

ON-VEHICLE INSPECTION

1. CHECK BATTERY ELECTROLYTE LEVEL

- (a) Check the electrolyte quantity of each cell.

Maintenance-free battery:

If it is under the lower level, replace the battery.

Except Maintenance-free battery:

If it is under the lower level, add distilled water.

2. Except Maintenance-free battery:

CHECK BATTERY SPECIFIC GRAVITY

- (a) Check the specific gravity of each cell.

Standard specific gravity: 1.25 to 1.29 at 20°C (68°F)

If the specific gravity is less than the specification, charge the battery.

3. Maintenance-free battery:

CHECK BATTERY VOLTAGE

- After the vehicle has run for 20 minutes, stop the engine.
- Turn the ignition switch ON, and operate the headlight, blower fan and defogger for 1 minute.
- Turn the ignition switch OFF.
- Measure the battery voltage.

Standard voltage: 12.5 to 12.9 V at 20°C (68°F)

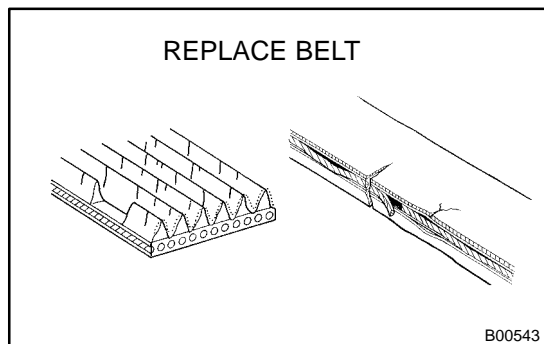
If the voltage is less than specification, charge the battery.

4. CHECK BATTERY TERMINALS, FUSIBLE LINK AND FUSES

- (a) Check that the battery terminals are not loose or corroded.

If the terminals are corroded, clean the terminals.

- (b) Check the fusible link and fuses for resistance of below 1 Ω .



5. INSPECT DRIVE BELT

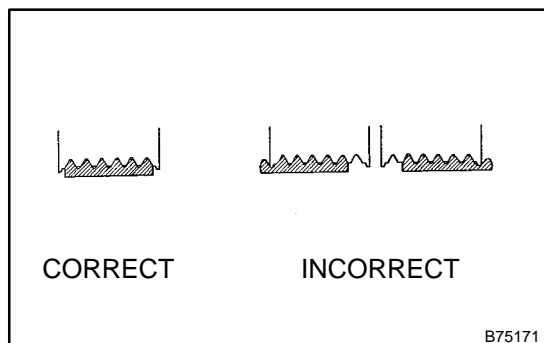
- (a) Check the belt for wear, cracks and other signs of damage.

If any defect is found, replace the drive belt.

HINT:

Replace the drive belt if the following defects are found:

- If the belt has worn out until the wire can be seen.
- If the cracks reach the wire more than one place.
- If the belt has chunks missing from the ribs.



- (b) Check that the belt fits properly in the ribbed grooves.

HINT:

With your hand, confirm that the belt has not slipped out of the groove on the bottom of the pulley.

6. VISUALLY CHECK GENERATOR WIRING

- (a) Check that the wiring is in good condition.

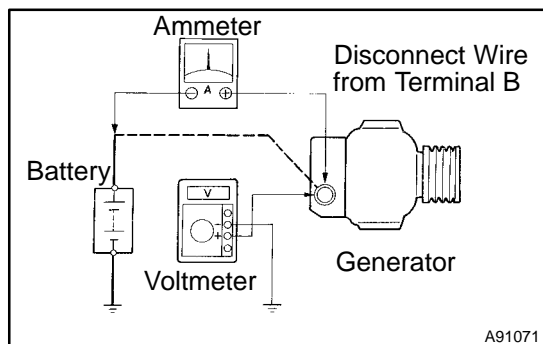
7. LISTEN FOR ABNORMAL NOISES FROM GENERATOR

- (a) Check that there is no abnormal noise from the generator while the engine is running.

8. INSPECT CHARGE WARNING LAMP CIRCUIT

2005 HIGHLANDER REPAIR MANUAL (RM1144U)

- (a) Turn the ignition switch ON. Check that the charge warning lamp turns on.
 - (b) Start the engine and check that the lamp turns off.
- If the lamp does not operate as specified, troubleshoot the charge warning lamp circuit.



9. INSPECT CHARGING CIRCUIT WITHOUT LOAD

HINT:

If a battery/generator tester is available, connect the tester to the charging circuit according to the manufacturer's instructions.

- (a) If a tester is not available, connect an ammeter and voltmeter to the charging circuit as follows.
 - (1) Disconnect the wire from terminal B of the generator and connect it to the negative (-) lead of the ammeter.
 - (2) Connect the ammeter's positive (+) lead to terminal B of the generator.
 - (3) Connect the voltmeter's positive (+) lead to terminal B of the generator.
 - (4) Ground the voltmeter's negative (-) lead.
- (b) Check the charging circuit.
 - (1) Keep the engine speed at 2,000 rpm, check the reading on the ammeter and voltmeter.

Standard amperage: 10 A or less

Standard voltage: 13.2 to 14.8 V

If the result is not as specified, replace the generator.

10. INSPECT CHARGING CIRCUIT WITH LOAD

- (a) With the engine running at 2,000 rpm, turn on the high-beam headlamps and turn the heater blower switch to the HI position.
- (b) Check the reading on the ammeter.

Standard amperage: 30 A or more

HINT:

- If the ammeter reading is less than the standard amperage, repair the generator.
- If the battery is fully charged, the indication will sometimes be less than the standard amperage.