

# Accord Engine Electrical Blueprint Part I

Courtesy Honda Motors Co.

Before troubleshooting, check the relay box and the fuse box. (See Figure 1, page 19.) Check the battery for damage, state of charge, and clean and tight connections.

Caution: Do not quick-charge a battery unless the battery ground cable has been disconnected, or you will damage the alternator diodes. Do not attempt to crank the engine with the ground cable disconnected or you will severely damage the wiring. Check the alternator belt tension.

While you're working make sure connectors are clean and have no loose pins or receptacles. Caution: Do not pull on the wires when disconnecting a connector; pull only on the connector housings. When connecting a connector, push it until it clicks into place. Make sure multiple pin connectors are packed with silicone grease. (See Figure 2, page 19.)

## Battery Test

Caution: Battery electrolyte is a sulfuric acid solution. If it spills on painted surfaces, clothing, or skin, rinse it off with water immediately to minimize the damage. Always wear safety goggles or a face shield when servicing a battery. Do not overcharge. If electrolyte escapes from the battery, or temperature rises above 52 degrees C (125 degrees F), stop charging and wait for battery to return to a safe state.

Note: To get accurate results, the temperature of the electrolyte must be between 21 degrees C (70 degrees F) and 38 degrees C (100 degrees F).

Most batteries are categorized by a two-digit code found on top of the battery. The two-digit code is located on either an identification sticker or embossed on the casing. (See Figure 3, page 19.)

## Charge Warning Light Test

Note: Before testing, check the wire harness connections and alternator belt tension. Turn the ignition switch on. The

