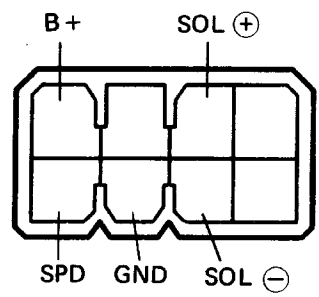
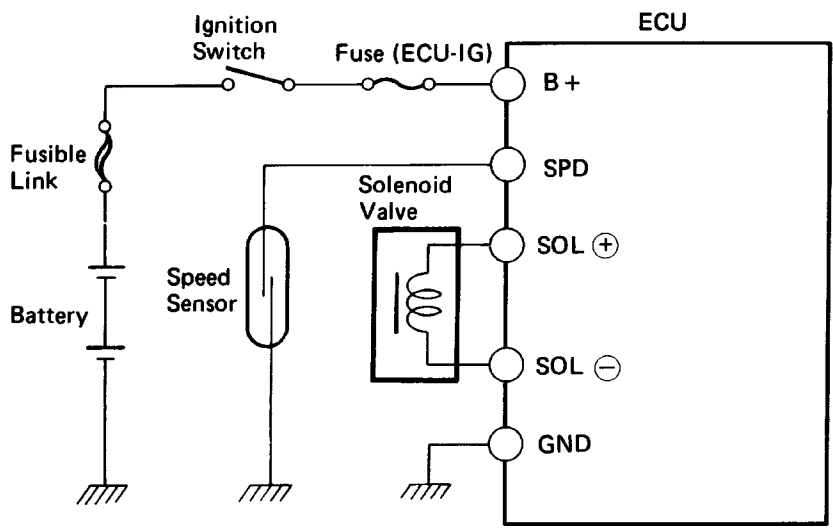
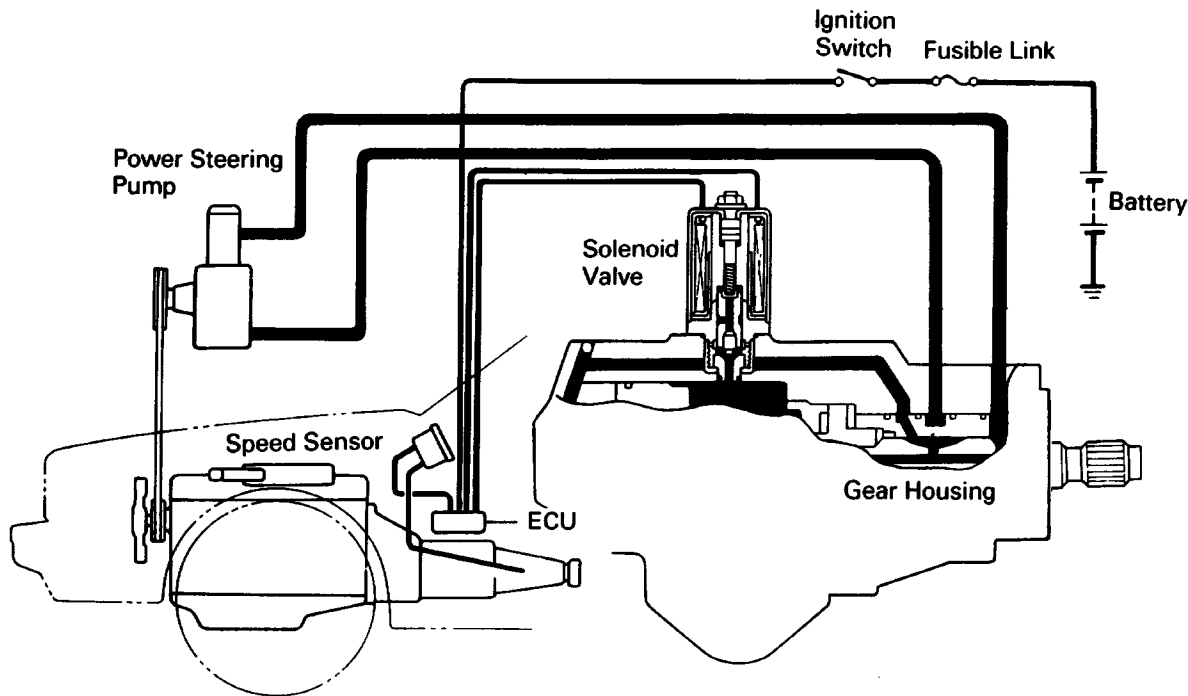


