

## ON-VEHICLE INSPECTION

### 1. CHECK BATTERY SPECIFIC GRAVITY AND ELECTROLYTE LEVEL

(a) Check the specific gravity of each cell.

**Standard specific gravity:**

**1.25 – 1.27 when fully charged at 20°C (68°F),**

If not within specifications, charge the battery.

(b) Check the electrolyte quantity of each cell.

If insufficient, refill with distilled (or purified) water.

### 2. CHECK BATTERY TERMINALS, FUSIBLE LINK AND FUSES

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

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

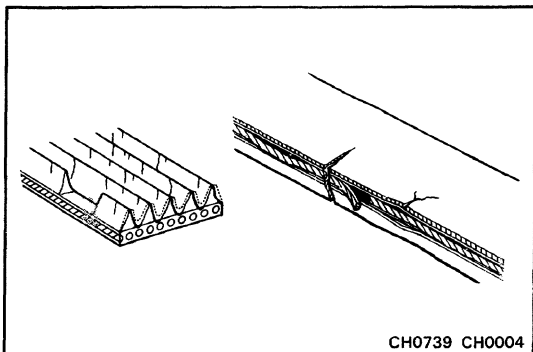
**Fusible link: ALT 100 A**

**H-Fuse: AM 1 40 A**

**AM2 30 A**

**Fuse: ENGINE 15 A**

**IGN 7.5 A**



### 3. INSPECT DRIVE BELT

(a) Visually check the 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 belt are considered acceptable. If the belt has chunks missing from the ribs, it should be replaced.

(b) Using a belt tension gauge, measure the drive belt tension.

**Belt tension gauge:**

**Nippondenso BTG-20 (95506-00020)**

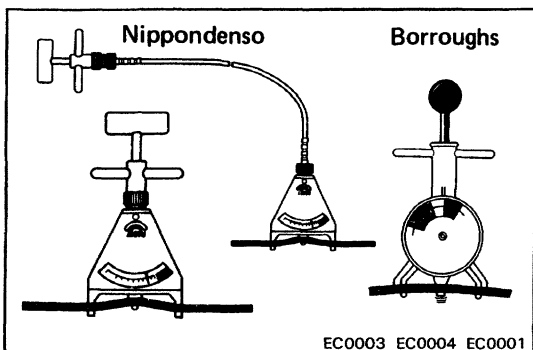
**Borroughs No. BT-33-73F**

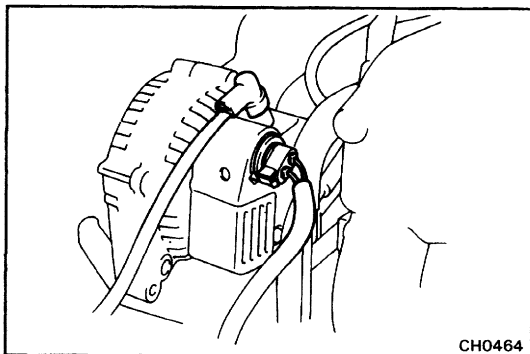
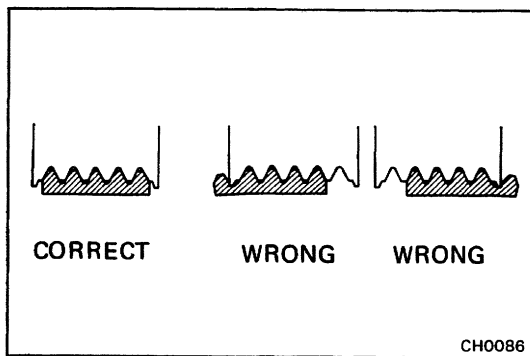
**Drive belt tension:**

