



How to Inspect and Replace a Lovejoy Coupler and Spider Gear

Preliminary Note:

- This procedure can be done when the Wash is open.
- Needs to be performed as needed and inspected monthly.
- The Spider Gear should be replaced when it is worn down by 25% from the original size.
- This operation should take 20 minutes.

Parts needed:

- Lovejoy Coupler, Part #P-HYD-2154
- Replacement Spider Gear, Part #P-HYD-2153

Tools Needed:

- Lockout-TagOut Padlock, Hasp and Tague
- 3/8" Ratchet
- 9/16" and 7/16" Socket
- 9/16" and 7/16" Wrench
- Allen Wrenches
- Fine Sandpaper/Emery Cloth
- Torque Wrench
- Latex Gloves
- Safety Glasses
- Non-Flammable Cleaning Solution

Procedure:

1. Power off and Lockout-Tag out (LOTO)
 - a. Turn off the Power at the VFD belonging to the Pump that you are working on,
 - b. Install the Lock Out / Tag Out padlock, hasp, and tag.
 - c. Set the Function that you are working on to "OFF" on the iPad. **No part of this operation should be performed on moving, nonsecure, or unstable equipment.**



2. Remove the Protective cover, using a 3/8 Ratchet, and a 7/16 Socket for the Bolts, and a 7/16 Wrench for the Nuts, there are 4 Bolts total to remove the Protective Cover. This will expose the Lovejoy Coupler.
3. Inspect the two Hubs and Spider Gear. Check the two Hubs for Correct Location, Broken or Missing Pieces, and Proper Alignment.
4. Inspect the Spider Gear for thickness and broken and missing pieces. If the Spider Gear has lost 25% of its original thickness, it needs to be replaced.
5. Inspect both Hubs for cracks or broken and missing pieces.
6. Using the Ratchet with the 9/16 Socket and 9/16 Wrench, unbolt the Pump and separate the Lovejoy Coupler. Inspect both Hubs for cracks or broken and missing pieces. If both Hubs and Spider Gear are still good, reassemble the Pump and turn all Power back to On, remove the LOTO devices, and turn the Pump back to "AUTO" in the iPad.
7. If the Lovejoy Coupler needs to be replaced,
 - a. Unscrew the Set Screws in the Hubs and remove them from the Shafts. In some situations, a Gear Puller can be used to separate an older Hub from the Shaft.
 - b. Clean the Shafts and Keyway with Sandpaper/Emery Cloth and Nonflammable Cleaning Solution making sure to remove all Rust, Nicks, Debris, and Burs.
 - c. Clean All of the Parts of the new Lovejoy Coupler. The Factory applies a protective coating to prevent rust and minor damage during shipping. This coating needs to be removed using your Nonflammable Cleaning Solution and a towel.
 - d. Place the new Keyways and Hubs on the Shafts so that the Hubs and Keyways are flush with the end of the Shaft.
 - e. Tighten one Set Screw and leave the other snug for easier adjustment. Be sure that the Set Screws align with the



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Keyways, and Torque the Set Screws to 150-160 in lbs., or 17-19 Nm.