| DTC | C0210/33 | RIGHT REAR WHEEL SPEED SENSOR SIGNAL MALFUNCTION |
|---|---|---|

| DTC | C0215/34 | LEFT REAR WHEEL SPEED SENSOR SIGNAL MALFUNCTION |
|---|---|---|

| DTC | C1238/38 | METAL STICK TO SPEED SENSOR (RR) |
|---|---|---|

| DTC | C1239/39 | METAL STICK TO SPEED SENSOR (RL) |
|---|---|---|

## CIRCUIT DESCRIPTION

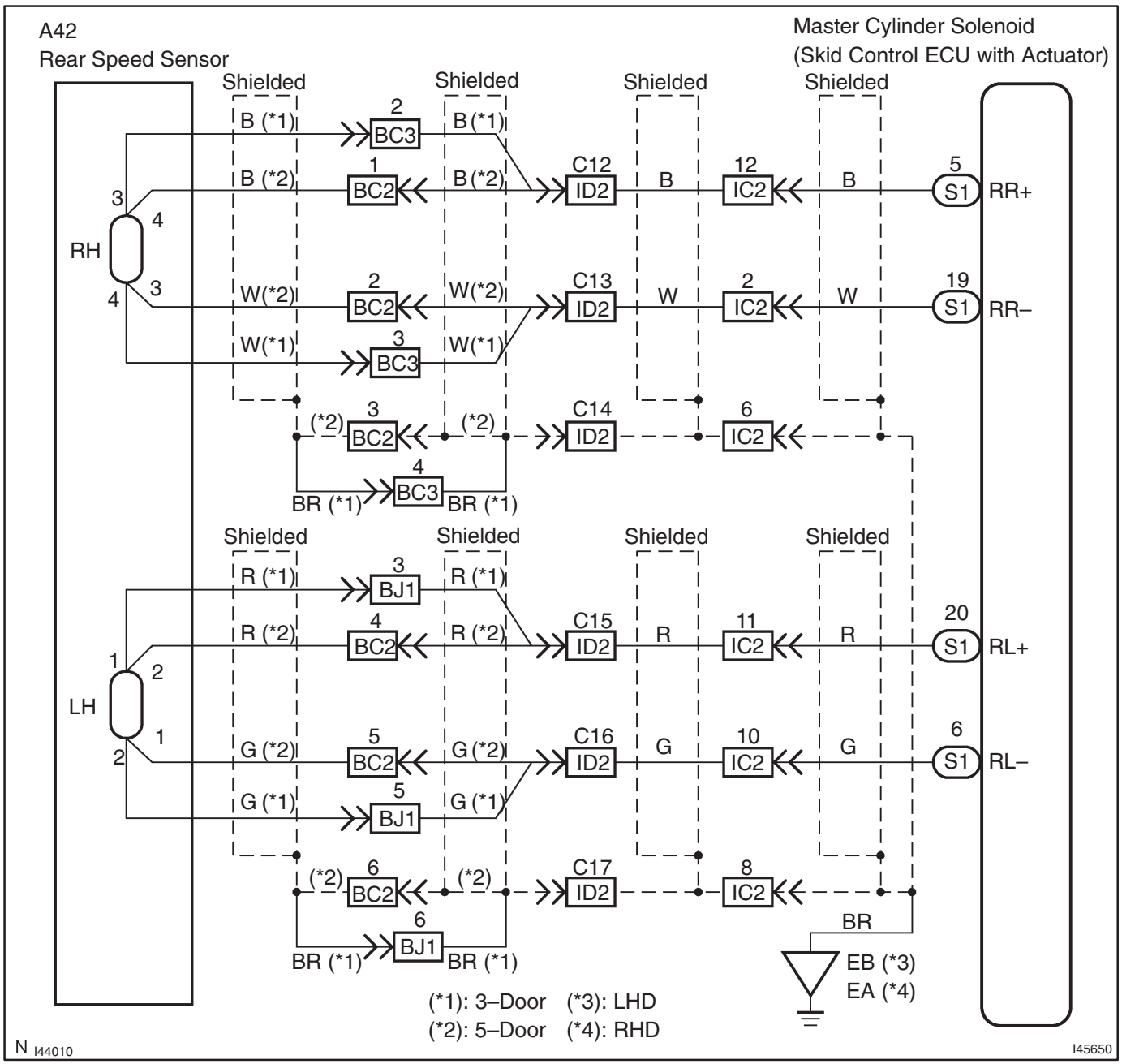
Refer to DTC C0200/31, C0205/32, C1235/35, and C1236/36 on page 05–780.

