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<td>Description</td>
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<td>Description</td>
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<td>DTC Logic</td>
<td>34</td>
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<tr>
<td>Diagnosis Procedure</td>
<td>34</td>
</tr>
<tr>
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<td>35</td>
</tr>
</tbody>
</table>
OVERALL SEQUENCE

1. Interview from the customer
Get the detailed information about symptom from the customer.

2. Check DTC
Symptom is described. DTC is detected.
Symptom is not described. DTC is detected.
Symptom is described. DTC is not detected.

3. Reproduce the malfunction information
Check the malfunction described by the customer on the vehicle.

4. Reproduce the malfunction information
Check the malfunction described by the customer on the vehicle.

5. Perform DTC CONFIRMATION PROCEDURE

6. Identify malfunctioning system with “SYMPTOM DIAGNOSIS”

7. Identify malfunctioning parts with “COMPONENT DIAGNOSIS”

8. Repair or replace the malfunctioning part
Reproduce the DTC

9. Final check
Make sure that the symptom is not detected. Perform DTC Confirmation Procedure again, and then make sure that the malfunction can be repaired securely.

OK

Trouble diagnosis END

DETAILED FLOW

1. OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurs.
< BASIC INSPECTION >

>> GO TO 2.

2. CHECK DTC

1. Check for DTC.
2. If a DTC exists, perform the following operations.
   - Records the DTCs.
   - Erase DTCs
   - Check that the root cause clarified with DTC matches to the malfunction information described by the customer.
3. Check also the related service information or others.

Do malfunction information and or DTC exist?
   - Malfunction information and DTC exist. >> GO TO 3.
   - Malfunction information exists but no DTC. >> GO TO 4.
   - No malfunction information, but DTC exists. >> GO TO 5.

3. REPRODUCE THE MALFUNCTION INFORMATION

Check the malfunction described by the customer on the vehicle.
Record the status of each signal when a symptom occurs with “Data Monitor” in CONSULT-III.
Inspect the relation of the information and the condition when it occurs.

>> GO TO 5.

4. CHECK THE MALFUNCTION

Check the malfunction described by the customer on the vehicle.
Record the status of each signal when a symptom occurs with “Data Monitor” in CONSULT-III.
Inspect the relation of the information and the condition when it occurs.

>> GO TO 6.

5. PERFORM “DTC CONFIRMATION PROCEDURE”

Perform the “DTC confirmation procedure” to the detected DTC and check that the DTC is detected again.
Refer to SCS-58, "DTC Inspection Priority Chart" when multiple DTCs are detected, and then judge the order for performing the diagnosis.

Is any DTC detected?
   - YES  >> GO TO 7.
   - NO  >> Follow GI-6, "How to Follow Test Groups in Trouble Diagnosis" to check.

6. IDENTIFY MALFUNCTIONING SYSTEM WITH “SYMPTOM DIAGNOSIS”

Use the “Symptom diagnosis” from the symptom inspection result in step 4. Then identify where to start performing the diagnosis based on the possible causes and the symptoms.

>> GO TO 7.

7. IDENTIFY MALFUNCTIONING PARTS WITH “COMPONENT DIAGNOSIS”

Perform the inspection with the “component diagnosis” of the applicable system.

NOTE:
The “component diagnosis” mainly consists of the check for an open circuit.
The circuit check in the diagnosis procedure also requires the check for a short circuit. Refer to GI-39, "Circuit Inspection" for details.

>> GO TO 8.

8. REPAIR OR REPLACE THE MALFUNCTIONING PARTS

1. Repair or replace the part detected as malfunctioning.
2. After repairing or replacing, reinstall/reconnect parts or connectors removed/disconnected in the “component diagnosis”, and then erase the DTC.
< BASIC INSPECTION >

>> GO TO 9.

9. FINAL CHECK

Perform the “DTC confirmation procedure” or “Component Inspection” to check that the repair is correctly performed. Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 3 or 4.

Is the check result normal?

YES  >> Trouble diagnosis is completed.
NO-1 >> The DTC is reproduced. GO TO 7.
NO-2 >> The symptom is reproduced. GO TO 6.
System Description

Description

- The Continuous Damping Control system mainly consists of the components such as the E-SUS control unit, front body vertical G sensor, front wheel vertical G sensor, rear body vertical G sensor, and shock absorber actuators on each wheel.
- It calculates the command values to be transmitted to the shock absorber actuator on each wheel based on the information from ECM, ABS actuator and electric unit (control unit) and steering angle sensor via CAN communication and information from the front body vertical G sensor, front wheel vertical G sensor and rear body vertical G sensor.
- The shock absorber actuator on each wheel controls the damping force based on the command values calculated by E-SUS control unit.
- Can perform the self-diagnosis with CONSULT-III.
- Communicates the signal from each control unit via CAN communication.