Figure 1—Wiring Diagram

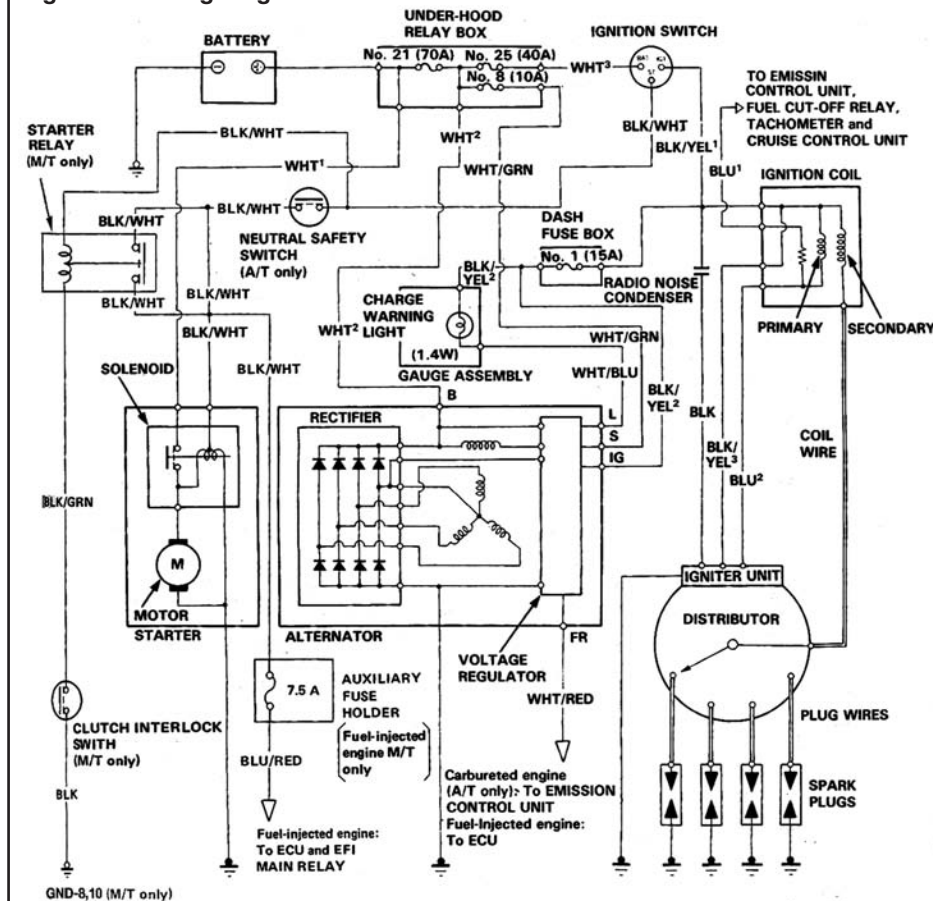
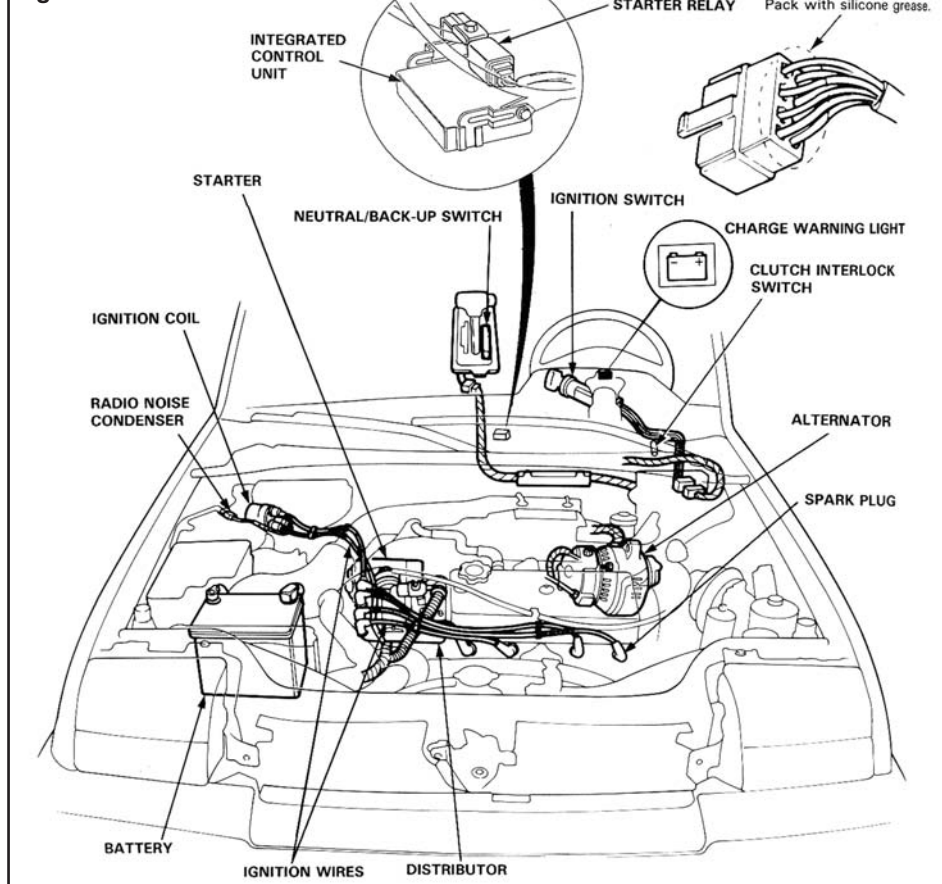


Figure 2—Illustrated Index



charge warning light should come on. If it does not come on, unplug the alternator connector and short the pin of the WHT/BLU wire to ground.

If the warning light still does not come on, check for:

- blown No. 1 (15A) fuse in the dash fuse box,
- bad bulb,
- an open in the BLK/YEL wire between the warning light and fuse box, or fuse box and ignition switch,
- an open in the WHT/BLU wire between warning light and voltage regulator (inside the alternator), or,
- poor ground.

If the light comes on, check the alternator and regulator.

Start the engine and let it idle. The charge warning light should go off. If it stays on this time, check the No. 8 (10A) fuse in the relay box and the WHT/GRN wire between the relay box and alternator. If the fuse and wire are OK, check the alternator and regulator.

