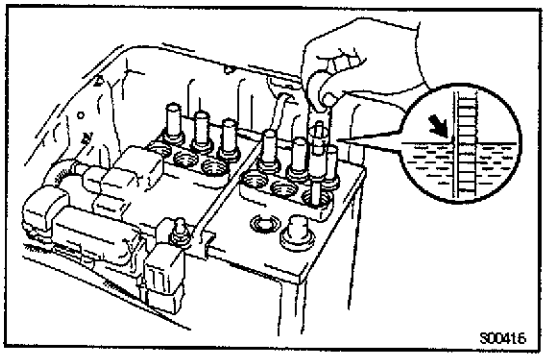
	09082—00050	TOYOTA Electrical Tester Set.	
	09200—00010	Engine Adjust Kit.	
	09216—00021	Belt Tension Gauge.	
	09216—00030	Belt Tension Gauge Cable.	

CH

EQUIPMENT

CH00U—02

Battery specific gravity gauge	
Torque wrench	
Vernier calipers	Rotor (Slip ring), Brush



ON—VEHICLE INSPECTION

CH0CP—01

1. CHECK BATTERY SPECIFIC GRAVITY AND ELECTROLYTE LEVEL

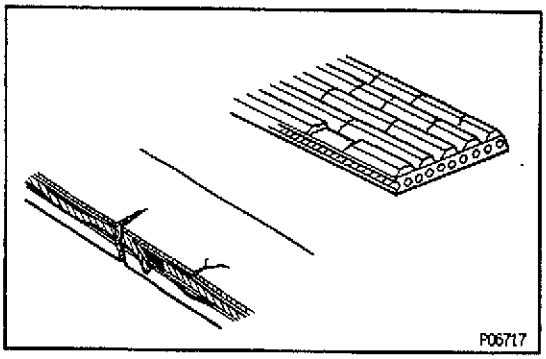
(a) Check the electrolyte level of each cell.
If insufficient, refill with distilled (or purified) water.

(b) Check the specific gravity of each cell.
Standard specific gravity at 20°C (68°F):
1.25 — 1.27
If the gravity is less than specification, charge the battery.

2. CHECK BATTERY TERMINALS, FUSIBLE LINK AND FUSES

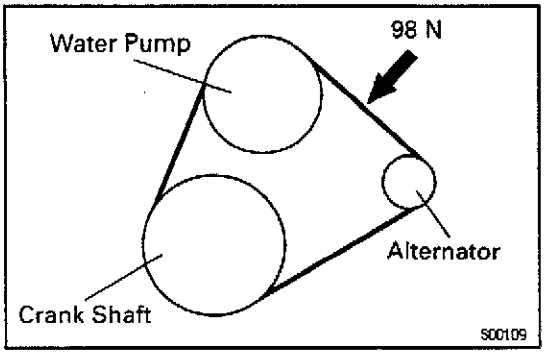
(a) Check that the battery terminals are not loose or corroded.
If the terminals are corroded, clean the terminals.

(b) Check the fuses and H—fuses for continuity.



3. 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 the drive belt deflection by pressing on the belt at the points indicated in the illustration with 98 N (10 kgf, 22 lbf) of pressure.

Drive belt deflection:

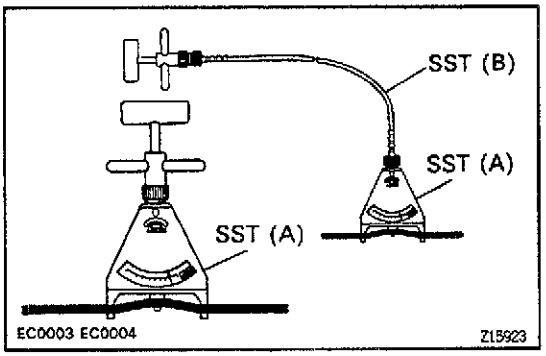
New belt

5 — 7 mm (0.20 — 0.28 in.)

Used belt

7 — 8 mm (0.28 — 0.31 in.)

