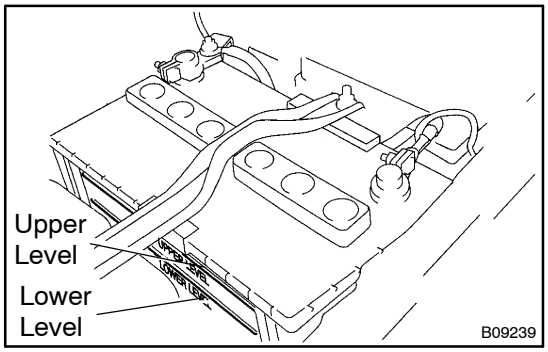
CHARGING SYSTEM

CH0KX–01

ON–VEHICLE INSPECTION

CAUTION:

- **Check that the battery cables are connected to the correct terminals.**
- **Disconnect the battery cables when the battery is given a quick charge.**
- **Do not perform tests with a high voltage insulation resistance tester.**
- **Never disconnect the battery while the engine is running.**
- **Check that the charging cable is tightened on terminal B of the alternator and fuse box.**
- **Do not check whether the alternator generates or not with connecting terminal F to the other termial.**



1. CHECK BATTERY ELECTROLYTE LEVEL

Check the electrolyte quantity of each cell.

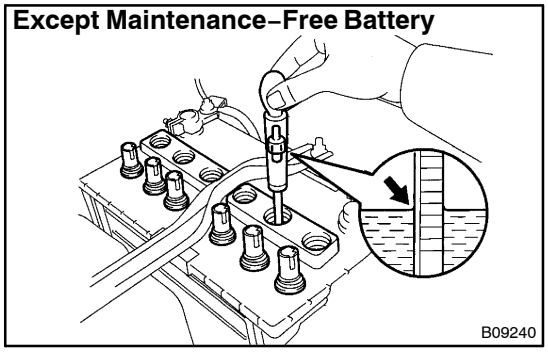
Maintenance–Free Battery:

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

Except maintenance–Free Battery:

If under the lower level, add distilled water.

Except Maintenance–Free Battery



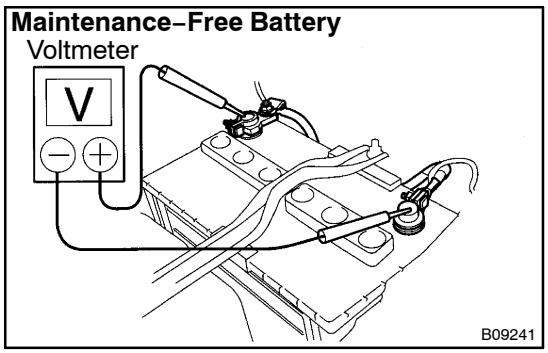
2. Except Maintenance–Free Battery: CHECK BATTERY SPECIFIC GRAVITY

Check the specific gravity of each cell.

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

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

Maintenance–Free Battery



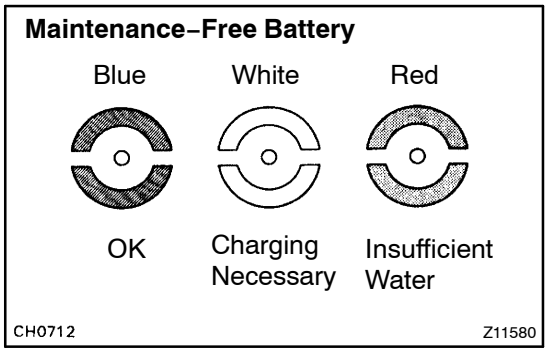
3. Maintenance–Free Battery: CHECK BATTERY VOLTAGE

(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.