**New belt 175 ± 5 lb**

**Used belt 115 ± 20 lb**

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



**HINT:**

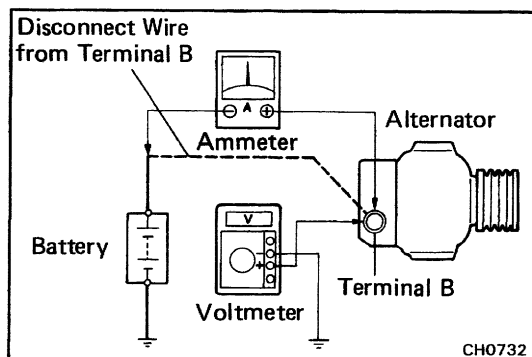
- "New belt" refers to a belt which has been used less than 5 minutes on a running engine.
- "Used belt" refers to a belt which has been used on a running engine for 5 minutes or more.
- After installing a belt, check that it fits properly in the ribbed grooves.
- Check with your hand to confirm that 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**

- Check that the wiring is in good condition.
- Check that there is no abnormal noise from the alternator while the engine is running.

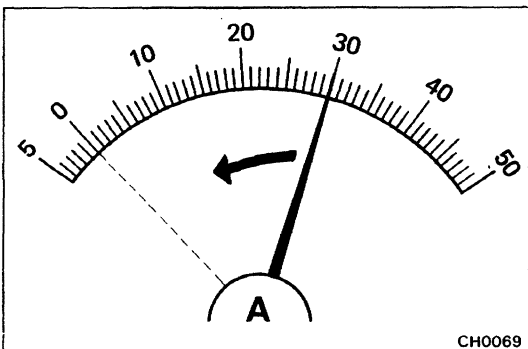
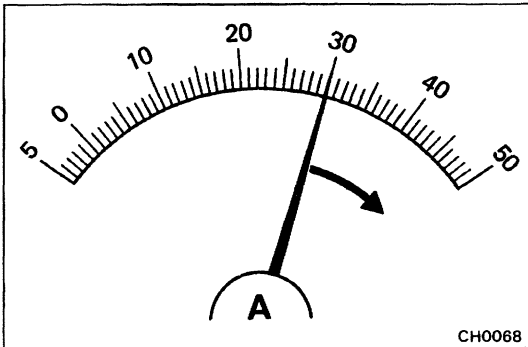
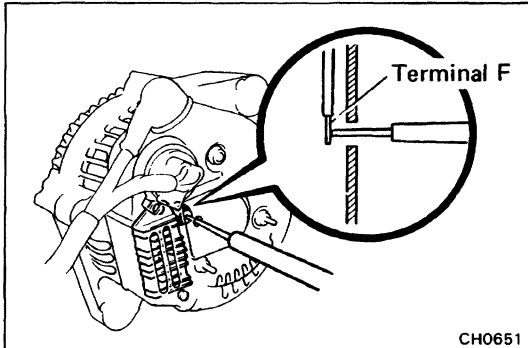
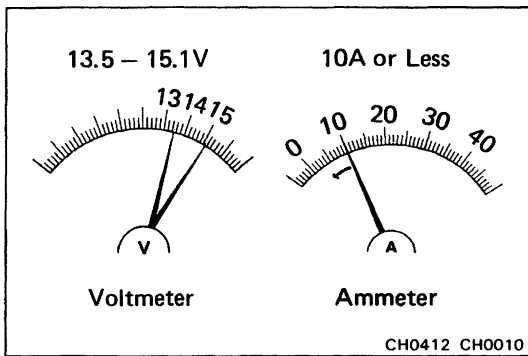
**5. INSPECT DISCHARGE WARNING LIGHT CIRCUIT**

- Turn the ignition switch "ON". Check that the discharge warning light comes on.
- Start the engine. Check that the light goes off.  
If the light does not operate as specified, troubleshoot the discharge warning light circuit.

**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.

- 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 positive (+) lead of the ammeter to terminal B of the alternator.
  - 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 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: 14.0 – 15.0 V at 25° C (77° F)**

**13.5 – 14.3 V at 115° C (239° F)**

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 standard amperage, repair the alternator. (See page [CH-6](#))

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