DTC	C0210/33	RIGHT REAR SPEED SENSOR

DTC	C0215/34	LEFT REAR SPEED SENSOR

CIRCUIT DESCRIPTION

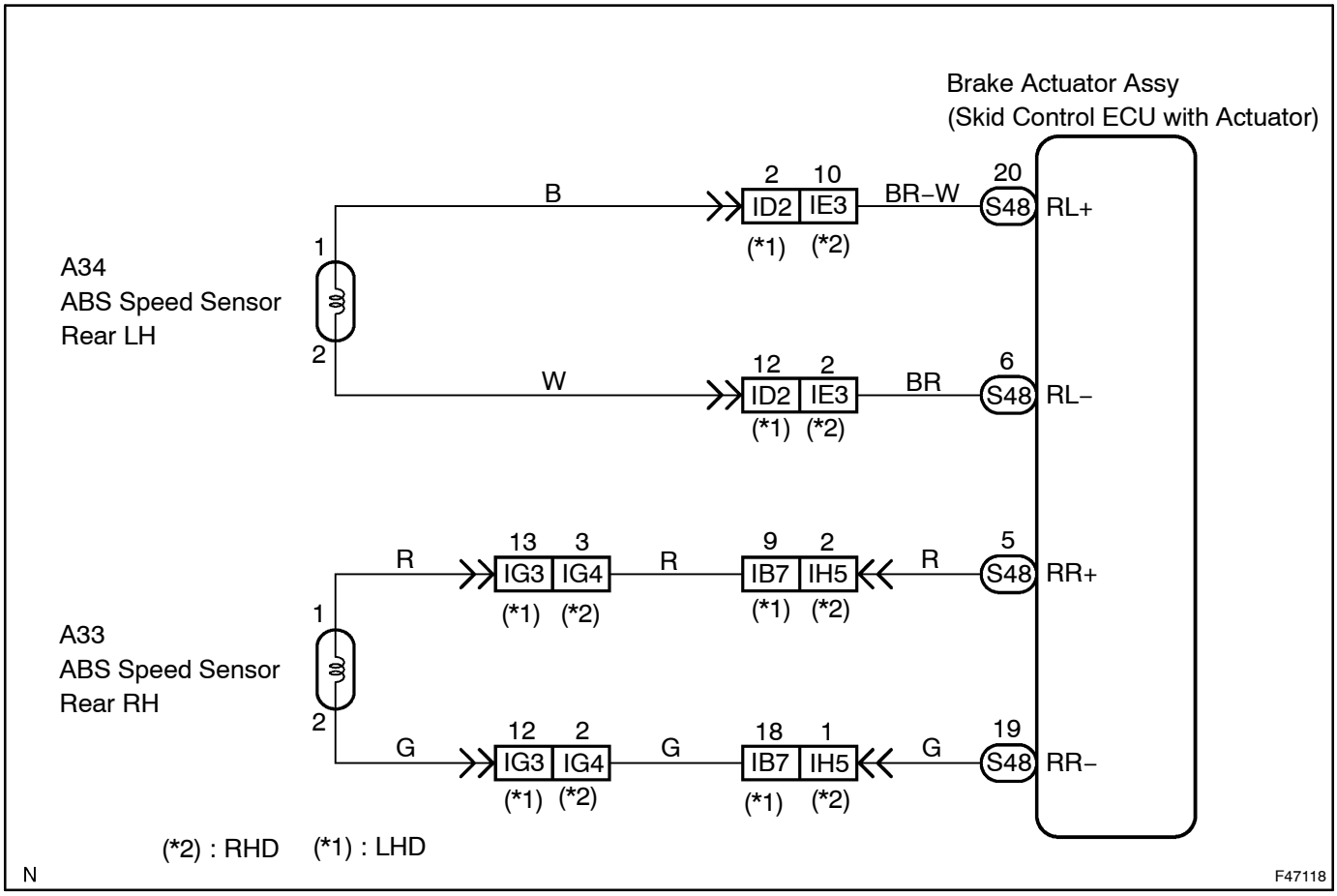
Refer to DTC C0200/31, C0205/32 on page 05–412.

