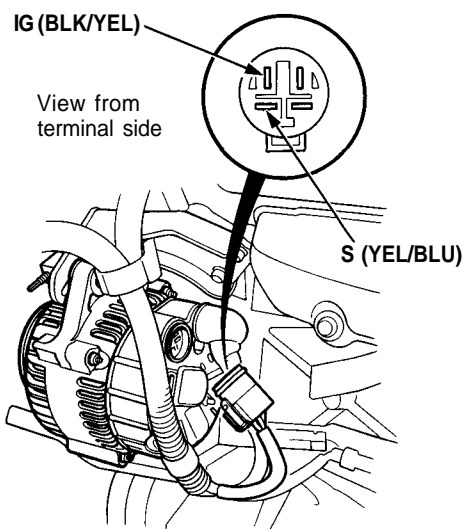


# Charging System

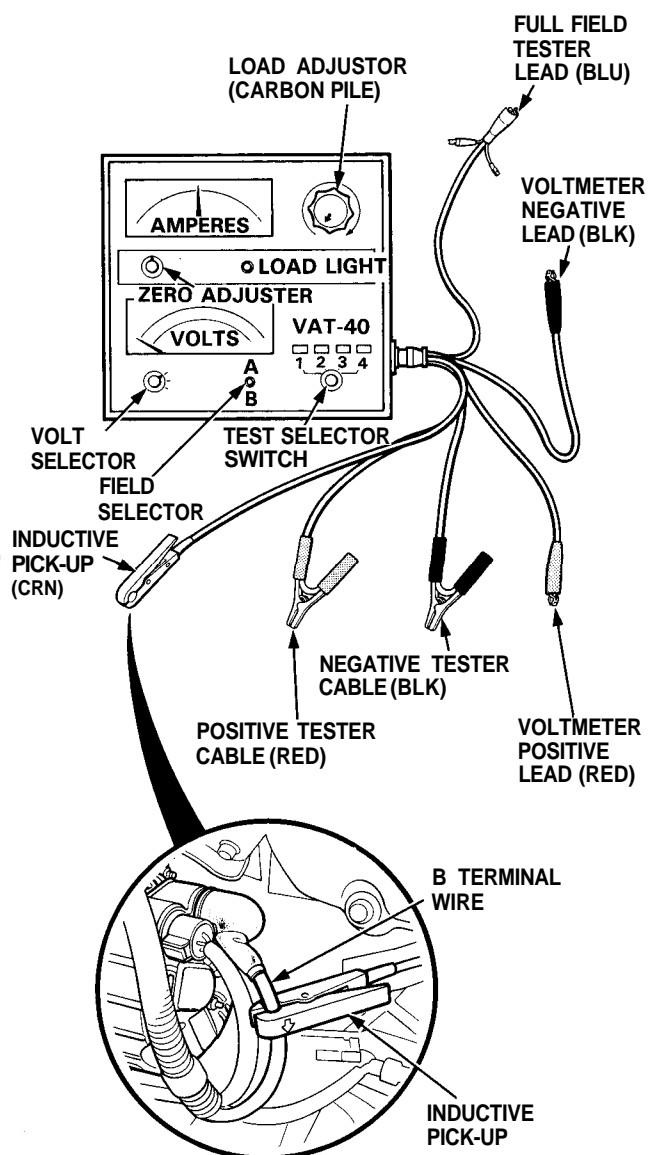
## Alternator and Regulator Test

1. Verify battery condition, and that the alternator belt is tight and in good condition. Check the connections at the alternator and under-hood relay/fuse box. Check the No. 15 (7.5 A) fuse (if blown, the charge system light will come on even if the system's working properly) and No. 22 (20A) fuse in the under-dash fuse box.
2. Disconnect the 4-P connector from the alternator. With the ignition switch on, there should be battery voltage between the IG (BLK/YEL) terminal and body ground, and between the S (YEL/BLU) terminal and body ground.



- If there is no voltage, check for:
  - An open in the BLK/YEL wire between the under-dash fuse box and the voltage regulator, or the YEL/BLU wire between the under-dash fuse box and the voltage regulator.
- If there is battery voltage, go to step 3.

