DTC C1407 Open or Short in Rear Speed Sensor RH Circuit

DTC C1408 Open or Short in Rear Speed Sensor LH Circuit

for Preparation Click here

DESCRIPTION

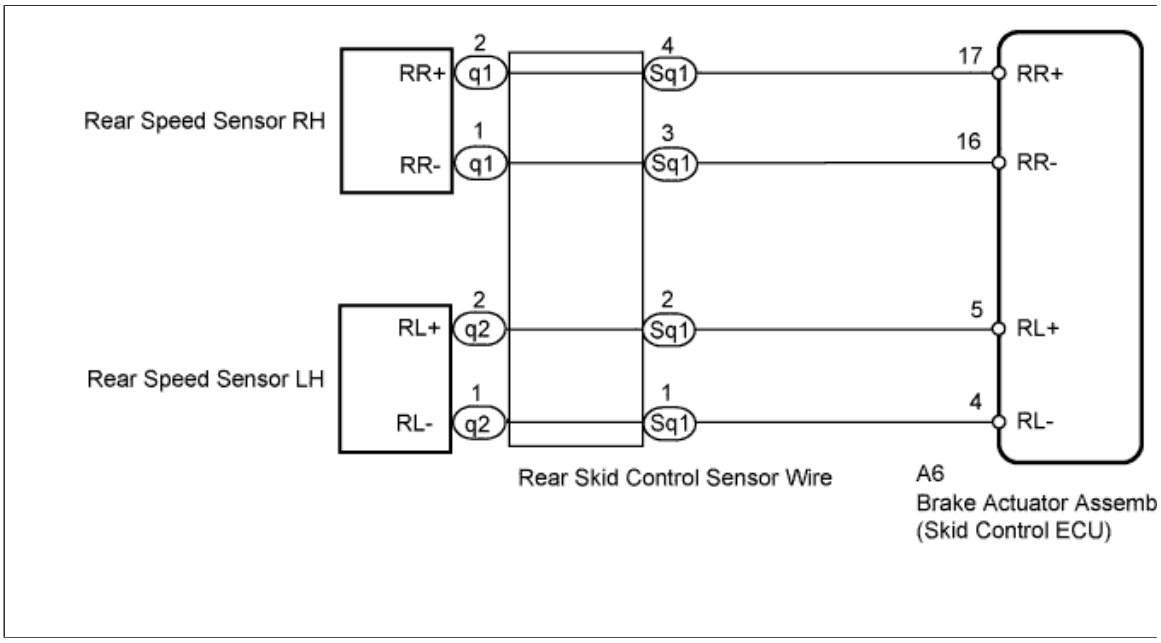
Refer to DTCs C1401 and C1402 (Click here).

DTC Code	DTC Detection Condition	Trouble Area
C1407 C1408	Either condition is met: 1. An open in the speed sensor signal circuit continues for 0.5 seconds or more. 2. With the IG1 terminal voltage at 9.5 V or higher, the sensor power supply voltage decreases for 0.5 seconds or more.	• Rear speed sensor RH/LH • Rear skid control sensor wire • Speed sensor circuit • Brake actuator assembly (Skid control ECU)

HINT:

- **DTC C1407 is for the rear speed sensor RH.**
- **DTC C1408 is for the rear speed sensor LH.**

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- **When replacing the brake actuator assembly, perform calibration (Click here).**
- **Check the speed sensor signal after replacement (Click here).**

1.CHECK HARNESS AND CONNECTOR (MOMENTARY INTERRUPTION)

a. Using the intelligent tester, check for any momentary interruption in the wire harness and connector corresponding to the DTC (Click here).

ABS/VSC/TRC

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RR Speed Open	Rear speed sensor RH open circuit detection/ Error or Normal	Normal	-
RL Speed Open	Rear speed sensor LH open circuit detection/ Error or Normal	Normal	-

OK:
Normal (there are no momentary interruptions).

HINT:

Perform the above inspection before removing the sensor and disconnecting the connector.

NG → **Go to step 4**

OK ↓

2.READ VALUE USING INTELLIGENT TESTER (RR/RL WHEEL SPEED)

a. Turn the ignition switch off

b. Connect the intelligent tester to the DLC3.

c. Start the engine.

d. Turn the intelligent tester on.

e. Enter the following menus: Chassis / ABS/VSC/TRC / Data List.

ABS/VSC/TRC

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RR Wheel Speed	Rear speed sensor RH value/ min.: 0 km/h (0 mph), max.: 326 km/h (202 mph)	Actual wheel speed	Changes continuously during acceleration/deceleration.
RL Wheel Speed	Rear speed sensor LH value/ min.: 0 km/h (0 mph), max.: 326 km/h (202 mph)	Actual wheel speed	Changes continuously during acceleration/deceleration.

f. Check the speed value output from the speed sensor displayed on the intelligent tester.

HINT:

Factors that affect the indicated vehicle speed include tire size, tire inflation and tire wear. The speed indicated on the speedometer has an allowable margin of error. This can be tested using a speedometer tester (calibrated chassis dynamometer). For details about testing and the margin of error, refer to the reference chart (Click here).

OK:
The speed value output from the speed sensor displayed on the intelligent tester is the same as the actual vehicle speed measured using a speedometer tester (calibrated chassis dynamometer).

NG → **Go to step 4**

OK ↓

3.RECONFIRM DTC

a. Turn the ignition switch off.

b. Clear the DTCs (Click here).

c. Start the engine.

d. Drive the vehicle at a speed of 40 km/h (25 mph) or more for at least 60 seconds.

e. Check if the same DTC is output (Click here).