<table>
<thead>
<tr>
<th>Control unit</th>
<th>Signal status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering angle sensor</td>
<td>Transmits mainly the following signals to E-SUS control unit via CAN communication.</td>
</tr>
<tr>
<td></td>
<td>• Steering angle signal</td>
</tr>
<tr>
<td>ABS actuator and electric unit</td>
<td>Transmits mainly the following signals to E-SUS control unit via CAN communication.</td>
</tr>
<tr>
<td>(control unit)</td>
<td>• Vehicle speed signal</td>
</tr>
<tr>
<td></td>
<td>• Brake pressure control signal</td>
</tr>
<tr>
<td></td>
<td>• Stop lamp switch signal</td>
</tr>
</tbody>
</table>
CONTINUOUS DAMPING CONTROL SYSTEM

< SYSTEM DESCRIPTION >

<table>
<thead>
<tr>
<th>Control unit</th>
<th>Signal status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECM</td>
<td>Transmits mainly the following signals to E-SUS control unit via CAN communication.</td>
</tr>
<tr>
<td></td>
<td>• Requested torque signal</td>
</tr>
<tr>
<td>Unified meter and A/C amp.</td>
<td>Transmits mainly the following signals from E-SUS control unit via CAN communication.</td>
</tr>
<tr>
<td></td>
<td>• Sport mode indicator lamp signal</td>
</tr>
</tbody>
</table>

Operation principle

Controls damping force by changing the oil passage cross section area through control of orifice by solenoid core activation.

Operation characteristics

• Changes the damping force control by switching the switch (AUTO mode or SPORT mode).

• Changes the damping force depending on the output current to the shock absorber actuators.
CONTINUOUS DAMPING CONTROL SYSTEM

Component Parts Location

INFOID:0000000005236140

1. Mode select switch (E-SUS mode select)
2. Front body vertical G sensor (left and right)
3. Rear shock absorber actuator (left and right)
4. Front wheel vertical G sensor (left and right)
5. Rear shock absorber actuator (left and right)
6. E-SUS control unit
7. Rear body vertical G sensor
8. Sport mode indicator lamp

A. Center console panel
B. Strut tower
C. Front strut
D. Front strut side
E. Rear strut
F. Trunk room left back
G. Trunk floor
H. Combination meter
## Component Description

<table>
<thead>
<tr>
<th>Component</th>
<th>Reference/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-SUS control unit</td>
<td>SCS-40, &quot;Description&quot;</td>
</tr>
<tr>
<td>Front body vertical G sensor</td>
<td>SCS-26, &quot;Description&quot;</td>
</tr>
<tr>
<td>Front wheel vertical G sensor</td>
<td>SCS-22, &quot;Description&quot;</td>
</tr>
<tr>
<td>Rear body vertical G sensor</td>
<td>SCS-30, &quot;Description&quot;</td>
</tr>
<tr>
<td>Shock absorber actuator</td>
<td>SCS-32, &quot;Description&quot;</td>
</tr>
<tr>
<td>Mode select switch (E-SUS mode select)</td>
<td>SCS-46, &quot;Description&quot;</td>
</tr>
<tr>
<td>Sport mode indicator lamp</td>
<td>SCS-48, &quot;Description&quot;</td>
</tr>
<tr>
<td>Steering angle sensor</td>
<td>Transmits the steering angle signal to E-SUS control unit via CAN communication.</td>
</tr>
</tbody>
</table>
| ABS actuator and electric unit (control unit) | Transmits mainly the following signals to E-SUS control unit via CAN communication.  
  • Vehicle speed signal  
  • Brake pressure control signal  
  • Brake lamp switch signal |
| ECM                              | Transmits mainly the following signals to E-SUS control unit via CAN communication.  
  • Requested torque signal |
| Unified meter and A/C amp.       | Transmits mainly the following signals from E-SUS control unit via CAN communication.  
  • Sport mode indicator lamp signal |
CONSULT-III Function

**FUNCTION**

CONSULT-III can display each diagnostic item using the diagnostic test modes shown following.

<table>
<thead>
<tr>
<th>Diagnostic test mode</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECU identification</td>
<td>E-SUS control unit part number can be read.</td>
</tr>
<tr>
<td>Self-diagnosis result</td>
<td>Self-diagnostic results can be read and erased quickly. *</td>
</tr>
<tr>
<td>Data monitor</td>
<td>Input/Output data in the E-SUS control unit can be read.</td>
</tr>
<tr>
<td>Active test</td>
<td>CONSULT-III drives some actuators via E-SUS, and changes some command signal values within the specified range.</td>
</tr>
</tbody>
</table>

*: If the memory in E-SUS control unit is erased, the DTC diagnosis result is also erased.

**ECU IDENTIFICATION**

E-SUS control unit part number can be read.

**SELF-DIAGNOSTIC RESULT**

Display Item List

Refer to SCS-58, "DTC Index".

