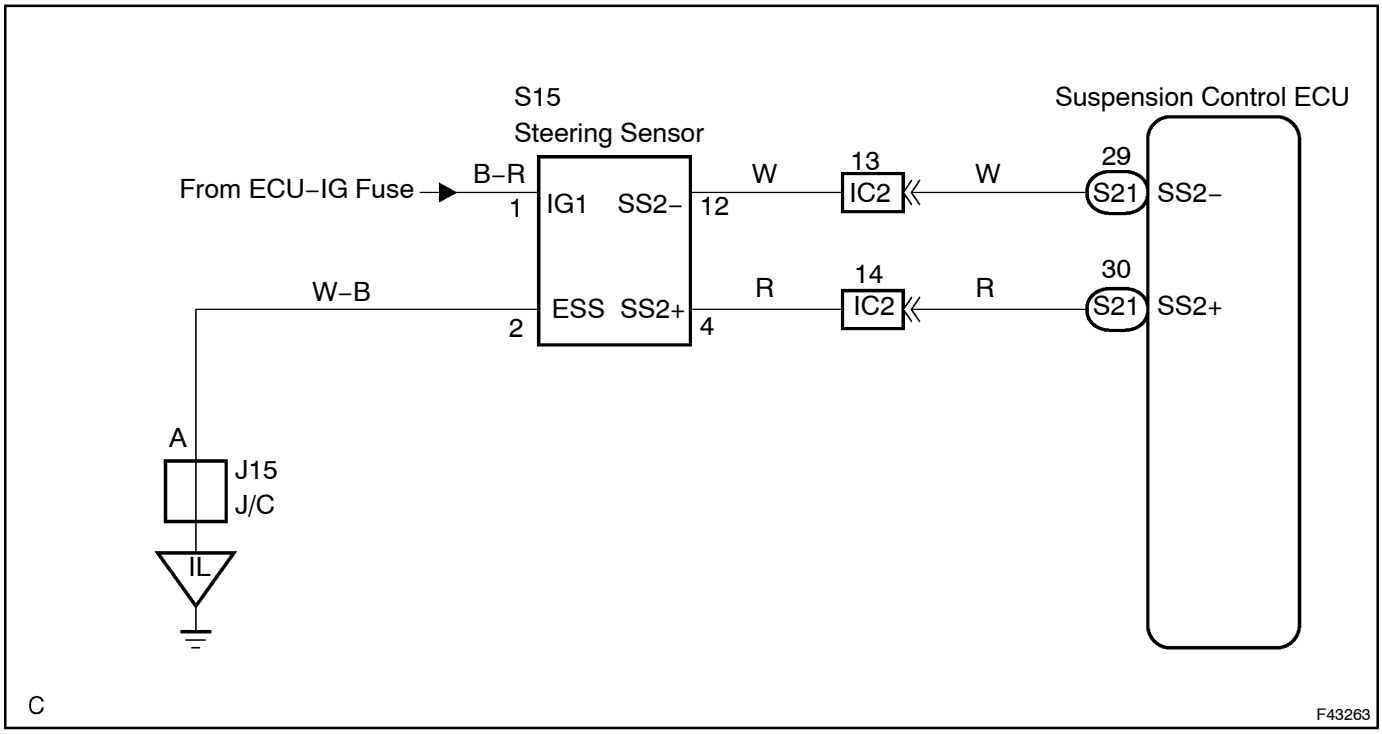
DTC C1777/77 STEERING ANGLE SENSOR CIRCUIT

CIRCUIT DESCRIPTION

The steering sensor is mounted on the combination switch assy and detects the steering wheel angle and its direction.

DTC No.	DTC Detecting Condition	Trouble Area
C1777/77	Steering sensor system signal is abnormal.	• Steering sensor • Steering angle sensor circuit • Suspension control ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
Start the inspection from the step 1 in the case of using hand–held tester, and start from step 2 in the case of not using hand–held tester.