| DTC No. | DTC Detection Condition | Trouble Area |
|---|---|---|
| C0210/33<br>C0215/34 | When any of the following conditions is detected:<br>1. At a vehicle speed of 6 mph (10 km/h) or more, pulses are not input for 1 second.<br>2. Momentary interruption of the speed sensor signal occurs at least 255 times when switching the ignition switch ON and OFF.<br>3. Continuous noise occurs in speed sensor signals at a vehicle speed of 12 mph (20 km/h) or more.<br>4. Speed sensor signal circuit is open for 0.12 seconds or more. | • Right rear and left rear speed sensor<br>• Each speed sensor circuit<br>• Speed sensor rotor<br>• Sensor installation<br>• Master cylinder solenoid |
| C1238/38<br>C1239/39 | Continuous noise occurs in speed sensor signals when vehicle speed is 12 mph (20 km/h) or more for 5 seconds or more. | • Right rear and left rear speed sensor<br>• Speed sensor rotor<br>• Sensor installation<br>• Master cylinder solenoid |

HINT:

- DTC C0210/33 and C1238/38 are for the right rear speed sensor.
- DTC C0215/34 and C1239/39 are for the left rear speed sensor.

# WIRING DIAGRAM



## INSPECTION PROCEDURE

**NOTICE:**

**When replacing the master cylinder solenoid, perform zero point calibration (see page 05–744).**

HINT:

Start the inspection from step 1 when using the intelligent tester II and start from step 3 when not using the intelligent tester II.

| 1 | READ VALUE OF INTELLIGENT TESTER II (MOMENTARY INTERRUPTION OF REAR SPEED SENSOR) (SEE PAGE 05–742) |
|---|---|

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

(b) Turn the ignition switch to the ON position and push the intelligent tester II main switch ON.

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

| Item | Measurement Item/Range (Display) | Normal Condition | Diagnostic Note |
|---|---|---|---|
| RR Speed Open | Speed sensor open detection (RR)/OPN DET or NORMAL | OPN DET: Momentary interruption NORMAL: Normal | – |
| RL Speed Open | Speed sensor open detection (RL)/OPN DET or NORMAL | OPN DET: Momentary interruption NORMAL: Normal | – |

(d) Check for any momentary interruption in the wire harness and connector corresponding to a DTC.

**OK:**

**There are no momentary interruptions.**

HINT:

Perform the above inspection before removing the sensor and connector.

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

**OK**

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

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

(a) Check that there is no difference between the speed value output from the speed sensor displayed on the intelligent tester II and the speed value displayed on the speedometer when driving the vehicle.

**OK:**

**The speed value output from the speed sensor displayed on the intelligent tester II is the same as the actual vehicle speed.**

**NG** → **Go to step 4**

**OK**

| 3 | PERFORM TEST MODE (SIGNAL CHECK) (SEE PAGE 05–748) |
|---|---|

(a) Check if test mode (signal check) DTCs are detected.

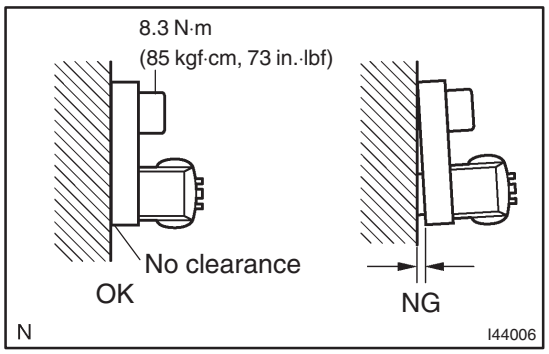
**Result:**

| | |
|---|---|
| Test mode (signal check) DTC is output | A |
| Test mode (signal check) DTC is not output | B |

**B** → **Go to step 9**

**A**

| 4 | INSPECT REAR SPEED SENSOR INSTALLATION |
|---|---|




(a) Check the speed sensor installation.