**DATA MONITOR**

Display Item List

<table>
<thead>
<tr>
<th>Monitor item (Unit)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEHICLE SPEED (km/h) or (MPH)</td>
<td>Vehicle speed recognized by E-SUS control unit</td>
</tr>
<tr>
<td>ST ANGLE SIG (deg)</td>
<td>Steering angle recognized by E-SUS control unit</td>
</tr>
<tr>
<td>IGN (V)</td>
<td>Ignition voltage supplied to E-SUS control unit</td>
</tr>
<tr>
<td>REQUESTED TRQ (Nm)</td>
<td>Required torque recognized by E-SUS control unit</td>
</tr>
<tr>
<td>FR BDY G-SEN VOL (V)</td>
<td>Output voltage from front RH body vertical G sensor</td>
</tr>
<tr>
<td>FL BDY G-SEN VOL (V)</td>
<td>Output voltage from front LH body vertical G sensor</td>
</tr>
<tr>
<td>R G-SEN VOL (V)</td>
<td>Output voltage from rear body vertical G sensor</td>
</tr>
<tr>
<td>FR WHL G-SEN VOL (V)</td>
<td>Output voltage from front RH wheel vertical G sensor</td>
</tr>
<tr>
<td>FL WHL G-SEN VOL (V)</td>
<td>Output voltage from front LH wheel vertical G sensor</td>
</tr>
<tr>
<td>FR ACTUATOR CRNT (A)</td>
<td>Control current for front RH wheel shock absorber actuator operation</td>
</tr>
<tr>
<td>FL ACTUATOR CRNT (A)</td>
<td>Control current for front LH wheel shock absorber actuator operation</td>
</tr>
<tr>
<td>RR ACTUATOR CRNT (A)</td>
<td>Control current for rear RH wheel shock absorber actuator operation</td>
</tr>
<tr>
<td>RL ACTUATOR CRNT (A)</td>
<td>Control current for rear LH wheel shock absorber actuator operation</td>
</tr>
<tr>
<td>G-SEN VOL (V)</td>
<td>Voltage supplied to G-sensor</td>
</tr>
<tr>
<td>BRK FLD PRESS (bar)</td>
<td>Fluid pressure recognized by E-SUS control unit when brake is applied</td>
</tr>
<tr>
<td>STP LAMP SW (On/Off)</td>
<td>Brake pedal operation status recognized by E-SUS control unit</td>
</tr>
<tr>
<td>MODE SW (On/Off)</td>
<td>E-SUS mode lamp condition</td>
</tr>
<tr>
<td>FAIL MODE SIG (On/Off)</td>
<td>E-SUS control unit is in fail-safe status.</td>
</tr>
<tr>
<td>CONTROL MODE (AUTO/SPORT)</td>
<td>Each control mode status AUTO: AUTO mode SPORT: SPORT mode</td>
</tr>
</tbody>
</table>

**ACTIVE TEST**

**CAUTION:**

- Always perform while the vehicle is stopped.
< SYSTEM DESCRIPTION >

• Always check shock absorber actuator if DTC is detected using the shock absorber actuator active test.

• Shock absorber actuator
  The control signal from CONSULT-III forces activation of the shock absorber actuator. The check can be performed by confirming the operation noise.

<table>
<thead>
<tr>
<th>Test item</th>
<th>Display Item</th>
<th>Operation half cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHOCK ABSORBER ACTUATOR</td>
<td></td>
<td>0.1 seconds – 1 second (cycles in 0.1 seconds)</td>
</tr>
<tr>
<td>FRONT RIGHT ACTUATOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRONT LEFT ACTUATOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REAR RIGHT ACTUATOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REAR LEFT ACTUATOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOUR WHEEL ACTUATOR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

• Mode lamp
  The control signal from CONSULT-III forces activation of the mode lamp (ON/OFF) for check.

<table>
<thead>
<tr>
<th>Test item</th>
<th>Display Item</th>
<th>Illumination status</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODE LAMP</td>
<td>SPORT</td>
<td>ON</td>
</tr>
</tbody>
</table>
C1D01 VEHICLE SPEED SIGNAL

DTC/CIRCUIT DIAGNOSIS
C1D01 VEHICLE SPEED SIGNAL

Description
INFOID:0000000005588906
The vehicle speed signal is transmitted from the ABS actuator and electric unit (control unit) to E-SUS control unit via CAN communication.

DTC Logic
INFOID:0000000005588907

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
</table>
| C1D01| VEHICLE SPEED SIG | • A malfunction is detected in the vehicle speed signal output from the ABS actuator and electric unit (control unit) to CAN communication.  
• No transmission of vehicle speed signal from the ABS actuator and electric unit (control unit). | • Harness or connector (CAN communication line)  
• ABS actuator and electric unit (control unit)  
• E-SUS control unit  
• Battery low voltage |

DTC REPRODUCTION PROCEDURE

CAUTION:
If the CAN signal "Unavailable" or "Broken" is received while the battery voltage is in the low (between 6 V and 9 V) condition, and when intending to perform another self-diagnosis operation to record the DTC history, always start the procedure after checking that the battery voltage is within the specified normal value.

1. CHECK E-SUS CONTROL UNIT SIGNAL

With CONSULT-III
1. Start the engine.
   CAUTION: Always hold the vehicle stopped.
2. Select “DATA MONITOR” of “E-SUS”.
3. Check the value of “IGN” on “DATA MONITOR” screen.
   Is the value in “DATA MONITOR” “between 6 V and 9 V” or more?
   YES  >> GO TO 2.
   NO  >> Perform the diagnosis for the charging system. Refer to CHG-23, "Symptom Table".

2. DTC REPRODUCTION PROCEDURE

With CONSULT-III
Perform “E-SUS” self-diagnosis.
Is DTC “C1D01” detected?
   YES  >> Proceed to diagnosis procedure. Refer to SCS-12, "Diagnosis Procedure".
   NO  >> INSPECTION END

Diagnosis Procedure

1. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

With CONSULT-III
Perform “ABS” self-diagnosis.
Is DTC detected?
   YES  >> Check the detected DTC items.
   NO  >> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

With CONSULT-III

Revision: 2009 August
< DTC/CIRCUIT DIAGNOSIS >

Perform “E-SUS” self-diagnosis.

Is another DTC detected?

YES  >> Check the detected DTC items. Refer to SCS-58, “DTC Index”.

NO   >> GO TO 3.

3. CHECK INFORMATION

With CONSULT-III
1. Select “DATA MONITOR” of “E-SUS”.
2. Check the “VEHICLE SPEED” of “DATA MONITOR” screen. Refer to SCS-49, “Reference Value”.

