

Locking Dog Assembly Retrofit Kit

These instructions are intended to illustrate the proper use of the Locking Dog Assembly Retrofit Kit. Tools and equipment covered in this instruction sheet should be used by competent personnel familiar with and following good work and safety practices.

Should additional information and details be desired or if specific situations arise which are not covered adequately for the user's purpose, the specifics should be referred to Hubbell Power Systems Customer Service.

This retrofit kit includes:

Quantity	Description
2	Set screw, 1/2" x 3/8" long black steel
2	Set screw, 1/2" x 5/8" long black steel
1	1/4" L-shaped hex wrench (Allen)
2	.5 ml tube Loctite 680 Retaining Compound
1	Moisture Eater II Wipe
1	This instruction sheet

Present Condition of Existing Tooling:

All anchor tooling will wear during repeated use. The combination of torque and bending during anchor installation will eventually cause contact surfaces on tools to wear and lose shape over the life of the tools. No single piece of anchor tooling can be expected to last forever. There are several easy ways to determine whether tooling is worn out beyond its usable life.

To check a Locking Dog Assembly, first set it on a table with the socket end up. Look at the square socket itself. If the lip of the socket is "belled" or bent out, the socket has lost torque and bend resistance capacity. Compare with drawing shown below.

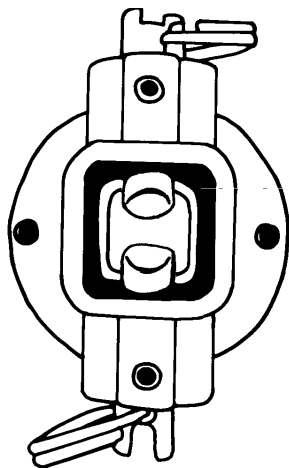


Fig. 1-A - New Tooling

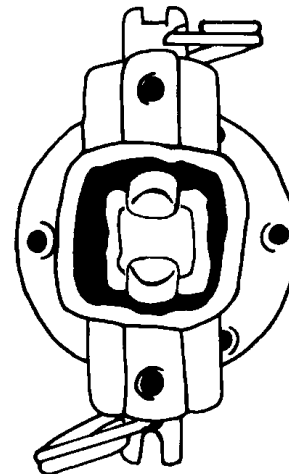


Fig. 1-B - Worn Tooling Showing "Belled Out" Socket

Next, use a good light source and inspect the inside of the socket. A “rounding-out” or wearing of the sides indicates a loose fit between the socket and wrench. Continued use with this type of wear pattern can damage dogs, dog housings, and the anchor wrench.

After checking the sides of the socket, inspect the dogs themselves. Check to see if the case hardened exterior has been worn away into the softer interior. If the dogs have suffered any observable reduction of diameter, they need to be replaced.

Finish the inspection by carefully checking the entire Locking Dog Assembly. Are there any missing parts? Are the flange bolt holes worn or elongated? Are there any visible cracks? Are the dog rings elongated or cracked?

Replacement Guidelines:

The anchor wrench is a good indicator of worn tooling. If any of the four 1-1/8” holes at the top of the wrench are elongated in the transverse direction as shown below, the Locking Dog Assembly is worn beyond usable life and **should be replaced**. The elongation and raised lip on the holes indicate a square socket that is too loose. The elongated holes are caused by excessive torsional load being transmitted through the dogs to the wrench.

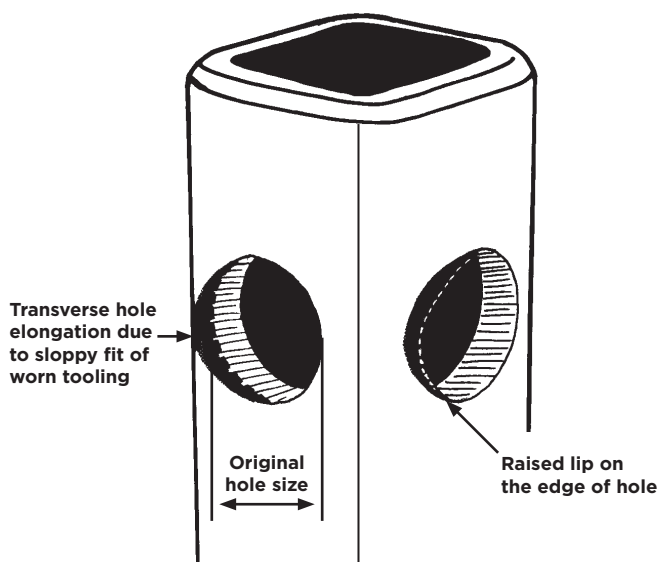


Fig. 2 - Isometric View Of Anchor Wrench Top

Locking Dog Assemblies that have “belled out” sockets as shown in Figure 1-B should also be replaced.

