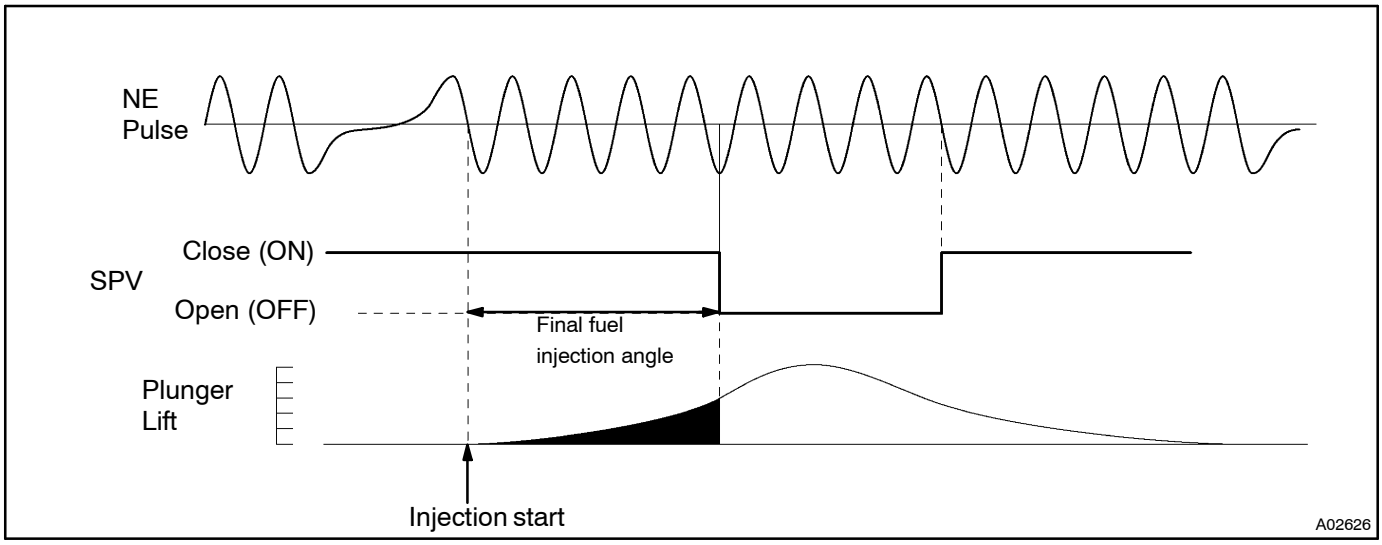
DI6K5–01

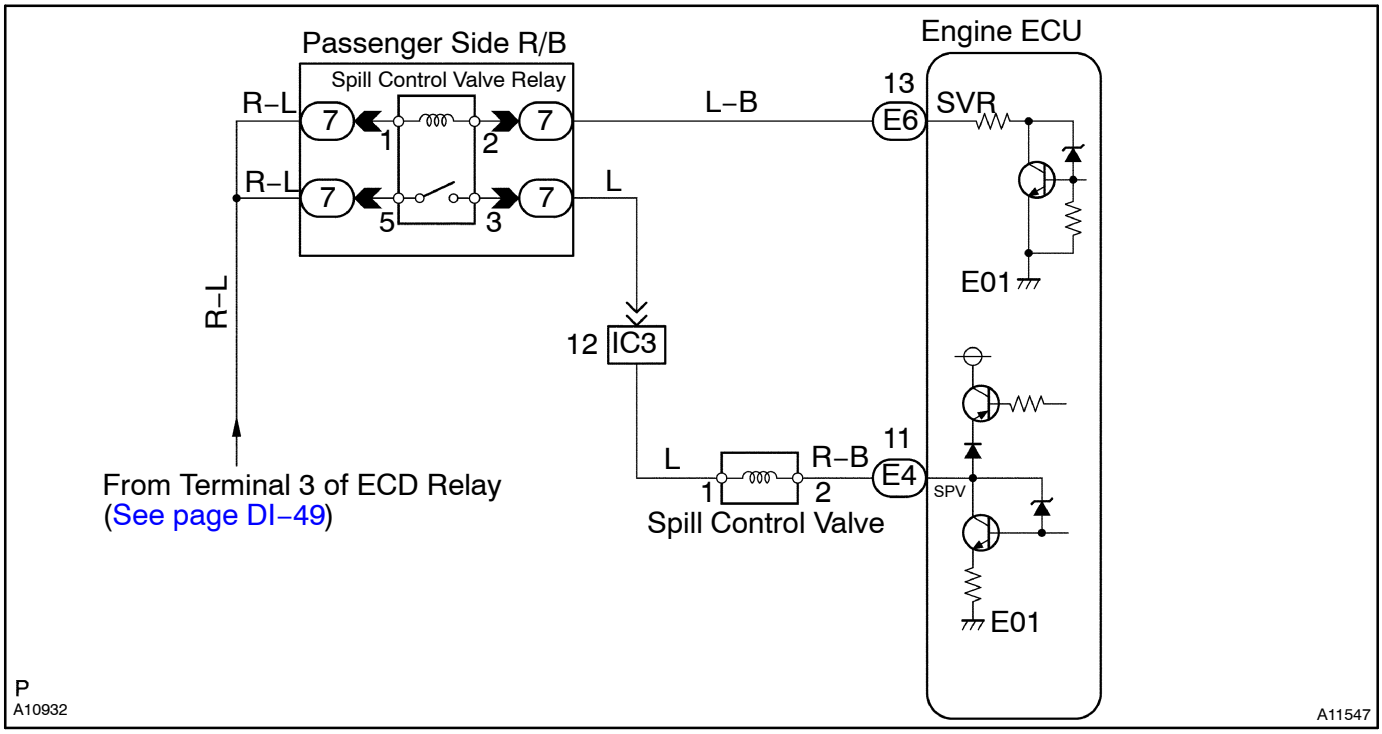
Spill Control Valve Relay Circuit

CIRCUIT DESCRIPTION

The engine ECU controls the fuel injection volume by operating the spill control valve. The spill control valve is mounted on the injection pump, and open or close the injection pressure releasing port by the solenoid valve in the spill control valve (During injection; valve is close (ON)). The engine ECU decides the basic fuel injection volume by the engine rpm and throttle valve opening angle, and calculates the final fuel injection angle to add the various corrections on the basic fuel injection volume. The engine ECU counts the NE pulse to detects the angle from injection starts and operates the spill control valve from ON to OFF (The injection pressure releasing port is open.) at the position which watches the final fuel injection angle.



WIRING DIAGRAM



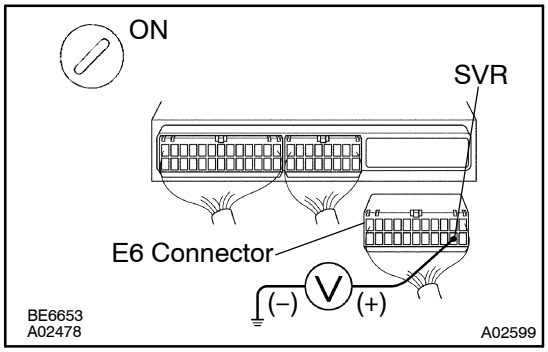
INSPECTION PROCEDURE

1	**Check spill control valve relay (See page ED–12).**

NG → **Replace spill control valve relay.**

OK

2	**Check voltage between terminal SVR of engine ECU connector and body ground.**



PREPARATION:

(a) Remove the glove compartment (See page ED–25).
(b) Disconnect the E6 connector from the engine ECU.
(c) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminals SVR of the engine ECU connector and body ground.