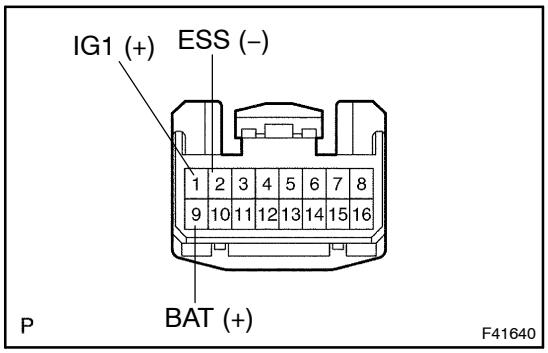
1	READ VALUE OF HAND–HELD TESTER

(a) Connect the hand–held tester to DLC3.
(b) Turn the ignition switch to ON, and push the hand–held tester main switch ON.
(c) Select the item ”STEERING ANGLE” in the DATA LIST, and read its value displayed on the hand–held tester.
(d) Check that the steering wheel turning angle value of the steering angle position sensor displayed on the hand–held tester changes when turning the steering wheel.
Standard:
Steering wheel turning angle value changes.

OK → **CHECK AND REPLACE SUSPENSION CONTROL ECU (See page 01–36)**

NG

2	CHECK HARNESS AND CONNECTOR(STEERING SENSOR)

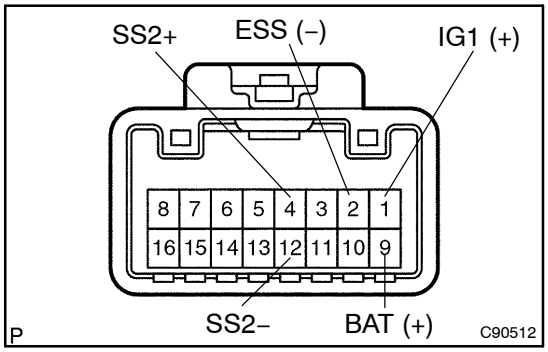


(a) Disconnect the steering sensor connector.
(b) Turn the ignition switch to ON, and measure voltage between terminal 1 (IG1) and 2 (ESS) and between terminal 2 (ESS) and 9 (BAT) of the steering sensor harness side connector.
Standard:
10 – 14 V

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

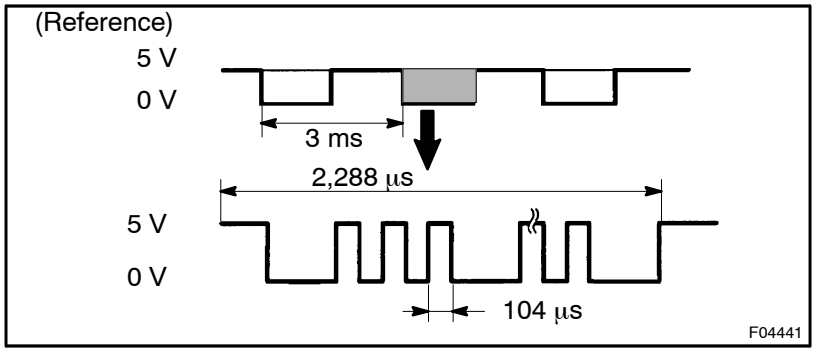
OK

3	INSPECT STEERING SENSOR



(a) Disconnect the steering angle sensor connector.
(b) Apply battery positive voltage between terminal 1 (IG1) and 2 (ESS) and between terminal 2 (ESS) and 9 (BAT).
(c) Connect the oscilloscope to the terminal 4 (SS2+) and 12 (SS2–) of the steering angle sensor.
(d) Turn the steering column shaft slowly and check the signal waveform.

Standard:



HINT:
The above signal waveform does not repeat ON and OFF regularly and this ON–OFF interval changes case by case depending on to the data.

NG	REPLACE STEERING SENSOR

OK

4	CHECK HARNESS AND CONNECTOR(STEERING SENSOR – SUSPENSION CONTROL ECU)

(a) Check for open and short circuit in the harness and the connector between the steering sensor and suspension control ECU (See page 01–36).

NG	REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

CHECK AND REPLACE SUSPENSION CONTROL ECU (See page 01–36)