

## SERVICING PMGR STARTERS

**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 STARTING MOTORS. FAILURE TO USE PROPER EYE PROTECTION CAN LEAD TO SERIOUS AND PERMANENT EYE DAMAGE.

Only perform the 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 AND/OR VEHICLE MANUFACTURER'S INSTRUCTIONS CAREFULLY WHEN REMOVING AND INSTALLING THE STARTER.**

### INSTALLING BEARINGS IN STARTER

After installing bearings and during starter assembly, place lubricant if provided, on planetary gear teeth and on three bearings in inner gear, drive shaft and drive housing.

#### COMMUTATOR END BEARING

1. Lift brushes up in holder with spring resting against side of brush.
2. Place brush assembly over commutator.
3. Press against bearing inner race to assemble over shaft until inner race contacts stop shoulder. Rubber seal must face toward armature.
4. Bearing is sealed and requires no added lubrication.
5. Lift springs to allow brushes to drop onto commutator.

#### INNER GEAR BEARING

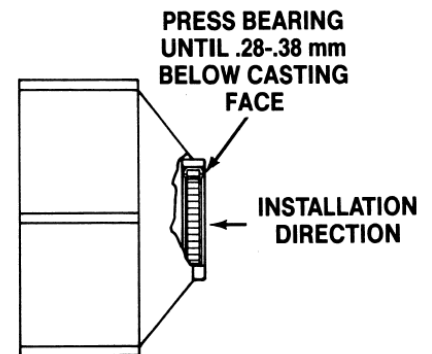
Assemble into casting until bearing is recessed below outside casting face as illustrated.

#### DRIVE END BEARING

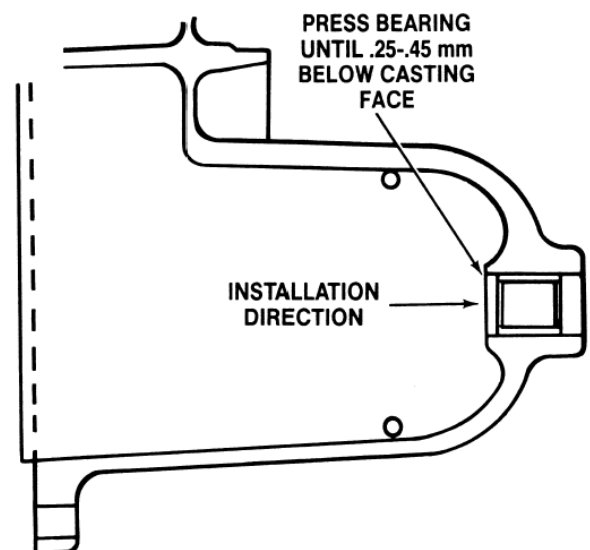
Assemble into casting until bearing is recessed below inside casting surface as illustrated.

#### DRIVE END HOUSING AND SOLENOID ASSEMBLY

1. Assemble inner gear and drive shaft.
2. Place stop collar and snap ring on shaft. Using two pliers, squeeze collar and stop collar over snap ring.
3. Assemble drive and shaft assembly into drive end frame. Use screwdriver to gently guide shift lever over shift collar pins on drive assembly.
4. Assemble armature assembly to field frame. **CAUTION:** Magnets in frame have strong attraction to metal parts. Avoid placing hands between armature and frame during assembly
5. After starter assembly, visually check pinion for proper movement to engaged, then disengaged, position by momentarily connecting battery to solenoid "S" terminal and starter frame. Two or three checks will insure that shift lever is properly located over shift collar pins. **Caution:** Secure starter in a vise and keep hands away from pinion during test.



(Figure 1)



(Figure 2)

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](http://delcoremy.com)

**NOTICE** - Only licensed Remy International, Inc. product and component parts should be used, and the use of other parts or modifications not approved by Remy International, Inc. will void all applicable warranties. The failure to carefully follow these Installation Instructions, set forth above, will void all applicable warranties. DELCO REMY is a registered trademark of General Motors Corporation, licensed to Remy International, Inc. Pendleton, IN 46064.