



Rebuilding a Torsional Coupling on a DX Series Dynamometer - Video Part Two

After the parts are clean; now the coupling rebuild process can be finished.

! SAFETY NOTE: Use a solid work surface when finishing the rebuild assembly.

Rebuild kit #3N090102: Contains: 2 bushings, bushing hardware, 24 neoprene balls and a small O-ring

General Information:

Use an impact wrench with a 3-jaw puller. Put a piece of brass between the dyno shaft and the center of the jaw puller. If the hub does not come off with the impact, shock the jaw puller with a ball peen hammer.

Use an acetylene torch with a rosebud tip to warm the fittings if the fittings don't loosen from the shaft.

Keep the nut on the end to prevent it from flying off.

! NOTE: Taylor uses Mobilith SHC 220, synthetic grease. Use this grease or equivalent wherever grease is referenced.

1. On the hub, notice the grease galley – grease from the back side – allows grease to flow through to the front side.
2. Set O-ring in place - grease so it doesn't move and seats properly.
3. Hub bushing (PN 2B070102, without flange) – find the extra hole drilled – the hole is only drilled to the depth of the groove and then stops.
4. Line up the extra hole with the O-ring. Make sure the countersunk holes line it up with the threaded holes; you can use a small Allen wrench or all thread to align. Use a dead blow hammer to install the bushing into place. Should be a snug fit.
5. Screws and lock washers - install 8/32 screws with lock washers - from the kit - spin them in place. If the holes don't line up, you will have to remove the bushing and start over. The bushing does have jacking holes - use these to pry out the bushing if necessary.
6. Install the drive plate from the drive plate side. This makes it easier to have the bolt head to be on the drive side of the coupling.

7. Put grease in the groove and on the inside of the bushing - don't want a dry startup. The drive plate should be a snug fit. If it isn't a snug fit then you know the drive plate is worn.
8. Flip over the drive plate. Use the punch marks on the drive plate, sleeve and the end plate that you did earlier to make the assembly easier.



NOTE: The hub has tapered vanes – thicker on one end and thinner on the other end, and when the sleeve is installed, the tapers should oppose each other. For example: if the hub is thick on the bottom, the sleeve should be thick on the top.

9. Set the sleeve in place. Verify that the sleeve is seated on the shoulder of the drive plate
10. Grease the Neoprene balls. Put the balls in a separate box and grease them liberally. You cannot grease them too much. Shake the balls around in the box.



NOTE: Greasing the Neoprene balls will make them easier to install. If you do not grease them before installation, you will shorten the life of the balls.

11. Install two Neoprene balls in each pocket. Use a mallet or a dead blow hammer and a drift to put them in place. It will be a snug fit.
12. Wipe up the mess.
13. Install the other bushing (included in the kit from Taylor PN 2B070203 with flange) in the end plate. It is installed in the same manner as the bushing in the hub; line up the extra hole in the bushing with the cutout in the endplate and align the threaded holes with the holes in the endplate. Use a dead blow hammer to install the bushing. Screws and lock washers – install 6/32 screws with lock washers - from the kit– tighten them in place. Put grease in the groove and on the inside of the bushing or on the hub.
14. Install the end plate. Line up the punch marks. It should slide in place. Use a mallet.
15. Install the coupling hardware. Use new lock washers (not available in Taylor kit).
16. Torque the bolts using an impact wrench. Torque in a crisscross pattern.
17. Install the zerk fittings on the hub and the end plate bushing if you have not done so already. (These parts are off your assembly, not in the Taylor kit.)
18. Make sure the bore of the hub and dyno shaft is clean, this will help with ease of installation. You can use an emery flapper wheel or emery cloth to clean them. It's a taper fit so there is no need to use Loctite or heat to get a good fit.
19. Re-install the nut on shaft. Torque that to about 300 ft-lb. Use Blue Loctite or thread locker.



SAFETY NOTE:

Use caution when installing the coupling on the dynamometer. Use a jib or overhead crane, if available. Pull out two of the bolts and insert a piece of all thread in each hole to use jib or overhead crane, making installation easier onto the dynamometer.

Remember the two grease zerks. Give each zerk about 8-10 pumps of grease. Follow Taylor recommendations for maintenance.



Additional NOTE:

The torsional coupling is good for engines up to about 3,000 ft-lb of torque. Over that will destroy the insides of the torsional coupling. The end plate has six holes that allow for a ridged installation for use with engines over 3,000 ft-lb. Insert grade 8 x 1-1/2 in., 1/2 x 20 thread bolts. No lock washers are necessary, but use a hard, flat washer. Remove the bolts when running smaller engines.

If you have any questions or need further support with your dynamometer and/or equipment, please contact Taylor Dynamometer (414) 755-0040 or email: service@taylordyno.com.

Everything you need to succeed



3602 West Wheelhouse Road, Milwaukee, Wisconsin 53208 U.S.A.
(414) 755-0040 www.taylordyno.com