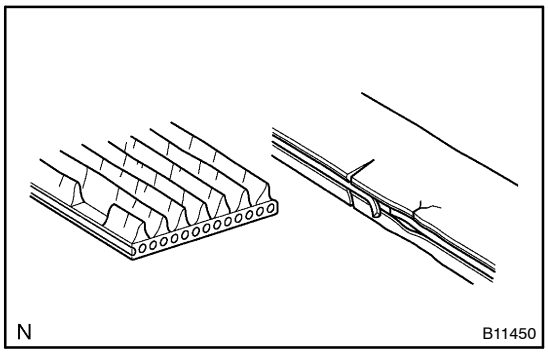
HINT:
Check the indicator as shown in the illustration.

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.

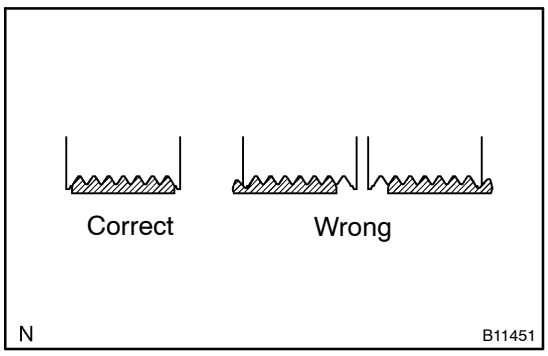
(b) Check the fusible link and fuses for continuity.



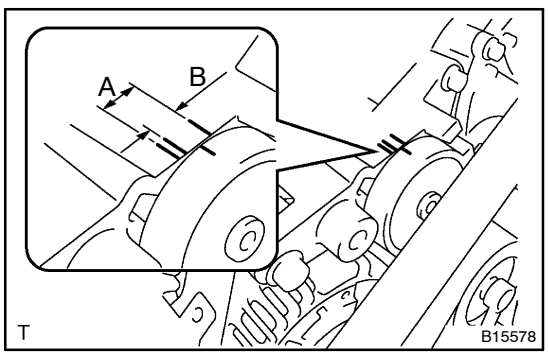
5. INSPECT DRIVE BELT

(a) Visually check the drive belt for excessive wear, frayed cords etc.

If any defect has been found, replace the drive belt.
HINT:
Cracks on the rib side of a drive belt are considered acceptable.
If the drive belt has chunks missing from the ribs, it should be replaced.



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



6. INSPECT DRIVE BELT TENSION

Check that the tension is within A range on the auto tensioner scale.

If the tension is not within the A range on the scale, replace the belt with a new one.

7. VISUALLY CHECK ALTERNATOR WIRING AND LISTEN FOR ABNOMAL NOISES

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

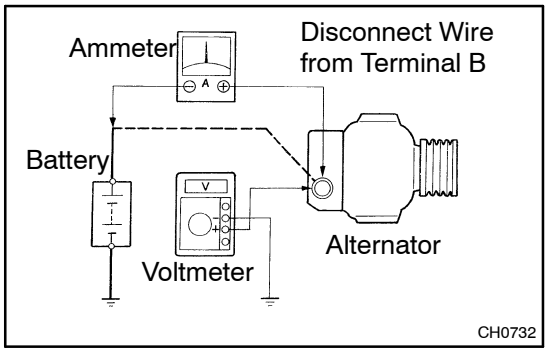
(b) Check that there is no abnomal noise form the alternator while the engine is running.

8. INSPECT DISCHAGE WARNING LIGHT CIRCUIT

(a) Turn the ignition switch ”ON”. Check that the discharge warning light comes on.

(b) Start the engine. Check that the light gose off.

If the light dose not operate as specified, troubleshoot the discharge warning light circuit.



9. INSPECT CHARGING CIRCUIT WITHOUT LOAD

HINT:

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

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

- Disconnect the wire from terminal B of the alternator and connect it to the negative (–) lead of the ammeter.
- Connect the test lead from the positive (+) terminal of the ammeter to terminal B of the generator.
- Connect the positive (+) lead of the voltmeter to terminal B of the alternator.
- Ground the negative (–) lead of the voltmeter.

(b) Check the charging circuit as follws:

With the engine running from idle 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

If the voltmeter reading is more than standard voltage, replace the voltage regulator.

If the voltmeter reading is less than the standard voltage, check the generator.