**OK:**

**• The installation nut is tightened properly.**
**Torque: 8.3 N·m (85 kgf·cm, 73 in.·lbf)**
**• There is no clearance between the sensor and the rear axle.**

**NG** → **INSTALL REAR SPEED SENSOR CORRECTLY OR REPLACE REAR SPEED SENSOR (SEE PUB. NO. RM990E, PAGE 32–88)**

**NOTICE:**
**Check the speed sensor signal after replacement (see page 05–748).**

**OK**

## 5 INSPECT SPEED SENSOR TIP

(a) Remove the rear speed sensor (see Pub. No. RM990E, page 32–88).
(b) Check the sensor tip.

**OK:**

**No scratches or foreign matter on the sensor tip.**

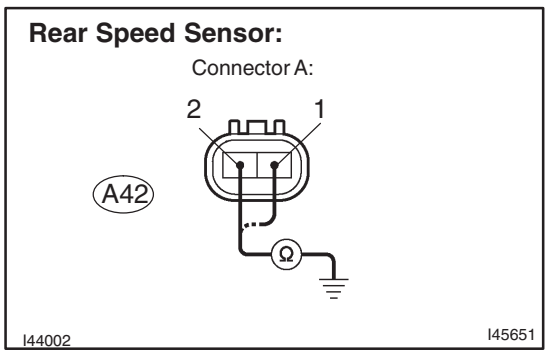
**NG** → **CLEAN OR REPLACE REAR SPEED SENSOR (SEE PUB. NO. RM990E, PAGE 32–88)**

**NOTICE:**

**Check the speed sensor signal after cleaning/replacement (see page 05–748).**

**OK**

## 6 INSPECT REAR SPEED SENSOR AND SKID CONTROL SENSOR WIRE




(a) Install the rear speed sensor.
(b) Turn the ignition switch off.
(c) Disconnect the rear speed sensor connector.
(d) Measure the resistance according to the value(s) in the table below.

**Standard:**

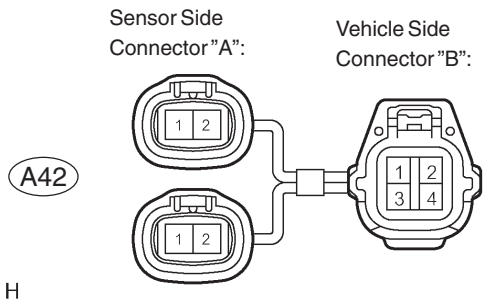
**RH:**

| Tester Connection | Specified Condition |
|---|---|
| A42 (A–2) (RR+) – Body ground | 10 kΩ or higher |
| A42 (A–1) (RR–) – Body ground | 10 kΩ or higher |

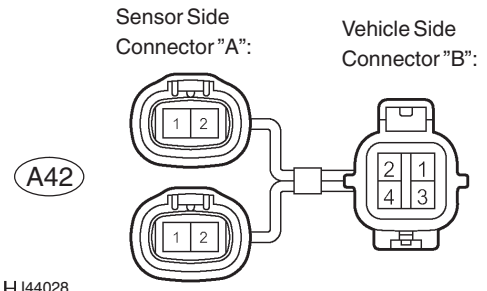
**LH:**

| Tester Connection | Specified Condition |
|---|---|
| A42 (A–2) (RL+) – Body ground | 10 kΩ or higher |
| A42 (A–1) (RL–) – Body ground | 10 kΩ or higher |

**Skid Control Sensor Wire (3–DOOR):**




**Skid Control Sensor Wire (5–DOOR):**




**Skid Control Sensor Wire:**

(e) Disconnect the skid control sensor wire.