Is each data within standard values?

YES  >> Check pin terminal and connection of each harness connector for damage or loose connection. Repair or replace error-detected parts.

NO   >> Replace E-SUS control unit. Refer to SCS-61, “Exploded View”.
C1D03 STEERING ANGLE SENSOR

Description

The steering angle signal is transmitted from the steering angle sensor to E-SUS control unit via CAN communication.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
</table>
| C1D03| ST ANGLE SPEED SIG| • A malfunction is detected in the steering angle sensor signal output from the steering angle sensor to CAN communication.  
• No transmission of the steering angle signal from the steering angle sensor. | • Harness or connector (CAN communication line)  
• Steering angle sensor  
• E-SUS control unit  
• Battery low voltage |

DTC REPRODUCTION PROCEDURE

CAUTION:
If the CAN signal "Unavailable" or "Broken" is received while the battery voltage is in the low (between 6 V and 9 V) condition, and when intending to perform another self-diagnosis operation to record the DTC history, always start the procedure after checking that the battery voltage is within the specified normal value.

1. CHECK E-SUS CONTROL UNIT SIGNAL

With CONSULT-III

1. Start the engine.  
   CAUTION:  
   Always hold the vehicle stopped.
2. Select “DATA MONITOR” of “E-SUS”.
3. Check the value of “IGN” on “DATA MONITOR” screen.

Is the value in “DATA MONITOR” “between 6 V and 9 V” or more?

YES >> GO TO 2.
NO   >> Perform the diagnosis for the charging system. Refer to CHG-23, "Symptom Table".

2. DTC REPRODUCTION PROCEDURE

With CONSULT-III

Perform “E-SUS” self-diagnosis.

Is DTC “C1D03” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-14, "Diagnosis Procedure".
NO   >> INSPECTION END

Diagnosis Procedure

1. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

With CONSULT-III

Perform “ABS” self-diagnosis.

Is DTC detected?

YES >> Check the detected DTC items.
NO   >> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

With CONSULT-III

Perform “E-SUS” self-diagnosis.

Is another DTC detected?

YES >> Check the detected DTC items. Refer to SCS-58, "DTC Index".
3. CHECK INFORMATION

With CONSULT-III
1. Select “DATA MONITOR” of “E-SUS”.
2. Check “ST ANGLE SIG” of “DATA MONITOR” screen. Refer to SCS-49, “Reference Value”.

Is each data within standard values?

YES  >> Check pin terminal and connection of each harness connector for damage or loose connection. Repair or replace error-detected parts.

NO   >> Replace E-SUS control unit. Refer to SCS-61, “Exploded View”.

NO  >> GO TO 3.
C1D05 TORQUE SIGNAL

C1D05 TORQUE SIGNAL

Description

The required torque signal is transmitted from ECM to E-SUS control unit via CAN communication.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
</table>
| C1D05 | REQST TRQ SIG | No transmission of the required torque signal from ECM. | • Harness or connector (CAN communication line)  
• ECM  
• E-SUS control unit  
• Battery low voltage |

DTC REPRODUCTION PROCEDURE

**CAUTION:**

If the CAN signal "Unavailable" or "Broken" is received while the battery voltage is in the low (between 6 V and 9 V) condition, and when intending to perform another self-diagnosis operation to record the DTC history, always start the procedure after checking that the battery voltage is within the specified normal value.

1. CHECK E-SUS CONTROL UNIT SIGNAL

**With CONSULT-III**

1. Start the engine.  
   **CAUTION:** Always hold the vehicle stopped.
2. Select "DATA MONITOR" of "E-SUS".  
3. Check the value of "IGN" on "DATA MONITOR" screen.

Is the value in "DATA MONITOR" "between 6 V and 9 V" or more?

- YES >> GO TO 2.
- NO >> Perform the diagnosis for the charging system. Refer to CHG-23, "Symptom Table".

2. DTC REPRODUCTION PROCEDURE

**With CONSULT-III**

Perform "E-SUS" self-diagnosis.

Is DTC "C1D05" detected?

- YES >> Proceed to diagnosis procedure. Refer to SCS-16, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1. PERFORM SELF-DIAGNOSIS OF ECM

**With CONSULT-III**

Perform "ENGINE" self-diagnosis.

Is DTC detected?

- YES >> Check the detected DTC items.
- NO >> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

**With CONSULT-III**

Perform "E-SUS" self-diagnosis.

Is another DTC detected?

- YES >> Check the detected DTC items. Refer to SCS-58, "DTC Index".
- NO >> GO TO 3.
3. CHECK INFORMATION

With CONSULT-III
1. Select “DATA MONITOR” of “E-SUS”.
2. Check “REQUESTED TRQ” of “DATA MONITOR” screen. Refer to SCS-49, “Reference Value”.

Is each data within standard values?

YES  >> Check pin terminal and connection of each harness connector for damage or loose connection. Repair or replace the error-detected parts.

NO   >> Replace E-SUS control unit. Refer to SCS-61, “Exploded View”.