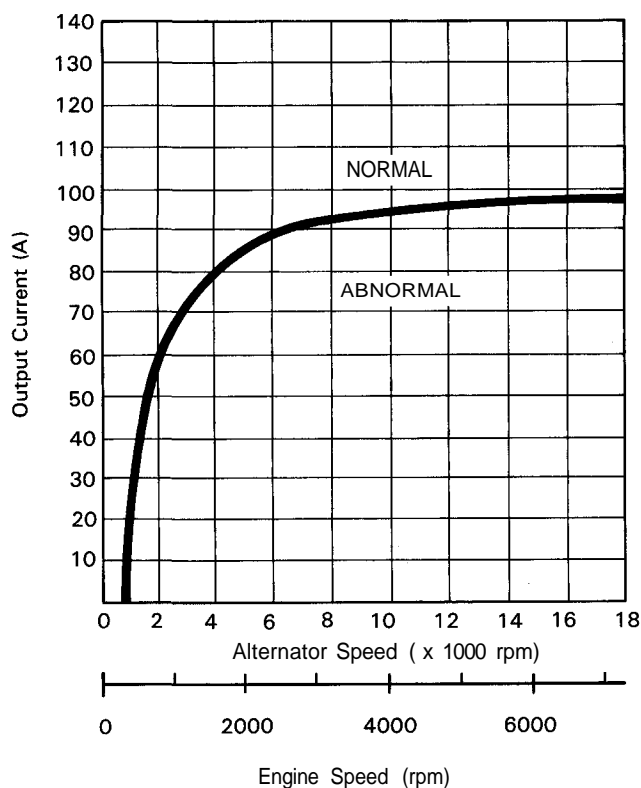
NOTE: Use the SUN VAT-40 (or equivalent).



3. Following the manufacturer's instructions, connect the SUN VAT-40 (or equivalent) and turn the selector switch to the "Starting (No. 1)" position.

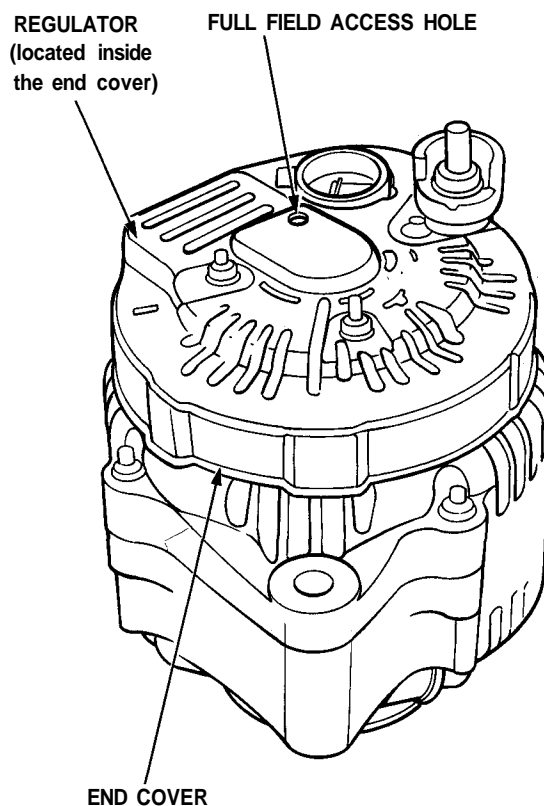


4. Start the engine. Turn off all accessories, move the selector switch to the "Charging (No. 2)" position, remove the inductive pick-up, and zero the ammeter. Reconnect the inductive pick-up to the B terminal wire at the alternator so the arrow is pointing away from the alternator.
5. Raise engine speed to 2,000 rpm and hold (make sure cooling fans are off). Apply a "load" with the carbon pile so the voltage drops. Keep voltage above 12 volts. Check the maximum amperage reading and compare with the chart below.



- If amperage is "NORMAL" the system is OK: Proceed to the charge system light test (see page 23-116).
- If amperage is "ABNORMAL" go to step 6.

6. Stop the engine. Perform full field test: Insert the full field tester lead into the full field access hole at the back of the alternator.



