**INSTRUCTIONS TO INSTALL 50DN ALTERNATOR DRIVE END FRAME AND SEAL UPGRADE PACKAGE KIT**

**WARNING!!!** ALWAYS USE PROPER EYE PROTECTION WHEN PERFORMING ANY MECHANICAL REPAIRS TO A VEHICLE – INCLUDING, BUT NOT LIMITED TO, ANY INSTALLATION AND OR REPAIRS TO THE DELCO REMY® ALTERNATORS. FAILURE TO USE PROPER EYE PROTECTION CAN LEAD TO SERIOUS AND PERMANENT EYE DAMAGE.

**DANGER!!!** To avoid injury or damage, always disconnect the negative cable at the battery before removing or replacing the alternator. The alternator output terminal is always live ("hot"). If the battery is not disconnected, a tool accidentally touching this terminal and ground can quickly get hot enough to burn skin or damage to the tools and surrounding parts.

Only perform mechanical functions that you are properly qualified to perform. Mechanical repairs that are beyond your technical capabilities should be handled by a professional installation specialist.

FOLLOW ENGINE OR VEHICLE MANUFACTURER'S INSTRUCTIONS FOR REMOVING THE ALTERNATOR FROM THE ENGINE AND REINSTALLING.

DISASSEMBLY INSTRUCTIONS:

**NOTICE!** Do not use an impact wrench to remove or install the pulley nut on the alternator. The impact action of the wrench can cause damage to the threads on the shaft.

1. Mark outer side of pulley so it can be put back on the shaft with the same side out after shaft seal and o-ring are replaced.
2. Hold pulley with a strap-type wrench and use a break-over bar with socket to remove pulley nut from shaft. Remove washer and pulley from shaft.
3. Remove six (6) retainer plate screws and lock washers.
4. Remove old plate, seal assembly and gasket.
5. Remove old steel spacer and o-ring from shaft.
6. Remove oil line clamp and two (2) screws from stator frame.
7. Disconnect the oil line and remove elbow from drive end (DE) frame.
8. Mark stator frame to later align new DE frame to ensure pad mount alignment is the same.
9. Remove six (6) thru bolts from DE frame and separate old DE frame from stator frame.
10. Press rotor out of the old DE frame.
11. Remove six (6) retainer plate screws and retainer plate.
12. Remove bearings and spacer from old DE frame.

**ASSEMBLY INSTRUCTIONS FOR DE FRAME AND SEAL UPGRADE PACKAGE KIT:**

**NOTICE!** The use of anti-seize products on the rotor shaft when reinstalling the pulley is not recommended. It is also recommended that new bearings be installed with this upgrade kit.

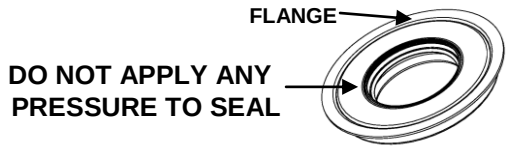
1. Press ball bearing into new DE frame making sure the shield side is towards the rotor.
2. Install retainer plate behind ball bearing with six (6) retainer plate screws and tighten to **5.6-6.8 Nm (50-60 lb in)**. Stake flat head screws in place after tightening.
3. Place rotor into DE frame through the ball bearing. Slip on inner spacer and align roller bearing to the DE frame bearing bore.
4. Press entire assembly together until the inner race of the roller bearing has engaged the inner spacer. Make sure that the press tool contacts both the inner and outer race of the roller bearing. The roller bearing will be pressed down into the bore, unlike the old DE frame, to allow space for the press in seal. Space between bearings is to be between **1.60 and 1.61 inches**.
5. Test rotor to make sure it spins freely.
6. Install elbow fitting with loctite and pre-torque to **15.8 Nm** (**140 lb in)**. Continue tightening past pre-torque to bring elbow fitting to final position.
7. Install oil plug into drain hole near the front of the DE frame and tighten to **13.6-16.2 Nm (10-12 lb ft)**.
8. Connect DE frame to stator frame so that the pad mounts are properly aligned as removed. Install and tighten the six (6) thru bolts to **6.8-9.0 Nm (65-85 lb in)**.
9. Spin rotor to make sure there is no rotor rub with the stator or field coil.
10. Reconnect oil line and install oil line clamp with two (2) clamp screws.

**THERE ARE TWO (2) APPROVED OPTIONS FOR INSTALLING THE SEAL KIT:**

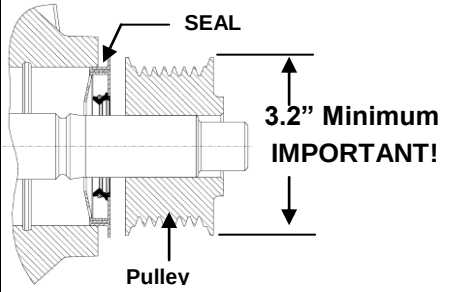
**NOTICE!** The use of anti-seize products on the rotor shaft when reinstalling the pulley is not recommended.