Revision: 2009 August
C1D07 STOP LAMP SWITCH

Description

The stop lamp switch signal is transmitted from the ABS actuator and electric unit (control unit) to E-SUS control unit via CAN communication.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1D07</td>
<td>STOP LAMP SW SIG</td>
<td>No transmission of stop lamp switch signal from the ABS actuator and electric unit (control unit).</td>
<td>• Harness or connector (CAN communication line)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• ABS actuator and electric unit (control unit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• E-SUS control unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Battery low voltage</td>
</tr>
</tbody>
</table>

DTC REPRODUCTION PROCEDURE

CAUTION:

If the CAN signal "Unavailable" or "Broken" is received while the battery voltage is in the low (between 6 V and 9 V) condition, and when intending to perform another self-diagnosis operation to record the DTC history, always start the procedure after checking that the battery voltage is within the specified normal value.

1. CHECK E-SUS CONTROL UNIT SIGNAL

With CONSULT-III

1. Start the engine.
   
   CAUTION:
   
   Always hold the vehicle stopped.

2. Select “DATA MONITOR” of “E-SUS”.

3. Check the value of “IGN” on “DATA MONITOR” screen.

Is the value in “DATA MONITOR” “between 6 V and 9 V” or more?

YES >> GO TO 2.

NO >> Perform the diagnosis for the charging system. Refer to CHG-23, "Symptom Table".

2. DTC REPRODUCTION PROCEDURE

With CONSULT-III

Perform “E-SUS” self-diagnosis.

Is DTC “C1D07” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-18, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

With CONSULT-III

Perform “ABS” self-diagnosis.

Is DTC detected?

YES >> Check the detected DTC items.

NO >> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

With CONSULT-III

Perform “E-SUS” self-diagnosis.
C1D07 STOP LAMP SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Is another DTC detected?

YES  >> Check the detected DTC items. Refer to SCS-58, "DTC Index".
NO   >> GO TO 3.

3. CHECK INFORMATION

With CONSULT-III
1. Select “DATA MONITOR” of “E-SUS”.
2. Check “STP LAMP SW” of “DATA MONITOR”. Refer to SCS-49, "Reference Value".

Is each data within standard values?

YES  >> Check pin terminal and connection of each harness connector for damage or loose connections. Repair or replace the error-detected parts.
NO   >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".

Revision: 2009 August

SCS-19
C1D09 BRAKE FLUID PRESSURE SIGNAL

Description

The brake pressure control signal is transmitted from the ABS actuator and electric unit (control unit) to E-SUS control unit via CAN communication.

DTC Logic

DTC DETECTION LOGIC

DTC REPRODUCTION PROCEDURE

CAUTION:
If the CAN signal "Unavailable" or "Broken" is received while the battery voltage is in the low (between 6 V and 9 V) condition, and when intending to perform another self-diagnosis operation to record the DTC history, always start the procedure after checking that the battery voltage is within the specified normal value.

1. CHECK E-SUS CONTROL UNIT SIGNAL

With CONSULT-III
1. Start the engine.
   CAUTION: Always hold the vehicle stopped.
2. Select “DATA MONITOR” of “E-SUS”.
3. Check the value of “IGN” on “DATA MONITOR” screen.

Is the value in “DATA MONITOR” “between 6 V and 9 V” or more?
   YES >> GO TO 2.
   NO >> Perform the diagnosis for the charging system. Refer to CHG-23, "Symptom Table".

2. DTC REPRODUCTION PROCEDURE

With CONSULT-III
Perform “E-SUS” self-diagnosis.

Is DTC “C1D09” detected?
   YES >> Proceed to diagnosis procedure. Refer to SCS-20, "Diagnosis Procedure".
   NO >> INSPECTION END

Diagnosis Procedure

1. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

With CONSULT-III
Perform “ABS” self-diagnosis.

Is DTC detected?
   YES >> Check the detected DTC items.
   NO >> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

With CONSULT-III
Perform “E-SUS” self-diagnosis.
< DTC/CIRCUIT DIAGNOSIS >

Is another DTC detected?
YES  >> Check the detected DTC items. Refer to SCS-58, "DTC Index".
NO   >> GO TO 3.

3. CHECK INFORMATION

With CONSULT-III
1. Select “DATA MONITOR” of “E-SUS”.
2. Check “BRK FLD PRESS” of “DATA MONITOR” screen. Refer to SCS-49, "Reference Value".

Is each data within standard values?
YES  >> Check pin terminal and connection of each harness connector for damage or loose connections. Repair or replace error-detected parts.
NO   >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".
C1D0B FRONT WHEEL VERTICAL G SENSOR

Description
INFOID:0000000005588921

Detects the vertical G applied at vehicle front, and outputs it to E-SUS control unit in analog voltage.

DTC Logic
INFOID:0000000005588922

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
</table>
| C1D0B | FL WHL VER G-SEN | • A malfunction occurs in the output voltage from the front LH wheel vertical G sensor.  
• A malfunction occurs in the supply voltage to the front LH wheel vertical G sensor. | • Harness or connector  
• Front wheel LH vertical G sensor  
• E-SUS control unit |

DTC REPRODUCTION PROCEDURE

1. With CONSULT-III

1. Turn the ignition switch OFF to ON.

Is DTC “C1D0B” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-22, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

1. CHECK FRONT LH WHEEL VERTICAL G SENSOR

Check front LH wheel vertical G sensor for damage, disconnection or looseness.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace front LH wheel vertical sensor. Then perform the self-diagnosis.

2. CHECK FRONT LH WHEEL VERTICAL G SENSOR HARNESS

1. Disconnect the E-SUS control unit harness connector and front LH wheel vertical G sensor harness connector.
2. Check the continuity between the E-SUS control unit harness connector and front LH wheel vertical G sensor harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Front LH wheel vertical G sensor</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>B38</td>
<td>27</td>
<td>E86</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning harness or connector.

