

## GPOP - Issue Review System

**Part Number:**

68408690A\$,68391578A\$,68391579A\$,56029710A\$

**Part Description:**

---

Alternator Assy

---

**Issue****Description:**

Prior to alternator removal:

1. Inspect & check all electrical connections to the alternator a. 2-way connector containing field control circuit & alternator sense voltage circuit. b. Unplug & plug-in the 2-way connector for field & sense circuit. Verify the connection is tight & check for any bent pins in alternator connector or damage to female terminals in connector. c. Check Alternator B+ Stud connection to be sure nut is securing positive cable terminal properly (i.e. nut is clamping terminal & connection is tight). d. Check fuse between the alternator B+ stud & PDC terminal to make sure it is not blown. e. Be sure to follow service manual sections on ALTERNATOR CONTROL CIRCUIT DIAGNOSTIC & ALTERNATOR SENSE CIRCUIT DIAGNOSTIC looking for any opens & shorts (to ground or battery voltage). 2. Check/verify all grounds in the charging circuit a. Check tightness of mounting bolts securing alternator to engine block. Alternator is a case ground component. b. Check main ground from engine to chassis; connection must be tight. c. Check battery ground cable connections are tight. d. Potentially, loosen alternator mounting bolts, without removing alternator, and re-tighten to torque specifications in service manual. e. After all steps above are complete, re-start engine & check charging system operation. 3. Verify that the Smart Charging System is not the reason for alternator low voltage & current output (Amps). a. Alternator charging can be suspended during engine idle operation because of the Smart Charge strategy. b. Refer to service manual section "System Operation - Smart Charging System". c. Refer to Star Case S2008000031 Rev A for low charging voltage & Smart Charge Mode Voltage Range diagram & mode descriptions. d. The alternator has no internal regulator; thus, has no smart circuitry. All alternator control signals come from ECM. 4. If alternator is faulty, remove alternator & mounting bolts. Return alternator with bolts to QEC for analysis.