



# Technical Service Bulletin

SUBJECT:			No	<b>TSB-23-35-001</b>
<b>DIAGNOSTIC PROCEDURE CORRECTION FOR WHEEL SPEED SENSOR CIRCUIT - SERVICE MANUAL REVISION</b>			DATE	<b>January 2023</b>
			MODEL	<b>See below</b>
<b>CIRCULATE TO:</b>	<input type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER	<input checked="" type="checkbox"/> TECHNICIAN	
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input checked="" type="checkbox"/> WARRANTY PROCESSOR	<input type="checkbox"/> SALES MANAGER	

## PURPOSE

This TSB provides correction for the Wheel Speed Sensor Circuit.

## AFFECTED VEHICLES

- 2018-2020 and 2022-2023 Eclipse Cross

## AFFECTED SERVICE MANUAL

- 2018-2020 and 2022-2023 Eclipse Cross Service Manual, Group 35-Service Brakes

## PROCEDURE

Please use the chart below and replace the indicated pages of the affected Service Manual, Group 35 - Service Brakes, Active Stability System (ASC), Diagnosis.

Applicable manual	Pub. No.	Applicable title (SIE No.)	Contents
2018 ECLIPSE CROSS Service Manual	MSCD-020B-2018	ACTIVE STABILITY CONTROL SYSTEM (ASC) ↳DIAGNOSIS <ASC-ECU> ↳DTC C100A FL Wheel Speed Sensor Circuit DTC C1015 FR Wheel Speed Sensor Circuit DTC C1020 RL Wheel Speed Sensor Circuit DTC C102B RR Wheel Speed Sensor Circuit	Attached sheet 1
2019 ECLIPSE CROSS Service Manual	MSCD-020B-2019		
2020 ECLIPSE CROSS Service Manual	MSCD-020B-2020		
2022 ECLIPSE CROSS Service Manual	MSCD-020B-2022		Attached sheet 2
2023 ECLIPSE CROSS Service Manual	MSCD-020B-2023		



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## ACTIVE STABILITY CONTROL SYSTEM (ASC) DIAGNOSIS <ASC-ECU>

### DIAGNOSTIC TROUBLE CODE PROCEDURES

DTC C100A FL Wheel Speed Sensor Circuit  
DTC C1015 FR Wheel Speed Sensor Circuit  
DTC C1020 RL Wheel Speed Sensor Circuit  
DTC C102B RR Wheel Speed Sensor Circuit

#### CAUTION

- If there is any problem in the CAN bus lines, an incorrect DTC may be set. Prior to this diagnosis, diagnose the CAN bus lines (Refer to GROUP 54C – CAN Bus Diagnostics Table).
- Whenever ECU is replaced, ensure that the CAN bus lines are normal.

#### OPERATION

- The wheel speed sensor is a kind of a pulse generator. It consists of encoders (a plate on which north and south pole sides of the magnets are arranged alternately) for detecting the wheel speed which rotates at the same speed of the wheels and wheel speed sensors. This sensor outputs frequency pulse signals in proportion to the wheel speed.
- The pulse signals, which the wheel speed sensor creates, are sent to ASC-ECU. ASC-ECU uses the frequency of the pulse signals to determine the wheel speed.

#### DTC SET CONDITIONS

ASC-ECU monitors the voltage fluctuation in each wheel speed sensor circuit. If ASC-ECU detects the open or short circuit in the circuit, it will set a DTC.

#### PROBABLE CAUSES

##### Current trouble

- Damaged wiring harness and connectors
- Noise interference
- Malfunction of wheel speed sensor
- Malfunction of ASC-ECU

##### Past trouble

- Carry out diagnosis with particular emphasis on wiring harness and connector failures between ASC-ECU and the wheel speed sensor. For diagnostic procedures, refer to How to treat past trouble (GROUP 00 – How to Use Troubleshooting/How to Treat Past Trouble).

