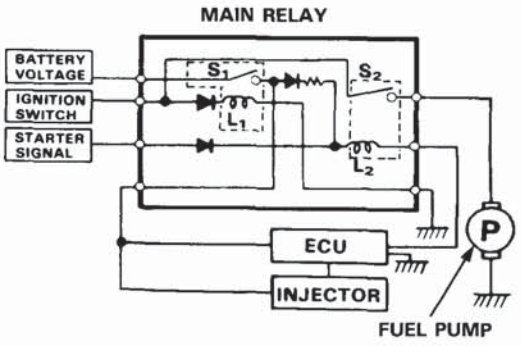
## Main Relay

**Description**

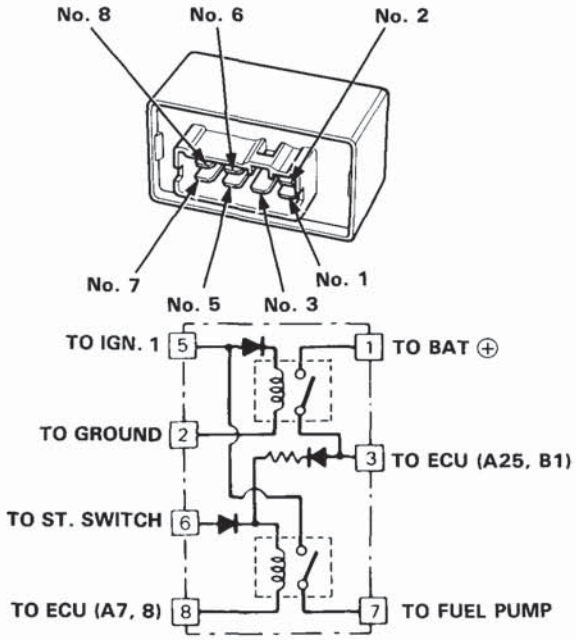
The main relay actually contains two individual relays. This relay is installed at the left side (RHD: right side) of the cowl.
One relay is energized whenever the ignition is on which supplies the battery voltage to the ECU, power to the injectors, and power for the second relay.
The second relay is energized for 2 seconds when the ignition is switched on, and when the engine is running which supplies power to the fuel pump.




**Relay Testing**

NOTE: If the car starts and coninues to run, the main relay is OK.

1. Remove the main relay.
2. Attach the battery positive terminal to the No. 6 terminal and the battery negative terminal to the No. 8 terminal of the main relay. Then check for continuity between the No. 5 terminal and No. 7 terminal of the mian relay.
   - If there is continuity, go on to step 3.
   - If there is continuity, replace the relay and retest.




3. Attach the battery positive terminal to the No. 5 terminal and the battery negative treminal to the No. 2 terminal of the main relay. Then check that there is continuity between the No. 1 terminal and No. 3 terminal of the main relay.
   - If there is continuity, go no to step 4.
   - If there is no continuity, replace the relay and retest.
4. Attach the battery positive terminal to the No. 3 terminal and the battery negative terminal to the No. 8 terminal of the main relay. Then check that there is continuity between the No. 5 terminal and No. 7 terminal of the main relay.
   - If there is continuity, the relay is OK.
   - If there is no continuity, replace the relay and retest.

(cont'd)

## Main Relay (cont'd)

### Troubleshooting Flowchart

- **— Engine will not start.**
- **— Inspection of main relay and relay harness.**

Disconnect the main relay connectors.

Check for continuity between BLK terminal ② and body ground.

Does continuity exist?

NO → **Repair open in BLK wire between main relay and G101.**

YES

Measure the voltage between YEL/WHT terminal ① and body ground.

Is there battery voltage?

NO → **— Replace ECU (15A) fuse.**
**— Repair open in the YEL/WHT wire between the main relay and the ECU (15A) fuse.**

YES

Turn the ignition switch ON.

Measure the voltage between BLK/YEL terminal ⑤ and body ground.

Is there battery voltage?

NO → **— Replace ACG (S) (15A) fuse.**
**— Repair open in the BLK/YEL wire between the main relay and the ACG(S) (15A) fuse.**

YES

Turn the ignition switch to the START position.

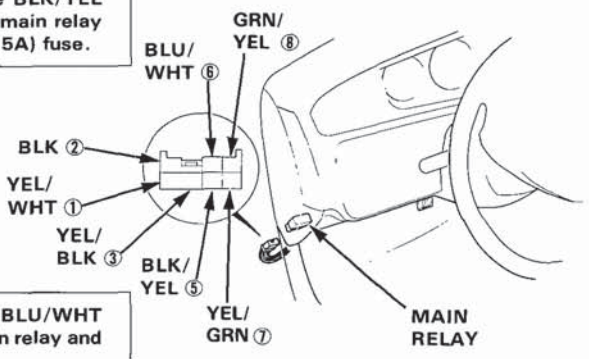
Measure the voltage between BLU/WHT terminal ⑥ and body ground.

Is there battery voltage?

NO → **Repair open in the BLU/WHT wire between the main relay and the ignition switch.**

YES

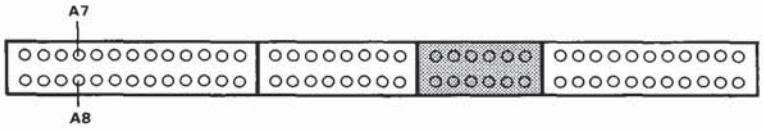
(To page 11-351)



(From page 11-350)

Turn the ignition switch off.

Connect the test harnes between the ECU and connector Disconnect "A" connector from the ECU only, not the main wire harness (page 11-212).




Check for continuity between GRN/YEL terminal ⑧ and the following terminals; A7, A8.

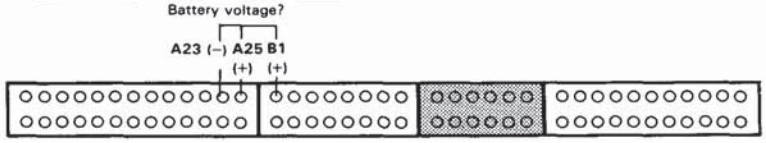
Does continuity exist?

NO → **Repair open in GRN/YEL wire between ECU (A7, A8) and main relay.**

YES

Reconnect "A" connector to the ECU.

Battery voltage?




*Connect the main relay connector.*

Turn the ignition switch ON.

Measure the voltage between A23 (–) terminal and the following terminals: A25 (+) B1 (+).

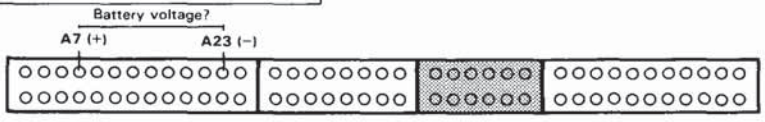
Is there battery voltage?

NO → — **Repair open in the YEL/BLK wire ③ between the ECU (A25, B1) and main relay.**
— ***Replace main relay.***

YES

*Turn the ignition switch OFF.*

Battery voltage?




Connect a voltmeter between A7 (+) terminal and A23 (–) terminal.

Is there battery voltage for two seconds when the ignition switch is first turned on?

YES → **Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.**

*NO*

**Check the main relay (page 11-349).**