

## GPOP - Issue Review System

**Part Number:**

68430861A\$

**Part Description:**

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STARTER, Engine

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**Issue****Description:**

Prior to starter removal:

1. Inspect and check all connections to the starter motor solenoid
  - a. Unplug and plug-in the T50 1-way connector as needed to verify the connection is good & tight and check for any bent pin in the connection.
  - b. Inspect the T30 connection (i.e. B+ M8 threaded stud & nut) for tightness to assure cable ring terminal connection is secured and tight (use torque spec per service manual).
2. Check/verify all grounds in the cranking circuit
  - a. Check tightness of mounting bolts that secure starter to the engine block
  - b. Check main ground from engine to chassis
  - c. Check battery ground cable connections are clean and tight
  - d. Potentially, loosen both starter motor bolts, without removing, and re-tighten to torque specifications in the service manual
  - e. After all steps above are complete, attempt to crank the engine to verify if improvement has been made (i.e. the steps fixed the customer complaint)
3. Conduct the voltage drop test (starter feed circuit) per the service manual before removing the starter motor
4. Starter Removal: conduct the removal if above steps do not fix the complaint
  - a. Conduct bench test by applying 12 volts to motor T30 and T50 connections (i.e. conduct simple free speed test)
  - b. Free speed test should result in starter motor pinion travel to pinion stop and rotation with normal rotational noise (i.e. no grinding, scrapping, etc.)
  - c. If any abnormal noise is present, replace the starter motor
5. During starter removal, also remove and replace the two starter mounting bolts. Return the bolts with starter motor for an analysis at QEC and the supplier warranty analysis lab.