#### DIAGNOSIS

##### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

&lt;Incorrect&gt;

**STEP 1. Using scan tool (M.U.T.-III SE), diagnose the CAN bus line.****⚠ CAUTION****To prevent damage to scan tool (M.U.T.-III SE), always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-III SE).**

- (1) Connect scan tool (M.U.T.-III SE). Refer to "How to connect the Scan Tool (M.U.T.-III SE)."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

**Q: Is the check result normal?****YES :** Go to Step 3.**NO :** Repair the CAN bus lines (Refer to GROUP 54C – CAN Bus Diagnostics Table). On completion, go to Step 2.**STEP 2. DTC recheck after resetting CAN bus lines.**

- (1) Drive the vehicle at 20 km/h (12 mph) or higher.  
*NOTE: The ABS warning scan tool (M.U.T.-III SE) does not turn OFF in some cases unless the vehicle runs at 20 km/h (12 mph) or higher.*
- (2) Turn the ignition switch from the ON position to the LOCK (OFF) position.

**Q: Is DTC C100A, 1015, 1020 or 102B set?****YES :** Go to Step 3.**NO :** This diagnosis is complete.**STEP 3. Using scan tool (M.U.T.-III SE), check data list**

Check the following data list.

- Item No.01: FL wheel speed sensor
- Item No.02: FR wheel speed sensor
- Item No.03: RL wheel speed sensor
- Item No.04: RR wheel speed sensor

**Q: Is the check result normal?****YES :** Go to Step 10.**NO :** Go to Step 4.

&lt;Correct&gt; Attached sheet 5(7/14 to 14/14)

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

&lt;Incorrect&gt;

**STEP 4. Voltage measurement at the ASC-ECU connector (FL+, FL-, FR+, FR-, RL+, RL-, RR+, RR- terminal).**

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Turn the ignition switch to the "ON" position.

**DTC C100A is set**

- Measure the voltage between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: 1 V or less****DTC C1015 is set**

- Measure the voltage between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: 1 V or less****DTC C1020 is set**

- Measure the voltage between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: 1 V or less****DTC C102B is set**

- Measure the voltage between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: 1 V or less****Q: Is the check result normal?****YES** : Go to Step 5.**NO** : Go to Step 6.

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

&lt;Incorrect&gt;

**STEP 5. Resistance measurement at ASC-ECU connector (FL+, FL-, FR+, FR-, RL+, RL-, RR+, RR- terminal).**

Disconnect the connector, and measure at the wiring harness side.

**DTC C100A is set**

- Measure the resistance between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: No continuity****DTC C1015 is set**

- Measure the resistance between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: No continuity****DTC C1020 is set**

- Measure the resistance between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: No continuity****DTC C102B is set**

- Measure the resistance between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: No continuity****Q: Is the check result normal?****YES** : Go to Step 7.**NO** : Go to Step 6.**STEP 6. Check the wiring harness between the ASC-ECU connector terminal and the wheel speed sensor connector terminal.****DTC C100A is set**

- Check of short circuit in FL+, FL- line between ASC-ECU connector and front wheel speed sensor (LH) connector.

**DTC C1015 is set**

- Check of short circuit in FR+, FR- line between ASC-ECU connector and front wheel speed sensor (RH) connector.

**DTC C1020 is set**

- Check of short circuit in RL+, RL- line between ASC-ECU connector and rear wheel speed sensor (LH) connector.

**DTC C102B is set**

- Check of short circuit in RR+, RR- line between ASC-ECU connector and rear wheel speed sensor (LH) connector.

**Q: Is the check result normal?****YES** : Replace the wheel speed sensor.**NO** : Repair the connector(s) or wiring harness.

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

&lt;Incorrect&gt;

**STEP 7. Voltage and current measurement at each wheel speed sensors connector.**

- (1) Disconnect the wheel speed sensor connector, and measure at the wiring harness side.
- (2) Turn the ignition switch to the "ON" position.
- (3) Measure the voltage between the power supply terminal of each wheel speed sensors and the body ground.
- (4) Measure the output current at the special tool test harness (MB991709) to connect between the wheel speed sensor-side connector and the wiring harness connector.

