DTC	C0210/33	RIGHT REAR SPEED SENSOR CIRCUIT

DTC	C0215/34	LEFT REAR SPEED SENSOR CIRCUIT

050XO–09

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, C0205/32, C1235/35, C1236/36 on page 05–181.

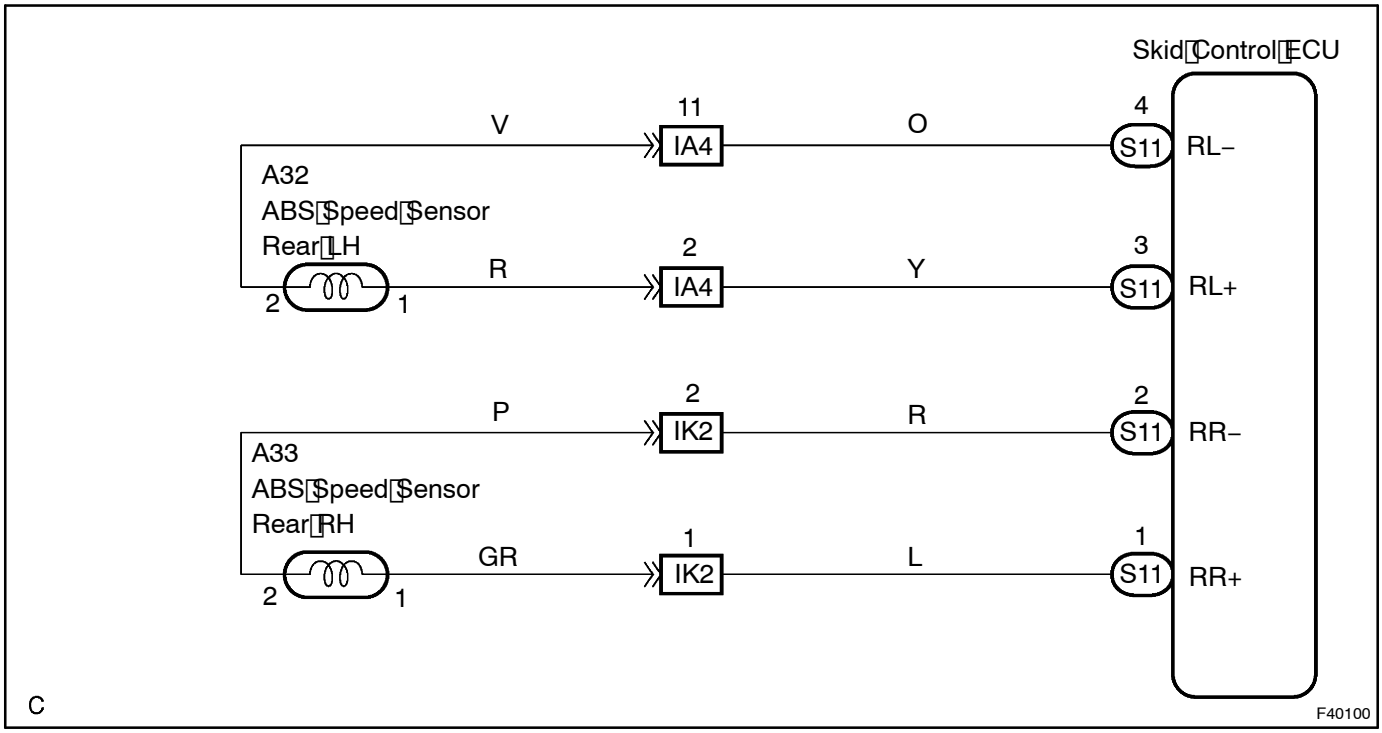
DTC No. C0200/	DTC Detecting Condition	Trouble Area
C0210/33 C0215/34 C1238/38 C1239/39	Detection of any of conditions from 1. through 4.: 1. With vehicle speed at 6 mph (10 km/h) or more, sensor signal circuit of faulty wheel is open or short for 1 sec. or longer. 2. Momentary interruption of sensor signal of faulty wheel has occurred 7 times or more. 3. With vehicle speed at 12 mph (20 km/h) or more, sensor signal of faulty wheel generated noise for 5 sec. or longer. 4. Sensor signal circuit is open for 0.5 sec. or longer.	• Right rear, left rear speed sensor • Each speed sensor circuit • Sensor installation • Sensor rotor

HINT:

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

DTC No. C0215/34, C1239/39 is for 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 hand-held tester.

1	READ VALUE OF HAND-HELD TESTER (SPEED SENSOR OUTPUT VALUE)

(a) Connect the hand-held tester to the DLC3.

(b) Start the engine.

(c) Select the DATA LIST mode on the hand-held tester.

Item	Measurement Item / Range (Display)	Normal Condition
WHEEL SPD RR	Wheel speed sensor (RR) reading / min.: 0 km/h (0 MPH), max.: 326 km/h (202 MPH)	Actual wheel speed
WHEEL SPD RL	Wheel speed sensor (RL) reading / min.: 0 km/h (0 MPH), max.: 326 km/h (202 MPH)	Actual wheel speed

(d) 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 in the displayed speed value.

