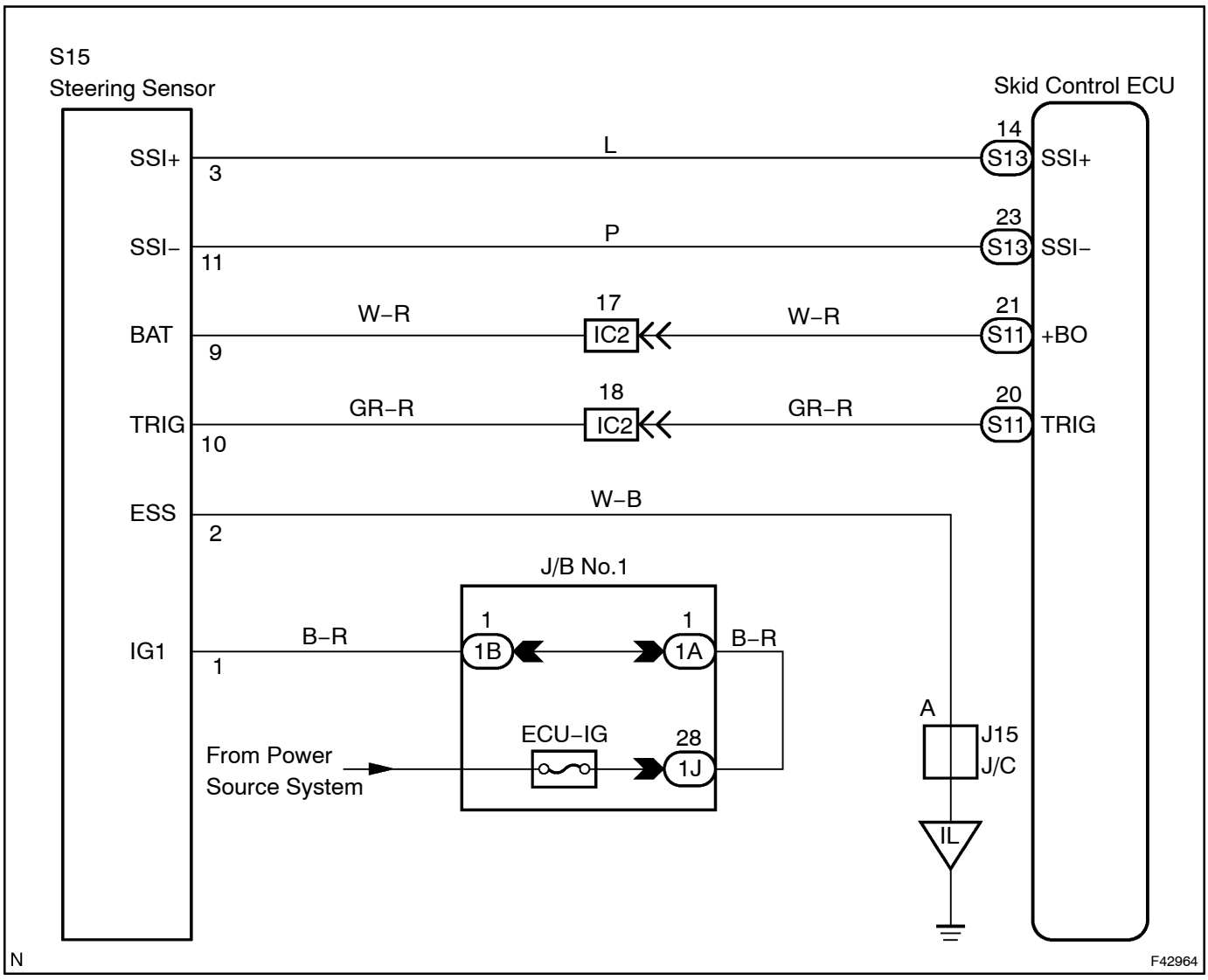
DTC	C1231/31	MALFUNCTION IN STEERING ANGLE SENSOR CIRCUIT

DTC	C1335/35	STEERING ANGLE SENSOR CIRCUIT

CIRCUIT DESCRIPTION

DTC No.	DTC Detecting Condition	Trouble Area
C1231/31	When ECU IG1 terminal voltage is 9.5 V or more, ECU does not receive data from the steering angle sensor for 1 sec. or more.	• Steering angle sensor • Steering angle sensor circuit • +BI circuit
C1335/35	Detection of either condition 1. or 2.: 1. When the ECU IG1 terminal voltage is 9.5 V or more, data transmission from the steering angle sensor is impossible for 1 sec. or more. 2. Immediately after the terminal BAT is connected and when IG1 terminal voltage is 9.5 V or more, open circuit of terminal TRIG continues for 15 sec. or more.	• Steering angle sensor • Steering angle sensor circuit

WIRING DIAGRAM



INSPECTION PROCEDURE

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

1	READ VALUE OF STEERING SENSOR

(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main switch ON.
(c) Select the DATALIST mode 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 is changing when turning the steering wheel.