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

**Standard:**

**RH (3–Door):**

| Tester Connection | Specified Condition |
|---|---|
| A42 ("A"–2) – A42 ("B"–3) | Below 1 Ω |
| A42 ("A"–2) – A42 ("B"–4) | 10 kΩ or higher |
| A42 ("A"–2) – Body ground | 10 kΩ or higher |
| A42 ("A"–1) – A42 ("B"–4) | Below 1 Ω |
| A42 ("A"–1) – A42 ("B"–3) | 10 kΩ or higher |
| A42 ("A"–1) – Body ground | 10 kΩ or higher |

**LH (3–Door):**

| Tester Connection | Specified Condition |
|---|---|
| A42 ("A"–2) – A42 ("B"–1) | Below 1 Ω |
| A42 ("A"–2) – A42 ("A"–2) | 10 kΩ or higher |
| A42 ("A"–2) – Body ground | 10 kΩ or higher |
| A42 ("A"–1) – A42 ("B"–2) | Below 1 Ω |
| A42 ("A"–1) – A42 ("B"–1) | 10 kΩ or higher |
| A42 ("A"–1) – Body ground | 10 kΩ or higher |

**RH (5–Door):**

| Tester Connection | Specified Condition |
|---|---|
| A42 ("A"–2) – A42 ("B"–4) | Below 1 Ω |
| A42 ("A"–2) – A42 ("B"–3) | 10 kΩ or higher |
| A42 ("A"–2) – Body ground | 10 kΩ or higher |
| A42 ("A"–1) – A42 ("B"–3) | Below 1 Ω |
| A42 ("A"–1) – A42 ("B"–4) | 10 kΩ or higher |
| A42 ("A"–1) – Body ground | 10 kΩ or higher |

**LH (5–Door):**

| Tester Connection | Specified Condition |
|---|---|
| A42 ("A"–2) – A42 ("B"–2) | Below 1 Ω |
| A42 ("A"–2) – A42 ("A"–1) | 10 kΩ or higher |
| A42 ("A"–2) – Body ground | 10 kΩ or higher |
| A42 ("A"–1) – A42 ("B"–1) | Below 1 Ω |
| A42 ("A"–1) – A42 ("B"–2) | 10 kΩ or higher |
| A42 ("A"–1) – Body ground | 10 kΩ or higher |

**NG** → **REPLACE REAR SPEED SENSOR OR SKID CONTROL SENSOR WIRE**

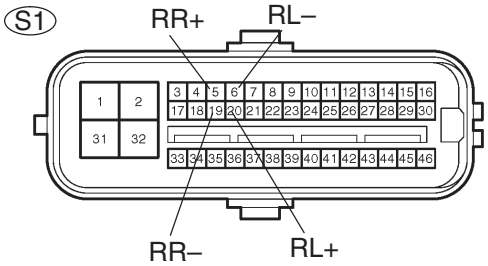
**NOTICE:**

**Check the speed sensor signal after replacement (see page 05–748).**

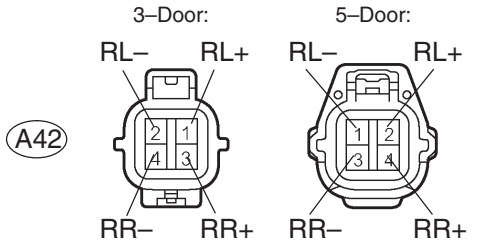
**OK**

| 7 | CHECK HARNESS AND CONNECTOR (BETWEEN SKID CONTROL ECU AND REAR SPEED SENSOR) (SEE PAGE 01–26) |
|---|---|

**Skid Control ECU (Wire Harness Side) Connector Front View:**




**Rear Speed Sensor (Wire Harness Side) Connector Front View:**




(a) Disconnect the skid control ECU connector.

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

**Standard:**

**RH (3–Door):**

| Tester Connection | Specified Condition |
|---|---|
| S1–5 (RR+) – A42–3 (RR+) | Below 1 Ω |
| S1–5 (RR+) – Body ground | 10 kΩ or higher |
| S1–19 (RR–) – A42–4 (RR–) | Below 1 Ω |
| S1–19 (RR–) – Body ground | 10 kΩ or higher |

**LH (3–Door):**

| Tester Connection | Specified Condition |
|---|---|
| S1–20 (RL+) – A42–1 (RL+) | Below 1 Ω |
| S1–20 (RL+) – Body ground | 10 kΩ or higher |
| S1–6 (RL–) – A42–2 (RL–) | Below 1 Ω |
| S1–6 (RL–) – Body ground | 10 kΩ or higher |

**RH (5–Door):**

| Tester Connection | Specified Condition |
|---|---|
| S1–5 (RR+) – A42–4 (RR+) | Below 1 Ω |
| S1–5 (RR+) – Body ground | 10 kΩ or higher |
| S1–19 (RR–) – A42–3 (RR–) | Below 1 Ω |
| S1–19 (RR–) – Body ground | 10 kΩ or higher |