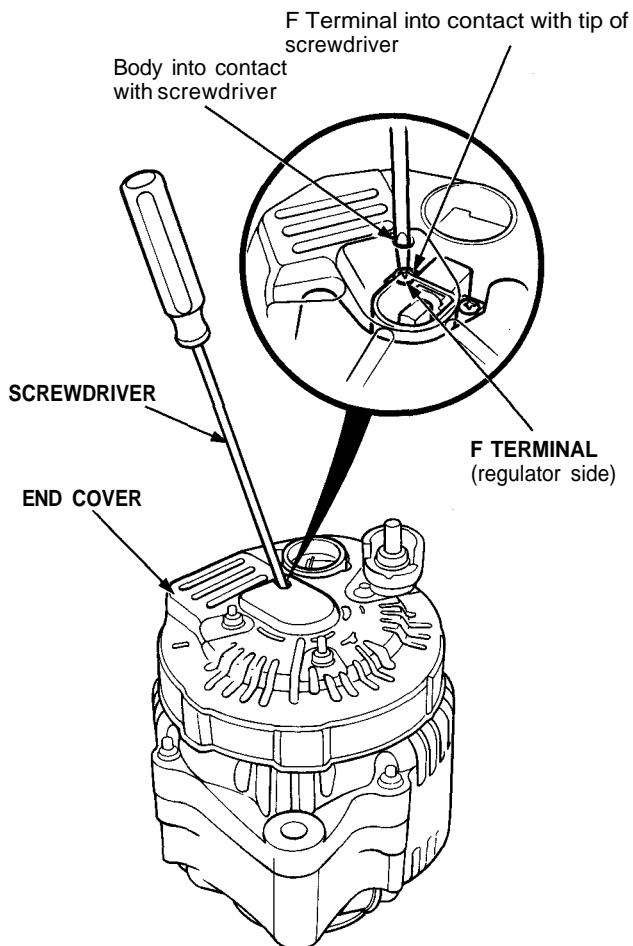
7. Move the test selector switch to the "STARTING (No. 1)" position.
8. Start the engine. Raise engine speed to 2,000 rpm and hold (make sure cooling fans are off).
9. Switch the field selector to the "A (Ground)" position momentarily and check amperage reading.

(cont'd)

# Charging System

## Alternator and Regulator Test (cont'd)

NOTE: As an alternative, use a screwdriver and an ammeter to full field the alternator.



**CAUTION:** The voltage will rise quickly when the alternator is full fielded. Do not allow the voltage to exceed 18 volts or damage to the electrical system may result.

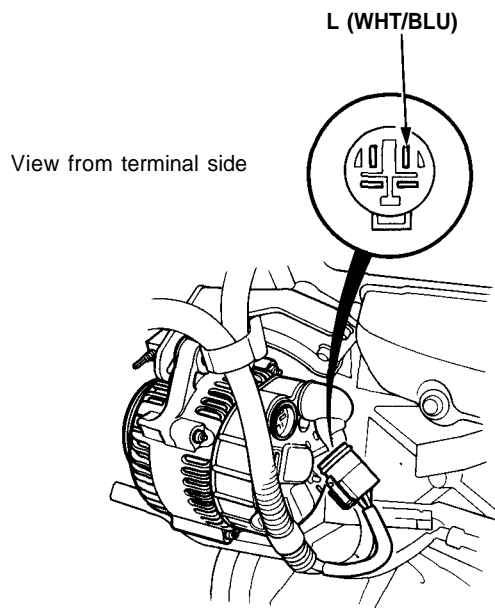
- If the amperage is within specification, replace the regulator.
- If the amperage is not within specification, replace the alternator.

## Charge System Light Test

NOTE: Before testing, check the wire harness connection, alternator belt tension, No. 22 (20 A) fuse and No. 15 (7.5 A) fuse in the under-hood relay/fuse box.

1. Turn the ignition switch on. The charge system light should come on.

If it does not come on, disconnect the alternator connector and short the pin of the L (WHT/BLU) terminal to ground.



- If the light still does not come on, check for:
  - Bad bulb.
  - An open in the WHT/BLU wire between the light and voltage regulator.
  - An open in the BLK/YEL wire between the light and the under-dash fuse box, or the under-dash fuse box and the ignition switch.

- If the light comes on, check the alternator and regulator (see page 23-114).

2. Start the engine and let it idle. The charge system light should go off.

If it stays on, check the YEL/BLU wire between the under-hood relay/fuse box and the alternator.

If the fuse and wire are OK, check the alternator and regulator (see page 23-114).

If the system is charging, proceed as follows.