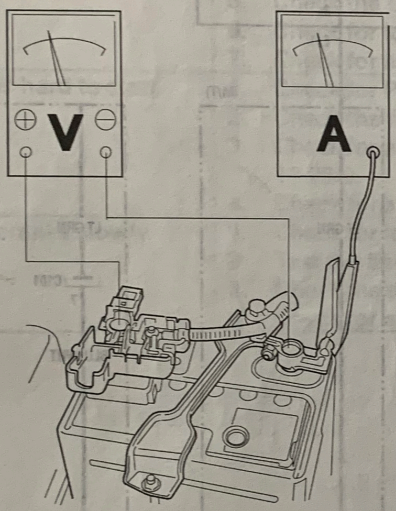
Starter System Circuit Troubleshooting

NOTE:
- Air temperature must be between 59 and 100 °F (15 and 38 °C) during this procedure.
- After this inspection, you must reset the engine control module (ECM)/powertrain control module (PCM). Otherwise, the ECM/PCM will continue to stop the fuel injectors from functioning.
- The battery must be in good condition and fully charged.

1. Hook up the following equipment:
   - Ammeter, 0—400 A
   - Voltmeter, 0—20 V (accurate within 0.1 V)



2. Connect the HDS to the data link connector (DLC) (see step 2 on page 11-3).
3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the ECM/PCM. If it does not, troubleshoot the DLC circuit (see page 11-173).
5. Select PGM-FI, INSPECTION, then ALL INJECTORS OFF on the HDS.
6. Set the parking brake, then with the shift lever in the N or P position (A/T) or the clutch pedal pressed (M/T), turn the ignition switch to START (III).

   Does the starter crank the engine normally?

   YES—The starting system is OK. Go to step 13.

   NO—Go to step 7.
7. Check the battery condition (see page 22-52). Check the electrical connections at the battery, the negative battery cable to the body, the engine ground cables, and the starter for looseness and corrosion. Then try cranking the engine again.

   Does the starter crank the engine?

   YES—Repairing the loose connection corrected the problem. The starting system is OK. Go to step 13.

   NO—Check the following:
   - If the starter will not crank the engine at all, go to step 8.
   - If the starter cranks the engine erratically or too slowly, go to step 10.
   - If the starter does not disengage from the flywheel or torque converter ring gear when you release the key, replace the starter, or remove and disassemble it, and check for the following:
     – Starter solenoid malfunction
     – Dirty drive gear or damaged overrunning clutch