Progressive Power Steering (PPS) DESCRIPTION AND ELECTRONIC CIRCUIT



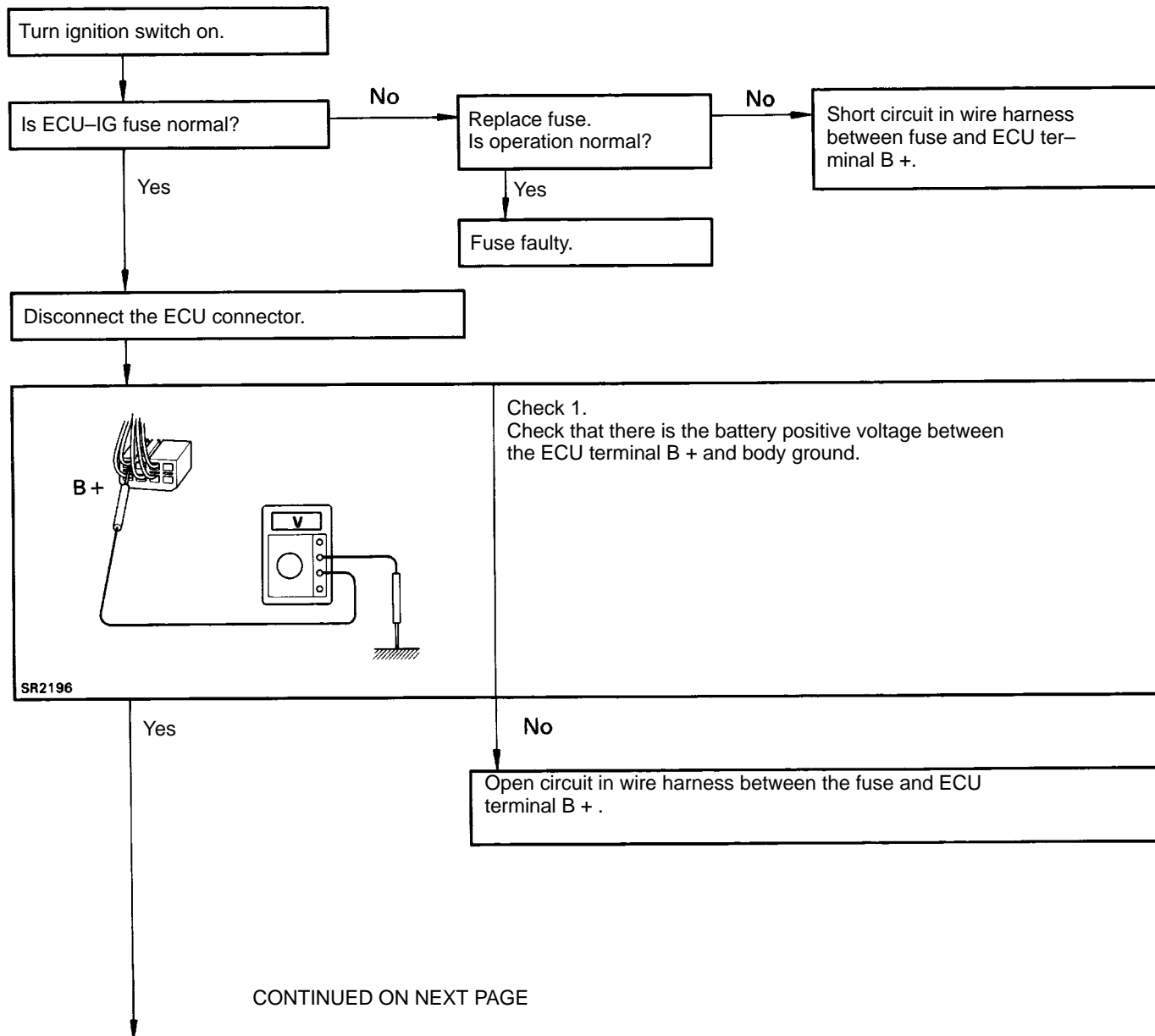
TROUBLESHOOTING

Trouble

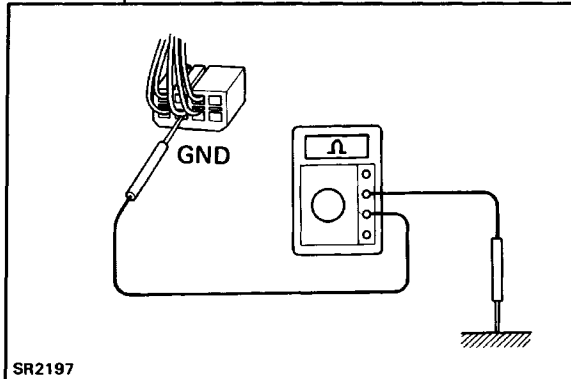
- Hard steering at idle or low-speed driving.
- Steering too sensitive during high-speed driving.

Preliminary Check

- Check tire pressure.
- Check lubrication of suspension and steering linkage.
- Check front wheel alignment.
- Check steering system joint and suspension arm ball joint.
- Check for bent steering column.
- Check that all connectors are secure.
- Check PS pump fluid pressure. (See page [SR-41](#))



Yes CONTINUED FROM PREVIOUS PAGE

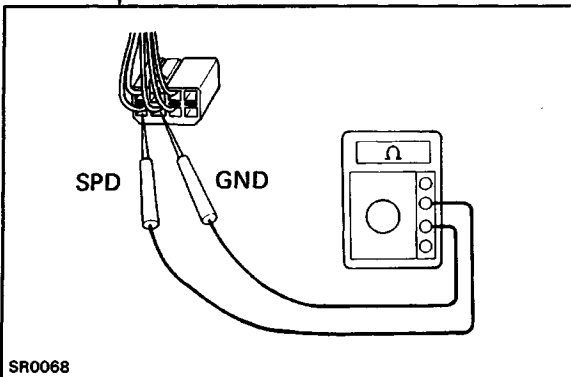


Check 2.
Check that there is continuity between the ECU terminal G ND and body ground.