DTC No.	DTC Detecting Condition	Trouble Area
C0210/33 C0215/34	(1) All the following conditions continue for at least 1 second. • Vehicle speed is more than 10 km/h (6 mph). • Open or short in vehicle speed sensor signal circuit. (2) Momentary interruption of the sensor signal of faulty wheel has occurred 7 times or more. (3) Sensor signal circuit is open for 0.5 seconds.	• Right rear and left rear speed sensor • Each speed sensor circuit • Sensor rotor • Sensor installation

HINT:

- DTC C0210/33 is for the right rear speed sensor.
- DTC C0215/34 is for the left rear speed sensor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK HARNESS AND CONNECTOR(MOMENTARY INTERRUPTION)

(a) Using the intelligent tester II, check for any momentary interruption in the wire harness and connector corresponding to a DTC (see page 05–385).

Item	Measurement Item / Range (Display)	Normal Condition
RR Speed Open	RR speed sensor open detection / OPEN or NORMAL	OPEN : Mormentary interruption
RL Speed Open	RL speed sensor open detection / OPEN or NORMAL	OPEN : Mormentary interruption

OK:

There are no momentary interruption.

HINT:

Perform the above inspection before removing the sensor and connector.

NG → **Go to step 5**

OK

2	READ VALUE OF INTELLIGENT TESTER II(REAR SPEED SENSOR)

(a) Connect the intelligent tester II to the DLC3.

(b) Start the engine.

(c) Select the DATA LIST mode on the intelligent tester II.

Item	Measurement Item / Range (Display)	Normal Condition
RL Wheel Speed	Wheel speed sensor (RL) reading / min.: 0 km/h (0 MPH, max.: 326 km/h (202 MPH)	Actual wheel speed
RR Wheel Speed	Wheel speed sensor (RR) 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 by the intelligent tester II and the speed value displayed on the speedometer when driving the vehicle.

OK:

There is almost no difference in the displayed speed value.

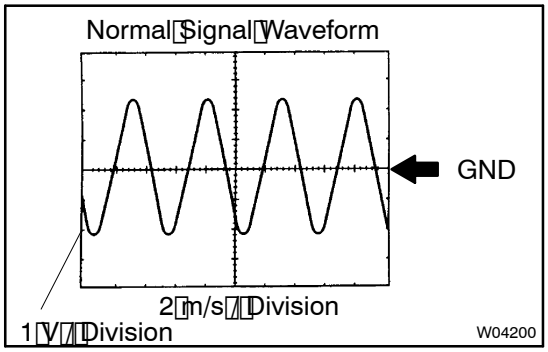
HINT:

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

NG → **Go to step 4**

OK

3	INSPECT SPEED SENSOR AND SENSOR ROTOR SERRATIONS



INSPECTION USING OSCILLOSCOPE

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

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

OK:

A waveform as shown in a figure should be output.

HINT:

- As the 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.

NG	Go to step 7

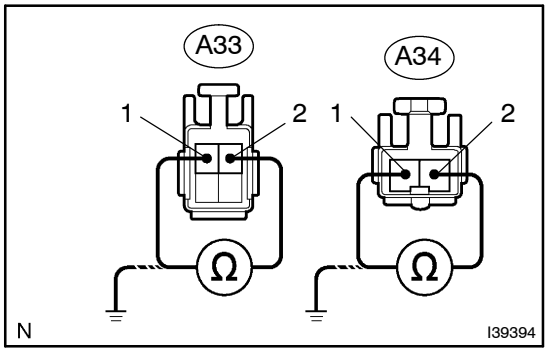
OK

REPLACE ABS & TRACTION ACTUATOR ASSY (SEE PAGE 32–53)

NOTICE:

When replacing the ABS & TRACTION actuator assy, perform zero point calibration (see page 05–387).

4 INSPECT REAR SPEED SENSOR



(a) Remove the rear seat cushion and seatback.

(b) Make sure that the speed sensor connector and the wire harness side connector are securely connected.

(c) Disconnect the speed sensor connector.

