DTC	C0210/33	RIGHT REAR SPEED SENSOR CIRCUIT

DTC	C0215/34	LEFT REAR SPEED SENSOR CIRCUIT

DTC	C1238/38	FOREIGN MATTER IS ATTACHED ON TIP OF RIGHT REAR SENSOR

DTC	C1239/39	FOREIGN MATTER IS ATTACHED ON TIP OF LEFT REAR SENSOR

CIRCUIT DESCRIPTION

Refer to DTC C0200/31 on page 05–533.

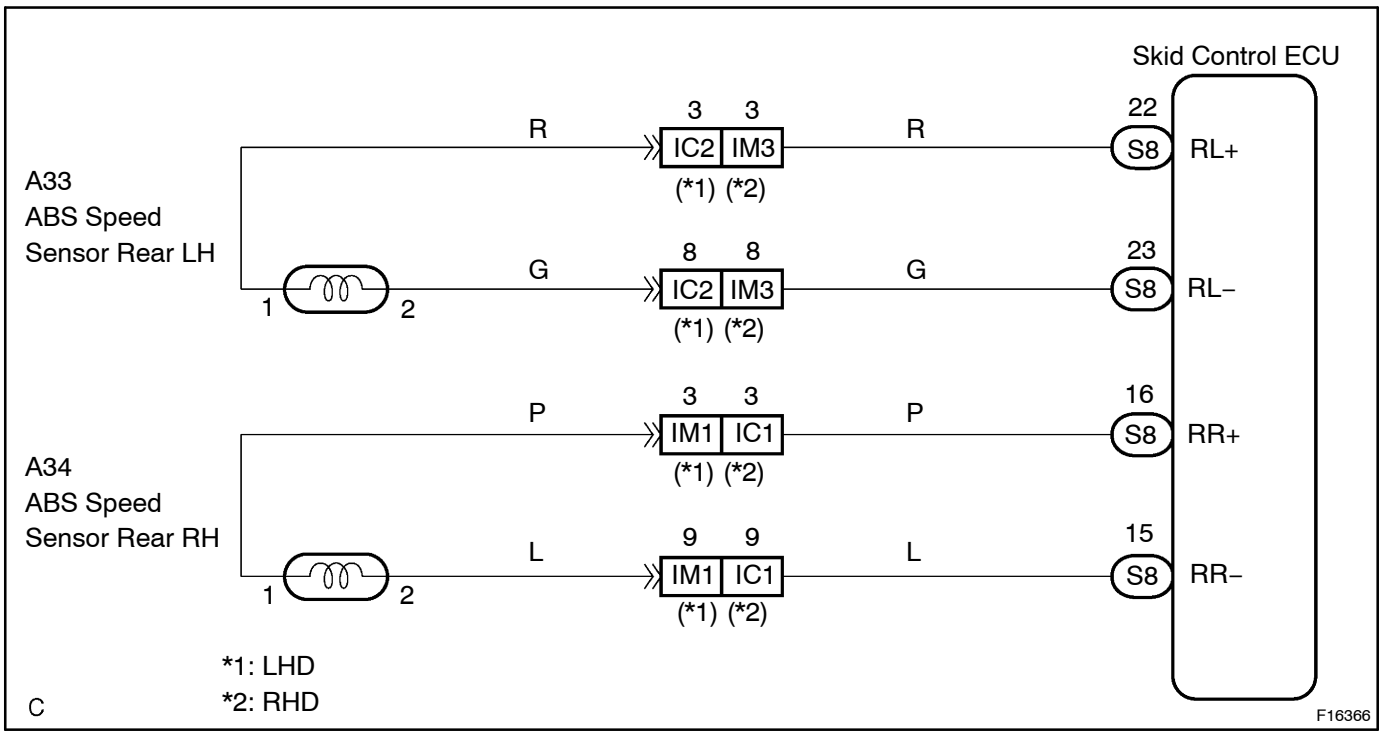
DTC No.	DTC Detecting Condition	Trouble Area
C0210 / 33 C0215 / 34	Detection of any of conditions from 1. through 3.: 1. At vehicle speed of 10 km/h (6 mph) or more, pulses are not input for 15 (2WD) / 30 (4WD) sec. 2. Momentary interruption of the speed sensor signal occurs at least 7 times in the time between switching the ignition switch ON and switching it OFF. 3. The speed sensor signal circuit is open circuit continues for 0.5 sec. or more.	• Right rear, left rear speed sensor • Each speed sensor circuit • Speed sensor rotor
C1238 / 38 C1239 / 39	Continuous noise occurs in to the speed sensor signals with the vehicle speed at 20 km/h (12 mph) or more continues for 5 sec or more.	• Right rear, left rear speed sensor • Speed sensor rotor

HINT:

DTC No. C0210/33, C1238/38 is the right rear speed sensor.

DTC No. C0215/34, C1239/39 is the left rear speed sensor.