If the system is charging proceed as follows:

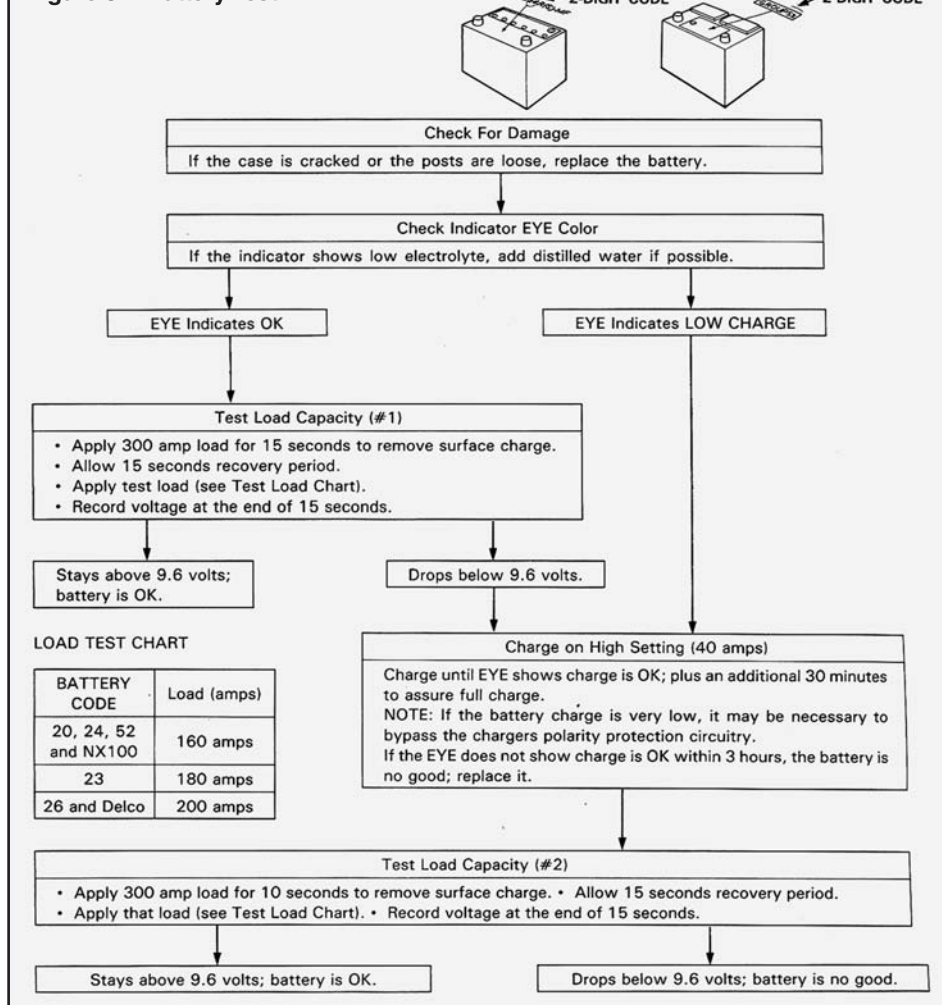
- Carbureted engines only (fuel-injected engines to next step)- Disconnect the choke heater connector. With the engine running, if the light goes out, there is a short in the choke heater.
- If the light stays on, stop the engine and disconnect the 3-P or 4-P connector from the alternator. Turn the ignition switch on; if the light goes out, the voltage regulator is faulty.
- If the light stays on throughout the previous two steps, there is a short to ground in the WHT/BLU wire from the charge warning light to one of the above components.

## Charging System

### Alternator and Regulator Test

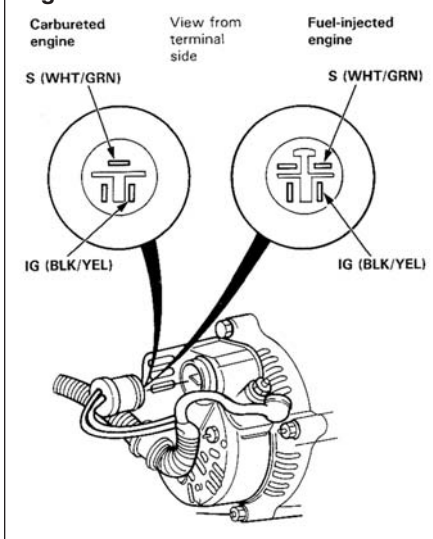
First make sure you have a good battery, and that the alternator belt, and connections at the alternator and main fuses are good. Next, check the No. 1 (15A) fuse in the dash fuse box and the No. 8 (10A) fuse in the under-hood relay box. (If blown, the charge warning light will come on even if the system's working properly.)

