

DTC	C0210/33	Rear Speed Sensor RH Circuit
DTC	C0215/34	Rear Speed Sensor LH Circuit
DTC	C1273/73	Low Output Signal of Rear Speed Sensor RH (Test Mode DTC)
DTC	C1274/74	Low Output Signal of Rear Speed Sensor LH (Test Mode DTC)

DESCRIPTION

Refer to DTC C0200/31 and C0205/32 (see page [BC-54](#)).

DTCs C1273/73 and C1274/74 can be deleted when the speed sensor sends a vehicle speed signal or the Test Mode ends. DTCs C1273/73 and C1274/74 are output only in the Test Mode.

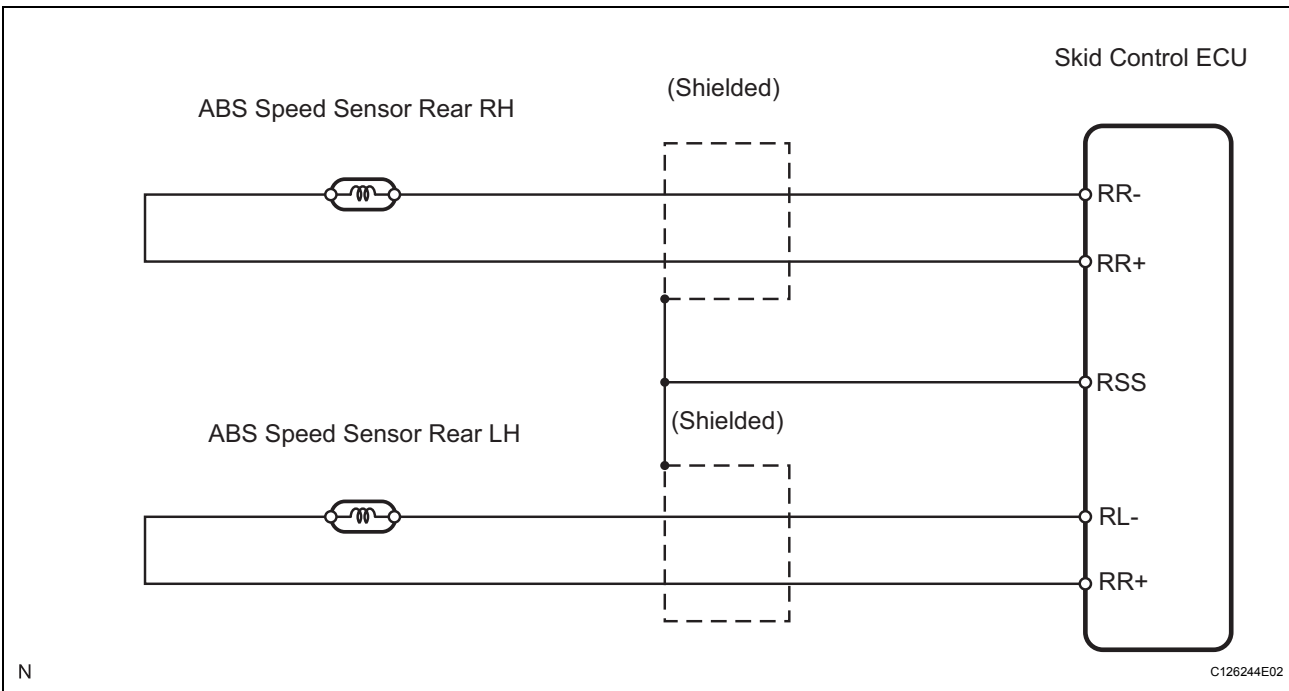
DTC No.	INF Code	DTC Detection Condition	Trouble Area
C0210/33	277 278 279 280 281 282 283 284 285 286 287 288	When one of following conditions is met: <ul style="list-style-type: none"> • Speed of a malfunctioning wheel is 0 mph (0 km/h) for at least 15 sec. when vehicle speed is 6 mph (10 km/h) or more. • Speed of the slowest wheel is less than 1/7th of the 2nd slowest wheel for at least 15 sec. when vehicle speed is 6 mph (10 km/h) or more. • Abnormal high wheel speed pulse is input for at least 15 sec. • Abnormal high wheel speed pulse is input at least 7 times when ECU is on. • Speed sensor pulse signal is instantly cut 7 times or more. • Speed sensor signal line is open for at least 0.5 sec. 	<ul style="list-style-type: none"> • Right rear and left rear speed sensor • Each speed sensor circuit • Sensor rotor • Sensor installation • Skid control ECU
C0215/34	290 291 292 293 294 295 296 297 298 299 300 301	When one of following conditions is met: <ul style="list-style-type: none"> • Speed of a malfunctioning wheel is 0 mph (0 km/h) for at least 15 sec. when vehicle speed is 6 mph (10 km/h) or more. • Speed of the slowest wheel is less than 1/7th of the 2nd slowest wheel for at least 15 sec. when vehicle speed is 6 mph (10 km/h) or more. • Abnormal high wheel speed pulse is input for at least 15 sec. • Abnormal high wheel speed pulse is input at least 7 times when ECU is on. • Speed sensor pulse signal is instantly cut 7 times or more. • Speed sensor signal line is open for at least 0.5 sec. 	<ul style="list-style-type: none"> • Right rear and left rear speed sensor • Each speed sensor circuit • Sensor rotor • Sensor installation • Skid control ECU