**OK:**

&lt;Voltage&gt; System voltage

&lt;Current&gt; 5 – 9 mA or 11 – 17 mA

**Q: Is the check result normal?****YES** : Go to Step 10.**NO** : Go to Step 8.**STEP 8. Check the wiring harness between the ASC-ECU connector terminal and the wheel speed sensor connector terminal.****DTC C100A is set**

- Check of open circuit in FL+, FL- line between ASC-ECU connector and front wheel speed sensor (LH) connector.

**DTC C1015 is set**

- Check of open circuit in FR+, FR- line between ASC-ECU connector and front wheel speed sensor (RH) connector.

**DTC C1020 is set**

- Check of open circuit in RL+, RL- line between ASC-ECU connector and rear wheel speed sensor (LH) connector.

**DTC C102B is set**

- Check of open circuit in RR+, RR- line between ASC-ECU connector and rear wheel speed sensor (RH) connector.

**Q: Is the check result normal?****YES** : Go to Step 9.**NO** : Repair the connector(s) or wiring harness.**STEP 9. Check for wheel speed sensor as a single unit.****Q: Is the check result normal?****YES** : Go to Step 10.**NO** : Replace the wheel speed sensor.

## ACTIVE STABILITY CONTROL SYSTEM (ASC) DIAGNOSIS <ASC-ECU>

&lt;Incorrect&gt;

**STEP 10. Check whether the DTC is set again.**

- (1) Erase the DTC.
- (2) Drive the vehicle at 20 km/h (12 mph) or higher.

*NOTE: The ABS warning light does not turn OFF in some cases unless the vehicle runs at 20 km/h (12 mph) or higher.*

**Q: Is DTC C100A, C1015, C1020 or C102B set?**

**YES :** Replace the hydraulic unit (integrated with ASC-ECU).

**NO :** Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/How to Cope with Intermittent Malfunctions).

DTC C1011 FL Wheel Speed Sensor Signal  
DTC C101C FR Wheel Speed Sensor Signal  
DTC C1027 RL Wheel Speed Sensor Signal  
DTC C1032 RR Wheel Speed Sensor Signal

**⚠ CAUTION**

- If there is any problem in the CAN bus lines, an incorrect DTC may be set. Prior to this diagnosis, diagnose the CAN bus lines (Refer to GROUP 54C – CAN Bus Diagnostics Table).
- Whenever ECU is replaced, ensure that the CAN bus lines are normal.

**OPERATION**

- The wheel speed sensor is a kind of a pulse generator. It consists of encoders (a plate on which north and south pole sides of the magnets are arranged alternately) for detecting the wheel speed which rotates at the same speed of the wheels and wheel speed sensors. This sensor outputs frequency pulse signals in proportion to the wheel speed.
- The pulse signals, which the wheel speed sensor creates, are sent to ASC-ECU. ASC-ECU uses the frequency of the pulse signals to determine the wheel speed.

**DTC SET CONDITIONS**

ASC-ECU monitors the signals from each wheel speed sensor while the vehicle is being driven. If any fault below is found in these sensor signals, ASC-ECU will set the relevant DTC.

- Irregular change in the wheel speed sensor signal
- Wheel speed sensor signal continuously indicates high value.

**PROBABLE CAUSES****Current trouble**

- Excessive gap between the wheel speed sensor and the wheel speed detection encoder

**STEP 1. Voltage measurement at the ASC-ECU connector (FL+, FL-, FR+, FR-, RL+, RL-, RR+, RR- terminal)**

- (1) Disconnect the ASC-ECU connector, and measure at the wiring harness side.
- (2) Turn the ignition switch to the "ON" position.

**DTC C100A is set**

- Measure the voltage between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: 1 volt or less****DTC C1015 is set**

- Measure the voltage between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: 1 volt or less****DTC C1020 is set**

- Measure the voltage between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: 1 volt or less****DTC C102B is set**

- Measure the voltage between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: 1 volt or less****Q: Is the check result normal?****YES** : Go to Step 3.**NO** : Go to Step 2.



**STEP 2. Voltage measurement at the ASC-ECU connector.**

- (1) Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector.
- (2) Turn the ignition switch to the "ON" position.