Yes

No

- Open circuit in wire harness between the ECU terminal GND and body ground.
- Body ground faulty.

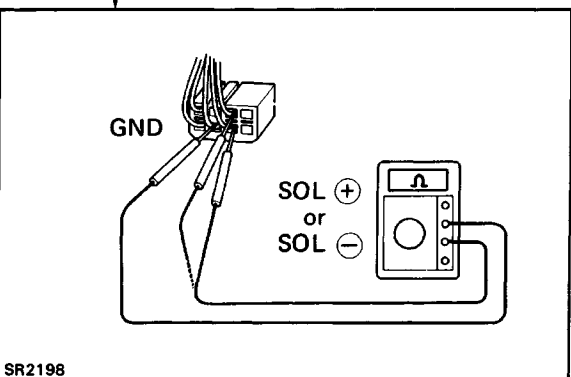


Check 3.
(a) Jack up the rear wheel on one side.
(b) Connect an ohmmeter between the ECU connector terminals SPD and GND.
(c) Spin the rear wheel and check that the meter needle deflects from $0\ \Omega$ to $\infty\ \Omega$.

Yes

No

- Open or short circuit in wire harness between the ECU terminal SPD and speed sensor.
- Speed sensor faulty (See page [BE-34](#)).



Check 4.
Check that there is no continuity between terminals SOL + or SOL - and GND.

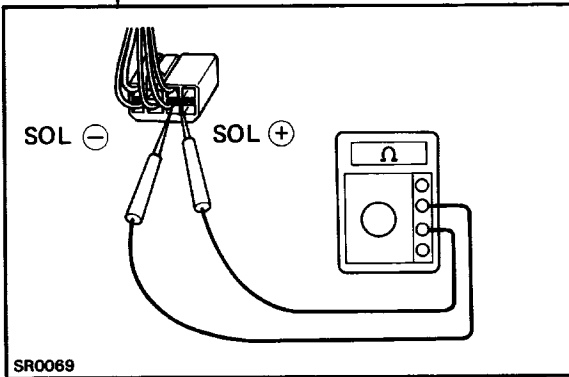
Yes

No

- Short circuit in wire harness between the terminals SOL + and SOL - .
- Solenoid valve faulty.