3. CHECK FRONT LH WHEEL VERTICAL G SENSOR POWER SUPPLY CIRCUIT

1. Connect the E-SUS control unit harness connector.
2. Turn the ignition switch ON.

CAUTION:
Never start the engine.
3. Check the voltage between front LH wheel vertical G sensor harness connector.
C1D0B FRONT WHEEL VERTICAL G SENSOR

< DTC/CIRCUIT DIAGNOSIS >

### Table: Front LH wheel vertical G sensor Voltage

<table>
<thead>
<tr>
<th>Connector</th>
<th>Terminal</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>E86</td>
<td>1 3</td>
<td>Approx. 4.75 – 5.25 V</td>
</tr>
</tbody>
</table>

Is the inspection result normal?
- YES >> GO TO 4.
- NO >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".

**4. PERFORM DATA MONITOR With CONSULT-III**

1. Connect the front LH wheel vertical G sensor harness connector.
2. Start the engine.
3. Select “DATA MONITOR” of “E-SUS”.
4. Select “FL WHL G-SEN VOL” and “G-SEN VOL” of “DATA MONITOR”.
5. Drive the vehicle and check whether it is within the following range.

- **FL WHL G-SEN VOL**: Approx. 0.5 – 4.5 V
- **G-SEN VOL**: Approx. 4.75 – 5.25 V

Is the inspection result normal?
- YES >> Check pin terminal and connection of each harness connector for damage or loose connections.
- NO >> Replace front LH wheel vertical G sensor. Refer to SCS-63, "Exploded View".
C1D0C FRONT WHEEL VERTICAL G SENSOR

Description

Detects the vertical G applied at vehicle front, and outputs it to E-SUS control unit in analog voltage.

DTC Logic

DTC DETECTION LOGIC

DTC REPRODUCTION PROCEDURE

1. DTC REPRODUCTION PROCEDURE

- With CONSULT-III
  1. Turn the ignition switch OFF to ON.

Is DTC “C1D0C” detected?

- YES >> Proceed to diagnosis procedure. Refer to SCS-24, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1. CHECK FRONT RH WHEEL VERTICAL G SENSOR

Check front RH wheel vertical G sensor for damage, disconnection or looseness.

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace front RH wheel vertical sensor. Then perform the self-diagnosis.

2. CHECK FRONT RH WHEEL VERTICAL G SENSOR HARNESS

1. Disconnect the E-SUS control unit harness connector and front RH wheel vertical G sensor harness connector.
2. Check the continuity between the E-SUS control unit harness connector and front RH wheel vertical G sensor harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Front RH wheel vertical G sensor</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B38</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair or replace the malfunctioning harness or connector.

3. CHECK FRONT RH WHEEL VERTICAL G SENSOR POWER SUPPLY CIRCUIT

1. Connect the E-SUS control unit harness connector.
2. Turn the ignition switch ON.
   **CAUTION:**
   Never start the engine.
3. Check the voltage between front RH wheel vertical G sensor harness connector.
C1D0C FRONT WHEEL VERTICAL G SENSOR

< DTC/CIRCUIT DIAGNOSIS >

<table>
<thead>
<tr>
<th>Connector</th>
<th>Terminal</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>E84</td>
<td>1 3</td>
<td>Approx. 4.75 – 5.25 V</td>
</tr>
</tbody>
</table>

Is the inspection result normal?
YES >> GO TO 4.
NO >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".

4. PERFORM DATA MONITOR

With CONSULT-III
1. Connect the front RH wheel vertical G sensor harness connector.
2. Start the engine.
3. Select “DATA MONITOR” of “E-SUS”.
4. Select “FR WHL G-SEN VOL” and “G-SEN VOL” of “DATA MONITOR”.
5. Drive the vehicle and check whether it is within the following range.

FR WHL G-SEN VOL : Approx. 0.5 – 4.5 V
G-SEN VOL : Approx. 4.75 – 5.25 V

Is the inspection result normal?
YES >> Check pin terminal and connection of each harness connector for damage or loose connections.
NO >> Replace front RH wheel vertical G sensor. Refer to SCS-63, "Exploded View".
C1D0D FRONT BODY VERTICAL G SENSOR

< DTC/CIRCUIT DIAGNOSIS >

C1D0D FRONT BODY VERTICAL G SENSOR

Description

Detects the vertical G applied at vehicle front, and outputs it to E-SUS control unit in analog voltage.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
</table>
| C1D0D | FL BDY VER G-SEN | • A malfunction occurs in the output voltage from the front LH body vertical G sensor.  
• A malfunction occurs in the supply voltage to the front LH body vertical G sensor. | • Harness or connector  
• Front body LH vertical G sensor  
• E-SUS control unit |

DTC REPRODUCTION PROCEDURE

1. DTC REPRODUCTION PROCEDURE

With CONSULT-III

1. Turn the ignition switch OFF to ON.

Is DTC “C1D0D” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-26, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

1. CHECK FRONT LH BODY VERTICAL G SENSOR

Check front LH body vertical G sensor for damage, disconnection or looseness.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace front LH body vertical sensor. Then perform the self-diagnosis.