**DTC C100A is set**

- Measure the voltage between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: 1 volt or less**

**DTC C1015 is set**

- Measure the voltage between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: 1 volt or less**

**DTC C1020 is set**

- Measure the voltage between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: 1 volt or less**

**DTC C102B is set**

- Measure the voltage between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: 1 volt or less**

**Q: Is the check result normal?**

**YES** : Replace the wheel speed sensor.

**NO** : Repair the connector(s) or wiring harness.

**STEP 3. Resistance measurement at ASC-ECU connector (FL+, FL-, FR+, FR-, RL+, RL-, RR+, RR- terminal)**

Disconnect the ASC-ECU connector, and measure at the wiring harness side of the ASC-ECU connector.

**DTC C100A is set**

- Measure the resistance between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: No continuity**

**DTC C1015 is set**

- Measure the resistance between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: No continuity**

**DTC C1020 is set**

- Measure the resistance between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: No continuity**

**DTC C102B is set**

- Measure the resistance between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: No continuity**

**Q: Is the check result normal?**

**YES** : Go to Step 5.

**NO** : Go to Step 4.

**STEP 4. Resistance measurement at ASC-ECU connector.**

Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector.

**DTC C100A is set**

- Measure the resistance between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: No continuity**

**DTC C1015 is set**

- Measure the resistance between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: No continuity**

**DTC C1020 is set**

- Measure the resistance between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: No continuity**

**DTC C102B is set**

- Measure the resistance between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: No continuity**

**Q: Is the check result normal?**

**YES** : Replace the wheel speed sensor.

**NO** : Repair the connector(s) or wiring harness.

**STEP 5. Resistance measurement at ASC-ECU connector.**

Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector.

**DTC C100A is set**

- Measure the resistance between the ASC-ECU connector (FL+ terminal) and (FL- terminal).

**OK: No continuity**

**DTC C1015 is set**

- Measure the resistance between the ASC-ECU connector (FR+ terminal) and (FR- terminal).

**OK: No continuity**

**DTC C1020 is set**

- Measure the resistance between the ASC-ECU connector (RL+ terminal) and (RL- terminal).

**OK: No continuity**

**DTC C102B is set**

- Measure the resistance between the ASC-ECU connector (RR+ terminal) and (RR- terminal).

**OK: No continuity**

**Q: Is the check result normal?**

**YES** : Go to Step 6.

**NO** : Repair the connector(s) or wiring harness.

**STEP 6. Voltage measurement at the wheel speed sensor connector.**

- (1) Disconnect the wheel speed sensor connector, and measure at the wiring harness side.
- (2) Turn the ignition switch to the "ON" position.

**DTC C100A is set**

- Measure the voltage between the wheel speed sensor connector (FL+ terminal) and the body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**DTC C1015 is set**

- Measure the voltage between the wheel speed sensor connector (FR+ terminal) and the body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**DTC C1020 is set**

- Measure the voltage between the wheel speed sensor connector (RL+ terminal) and the body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage)**

**DTC C102B is set**

- Measure the voltage between the wheel speed sensor connector (RR+ terminal) and the body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage)**

**Q: Is the check result normal?**

**YES :** Go to Step 8.

**NO :** Go to Step 7.

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**STEP 7. Resistance measurement at ASC-ECU connector and wheel speed sensor.**

Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector and wheel speed sensor connector.

**DTC C100A is set**

- Check of open circuit in FL+ line between ASC-ECU connector and front wheel speed sensor (LH) connector.

**OK: The resistance should be 2 ohms or less**

**DTC C1015 is set**

- Check of open circuit in FR+ line between ASC-ECU connector and front wheel speed sensor (RH) connector.

**OK: The resistance should be 2 ohms or less**

**DTC C1020 is set**

- Check of open circuit in RL+ line between ASC-ECU connector and rear wheel speed sensor (LH) connector.

**OK: The resistance should be 2 ohms or less**

**DTC C102B is set**

- Check of open circuit in RR+ line between ASC-ECU connector and rear wheel speed sensor (RH) connector.

**OK: The resistance should be 2 ohms or less**

**Q: Is the check result normal?**

**YES** : Go to Step 11.

**NO** : Repair the connector(s) or wiring harness.

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**STEP 8. Current measurement at each wheel speed sensors connector.**

Refer to On-vehicle service - Wheel speed sensor output current measurement.