If the belt deflection is not as specified, adjust it.



Reference:

Using tension gauge, check the drive belt tension.

Drive belt tension:

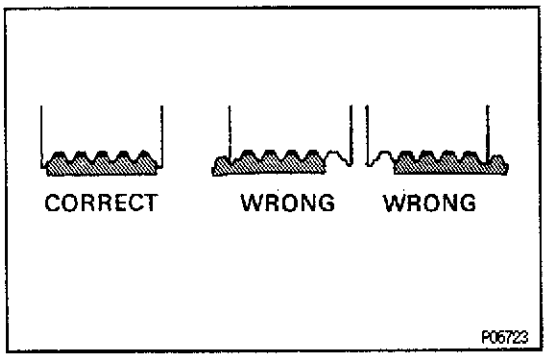
New belt

685 — 785 N (70 — 80 kgf)

Used belt

295 — 440 N (30 — 45 kgf)

If the belt tension is not as specified, adjust it.



HINT:

- "New belt" refers to a belt which has been used less than 5 minutes on a running engine.
- "Used belt" refers to a belt which has been used on a running engine for 5 minutes or more.
- After installing a belt, check that it fits properly in the ribbed grooves.
- Check with your hand to confirm that the belt has not slipped out of the groove on the bottom of the pulley.
- After installing a new belt, run the engine for about 5 minutes and recheck the belt tension.

4. VISUALLY CHECK ALTERNATOR WIRING AND LISTEN FOR ABNORMAL NOISES

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

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

5. CHECK CHARGE WARNING LIGHT CIRCUIT

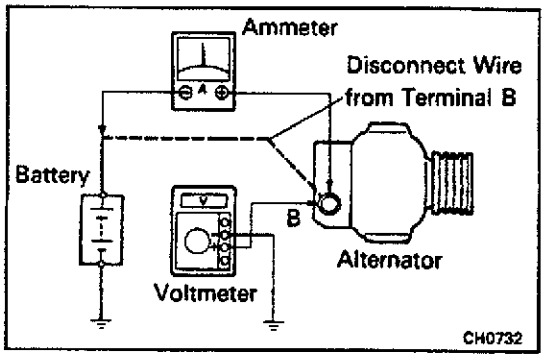
(a) Warm up the engine and then turn it off.

(b) Turn off all accessories.

(c) Turn the ignition switch ON. Check that the charge 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 light circuit.

CH



6. 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 and ammeter to the charging circuit as follows:

- Disconnect the wire from terminal B of the alternator, and connect it to the negative (−) tester probe of the ammeter.
- Connect the positive (+) tester probe of the ammeter to terminal B of the alternator.
- Connect the positive (+) tester probe of the voltmeter to terminal B of the alternator.
- Ground the negative (−) tester probe of the voltmeter.

(b) Check the charging circuit as follows:

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:

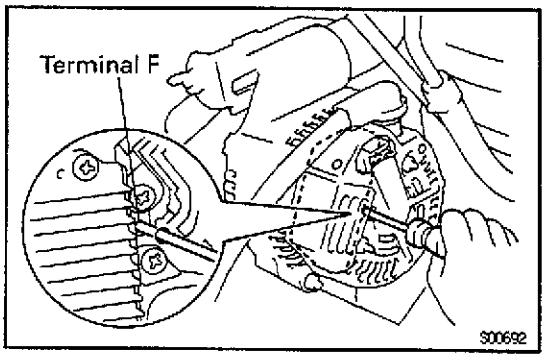
At 25°C (77°F)

14.0 — 15.0 V

At 115°C (239°F)

13.5 — 14.3 V

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



If the voltmeter reading is less than standard voltage, check the IC regulator and alternator as follows:

- With terminal F grounded, start the engine and check the voltmeter reading of terminal B.
- If the voltmeter reading is more than standard voltage, replace the IC regulator.
- If the voltmeter reading is less than standard voltage, check the alternator.

7. 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 the standard amperage, repair the alternator.

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

CH