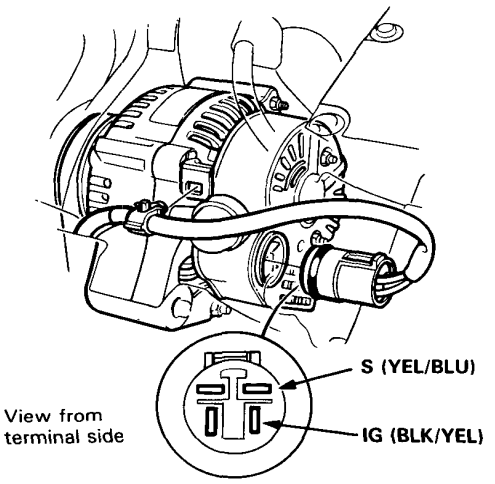
Alternator and Regulator Test

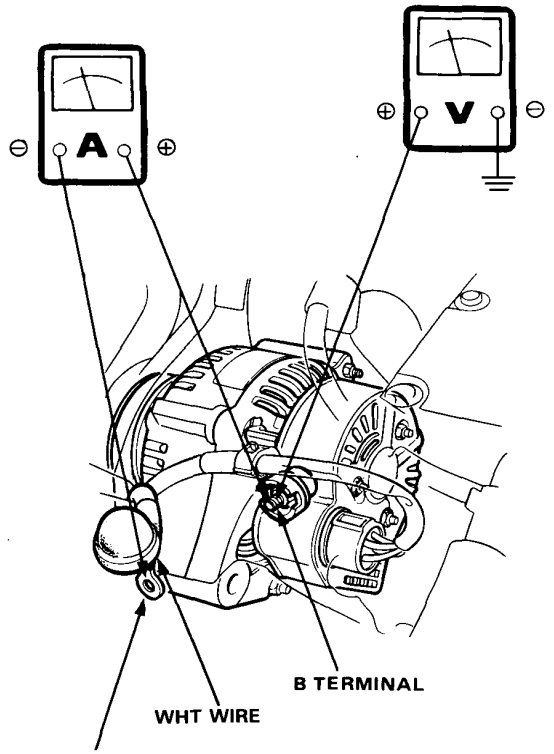
1. First make sure you have a good battery, and that the alternator belt is tight and in good condition. Also make sure the connections at the alternator and main fuses are good. Next, check the No.11 (7.5 A) fuse in the dash fuse box and the No.38 (7.5 A) fuse in the under-hood relay box. (If blown, the charge warning light will come on even if the system's working properly.)

2. Disconnect the alternator 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 dash fuse box and the voltage regulator, or the YEL/BLU wire between the under-hood relay box and the voltage regulator.
- If there is battery voltage, go to step 3.

3. If these check OK, connect a voltmeter between the alternator B terminal and body ground, and an ammeter (100 amp capacity or higher) between the alternator B terminal and the WHT wire as shown. (An inductive pick up can be used instead of disconnecting the WHT wire.)



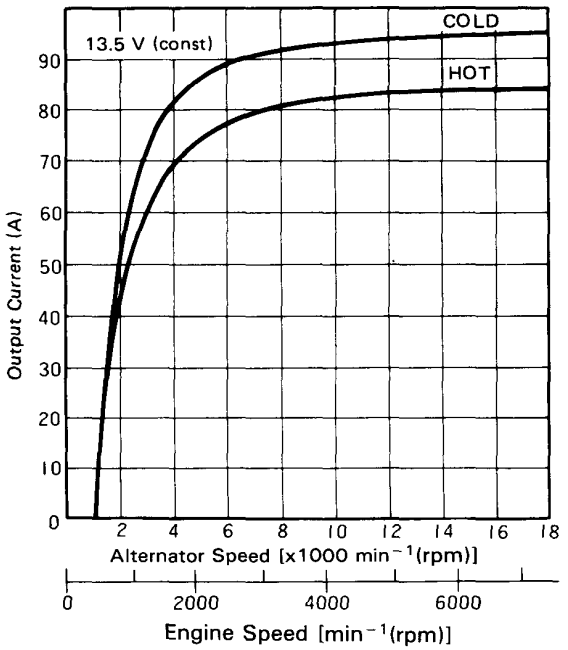
To avoid shorting to ground, cover at the terminal with an insulator.

4. Start the engine, and turn on the headlights, blower motor, rear window defogger, etc.

   NOTE: If voltage stays above 13.5 V, apply electrical load more to lower the voltage to less than 13.5 V.
   If the voltage exceeds 16 V, stop the engine and replace the voltage regulator.

5. Compare the readings to the chart below. If no output or below specification, go to step 7. If output is within specification, go to step 6.

   NOTE: Subtract 5 to 10 amperes from the maximum reading due to engine operation.

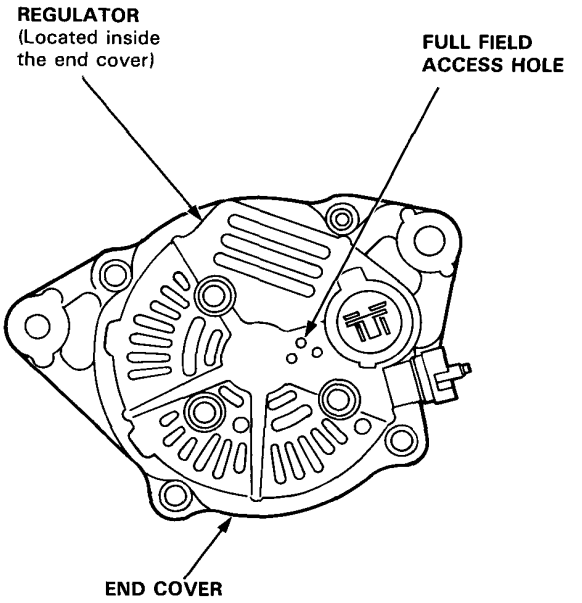


6. Turn off all loads in step 4, then measure the alternator output voltage at 1,500 min^{-1}(rpm).

   - If the voltage is between 13.9 V and 15.1 V, the alternator and regulator are OK.
     If the charge warning light is still on, proceed to the Charge Warning Light Test (see page 16-62).

7. Perform full field test: Insert a short screwdriver into the full field access hole at the back of the alternator. While it's touching the brush screw, ground the screwdriver with a jumper lead to a convenient clean ground.
   Note the amperage while grounding the screwdriver.

   CAUTION: Ground the screwdriver for as short a time as possible. Do not exceed the maximum recommended voltage (16 V). There could possibly be damage to electrical components in the system.



8. Now compare the amperage reading from the full-field test with the specifications shown in the graph of the alternator output.

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