Result

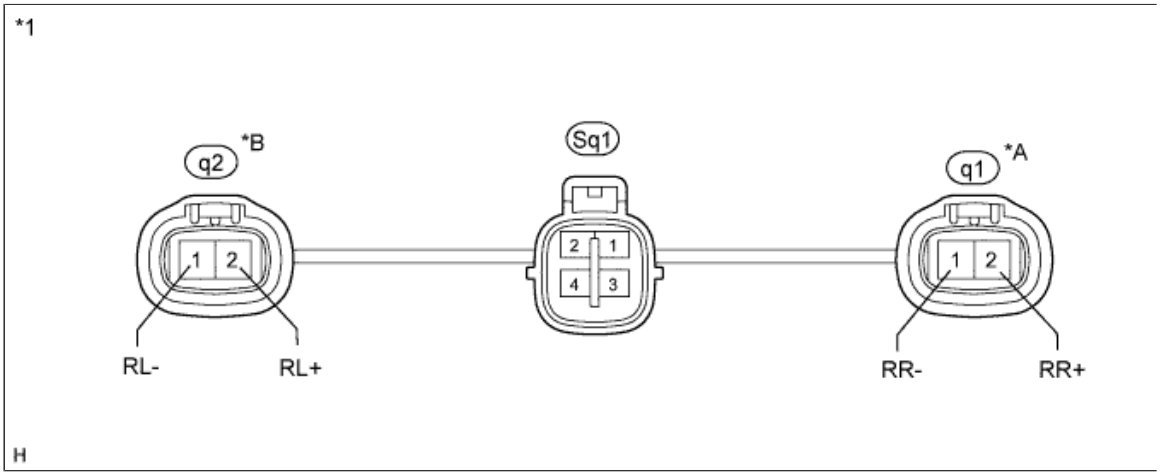
Result	Proceed to
DTC is not output	A
DTC is output	B

B → **REPLACE BRAKE ACTUATOR ASSEMBLY (Click here)**

A

USE SIMULATION METHOD TO CHECK (Click here)

4.INSPECT SKID CONTROL SENSOR WIRE



Text in Illustration

*A	for RH	*B	for LH
*1	Skid Control Sensor Wire	-	-

a. Make sure that there is no looseness at the locking parts and connecting parts of the connectors.

b. Remove the skid control sensor wire (Click here).

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

Standard Resistance:

for RH

Tester Connection	Condition	Specified Condition
Sq1-4 - q1-2 (RR+)	Always	Below 1 Ω
Sq1-3 - q1-1		

(RR-)	Always	Below 1 Ω
Sq1-4 - Sq1-3	Always	10 kΩ or higher
Sq1-4 - Sq1-1	Always	10 kΩ or higher
Sq1-4 - Sq1-2	Always	10 kΩ or higher

for LH

Tester Connection	Condition	Specified Condition
Sq1-2 - q2-2 (RL+)	Always	Below 1 Ω
Sq1-1 - q2-1 (RL-)	Always	Below 1 Ω
Sq1-2 - Sq1-1	Always	10 kΩ or higher
Sq1-2 - Sq1-3	Always	10 kΩ or higher
Sq1-2 - Sq1-4	Always	10 kΩ or higher

NG → **REPLACE SKID CONTROL SENSOR WIRE (Click here)**

OK

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

a. Install the skid control sensor wire.

b. Disconnect the A6 skid control ECU connector.

c. Disconnect the q1 and/or q2 speed sensor connector.

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

Standard Resistance:

for RH

Tester Connection	Condition	Specified Condition
A6-17 (RR+) - q1-2 (RR+)	Always	Below 1 Ω
A6-17 (RR+) - Body ground	Always	10 kΩ or higher
A6-16 (RR-) - q1-1 (RR-)	Always	Below 1 Ω
A6-16 (RR-) - Body ground	Always	10 kΩ or higher

for LH

Tester Connection	Condition	Specified Condition
A6-5 (RL+) - q2-2 (RL+)	Always	Below 1 Ω
A6-5 (RL+) - Body ground	Always	10 kΩ or higher
A6-4 (RL-) - q2-1 (RL-)	Always	Below 1 Ω

A6-4 (RL-) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

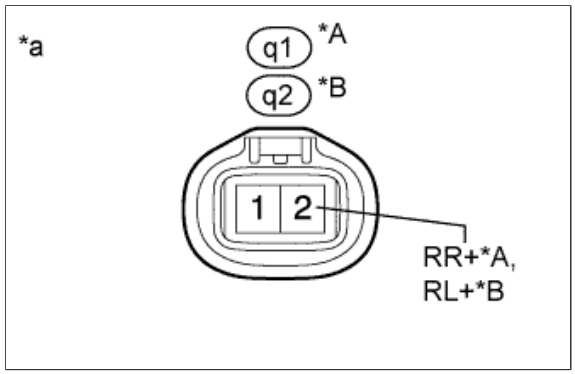
OK

6.CHECK TERMINAL VOLTAGE (RR+, RL+)

a. Connect the A6 skid control ECU connector.

b. Disconnect the q1 and/or q2 speed sensor connector.

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



Standard Voltage:

for RH

Tester Connection	Switch Condition	Specified Condition
q1-2 (RR+) - Body ground	Ignition switch ON	8 to 14 V

for LH

Tester Connection	Switch Condition	Specified Condition
q2-2 (RL+) - Body ground	Ignition switch ON	8 to 14 V

Text in Illustration

*A	for RH
*B	for LH
*a	Front view of wire harness connector (to Rear Speed Sensor)

NG → REPLACE BRAKE ACTUATOR ASSEMBLY (Click here)

OK

REPLACE REAR SPEED SENSOR (Click here)