**LH (5–Door):**

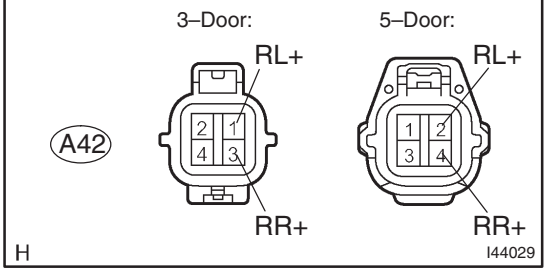
| Tester Connection | Specified Condition |
|---|---|
| S1–20 (RL+) – A42–2 (RL+) | Below 1 Ω |
| S1–20 (RL+) – Body ground | 10 kΩ or higher |
| S1–6 (RL–) – A42–1 (RL–) | Below 1 Ω |
| S1–6 (RL–) – Body ground | 10 kΩ or higher |

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

**OK**

## 8 INSPECT MASTER CYLINDER SOLENOID

**Rear Speed Sensor (Wire Harness Side) Connector Front View:**




(a) Reconnect the skid control ECU connector.
(b) Turn the ignition switch to the ON position.
(c) Measure the voltage according to the value(s) in the table below.

**Standard:**

**RH (3–DOOR):**

| Tester Connection | Specified Condition |
|---|---|
| A42–3 (RR+) – Body ground | 7.5 to 12 V |

**RH (3–DOOR):**

| Tester Connection | Specified Condition |
|---|---|
| A42–1 (RL+) – Body ground | 7.5 to 12 V |

**LH (5–DOOR):**

| Tester Connection | Specified Condition |
|---|---|
| A42–4 (RR+) – Body ground | 7.5 to 12 V |

**LH (5–DOOR):**

| Tester Connection | Specified Condition |
|---|---|
| A42–2 (RL+) – Body ground | 7.5 to 12 V |

**NG** → **REPLACE MASTER CYLINDER SOLENOID (SEE PAGE 32–12)**

**OK**

## 9 RECONFIRM DTC

(a) Clear the DTCs (see page 05–766).
(b) Drive the vehicle at a speed of approximately 20 mph (32 km/h) or more for 60 seconds or more.
(c) Check if the same pending DTCs are detected (see page 05–766).

HINT:
Reinstall the sensors, connectors, etc. and restore the previous vehicle conditions before rechecking for DTCs.

**Result:**

| | |
|---|---|
| DTC is output | A |
| DTC is not output (When troubleshooting in accordance with the DTC CHART.) | B |
| DTC is not output (When troubleshooting in accordance with the PROBLEM SYMPTOMS TABLE.) | C |

**B** → **END**

**C** → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–759)**

**A**

| 10 | REPLACE REAR SPEED SENSOR |
|---|---|

(a) Replace the rear speed sensor (see Pub. No. RM990E, page 32–88).

**NOTICE:**

**Check the speed sensor signal after replacement (see page 05–748).**

**NEXT**

| 11 | RECONFIRM DTC |
|---|---|

(a) Clear the DTCs (see page 05–766).

(b) Drive the vehicle at a speed of approximately 20 mph (32 km/h) or more for 60 seconds or more.

(c) Check if the same pending DTCs are detected (see page 05–766).

HINT:

Reinstall the sensors, connectors, etc. and restore the previous vehicle conditions before rechecking for DTCs.

**Result:**

| | |
|---|---|
| DTC is output | A |
| DTC is not output | B |

**B** → **END**

**A**

| 12 | INSPECT SPEED SENSOR ROTOR |
|---|---|

(a) Remove the rear axle bearing assy.

(b) Check the sensor rotor.

**OK:**

**No scratches, oil, or foreign matter on the rotors.**

**NG** → **CLEAN OR REPLACE REAR AXLE BEARING ASSY (SPEED SENSOR ROTOR) (SEE PUB. NO. RM990E, PAGE 30–40)**

**NOTICE:**

**Check the speed sensor signal after cleaning/replacement (see page 05–748).**

**OK**

**REPLACE MASTER CYLINDER SOLENOID (SEE PAGE 32–12)**