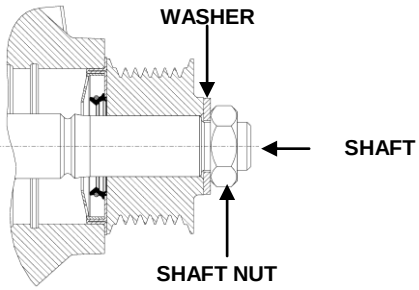
**Option 1**

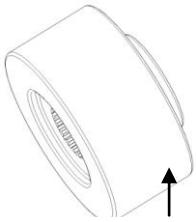
1. Lubricate the new o-ring with 1948791 bearing lubricate or equivalent.
2. Install new o-ring onto groove on the shaft.
3. Apply Loctite 242 or equivalent to outside diameter (**OD**) of press-in seal.
4. Align new press-in seal, being careful not to cut the seal on the shaft splines.

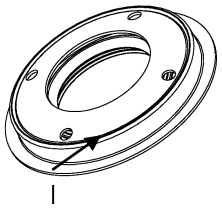


5. Obtain "**seal install tool"** or **utilize a 50DN pulley** with an OD no smaller than 3.2 inches. Place seal install tool or pulley with flat surface onto shaft against the seal.




**CAUTION: BE SURE NOT TO USE AN UNDERSIZED PULLEY (OD LESS THAN 3.2 INCHES) OR ONE WITHOUT A FLAT MACHINED SURFACE. FAILURE TO DO SO MAY RESULT IN DAMAGE TO SEAL DURING INSTALLATION.**

Follow Option 2 if you **do not** have the seal install tool or a proper pulley.

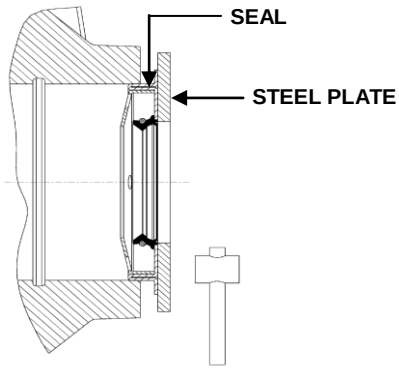
6. Place washer and pulley nut on shaft. Hold pulley with a strap-type wrench and tighten pulley nut on shaft until seal is fully seated.
7. Remove pulley nut, washer, and install tool or pulley from shaft.
8. Ensure seal is fully seated by checking the gap around the flange.
9. Install new steel spacer onto the shaft and into the seal.
10. Install pulley, washer and nut. Be sure pulley is installed with same side out as before removal.
11. Hold pulley with a strap-type wrench and tighten pulley nut to **290 Nm (215 lb ft)**.

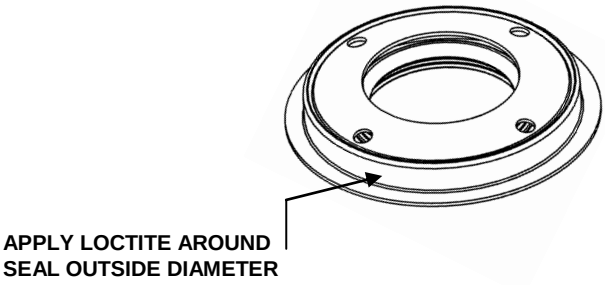
**Option 2**

**NOTE:** This option requires the use of a flat steel plate large enough to contact the seal flange. The recommended plate dimensions are as follows; inside diameter (1.2 -2.0 inches) – outside diameter (3.2 inches minimum). The plate thickness must be adequate to properly handle impact of the hammer without damaging the seal.

1. Lubricate the new o-ring with 1948791 bearing lubricate or equivalent.
2. Install new o-ring onto groove on the shaft.
3. Apply Loctite 242 or equivalent to outside diameter (**OD)** of press-in seal.
4. Align new press-in seal, being careful not to cut the seal on the shaft splines.
5. Utilizing the steel plate, tap on the plate with a hammer until the seal is fully seated

**CAUTION:** Be sure not to contact the seal with the hammer during installation. Any direct contact to the seal may result in damage to the seal.




6. Ensure seal is fully seated by checking the gap around the flange.
7. Install new steel spacer onto the shaft and into the seal.
8. Install pulley, washer and nut. Be sure pulley is installed with same side out as before removal.
9. Hold pulley with a strap-type wrench and tighten pulley nut to **290 Nm (215 lb ft).**
10. Install pulley, washer and nut. Be sure pulley is installed with same side out as before removal. Hold pulley with a strap-type wrench and tighten pulley nut to **290 Nm (215 lb ft).**

**Technical support: USA 800 854 0076, Mexico 01 800 000 7378, Brazil 0800 703 3526, South America 55 11 2106 6510 or visit delcoremy.com**