

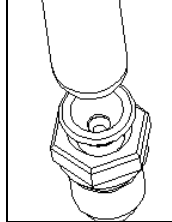


Figure 3: Air Gun Nozzle for Filling Air in the Air Valve. Keep it pressed for Air inflation.

5. To Release the Core Deflate the Shaft: Press the top head of the Air Valve.

Trouble Shooting for Air Shaft:

1. During production, if you find the reel slipping over shaft. Do the following check up:
 - A. Check the incoming line pressure. It has to be between 5 to 6 Bar. This can happen if enough Air is not filled in the shaft.
 - B. Check the Air Pressure inside the shaft. This can be done by applying Pressure gauge with nipple, similar to Vehicle tire check up. Simpler solution is to count 1 to 50 for 3" shaft and 1 to 100 for 6" shaft, while filling air in the shaft.
 - C. After trying both A & B Solutions, if you still face the problem then check for the Non Return Valve (NRV). NRV might be leaking. For testing, fill the full air in the core holder and then submerge the shaft in the water barrel or tank. The air bubbles will start coming near and around the NRV. Then, immediate replacement is needed. (Figure 3.)

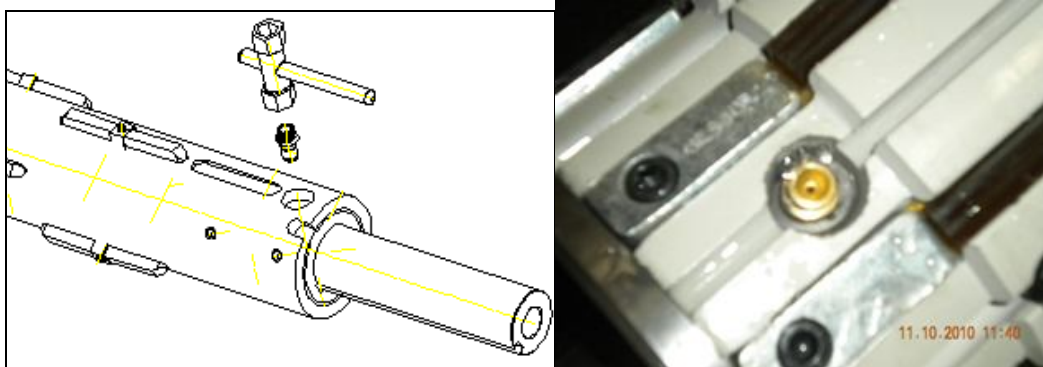


Figure 3: Checking Non Return Valve (NRV) With 12 X 13 Box Spanner

2. If leakage not found from NRV, then most probably the Tube must be leaking. In that case, Air Shaft has to be opened to replace the bladder.
3. Before opening the shaft, apply Soap water on each of the Lock piece and Gripper. That would give you indication on which tube is leaking.

Tube Replacement of Multi Bladder Shaft:



Figure 4: Loosen the Lock Piece

1. Using Allen key, loosen the Cap Screw fasteners of lock pieces of both side of a Leaking strip. (shown in Figure 4.) **If your shaft's lock piece is having CSK, then open it carefully.** Don't apply too much force. Go directly to step 14 at the end.
2. On Air Inlet side, please pick up the lock piece. You would see a white protection strip, below that a PU tube should be there.
3. Pull out the gripper strip and white protection strip.



Black Thin Washer



Steel Spacer



O-ring at the Bottom

Figure 5: Showing the Small parts to Disassembled.

4. Study the order of washers underneath. Right under the PU tube, a flat thin washer, Steel spacer and at the bottom of hole – O-ring. (Shown in Figure 5)
5. Then pull out the PU tube with all the small parts from inside.
6. Cut newly supplied PU tube to the same length of the existing once.
7. Mark a hole for Piercing for fitting Brass piece. Make a similar hole with anything available at same location.
8. Slide in and fit the brass piece. Make it look similar to the one came out of the shaft.
9. Now, start assembling the tube back inside by sliding it in the Pipe.



Figure 6: Inserting O-ring in the shaft.

10. Put the O-ring at the bottom of the hole, as shown in Figure 6.



Figure 7: Metal Spacer to be Inserted.

11. Then drop the metal spacer inside as show in Figure 7. Make sure that the metal spacer should

remain out by approximately 1mm from the flat surface. If that is not the case, then we request you to put an extra O ring, shown in figure 6.



Figure 8: Thin Black Washer to be mounted.

12. Then mount a black thin washer on the brass part, shown in Figure 8.



Figure 9: Loosen the Lock Piece

13. Tighten the Cap screw on both the side of shaft, shown in figure 9. Test it once again.



Figure 10: Loosen the CSK with center Punch, if not able to open with Allen key.

14. If your shaft has CSK fastener, then do not apply too much force and open it carefully. In case, the hexagon for loosening is not in good condition. The follow steps shown in figure 10.