DI8D9–01

DTC	C1777 / 77, C1781 / 81	Steering Angle Sensor Circuit

CIRCUIT DESCRIPTION

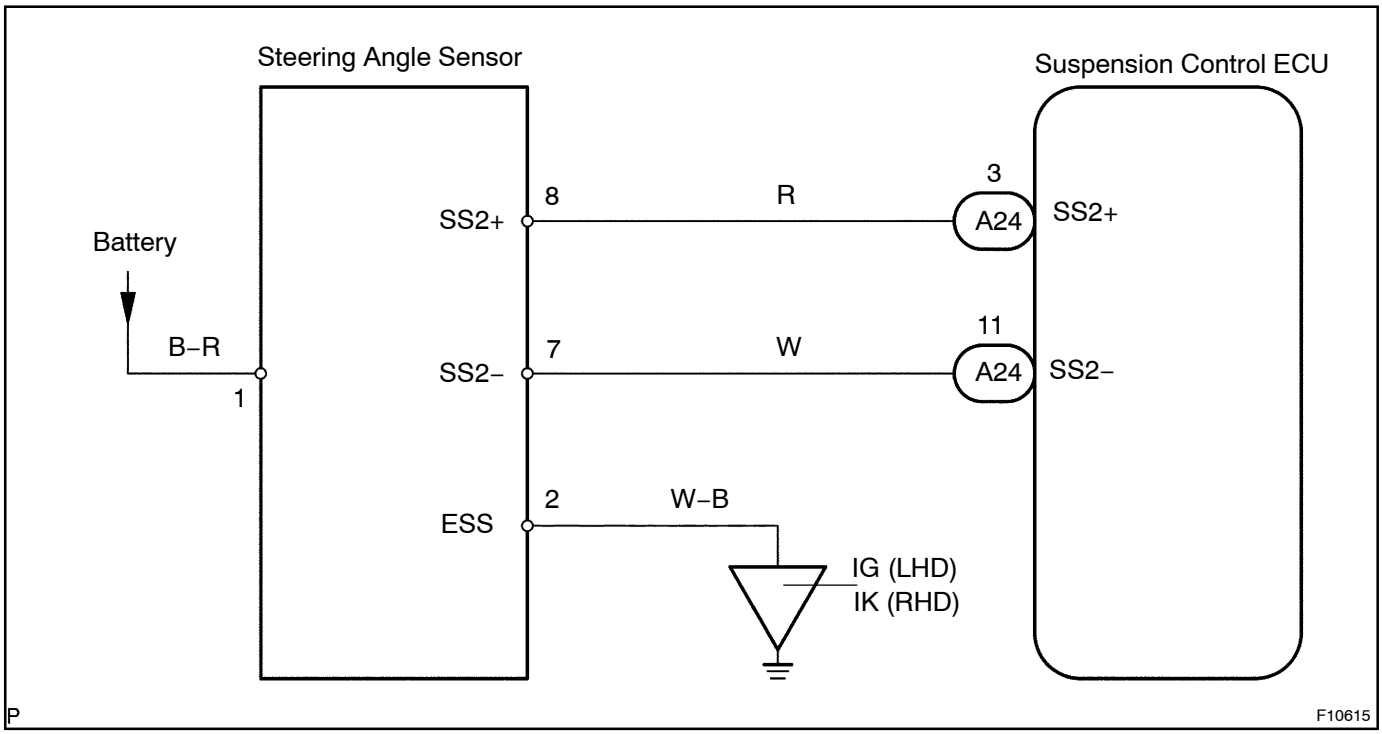
The steering angle sensor is fitted to the turn signal switch assembly and detects the steering rotating direction and angle.

The sensor consists of a slit disc that rotates with the steering wheel as a unit, and a pair of photo interrupters. Each photo interrupter consists of an LED (Light Emitting Diode) and a photo transistor that are located facing each other. It converts the light irradiation change between the two elements to the on/off signals. The slit disc rotates between the LED and the photo transistor of the pair of photo interrupters. As the steering wheel is operated, the slit disc rotates with the wheel as a unit and shuts and makes the light transmission between the two elements. The pair of photo interrupters have phases and the suspension control ECU detects the steering direction and angle based on the changes of each output.