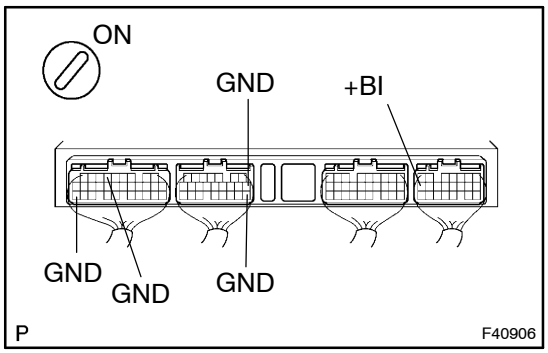
NOTICE:
The value changes after the steering sensor rechecks 0 point. (Driving the vehicle straight for 10 sec. or more at the speed less than 35 km/h (22 mph)).

OK:
Steering wheel turning angle value must be changing.

OK → **Go to step 4**

NG

2	INSPECT SKID CONTROL ECU TERMINAL VOLTAGE(+BI TERMINAL)



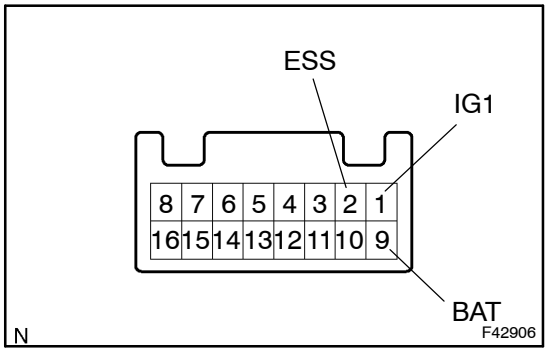
(a) Remove the skid control ECU with the connector still connected.
(b) Turn the ignition switch ON.
(c) Measure voltage between terminal +BI and GND of skid control ECU and body ground.

OK:
10 – 14 V

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

OK

3 CHECK HARNESS AND CONNECTOR(STEERING SENSOR)

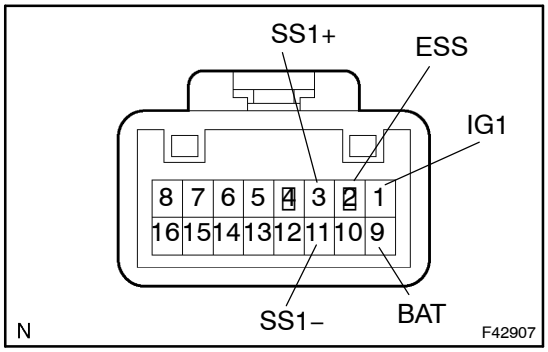


(a) Remove the steering wheel and column lower cover (See page 50–6).
(b) Disconnect the steering sensor connector.
(c) Turn the ignition switch ON.
(d) Measure voltage between terminal IG1 and ESS, BAT and ESS of the steering sensor harness side connector.
OK:
Voltage 10 – 14 V

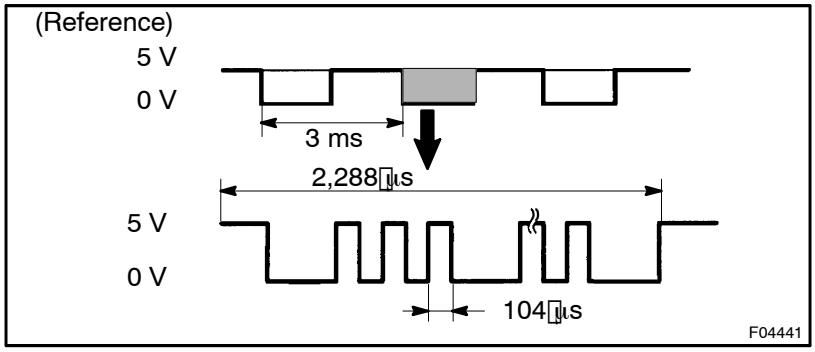
NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

4 INSPECT STEERING SENSOR



(a) Remove the steering wheel and column lower cover (See page 50–6).
(b) Disconnect the steering angle sensor connector.
(c) Apply battery positive voltage between terminals IG1 and ESS, BAT and ESS.
(d) Connect the oscilloscope to the terminals SS1+ and SS1– of the steering angle sensor.
(e) Turn the steering column shaft slowly and check the signal waveform.
OK:



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

NG → **REPLACE STEERING SENSOR**

OK

5	INSPECT SENSOR STEERING DISC

NG → REPAIR OR REPLACE DISC, SENSOR STEERING

OK

CHECK AND REPLACE SKID CONTROL ECU ASSY