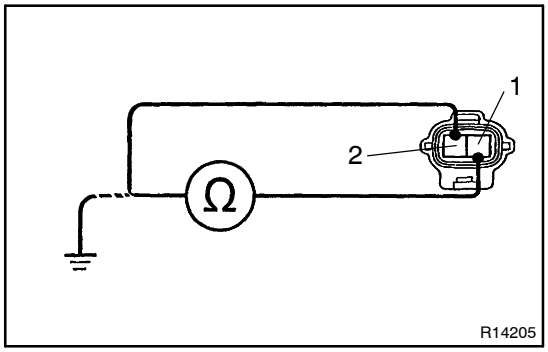
HINT:

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

OK → **REPLACE SKID CONTROL ECU ASSY (SEE PAGE 32-54)**

NG

2	INSPECT REAR SPEED SENSOR



(a) Disconnect the rear speed sensor connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
1 – 2	0.9 to 1.3 kΩ at 25°C

(c) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
1 – Body ground	10 kΩ or higher
2 – Body ground	10 kΩ or higher

NOTICE:

Check the speed sensor signal (See page 05–156).

NG → **REPLACE REAR SPEED SENSOR (SEE PAGE 32–47)**

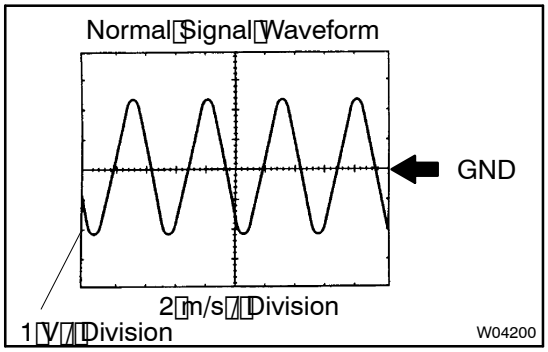
OK

3	CHECK HARNESS AND CONNECTOR(REAR SPEED SENSOR – SKID CONTROL ECU ASSY) (See page 01–33)

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

OK

4 CHECK SPEED SENSOR AND SENSOR ROTOR SERRATIONS



INSPECTION USING OSCILLOSCOPE

(a) Connect the oscilloscope to terminals FR+ – FR– and FL+ – FL– of the skid control ECU.

(b) Drive the vehicle at about 19 mph (30 km/h), and check the signal waveform.

OK:

A waveform as shown in a figure should be output.

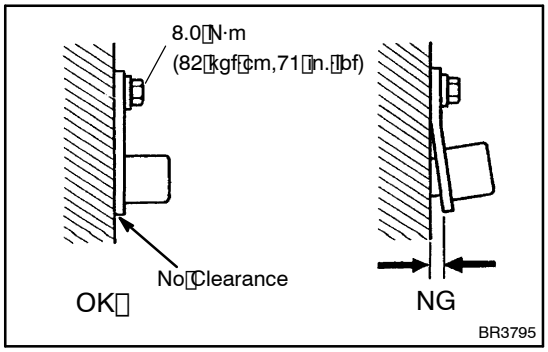
HINT:

- As vehicle speed (wheel revolution speed) increases, a cycle of the waveform narrows 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 attached to it.

OK	**REPLACE SKID CONTROL ECU ASSY (SEE PAGE 32–54)**

NG

5 CHECK REAR SPEED SENSOR INSTALLATION



(a) Check the speed sensor installation.

OK:

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

The installation bolt is tightened properly.

Torque: 8.0 N·m (82 kgf·cm, 71 in.·lbf)

NOTICE:

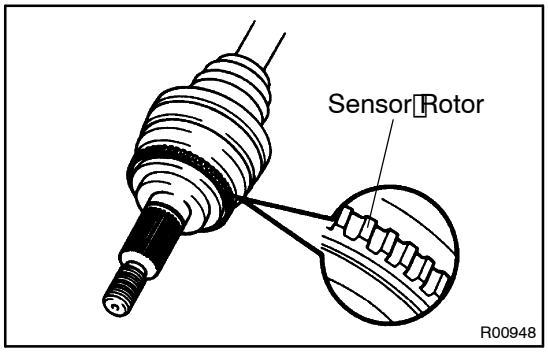
Check the speed sensor signal last (See page 05–156).

NG	**REPAIR REAR SPEED SENSOR (SEE PAGE 32–47)**

OK

6	CHECK SPEED SENSOR ROTOR AND SENSOR TIP

(a) Remove the rear speed sensor (See page 32–45).
(b) Check the sensor tip.
OK:
No scratches or foreign matter on the sensor tip.



(c) Remove the rear drive shaft (See page 30–20).
(d) Check the sensor rotor serrations.
OK:
No scratches, missing teeth or foreign matter.

HINT:
If foreign matter is attached, remove it and after reassembling, check the output waveform.

NOTICE:
Check the speed sensor signal last (See page 05–156).

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

OK

REPLACE SKID CONTROL ECU ASSY (SEE PAGE 32–54)