2. CHECK FRONT LH BODY VERTICAL G SENSOR HARNESS

1. Disconnect the E-SUS control unit harness connector and front LH body vertical G sensor harness connector.
2. Check the continuity between the E-SUS control unit harness connector and front LH body vertical G sensor harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Front LH body vertical G sensor</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>B38</td>
<td>27</td>
<td>E39</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning harness or connector.

3. CHECK FRONT LH BODY VERTICAL G SENSOR POWER SUPPLY CIRCUIT

1. Connect the E-SUS control unit harness connector.
2. Turn the ignition switch ON.
   
   CAUTION: 
   Never start the engine.
3. Check the voltage between front LH body vertical G sensor harness connector.
C1D0D FRONT BODY VERTICAL G SENSOR

< DTC/CIRCUIT DIAGNOSIS >

<table>
<thead>
<tr>
<th>Front LH body vertical G sensor</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>E39</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Is the inspection result normal?
YES >> GO TO 4.
NO >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".

4. PERFORM DATA MONITOR

With CONSULT-III
1. Connect the front LH body vertical G sensor harness connector.
2. Start the engine.
3. Select “DATA MONITOR” of “E-SUS”.
4. Select “FL BDY G-SEN VOL” and “G-SEN VOL” of “DATA MONITOR”.
5. Drive the vehicle and check whether it is within the following range.

<table>
<thead>
<tr>
<th>FL BDY G-SEN VOL</th>
<th>Approx. 0.5 – 4.5 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-SEN VOL</td>
<td>Approx. 4.75 – 5.25 V</td>
</tr>
</tbody>
</table>

Is the inspection result normal?
YES >> Check pin terminal and connection of each harness connector for damage or loose connection.
NO >> Replace front LH body vertical G sensor. Refer to SCS-62, "Exploded View".
C1D10 FRONT BODY VERTICAL G SENSOR

Description

Detects the vertical G applied at vehicle front, and outputs it to E-SUS control unit in analog voltage.

DTC Logic

DTC DETECTION LOGIC

DTC REPRODUCTION PROCEDURE

1. With CONSULT-III
   1. Turn the ignition switch OFF to ON.

Is DTC “C1D10” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-28, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

1. CHECK FRONT RH BODY VERTICAL G SENSOR

Check front RH body vertical G sensor for damage, disconnection or looseness.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace front RH body vertical sensor. Then perform the self-diagnosis.

2. CHECK FRONT RH BODY VERTICAL G SENSOR HARNESS

1. Disconnect the E-SUS control unit harness connector and front RH body vertical G sensor harness connector.
2. Check the continuity between the E-SUS control unit harness connector and front RH body vertical G sensor harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Front RH body vertical G sensor</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>B38</td>
<td>27</td>
<td>E20</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning harness or connector.

3. CHECK FRONT RH BODY VERTICAL G SENSOR POWER SUPPLY CIRCUIT

1. Connect the E-SUS control unit harness connector.
2. Turn the ignition switch ON.
   CAUTION: Never start the engine.
3. Check the voltage between front RH body vertical G sensor harness connector.
Is the inspection result normal?
YES >> GO TO 4.
NO >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".

PERFORM DATA MONITOR

With CONSULT-III
1. Connect the front RH body vertical G sensor harness connector.
2. Start the engine.
3. Select “DATA MONITOR” of “E-SUS”.
4. Select “FR BDY G-SEN VOL” and “G-SEN VOL” of “DATA MONITOR”.
5. Drive the vehicle and check whether it is within the following range.

<table>
<thead>
<tr>
<th>FR BDY G-SEN VOL</th>
<th>Approx. 0.5 – 4.5 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-SEN VOL</td>
<td>Approx. 4.75 – 5.25 V</td>
</tr>
</tbody>
</table>

Is the inspection result normal?
YES >> Check pin terminal and connection of each harness connector for damage or loose connections.
NO >> Replace front RH body vertical G sensor. Refer to SCS-62, "Exploded View".
C1D11 REAR VERTICAL G SENSOR

Description

Detects the vertical G applied at vehicle rear, and outputs it to E-SUS control unit in analog voltage.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
</table>
| C1D11 | R VERTICAL G-SEN | • A malfunction occurs in the output voltage from the rear body vertical G sensor.  
• A malfunction occurs in the supply voltage to the rear body vertical G sensor. | • Harness or connector  
• rear body vertical G sensor  
• E-SUS control unit |

DTC REPRODUCTION PROCEDURE

1. **With CONSULT-III**
   1. Turn the ignition switch OFF to ON.

Is DTC “C1D11” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-30, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

1. **CHECK REAR BODY VERTICAL G SENSOR**

Check rear body vertical G sensor for damage, disconnection or looseness.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace rear body vertical sensor. Then perform the self-diagnosis.

2. **CHECK REAR BODY VERTICAL G SENSOR HARNESS**

1. Disconnect the E-SUS control unit harness connector and rear body vertical G sensor harness connector.
2. Check the continuity between the E-SUS control unit harness connector and rear body vertical G sensor harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Rear body vertical G sensor</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Terminal</td>
<td>Connector Terminal</td>
<td></td>
</tr>
<tr>
<td>B38 30 14 25</td>
<td>B56 1 2 3</td>
<td>Existed</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning harness or connector.

3. **CHECK REAR BODY VERTICAL G SENSOR POWER SUPPLY CIRCUIT**

1. Connect the E-SUS control unit harness connector.
2. Turn the ignition switch ON.
   **CAUTION:**  
   Never start the engine.
3. Check the voltage between rear body vertical G sensor harness connector.
C1D11 REAR VERTICAL G SENSOR

< DTC/CIRCUIT DIAGNOSIS >

<table>
<thead>
<tr>
<th>Connector</th>
<th>Terminal</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>B56</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 4.
NO  >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".

