

**DISASSEMBLY AND ASSEMBLY (Continued)****Disassembly**

1. Remove positive brush connector from solenoid motor (M) terminal.
2. Remove solenoid retaining screws and solenoid.
3. Remove through-bolts and separate drive end housing from starter frame. Remove housing seal assembly from drive. Remove drive and gear assembly from drive end housing.
4. Remove drive lever from drive assembly. Remove stop ring and retainer from driveshaft, then remove drive assembly from shaft. Push E-ring off driveshaft, and separate gear assembly from driveshaft.
5. Remove brush plate screws and brush end plate from starter frame. Remove brush assembly and push armature out of frame.

**Assembly**

**NOTE:** Sealer material (ESA-M4G294-A or equivalent) should be replaced on starter during re-assembly.

1. Install armature assembly in starter frame. Apply a thin coating of ESF-M1C218-A Grease or equivalent low temperature grease on both ends of armature shaft and spline. Install brush assembly while making sure brushes fit over commutator. Apply grease to bearing bore in brush end plate. Push back grommet onto frame and attach brush end with brush plate screws. Tighten to 2-3 N·m (18-27 lb-in).
2. Apply grease to driveshaft spline and place stationary gear assembly over driveshaft. Install armature thrust washer and push E-ring onto driveshaft. Place drive assembly onto shaft and install stop ring and retainer. Attach drive lever to drive assembly.
3. Grease and install planet gears.
4. Apply grease into drive end housing bearing bore (approximately one-quarter full). Install drive gear assembly into housing, making sure to line up bolt holes in gear assembly and housing. Place gear retainer over gear assembly. Install housing seal assembly into drive end housing.
5. Position starter frame to housing and install through-bolts. Tighten to 5-10 N·m (45-89 lb-in).
6. Position solenoid to housing ensuring that solenoid plunger is attached through drive lever (bottom solenoid terminal (M) should have a metal strip attached to it). Tighten solenoid bolts to 5-10 N·m (45-89 lb-in).
7. Attach positive brush connector to solenoid (bottom terminal). Tighten nut to 9-14 N·m (80-124 lb-in).

8. Check that starter no-load current draw is within specification. Refer to Bench Tests under Diagnosis and Testing.

**Starter Drive Replacement**

1. Remove positive brush connector from solenoid motor (M) terminal. Remove solenoid retaining screws and remove solenoid.
2. Remove through-bolts and separate motor assembly drive end housing. Remove housing seal from drive end housing. Remove drive gear assembly from housing and detach drive lever.
3. Remove stop ring and retainer from driveshaft and then remove drive assembly.
4. Apply a thin coating of ESF-M1C218-A Grease or equivalent low temperature grease on driveshaft spline. Install new drive gear assembly on driveshaft. Install new stop ring and retainer. Attach drive lever.
5. Partially fill drive end housing bearing bore with grease (approximately one-quarter full). Install drive gear assembly in housing, making sure to line up bolt holes in gear assembly and housing.
6. Install lever support and housing seal in drive end housing.
7. Position starter frame to housing and install through-bolts. Tighten to 5-10 N·m (45-89 lb-in).
8. Install solenoid. Refer to Assembly.

**Starter Motor Brushes Replacement**

1. Remove starter drive plunger lever cover.
2. Remove the two through-bolts from the starter.
3. Remove the brush end plate.
4. Remove brush spring and pull brushes loose from brush holder.
5. Remove brush holder.
6. Remove the drive end housing and the plunger lever return spring.
7. Remove the starter drive plunger lever pivot pin and lever and remove the armature.
8. Remove ground brush rivet head with file or chisel and remove rivet with 1/8-inch punch.