

Charging System

Troubleshooting (cont'd)

Alternator/Regulator Test

NOTE: Make sure the battery is sufficiently charged (see page 23-74).

Connect the Sun VAT-40 (or equivalent test equipment) and turn the selector switch to position 1 (starting).

Start the engine and let it idle until it reaches normal operating temperature (the radiator fan comes on).

Raise the engine speed to 2000 rpm and hold it there.

Is the voltage over 15.1V?

YES

NO

Release the accelerator pedal and let the engine idle.

Make sure all electrical systems are turned off. Turn the selector switch to position 2 (charging).

Remove the inductive pick-up and zero the ammeter.

Place the inductive pick-up over the B terminal wire of the alternator so that the arrow points away from the alternator.

Raise the engine speed to 2000 rpm and hold it there.

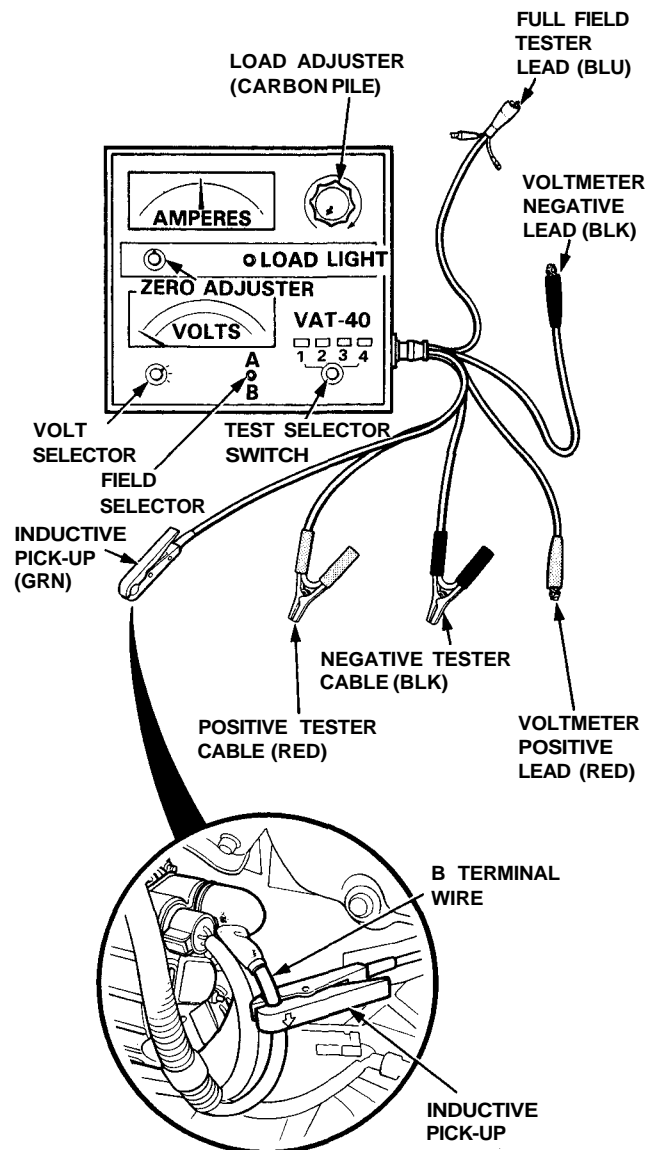
Is the voltage less than 13.9V?

YES

Test the battery (see page 23-74).

NO

(To page 23-121)



Replace the voltage regulator.



(From page 23-120)

Apply a load with the VAT-40 until the battery voltage drops to between 12 – 13.5 V.

Is the amperage 40 A or more?

YES

Charging system is OK.

NO

With the engine speed still at 2000 rpm, full-field the alternator.

NOTE: Attach a probe to the VAT-40 full field test lead and insert the probe into the full field access hole at the back of the alternator. Switch the field selector to the "A (Ground)" position momentarily and check amperage reading.

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

Is the alternator output 40 A or more?

NO

Test and repair the alternator (see pages 23-122 to 23-125).

YES

Turn the ignition switch off; then turn it on again.

Disconnect the 4-P connector from the alternator.

Check for voltage between the IG terminal (BLK/YEL) and body ground, and the S terminal (YEL/BLU) and body ground.

Is there battery voltage in both wires?

NO

Repair open in the BLK/YEL or the YEL/BLU wire.

YES

Replace the voltage regulator.