CONTINUED ON NEXT PAGE

Yes CONTINUED FROM PREVIOUS PAGE



Check 5.
Measure the resistance between terminals SOL + and SOL -.
Standard resistance: 6 - 11 Ω

Yes

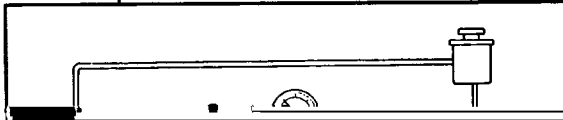
No

- Open circuit in wire harness between the terminals SOL + and SOL -.
- Solenoid valve faulty.

Check 6.
Inspect ECU.

Bad

Replace ECU .



Check 7.
(a) Turn the steering wheel full lock position.
(b) Apply battery positive voltage between terminals SOL + and SOL - and turn the solenoid ON and OFF. Is there a change in gear housing fluid pressure when the solenoid is ON or OFF?

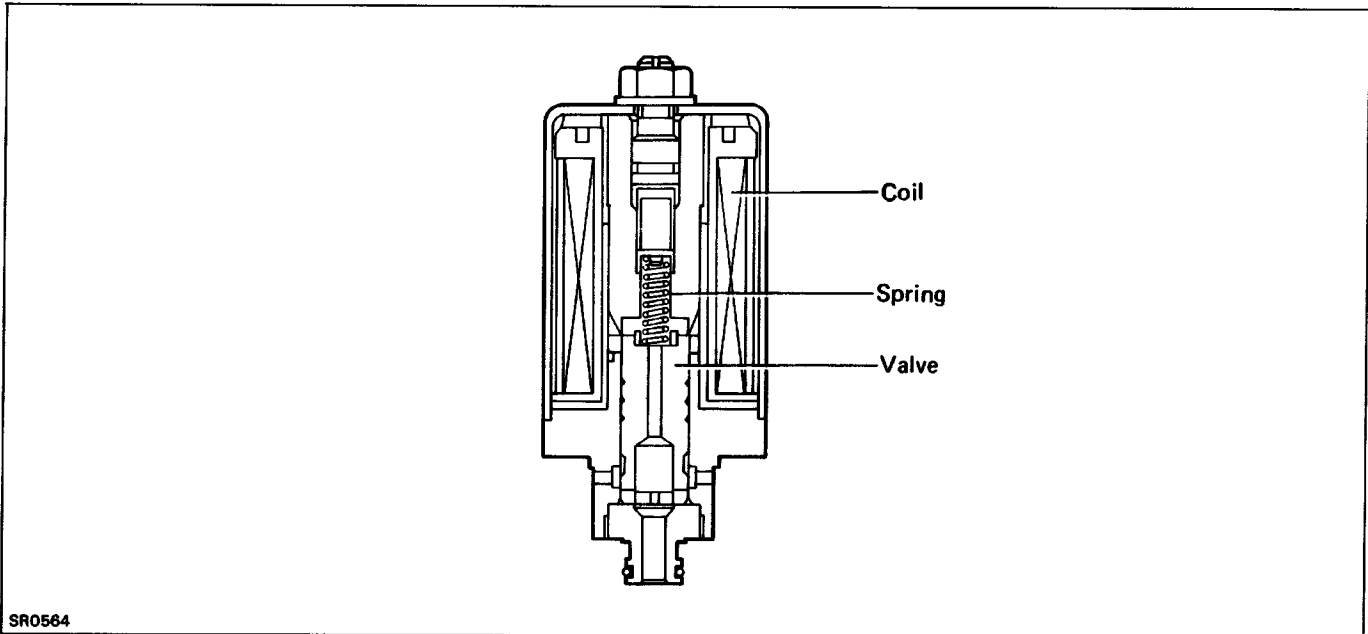
Yes

Steering gear housing faulty.