As mentioned before, if any dog has suffered observable reduction of its diameter, it should be replaced by using the appropriate Locking Dog Repair Kit, C3030070 (10,000 ft·lb) or C3031026 (15,000 ft·lb).

A Locking Dog Assembly with loose or missing set screws, that is otherwise in good condition, can be made suitable for continued use by installing this retrofit kit.

Explanation of Retrofit Kit:

The intended purpose of this kit is to ensure that the two set screws that hold each locking dog in place will not loosen during repeated use.

If this retrofit kit is not applied and the set screws are not periodically checked for tightness, they can loosen to the point where they no longer hold the dog housing in place. If this occurs during an anchor installation, the locking dogs can be forcibly ejected at high speed from the Locking Dog Assembly.

⚠ WARNING

High speed moving parts can cause severe injury or death.

Use retrofit kit to lock set screws before using Locking Dog Assembly.

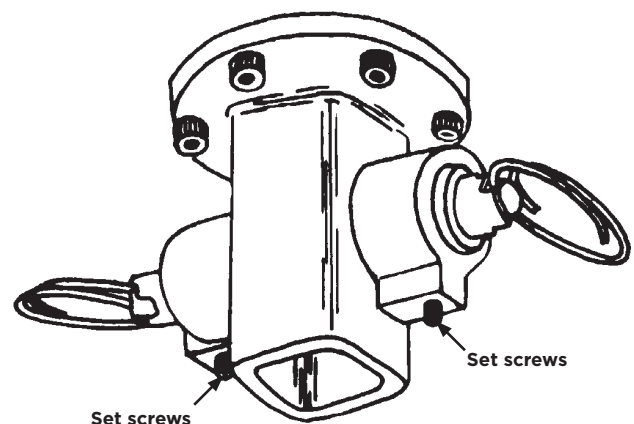


Fig. 3 - Isometric View Of Locking Dog Assembly Showing Set Screw Locations

Prepare Locking Dog Assembly for Retrofit:

Remove the existing set screws from each locking dog socket and discard. You can use the 1/4" L-shaped wrench that comes with the kit or any other hex type tool. If Loctite compound already exists on the set screws, you may have to apply heat to remove them. Check the threads in each set screw hole to ensure no cross-threading exists. If the holes have been cross-threaded, replace the Locking Dog Assembly.

Clean the internal threads in each hole to remove any oil or dirt. Clean any oil off the four set screws included with this kit. Use the included Moisture Eater II Wipe to clean the threads of each set screw. Follow the instructions on the package.

Locking Dog Placement:

Slide each dog housing into its dog socket. Look down through the set screw hole in the dog sockets to ensure that the countersink in each dog housing is centered directly below each hole.

IMPORTANT: Be sure that the dog is fully engaged (ring at inside position and dog at maximum extension) before locking in place. Look into the square socket of the casting and ensure that the angled face of the dog is pointing towards the opening as shown in Figure 4.

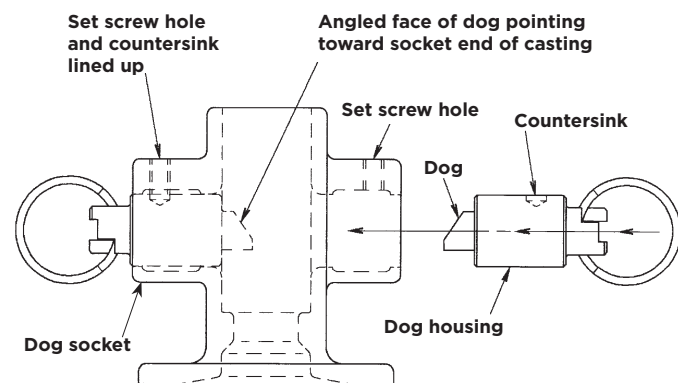


Fig. 4 - Cross Sectional View of Locking Dog Assembly Showing Proper Dog Placement

Set Screw Placement:

Snap the end off of one .5 ml container of Loctite 680 Retaining Compound included in your kit. Apply compound to each thread of **one** 1/2" x 5/8" set screw. Install the set screw in the hole on **one** dog socket. Set screws must be torqued to 15-20 foot-pounds.

IMPORTANT: Be sure that the set screw engages the countersink in the dog housing.

Apply the remaining 680 compound from the .5 ml container to each thread of one 1/2" x 3/8" set screw. Install this screw in the hole right on top of the 1/2" x 5/8" set screw previously installed. Again, apply 15-20 foot-pounds of torque. After the set screws are in place, wipe away any excess Loctite compound from around the top of the hole.