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

Standard:

LH:

Tester Connection	Specified Condition
(A34–1) – (A34–2)	0.6 to 1.8 kΩ

RH:

Tester Connection	Specified Condition
(A33–1) – (A33–2)	0.6 to 1.8 kΩ

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

Standard:

LH:

Tester Connection	Specified Condition
(A34–1) – Body ground	1 MΩ or higher
(A34–2) – Body ground	1 MΩ or higher

RH:

Tester Connection	Specified Condition
(A33–1) – Body ground	1 MΩ or higher
(A33–2) – Body ground	1 MΩ or higher

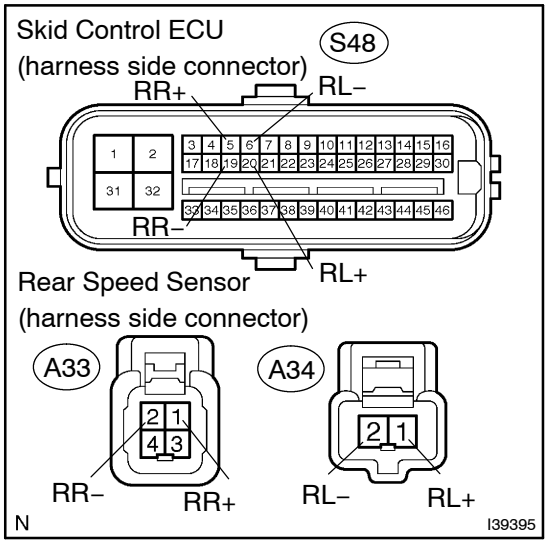
NOTICE:

Check the speed sensor signal after replacement (see page 05–389).

NG → **REPLACE REAR SPEED SENSOR (SEE PAGE 32–61)**

OK

5	CHECK HARNESS AND CONNECTOR(REAR SPEED SENSOR – SKID CONTROL ECU)



(a) Disconnect the skid control ECU connector and the rear speed sensor connector.

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

Standard:

LH:

Tester Connection	Specified Condition
S48–20 (RL+) – A34–1 (RL+)	Below 1 Ω
S48–6 (RL–) – A34–2 (RL–)	Below 1 Ω

RH:

Tester Connection	Specified Condition
S48–5 (RR+) – A33–1 (RR+)	Below 1 Ω
S48–19 (RR–) – A33–2 (RR–)	Below 1 Ω

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

Standard:

LH:

Tester Connection	Specified Condition
S48–20 (RL+) – Body ground	1 MΩ or higher
S48–6 (RL–) – Body ground	1 MΩ or higher

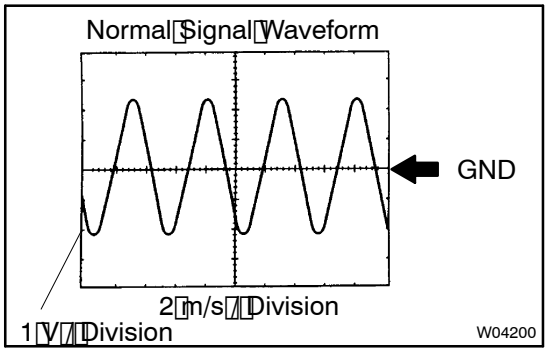
RH:

Tester Connection	Specified Condition
S48–5 (RR+) – Body ground	1 MΩ or higher
S48–19 (RR–) – Body ground	1 MΩ or higher

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

OK

6 INSPECT SPEED SENSOR AND SENSOR ROTOR SERRATIONS



INSPECTION USING OSCILLOSCOPE

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

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

OK:

A waveform as shown in a figure should be output.

- As the 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.

NG → **Go to step 7**

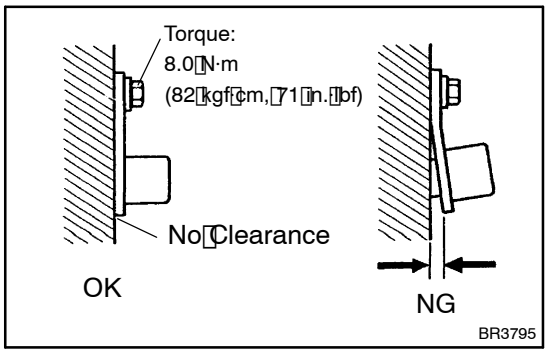
OK

REPLACE ABS & TRACTION ACTUATOR ASSY (SEE PAGE 32–53)

NOTICE:

When replacing the ABS & TRACTION actuator assy, perform zero point calibration (see page 05–387).

7 INSPECT REAR SPEED SENSOR INSTALLATION



(a) Check the 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 after the replacement (see page 05–389).

NG → **REPLACE REAR SPEED SENSOR**

OK

REPLACE ABS & TRACTION ACTUATOR ASSY (SEE PAGE 32–53)

NOTICE:

When replacing the ABS & TRACTION actuator assy, perform zero point calibration (see page 05–387).