And when it is judged that the steering wheel's turning angle is large and the speed is greater than the set value, the ECU causes the damping force to increase.

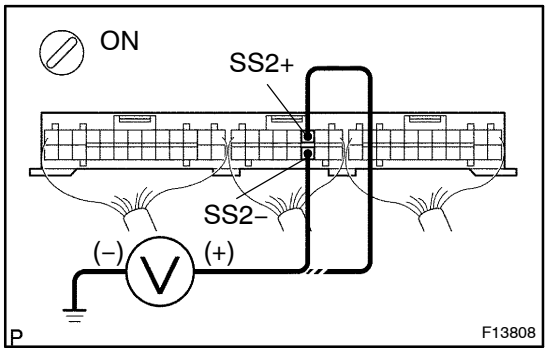
DTC No.	DTC Detecting Condition	Trouble Area
C1777 / 77	Open or short circuit in steering angle sensor communication circuit	• Steering angle sensor • Steering angle sensor circuit • Suspension control ECU
C1781 / 81	Steering angle 36° or larger signal is not input	

WIRING DIAGRAM



INSPECTION PROCEDURE

1	Check voltage between terminals SS2+ and SS2– of suspension control ECU connector and body ground.



PREPARATION:

Remove the suspension control ECU with the connectors still connected.

CHECK:

(a) Turn the ignition switch ON.

(b) Measure voltage between terminal SS2+ and SS2– of the suspension control ECU connector and body ground when the steering wheel is being turned slowly.

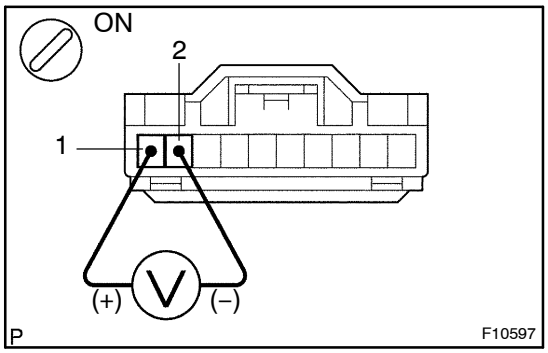
OK:

Changes between 1.2 V and approx. 5 V.

OK	Proceed to next circuit inspection shown on problem symptoms table (See page DI–263).

NG

2	Check voltage between terminal 1 and 2 of steering angle sensor connector.



PREPARATION:

(a) Remove the steering wheel and upper and lower covers (See page SR–13).

(b) Disconnect the steering angle sensor connector.

CHECK:

(a) Turn the ignition switch ON.

(b) Measure voltage between terminals 1 and 2 of the steering angle sensor connector.

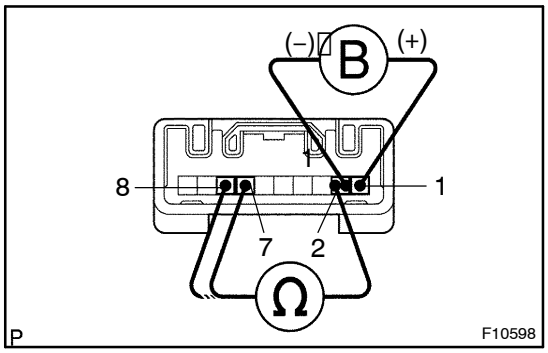
OK:

Voltage: 10 – 14 V

NG	Check and repair harness and connectors between battery and steering angle sensor, sensor and body ground (See page IN–35).

OK

3	Check steering angle sensor.



PREPARATION:

Apply battery voltage between terminals 1 and 2.

CHECK:

Measure resistance between terminals 7 and 2, 8 and 2 of the steering sensor connector when the rotating part of the steering sensor is turned slowly.

OK:

Changes between 0 Ω and ∞ Ω

NG → **Replace steering angle sensor.**

OK

4	Check for open and short circuit in harness and connector between suspension control ECU and steering angle sensor (See page IN–35).

NG → **Repair or replace harness or connector.**

OK

Check and replace suspension control ECU.