Figure 3—Battery Test



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 (WHT/GRN) terminal and body ground.

Figure 4



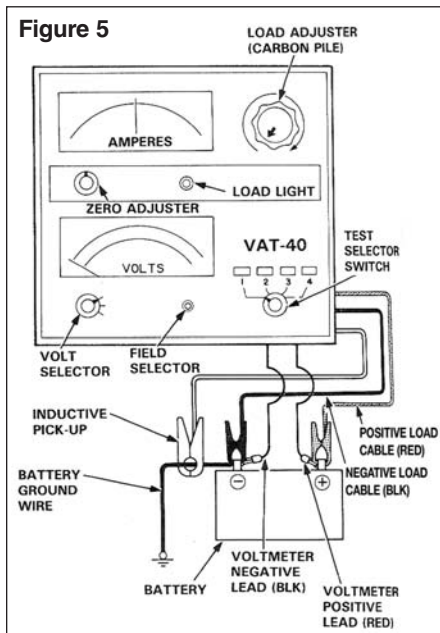
If there is no voltage, check for:

- blown No. 1 (15A) fuse in the dash fuse box, or,
- an open in the BLK/YEL wire between the dash fuse box and the voltage regulator, or the WHT/GRN wire between the under-hood relay box and the voltage regulator.

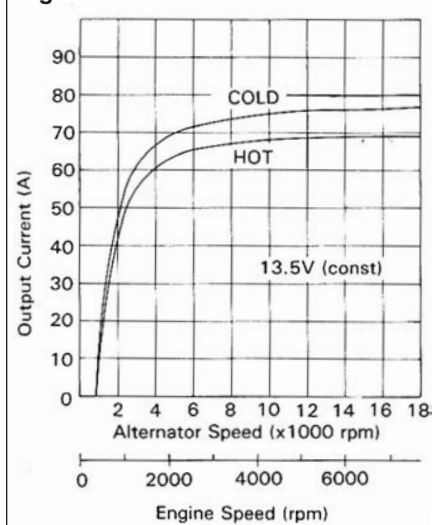
If there is battery voltage, go on to the next step.

Following the manufacturer's instructions, connect the SUN VAT-40 (or equivalent) and turn the selector switch to the "Starting (No. 1)" position. (See Figure 5.)

Start the engine. Turn off all accessories, move the selector switch to the "Charging (No. 2)" position and remove the inductive pickup, and zero the ammeter. Reconnect the inductive pickup to the battery ground wire, so the arrow is pointing away from the battery.

**Figure 5**

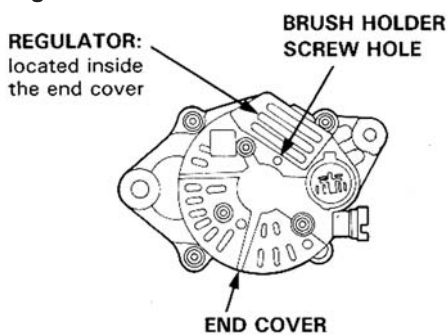
Raise engine speed to 2,000 rpm and hold (make sure cooling fans are off). Apply a "load" with the carbon pile, so the voltage drops to no less than 12 volts. Check the maximum amperage reading and compare with the chart below.

**Figure 6**

Note: Subtract 5 to 10 amperes from the maximum reading due to engine operation. If amperage is within specification, the system is OK. Proceed to the Charge Warning Light Test. If amperage is not within specifications, proceed to the next step.

Perform full field test: 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 VAT-40 to the "A" (ground) position momentarily and check amperage reading.

Note: Before performing full field test, remove a protector from the alternator and cover. As an alternative, use a screwdriver and an ammeter. Caution: The voltage will rise quickly when the alternator is full field. Do not allow the voltage to exceed 18 volts or damage to the electrical system may result.

**Figure 7**

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

See Part II in the February Issue.