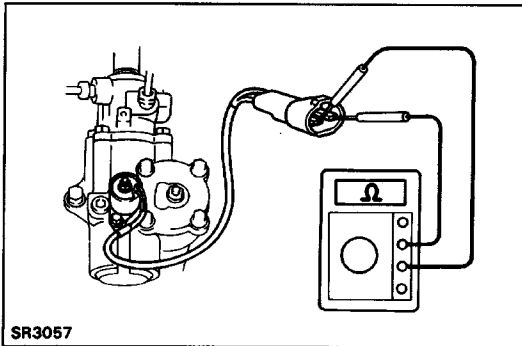
- By-pass or return line clogged.
- Fluid level low.
- Solenoid valve faulty.

ELECTRONIC CONTROL SYSTEM

Solenoid Valve



SR0564



SR3057

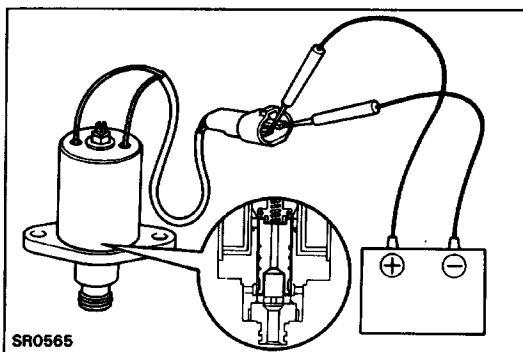
ON-VEHICLE INSPECTION

1. DISCONNECT WIRING CONNECTOR
2. MEASURE RESISTANCE

Measure the resistance between SOL - and SOL +.

Resistance: 6 - 11Ω

3. CONNECT WIRING CONNECTOR



SR0565

CHECK SOLENOID OPERATION

1. REMOVE SOLENOID VALVE FROM GEAR HOUSING
2. CHECK SOLENOID OPERATION

(a) Connect the battery positive terminal to the solenoid terminal SOL +.

(b) Connect the battery negative terminal to the solenoid terminal SOL -.

Confirm that the needle valve has withdrawn about 2 mm (0.79 in.).

If not, replace the solenoid valve.

3. INSTALL SOLENOID VALVE TO GEAR HOUSING

4. BLEEDING OF POWER STEERING LINE

Power Steering ECU

INSPECTION OF ECU

1. JACK UP VEHICLE AND SUPPORT IT ON STANDS
2. REMOVE CENTER CONSOLE

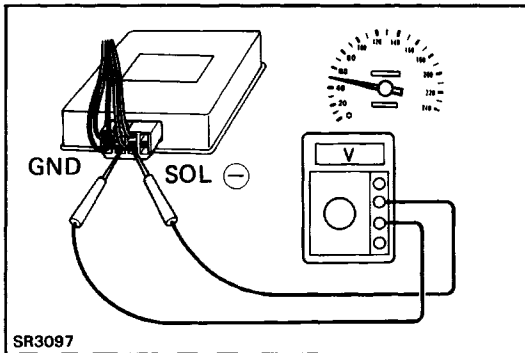
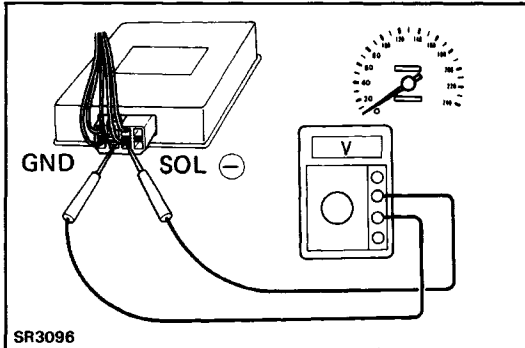
HINT: Do not disconnect the ECU connector.

3. START ENGINE

4. MEASURE VOLTAGE OF ECU

- (a) Using a voltmeter, measure the voltage between ECU terminals GND and SOL E) while the engine is idling.

Standard voltage: 0 – 0.05 V



- (b) Place the transmission in gear and while running at about 50 km/h (31 mph), measure the voltage between the ECU terminals GND and SOL E).

Standard voltage: Voltage measured in (a) above, plus 0.12 – 0.24 V

If no voltage, try another ECU.

5. INSTALL CENTER CONSOLE

6. LOWER VEHICLE