**Q: Is the check result normal?**

**YES** : Go to Step 11.

**NO** : Go to Step 9.

**STEP 9. Resistance measurement at ASC-ECU connector and wheel speed sensor.**

Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector and wheel speed sensor connector.

**DTC C100A is set**

- Check of open circuit in FL- line between ASC-ECU connector and front wheel speed sensor (LH) connector.

**OK: The resistance should be 2 ohms or less**

**DTC C1015 is set**

- Check of open circuit in FR- line between ASC-ECU connector and front wheel speed sensor (RH) connector.

**OK: The resistance should be 2 ohms or less**

**DTC C1020 is set**

- Check of open circuit in RL- line between ASC-ECU connector and rear wheel speed sensor (LH) connector.

**OK: The resistance should be 2 ohms or less**

**DTC C102B is set**

- Check of open circuit in RR- line between ASC-ECU connector and rear wheel speed sensor (RH) connector.

**OK: The resistance should be 2 ohms or less**

**Q: Is the check result normal?**

**YES** : Go to Step 10.

**NO** : Repair the connector(s) or wiring harness.

**STEP 10. Check for wheel speed sensor as a single unit.**

Refer to Wheel speed sensor - Wheel speed sensor inspection.

**Q: Is the check result normal?**

**YES** : Go to Step 11.

**NO** : Replace the wheel speed sensor.

**STEP 11. Check whether the DTC is set again.**

- (1) Erase the DTC.
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Turn the ignition switch to the "ON" position.
- (4) Drive the vehicle at 20 km/h (12 mph) or higher.

NOTE: The ABS warning light does not turn OFF in some cases unless the vehicle runs at 20 km/h (12 mph) or higher.

**Q: Is DTC C100A, C1015, C1020 or C102B set?**

**YES** : Replace the hydraulic unit (integrated with ASC-ECU).

**NO** : Intermittent malfunction (Refer to GROUP 00 - How to Use Troubleshooting/How to Cope with Intermittent Malfunctions).

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

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## DIAGNOSTIC TROUBLE CODE PROCEDURES

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DTC C100A FL Wheel Speed Sensor Circuit  
DTC C1015 FR Wheel Speed Sensor Circuit  
DTC C1020 RL Wheel Speed Sensor Circuit  
DTC C102B RR Wheel Speed Sensor Circuit

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**⚠ CAUTION**

- If there is any problem in the CAN bus lines, an incorrect DTC may be set. Prior to this diagnosis, diagnose the CAN bus lines (Refer to GROUP 54C - CAN Bus Diagnostics Table).
- Whenever ECU is replaced, ensure that the CAN bus lines are normal.

### OPERATION

- The wheel speed sensor is a kind of a pulse generator. It consists of encoders (a plate on which north and south pole sides of the magnets are arranged alternately) for detecting the wheel speed which rotates at the same speed of the wheels and wheel speed sensors. This sensor outputs frequency pulse signals in proportion to the wheel speed.
- The pulse signals, which the wheel speed sensor creates, are sent to ASC-ECU. ASC-ECU uses the frequency of the pulse signals to determine the wheel speed.

### DTC SET CONDITIONS

ASC-ECU monitors the voltage fluctuation in each wheel speed sensor circuit. If ASC-ECU detects the open or short circuit in the circuit, it will set a DTC.

### PROBABLE CAUSES

#### Current trouble

- Damaged wiring harness and connectors
- Noise interference
- Malfunction of wheel speed sensor
- Malfunction of ASC-ECU

#### Past trouble

- Carry out diagnosis with particular emphasis on wiring harness and connector failures between ASC-ECU and the wheel speed sensor. For diagnostic procedures, refer to How to treat past trouble (GROUP 00 - How to Use Troubleshooting/How to Treat Past Trouble).



**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

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**DIAGNOSIS****Required Special Tools:**

- MB991223: Harness Set

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**STEP 1. Voltage measurement at the ASC-ECU connector  
(FL+, FL-, FR+, FR-, RL+, RL-, RR+, RR- terminal)**

- (1) Disconnect the ASC-ECU connector, and measure at the wiring harness side.
- (2) Turn the ignition switch to the "ON" position.

