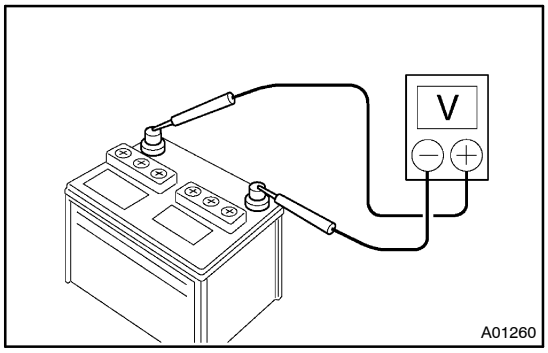
19099–01

ON–VEHICLE INSPECTION

1. CHECK BATTERY ELECTROLYTE LEVEL

(a) Check the electrolyte quantity of each cell

(1) If under the lower level, replace the battery (or add distilled water if possible) and check the charging system.



2. CHECK BATTERY VOLTAGE

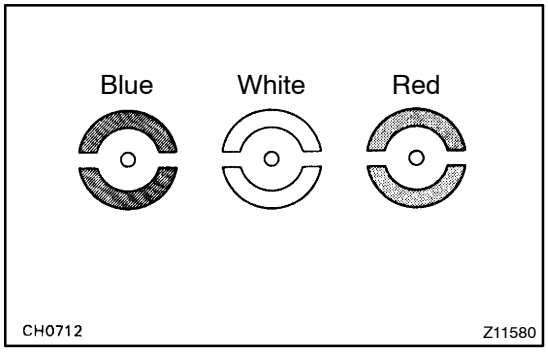
(a) After having driven the vehicle and in the case that 20 minutes have not passed after having stopped the engine, turn the ignition switch ON and turn on the electrical system (headlight, blower motor, rear defogger etc.) for 60 seconds to remove the surface charge.

(b) Turn the ignition switch OFF and turn off the electrical systems.

(c) Measure the battery voltage between the negative (–) and positive (+) terminals of the battery.

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

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



(d) Check the indicator as shown in the illustration.

HINT:

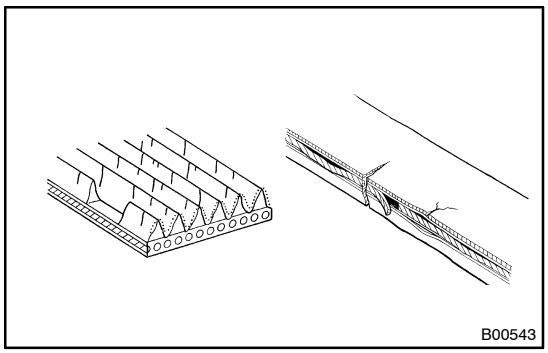
- Blue: OK
- White: Charging Necessary
- Red: Insufficient Water

3. 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, H–fuses and fuses for continuity.



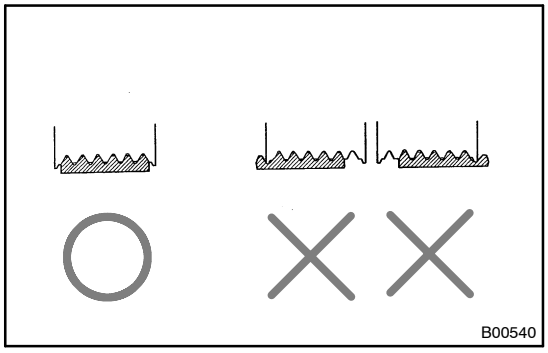
4. INSPECT DRIVE BELT

(a) Check the belt for wear and cracks etc.

If any defect has been found, replace the drive belt.

HINT:

- Replace the drive belt if the belt has worn out until the wire has been seen.
- Replace the drive belt if the cracks reached to the wire more than one place.
- Replace the drive belt if the belt has chunks missing from the ribs.



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

HINT:

Check with your hand to confirm that the belt has not slipped out of the groove on the bottom of the pulley.

5. VISUALLY CHECK ALTERNATOR WIRING

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

6. LISTEN FOR ABNORMAL NOISES FROM ALTERNATOR

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

7. CHECK DISCHARGE WARNING LIGHT CIRCUIT

(a) Warm up engine and then turn it off.

(b) Switch off all accessories.

(c) Turn the ignition switch ON. Check that the discharge warning light is lit.

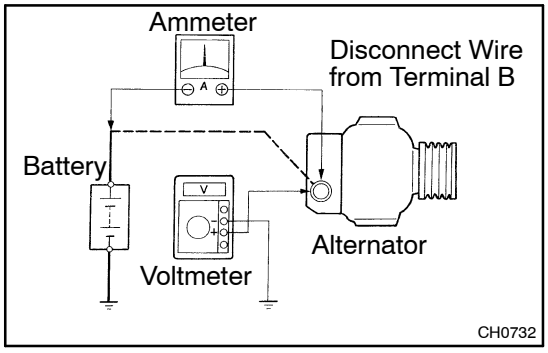
(d) Start the engine. Check that the light goes off.

If the light does not go off as specified, troubleshoot the charge warning light circuit.

8. INSPECT CHARGING CIRCUIT WITHOUT LOAD

HINT:

If a battery/alternator tester is available, connect the tester to the charging circuit as per manufacturer's instructions.



(a) If a tester is not available, connect a voltmeter to the charging circuit as follows.

(1) Disconnect the wire from terminal B of the alternator, and connect it to the negative (–) tester probe of the ammeter.

(2) Connect the positive (+) tester probe of the ammeter to terminal B of the alternator.

(3) Connect the positive (+) tester probe of the voltmeter to terminal B of the alternator.

(4) Ground the negative (–) tester probe of the voltmeter.

(b) Check the charging circuit as follows.

(1) With the engine running from idling to 2,000 rpm, check the reading on the ammeter and voltmeter.

Standard amperage: 10 A or less

Standard voltage: 13.2 – 14.8 V

9. INSPECT CHARGING CIRCUIT WITH LOAD

(a) With the engine running at 2,000 rpm, turn on the high beam headlights and place the heater blower switch at "HI".

(b) Check the reading on the ammeter.

Standard amperage: 30 A or more

If the ammeter reading is less than standard amperage, repair the alternator.

HINT:

If the battery is fully charged, the indication will sometimes be less than standard amperage.