DTC No.	INF Code	DTC Detection Condition	Trouble Area
C1273/73 C1274/74	-	Detected only during test mode	<ul style="list-style-type: none"> • Rear speed sensor • Rear 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.
- The BRAKE warning light comes on when speed sensor malfunctions are detected in two or more wheels.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

When replacing the skid control ECU, perform initialization of linear solenoid valve and calibration (see page BC-19).

1	CHECK HARNESS AND CONNECTOR (MOMENTARY INTERRUPTION)
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- (a) Using the intelligent tester, check for any momentary interruption in the wire harness and connector corresponding to a DTC (see page BC-17).

BC

Skid control ECU

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
SPD SEN RR	RR speed sensor open detection / OPEN or NORMAL	NORMAL: Normal condition	-
SPD SEN RL	RL speed sensor open detection / OPEN or NORMAL	NORMAL: Normal condition	-

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 (REAR SPEED SENSOR)

- (a) Check the DATA LIST for proper functioning of the rear speed sensor.

Skid control ECU

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
WHEEL SPD RL	Wheel speed sensor (RL) reading / min.: 0 km/h (0 mph), max.: 326 km/h (202 mph)	Actual wheel speed	Similar speed as indicated on speedometer
WHEEL SPD RR	Wheel speed sensor (RR) reading / min.: 0 km/h (0 mph), max.: 326 km/h (202 mph)	Actual wheel speed	Similar speed as indicated on speedometer

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

- (a) Connect the oscilloscope to terminals RR+ and RR-, or RL+ and RL- of the skid control ECU.
- (b) Drive the vehicle at approximately 30 km/h (19 mph), and check the signal waveform.

OK:

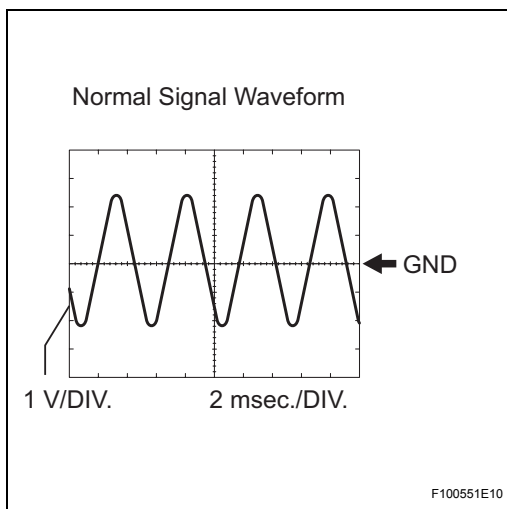
A waveform as shown should be output.

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 deposited on it.