**DTC C100A is set**

- Measure the voltage between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: 1 volt or less****DTC C1015 is set**

- Measure the voltage between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: 1 volt or less****DTC C1020 is set**

- Measure the voltage between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: 1 volt or less****DTC C102B is set**

- Measure the voltage between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: 1 volt or less****Q: Is the check result normal?****YES** : Go to Step 3.**NO** : Go to Step 2.

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

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**STEP 2. Voltage measurement at the ASC-ECU connector.**

- (1) Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector.
- (2) Turn the ignition switch to the "ON" position.

**DTC C100A is set**

- Measure the voltage between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: 1 volt or less****DTC C1015 is set**

- Measure the voltage between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: 1 volt or less****DTC C1020 is set**

- Measure the voltage between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: 1 volt or less****DTC C102B is set**

- Measure the voltage between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: 1 volt or less****Q: Is the check result normal?****YES** : Replace the wheel speed sensor.**NO** : Repair the connector(s) or wiring harness.

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

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**STEP 3. Resistance measurement at ASC-ECU connector  
(FL+, FL-, FR+, FR-, RL+, RL-, RR+, RR- terminal)**

Disconnect the ASC-ECU connector, and measure at the wiring harness side of the ASC-ECU connector.

**DTC C100A is set**

- Measure the resistance between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: No continuity**

**DTC C1015 is set**

- Measure the resistance between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: No continuity**

**DTC C1020 is set**

- Measure the resistance between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: No continuity**

**DTC C102B is set**

- Measure the resistance between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: No continuity**

**Q: Is the check result normal?**

**YES** : Go to Step 5.

**NO** : Go to Step 4.

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

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**STEP 4. Resistance measurement at ASC-ECU connector.**  
Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector.

**DTC C100A is set**

- Measure the resistance between the ASC-ECU connector (FL+ terminal) and the body ground, and between the ASC-ECU connector (FL- terminal) and the body ground.

**OK: No continuity**

**DTC C1015 is set**

- Measure the resistance between the ASC-ECU connector (FR+ terminal) and the body ground, and between the ASC-ECU connector (FR- terminal) and the body ground.

**OK: No continuity**

**DTC C1020 is set**

- Measure the resistance between the ASC-ECU connector (RL+ terminal) and the body ground, and between the ASC-ECU connector (RL- terminal) and the body ground.

**OK: No continuity**

**DTC C102B is set**

- Measure the resistance between the ASC-ECU connector (RR+ terminal) and the body ground, and between the ASC-ECU connector (RR- terminal) and the body ground.

**OK: No continuity**

**Q: Is the check result normal?**

**YES** : Replace the wheel speed sensor.

**NO** : Repair the connector(s) or wiring harness.

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

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**STEP 5. Resistance measurement at ASC-ECU connector.**

Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector.

**DTC C100A is set**

- Measure the resistance between the ASC-ECU connector (FL+ terminal) and (FL- terminal).

**OK: No continuity**

**DTC C1015 is set**

- Measure the resistance between the ASC-ECU connector (FR+ terminal) and (FR- terminal).

**OK: No continuity**

**DTC C1020 is set**

- Measure the resistance between the ASC-ECU connector (RL+ terminal) and (RL- terminal).

**OK: No continuity**

**DTC C102B is set**

- Measure the resistance between the ASC-ECU connector (RR+ terminal) and (RR- terminal).

**OK: No continuity**

**Q: Is the check result normal?**

**YES** : Go to Step 6.

**NO** : Repair the connector(s) or wiring harness.

**ACTIVE STABILITY CONTROL SYSTEM (ASC)  
DIAGNOSIS <ASC-ECU>**

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**STEP 6. Voltage measurement at the wheel speed sensor connector.**

- (1) Disconnect the wheel speed sensor connector, and measure at the wiring harness side.
- (2) Turn the ignition switch to the "ON" position.

