

CHARGING SYSTEM

ON-VEHICLE INSPECTION

CH0J8-01

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 the fuse box.
- Do not check whether the alternator generates or not with connecting terminal F to the other terminal.

1. CHECK BATTERY ELECTROLYTE LEVEL

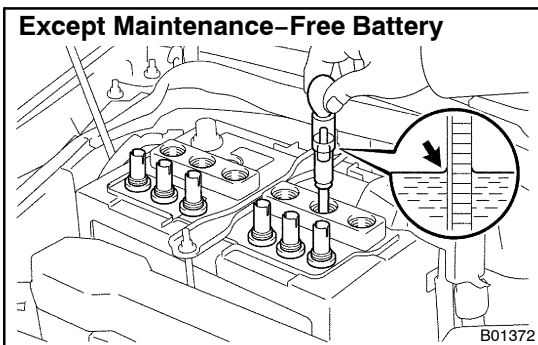
Check the electrolyte quantity of each cell.

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.



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.

3. Maintenance-Free Battery: CHECK BATTERY POSITIVE VOLTAGE

- 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.
- Turn the ignition switch OFF and turn off the electrical systems.
- Measure the battery positive voltage between the negative (-) and positive (+) terminals of the battery.

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

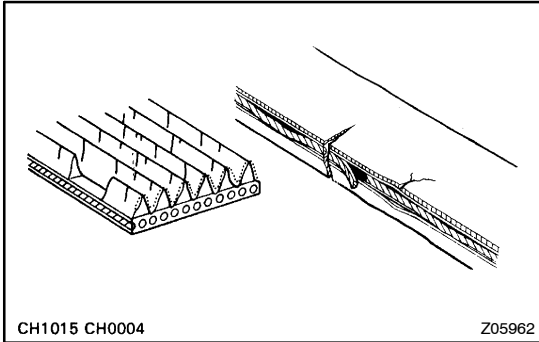
If the voltage is less than specification, charge the battery.

4. CHECK BATTERY TERMINALS 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.



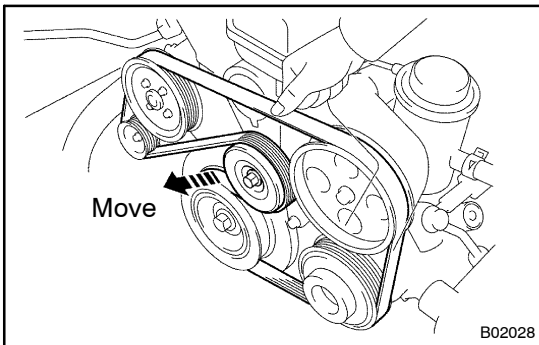
5. INSPECT DRIVE BELT

HINT:

- (a) Check the drive belt for excessive wear, frayed cords, etc. If necessary, 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.

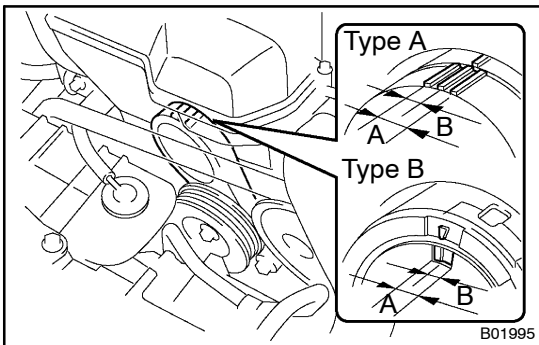


- (b) Check the belt tensioner operation.

- (1) Check that the belt tensioner moves downward when the drive belt is pressed down at the points indicated in the illustration with approx. 98 N (10 kgf, 22.0 lbf) of force.

- (2) Check the alignment of the belt tensioner pulley to make sure the drive belt will not slip off the pulley.

If necessary, replace the belt tensioner.

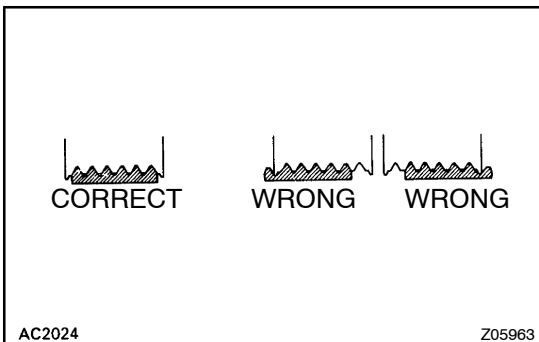


- (3) Check that the arrow mark on the belt tensioner falls within area A of the scale.

If it is outside area A, replace the drive belt.

HINT:

When a new belt is installed, it should lie within area B. If not, the drive belt is not correct.



- After installing a drive belt, check that it fits properly in the ribbed grooves.
- Check by hand to confirm that the belt has not slipped out of the groove on the bottom of the pulley.

6. CHECK ALTERNATOR

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

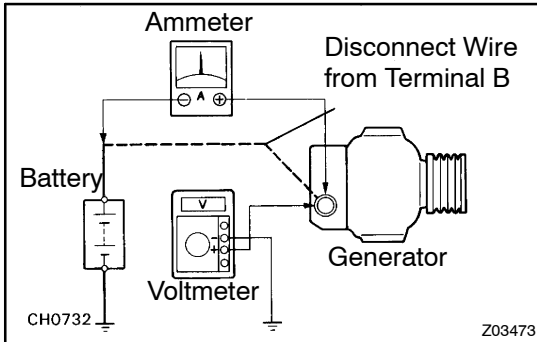
7. CHECK CHARGE INDICATOR

- (a) When turning the ignition switch ON, check that the charge warning indicator turns on.

If the indicator does not turn on, check the combination meter.

- (b) When starting the engine, check that the indicator goes off.

If the indicator does not go off, perform the steps 8 and 9.

**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) Connect a voltmeter and ammeter to the charging circuit as follows.

- (1) Disconnect the wire from terminal B of the alternator, and connect it to the negative probe of the ammeter.
- (2) Connect the positive probe of the ammeter to terminal B of the alternator.
- (3) Connect the positive probe of the voltmeter to terminal B of the alternator.
- (4) Ground the negative probe of the voltmeter.

- (b) Measure the amperage and voltage when the engine speed is 2,000 rpm.

Standard:

Amperage	Voltage
10 A or less	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 standard voltage, check the voltage regulator.

9. INSPECT CHARGING CIRCUIT WITH LOAD

- (a) Turn on the high beam, heater blower switch at HI.
- (b) Check the reading on the ammeter when the engine speed is 2,000 rpm.

Standard amperage: 30 A or more

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

HINT:

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

NOTICE:

The ammeter and voltmeter must be securely fixed so as not to be disconnected during the measurement.