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 HAND–HELD TESTER(SPEED SENSOR OUTPUT VALUE)

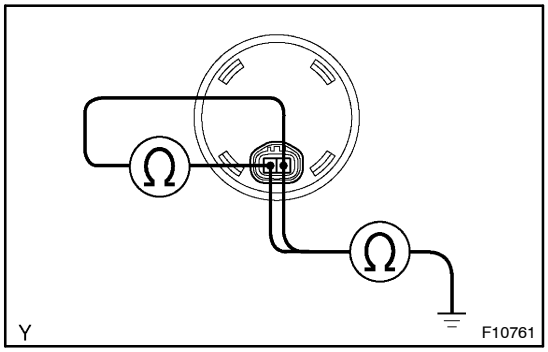
(a) Select the item "WHEEL SPEED RL (RR)" in the DATA LIST and read its value displayed on the hand–held tester.
(b) Check that there is no difference between the speed value output from the speed sensor displayed on the hand–held tester and the speed value displayed on the speedometer when driving the vehicle.
OK:
There is almost no difference from the displayed speed value.

HINT:
There is tolerance of ± 10 % in the speedometer indication.

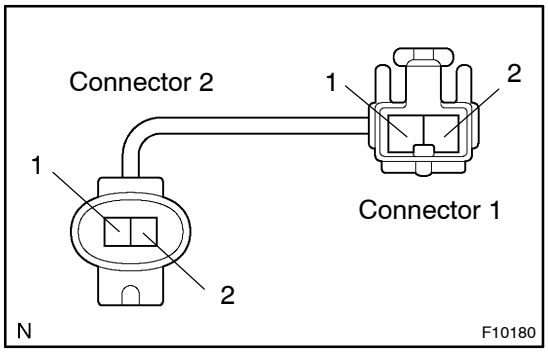
OK → **CHECK AND REPLACE SKID CONTROL ECU ASSY**

NG

2 INSPECT SKID CONTROL SENSOR



(a) Make sure that there is no looseness at the connector lock part and connecting part of the connector.
(b) Disconnect the sensor connector.
(c) Measure resistance between terminals 1 and 2 of sensor connector.
OK: 1.2 – 1.6 kΩ at 20°C
(d) Measure resistance between terminals 1 and 2 of sensor connector and body ground.
OK: 1 MΩ or higher



Skid control Sensor Sub–Wire Harness:
(a) Remove the seat cushion and seatback.
(b) Make sure that there is no looseness at the connector lock part and connecting part of the connector.
(c) Measure resistance between terminal 1 of connector 1 and terminal 2 of connector 2.
(d) Measure resistance between terminal 2 of connector 1 and terminal 1 of connector 2.
OK: 1 Ω or lower
(e) Measure resistance between terminals 1 and 2 of sensor connector 1 and body ground.
OK: 10 MΩ or higher

NG	REPLACE SKID CONTROL SENSOR OR SUB–WIRE HARNESS

NOTICE:
Check the speed sensor signal last (See page 05–511).

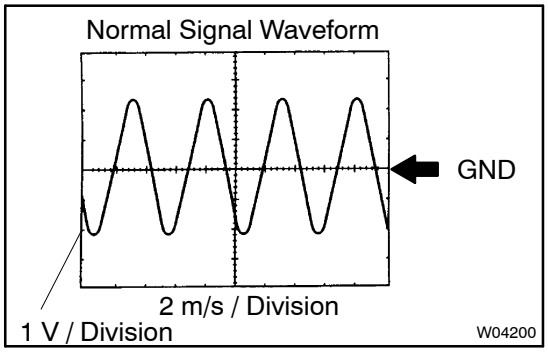
OK

3 CHECK HARNESS AND CONNECTOR(SPEED SENSOR – SKID CONTROL ECU ASSY)(See page 01–31)

NG	REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

4 CHECK SENSOR AND SENSOR ROTOR SERRATIONS



(REFERENCE) INSPECTION USING OSCILLOSCOPE

(a) Remove the skid control ECU with connectors still connected.

(b) Connect the oscilloscope to the terminals RR+ – RR– or RL+ – RL– of the skid control ECU.

(c) Drive the vehicle with about 20 km/h (12 mph), and check the signal waveform.

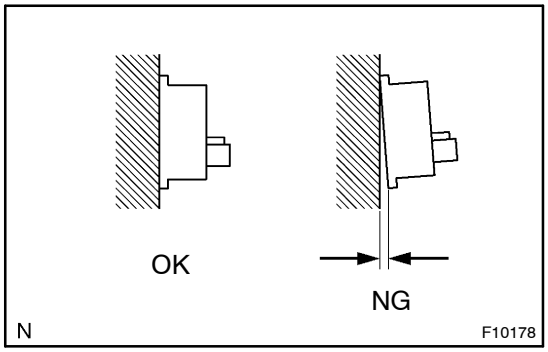
HINT:

- As the vehicle speed (rpm of the wheels) increases, a cycle of the waveform becomes shorter and the fluctuation in the output voltage becomes greater.
- When noise is identified in the waveform on the oscilloscope, error signals are generated due to the speed sensor rotor's scratches, looseness or foreign matter deposited on it.

OK → **CHECK AND REPLACE SKID CONTROL ECU ASSY**

NG

5 CHECK SKID CONTROL SENSOR INSTALLATION



(a) Check the sensor installation.

OK:

There is no clearance between the sensor and rear axle carrier.

NG → **REPAIR OR REPLACE SKID CONTROL SENSOR**

NOTICE:

Check the speed sensor signal last (See page 05–511).

OK

6 CHECK SPEED SENSOR ROTOR AND SENSOR TIP

NG → **CLEAN OR REPLACE SPEED SENSOR AND SENSOR ROTOR SERRATIONS**

NOTICE:

Check the speed sensor signal last (See page 05–511).

OK

CHECK AND REPLACE SKID CONTROL ECU ASSY