**DTC C100A is set**

- Measure the voltage between the wheel speed sensor connector (FL+ terminal) and the body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**DTC C1015 is set**

- Measure the voltage between the wheel speed sensor connector (FR+ terminal) and the body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**DTC C1020 is set**

- Measure the voltage between the wheel speed sensor connector (RL+ terminal) and the body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage)**

**DTC C102B is set**

- Measure the voltage between the wheel speed sensor connector (RR+ terminal) and the body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage)**

**Q: Is the check result normal?**

**YES :** Go to Step 8.

**NO :** Go to Step 7.

## ACTIVE STABILITY CONTROL SYSTEM (ASC) DIAGNOSIS <ASC-ECU>

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### STEP 7. Resistance measurement at ASC-ECU connector and wheel speed sensor.

Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector and wheel speed sensor connector.

#### DTC C100A is set

- Check of open circuit in FL+ line between ASC-ECU connector and front wheel speed sensor (LH) connector.

**OK: The resistance should be 2 ohms or less**

#### DTC C1015 is set

- Check of open circuit in FR+ line between ASC-ECU connector and front wheel speed sensor (RH) connector.

**OK: The resistance should be 2 ohms or less**

#### DTC C1020 is set

- Check of open circuit in RL+ line between ASC-ECU connector and rear wheel speed sensor (LH) connector.

**OK: The resistance should be 2 ohms or less**

#### DTC C102B is set

- Check of open circuit in RR+ line between ASC-ECU connector and rear wheel speed sensor (RH) connector.

**OK: The resistance should be 2 ohms or less**

#### Q: Is the check result normal?

**YES** : Go to Step 11.

**NO** : Repair the connector(s) or wiring harness.

---

### STEP 8. Current measurement at each wheel speed sensors connector.

<Incorrect> Refer to ~~Wheel speed sensor - Wheel speed sensor inspection~~

#### Q: Is the check result normal?

**YES** : Go to Step 11.

**NO** : Go to Step 9.

<Correct> On-vehicle service - Wheel speed sensor output current measurement

## ACTIVE STABILITY CONTROL SYSTEM (ASC) DIAGNOSIS <ASC-ECU>

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### STEP 9. Resistance measurement at ASC-ECU connector and wheel speed sensor.

Disconnect the ASC-ECU connector and wheel speed sensor connector, and measure at the wiring harness side of the ASC-ECU connector and wheel speed sensor connector.

#### DTC C100A is set

- Check of open circuit in FL- line between ASC-ECU connector and front wheel speed sensor (LH) connector.

**OK: The resistance should be 2 ohms or less**

#### DTC C1015 is set

- Check of open circuit in FR- line between ASC-ECU connector and front wheel speed sensor (RH) connector.

**OK: The resistance should be 2 ohms or less**

#### DTC C1020 is set

- Check of open circuit in RL- line between ASC-ECU connector and rear wheel speed sensor (LH) connector.

**OK: The resistance should be 2 ohms or less**

#### DTC C102B is set

- Check of open circuit in RR- line between ASC-ECU connector and rear wheel speed sensor (RH) connector.

**OK: The resistance should be 2 ohms or less**

#### Q: Is the check result normal?

**YES** : Go to Step 10.

**NO** : Repair the connector(s) or wiring harness.

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### STEP 10. Check for wheel speed sensor as a single unit.

Refer to  **<Added>**

**Wheel speed sensor - Wheel speed sensor inspection**

#### Q: Is the check result normal?

**YES** : Go to Step 11.

**NO** : Replace the wheel speed sensor.

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### STEP 11. Check whether the DTC is set again.

- (1) Erase the DTC.
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Turn the ignition switch to the "ON" position.
- (4) Drive the vehicle at 20 km/h (12 mph) or higher.

NOTE: The ABS warning light does not turn OFF in some cases unless the vehicle runs at 20 km/h (12 mph) or higher.

#### Q: Is DTC C100A, C1015, C1020 or C102B set?

**YES** : Replace the hydraulic unit (integrated with ASC-ECU).

**NO** : Intermittent malfunction (Refer to GROUP 00 - How to Use Troubleshooting/How to Cope with Intermittent Malfunctions).