NG

Go to step 7

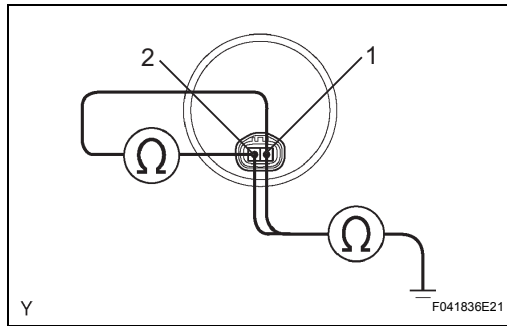


BC

OK

REPLACE SKID CONTROL ECU

4 INSPECT REAR SPEED SENSOR



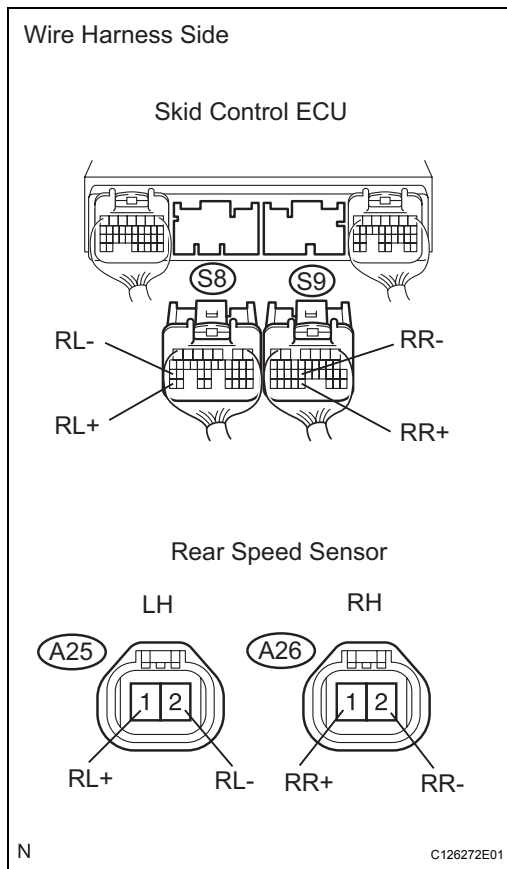
- (a) Disconnect the rear speed sensor connector.
 - (b) Measure the resistance of the sensor.
- Standard resistance**

Tester Connection	Specified Condition
1 - 2	1.04 to 1.30 kΩ
1 - Body ground	10 kΩ or higher
2 - Body ground	10 kΩ or higher

NG → REPLACE REAR SPEED SENSOR

OK

5 CHECK WIRE HARNESS (SKID CONTROL ECU - REAR SPEED SENSOR)



- (a) Disconnect the S8 and S9 ECU connectors.
 - (b) Disconnect the A25 and A26 sensor connectors.
 - (c) Measure the resistance of the wire harness side connectors.
- Standard resistance:**
for LH

Tester Connection	Specified Condition
A25-1 (RL+) - S8-35 (RL+)	Below 1 Ω
A25-2 (RL-) - S8-27 (RL-)	Below 1 Ω
A25-1 (RL+) - Body ground	10 kΩ or higher
A25-2 (RL-) - Body ground	10 kΩ or higher

for RH

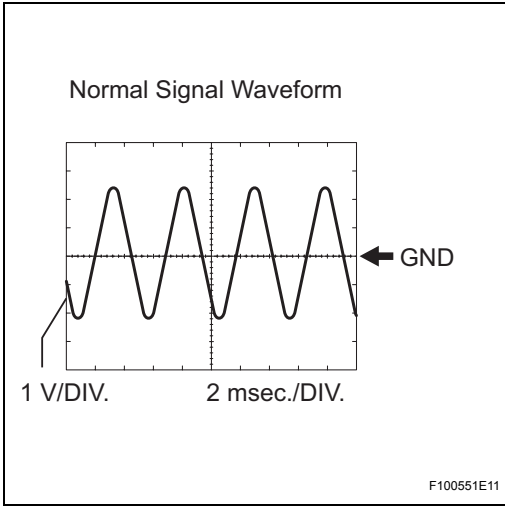
Tester Connection	Specified Condition
A26-1 (RR+) - S9-31 (RR+)	Below 1 Ω
A26-2 (RR-) - S9-23 (RR-)	Below 1 Ω
A26-1 (RR+) - Body ground	10 kΩ or higher
A26-2 (RR-) - Body ground	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

BC

6 INSPECT SPEED SENSOR AND SENSOR ROTOR SERRATIONS



- (a) Connect the oscilloscope to terminals RR+ and RR-, or RL+ and 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 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 deposited on it.

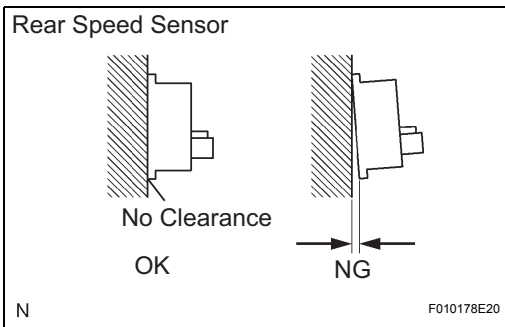
NG →

Go to step 7

OK

REPLACE SKID CONTROL ECU

7 REPLACE SKID CONTROL ECU



- (a) Check the sensor installation.

OK:

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

NOTICE:

Check the speed sensor signal after the replacement (see page BC-23).

NG →

REPLACE REAR SPEED SENSOR

OK

BC REPLACE SKID CONTROL ECU