IMPORTANT: Proper installation of the set screws will result in the head of the 1/2" x 3/8" set screw being recessed about 1/16" to 1/8" below the top of the set screw hole as shown in Figure 5. If the set screws are installed improperly, the 1/2" x 3/8" set screw will extend out of the hole about 1/8". If this occurs, the 1/2" x 3/8" set screw must be removed and the 1/2" x 5/8" set screw must be loosened and properly aligned with the countersink in the dog housing. Follow the procedure above to complete installation of the set screws.

⚠ WARNING

High speed moving parts can cause severe injury or death.

Visually check to see that set screws have been installed properly. Follow directions on set screw placement.

Repeat the above procedure for the other locking dog. Use the other .5 ml container of Loctite 680 Retaining Compound included in the kit.

NOTE: Installation torque can be measured with a torque wrench that has a hex drive adapter.



During application of Loctite compound, always follow the instructions on the package. Cure time is six hours at room temperature. However, an overnight cure time is recommended. After the Loctite has cured, the Locking Dog Assembly is ready for continued use.

Future Maintenance:

Periodically check the set screws to ensure that they are still in place. Continue to monitor wear on tooling. Replace worn tooling as necessary. If dogs become worn to the point of replacement, the set screws can be removed by heating the surrounding metal just above 300°F. The heat will break down the Loctite bond and allow the set screws to be removed normally.

WARNING

Missing or discarded parts or worn and damaged tooling can cause severe injury or death.

Periodically check tooling for wear or damage as described in this instruction sheet. Visually check to see that all parts are in place before using.

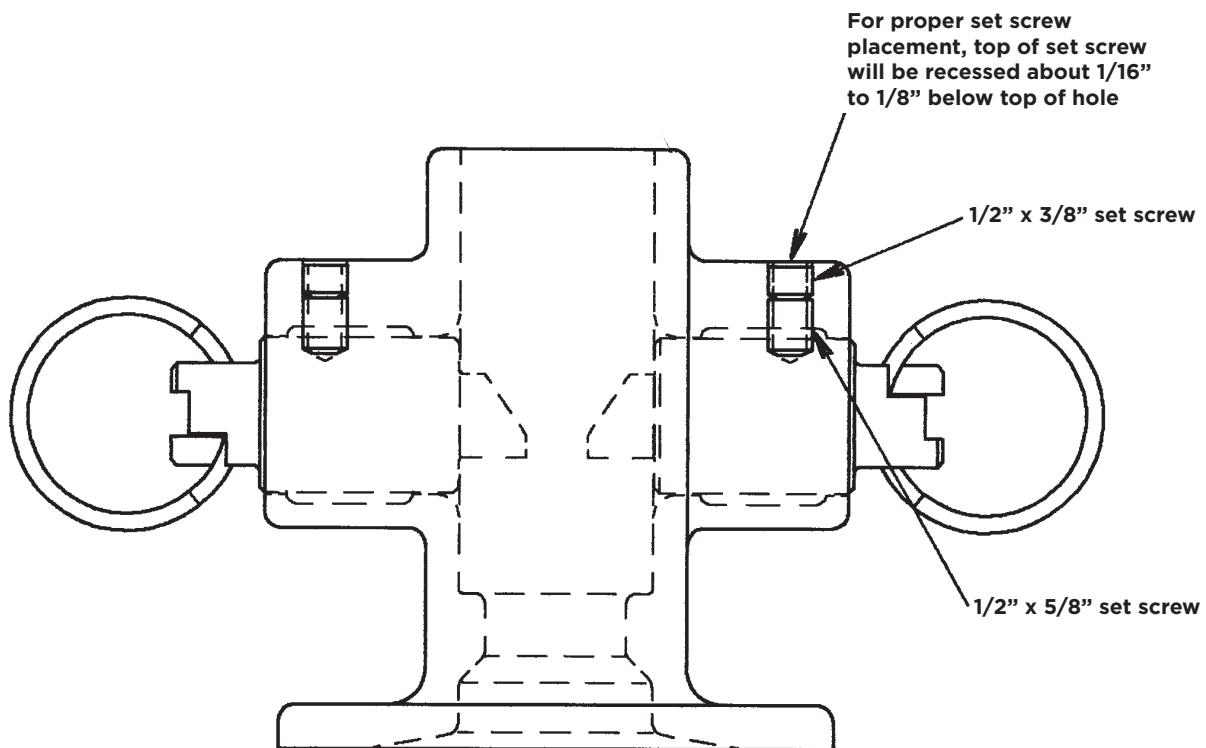


Fig. 5 - Locking Dog Assembly With Proper Set Screw Installation