OK:

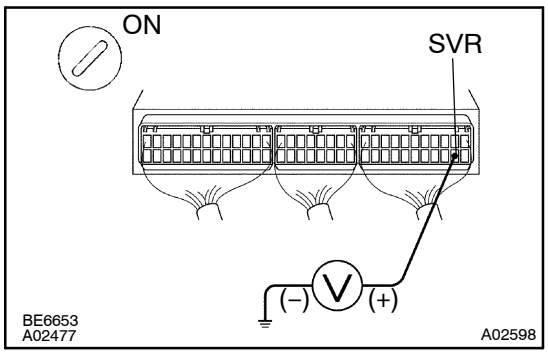
Voltage: 9 – 14 V

OK → **Go to step 3.**

NG

Check for open or short in harness and connector between spill control valve relay and engine ECU, and spill control valve relay and ECD main relay (Marking: ECD).

3	**Check voltage between terminal SVR of engine ECU connector and body ground.**



PREPARATION:

(a) Remove the glove compartment (See page ED–25).
(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminals SVR of the engine ECU connector and body ground.

OK:

Voltage: Below 1.5 V

NG → **Check and replace engine ECU (See page IN–20).**

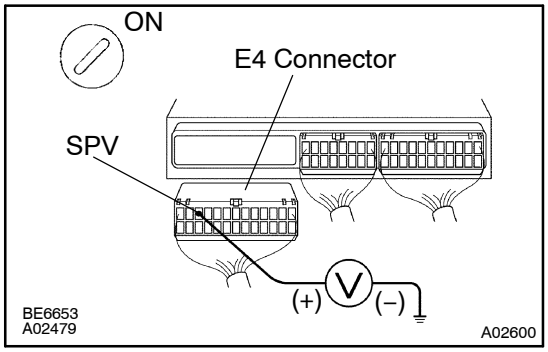
OK

4	**Check spill control valve (See page ED–9).**

NG → **Replace spill control valve.**

OK

5	**Check voltage between terminal SPV of engine ECU connector and body ground.**



PREPARATION:
(a) Remove the glove compartment (See page ED–25).
(b) Disconnect the E4 connector from the engine ECU.
(c) Turn the ignition switch ON.

CHECK:
Measure the voltage between terminal SPV of the engine ECU connector and body ground.

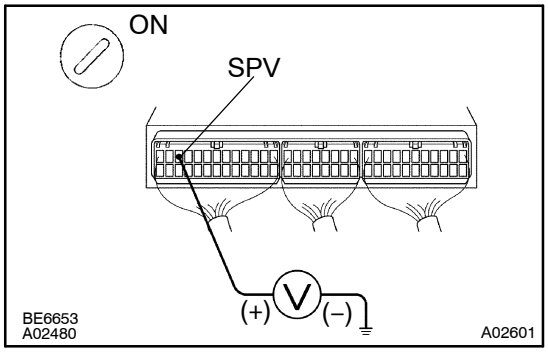
OK:
Voltage: 9 – 14 V

OK → **Go to step 6.**

NG

Check for open or short in harness and connector between spill control valve and engine ECU, and spill control valve and spill control valve relay (See page IN–20).

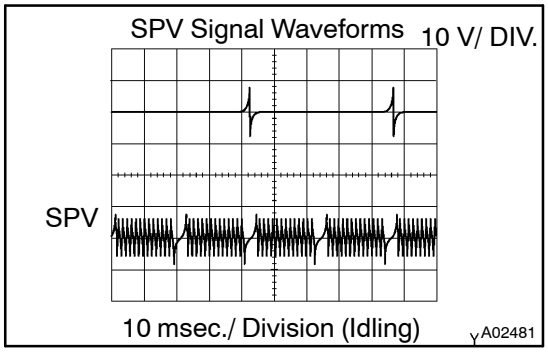
6	**Check voltage between terminal SPV of engine ECU and body ground.**



PREPARATION:
(a) Remove the glove compartment (See page ED–25).
(b) Turn the ignition switch ON.

CHECK:
Measure the voltage between terminals SPV of the engine ECU connector and body ground.

OK:
Voltage: 9 – 14 V



Reference: INSPECTION USING OSCILLOSCOPE

During idling, check the waveform between terminals SPV and E1 of the engine ECU connector.

HINT:

The correct waveform is as shown.

NG

Check and replace engine ECU (See page IN–20).