4. PERFORM DATA MONITOR

With CONSULT-III
1. Connect the rear body vertical G sensor harness connector.
2. Start the engine.
3. Select “DATA MONITOR” of “E-SUS”.
4. Select “R G-SEN VOL” and “G-SEN VOL” of “DATA MONITOR”.
5. Drive the vehicle and check whether it is within the following range.

   R G-SEN VOL : Approx. 0.5 – 4.5 V
   G-SEN VOL   : Approx. 4.75 – 5.25 V

Is the inspection result normal?

YES  >> Check pin terminal and connection of each harness connector for damage or loose connections.
NO   >> Replace rear body vertical G sensor. Refer to SCS-64, "Exploded View".

---

Revision: 2009 August

SCS-31
C1D12 SHOCK ABSORBER ACTUATOR

C1D12 SHOCK ABSORBER ACTUATOR

Description

Integrated into each the shock absorbers on wheels and opens or closes the orifice by moving the solenoid core vertically with the control current from E-SUS control unit to regulate the damping force.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1D12</td>
<td>FR ACTUATOR SIG</td>
<td>An open or short circuit is detected in the front RH wheel shock absorber actuator.</td>
<td>• Harness or connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Malfunction of the front RH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>wheel shock absorber actuator</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• E-SUS control unit</td>
</tr>
</tbody>
</table>

DTC REPRODUCTION PROCEDURE

1. DTC REPRODUCTION PROCEDURE

With CONSULT-III

1. Start the engine and drive. Or select “E-SUS”, “FRONT RIGHT ACTUATOR” of “ACTIVE TEST”, and perform the active test. Refer to SCS-10, "CONSULT-III Function".

Is DTC “C1D12” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-32, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

1. CHECK FRONT RH SHOCK ABSORBER ACTUATOR CIRCUIT (1)

1. Disconnect the E-SUS control unit harness connector.
2. Check the resistance between the E-SUS control unit harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>B38</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2. CHECK FRONT RH SHOCK ABSORBER ACTUATOR CIRCUIT (2)

1. Disconnect the front RH shock absorber actuator harness connector.
2. Check the continuity between the E-SUS control unit harness connector and front RH shock absorber actuator harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Front RH shock absorber actuator</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>B38</td>
<td>3</td>
<td>E83</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning harness or connector.
3. CHECK FRONT RH SHOCK ABSORBER ACTUATOR

Perform the front RH shock absorber actuator. Refer to SCS-33, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace the front RH shock absorber. Refer to FSU-27, "Exploded View".

4. PERFORM DATA MONITOR

With CONSULT-III
1. Start the engine.
2. Select "DATA MONITOR" of "E-SUS".
4. Drive the vehicle and check whether it is within the following range.

| FR ACTUATOR CRNT : Approx. 0.65 – 2.0 A |

Is the inspection result normal?

YES >> Check pin terminal and connection of each harness connector for damage or loose connections.
Repair or replace error-detected parts.
NO >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".

Component Inspection

1. PERFORM ACTIVE TEST

With CONSULT-III
1. Connect the E-SUS control unit harness connector and front RH shock absorber actuator harness connector.
2. Select "FRONT RIGHT ACTUATOR" in "ACTIVE TEST".
3. On the display, change the "Operation half cycle", and check that the operation noise is heard from the actuator.

<table>
<thead>
<tr>
<th>Test item</th>
<th>Display Item</th>
<th>Display Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHOCK ABSORBER ACTUATOR</td>
<td>FRONT RIGHT ACTUATOR</td>
<td>Operation half cycle</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the front RH wheel shock absorber. Refer to FSU-27, "Exploded View".
C1D13 SHOCK ABSORBER ACTUATOR

C1D13 SHOCK ABSORBER ACTUATOR

Description

Integrated into each the shock absorbers on wheels and opens or closes the orifice by moving the solenoid core vertically with the control current from E-SUS control unit to regulate the damping force.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1D13</td>
<td>FL ACTUATOR SIG</td>
<td>An open or short circuit is detected in the front LH wheel shock absorber actuator.</td>
<td>• Harness or connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Malfunction of the front LH wheel shock absorber actuator</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• E-SUS control unit</td>
</tr>
</tbody>
</table>

DTC REPRODUCTION PROCEDURE

1. Start the engine and drive. Or select “E-SUS”, “FRONT LEFT ACTUATOR” of “ACTIVE TEST”, and perform the active test. Refer to SCS-10, "CONSULT-III Function".

Is DTC “C1D13” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-34, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

1. CHECK FRONT LH SHOCK ABSORBER ACTUATOR CIRCUIT (1)

1. Disconnect the E-SUS control unit harness connector.
2. Check the resistance between the E-SUS control unit harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>B38</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

Approx. 0.65 Ω

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2. CHECK FRONT LH SHOCK ABSORBER ACTUATOR CIRCUIT (2)

1. Disconnect the front LH shock absorber actuator harness connector.
2. Check the continuity between the E-SUS control unit harness connector and front LH shock absorber actuator harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Front LH shock absorber actuator</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>B38</td>
<td>5</td>
<td>E85</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunction harness or connector.

Revision: 2009 August
C1D13 SHOCK ABSORBER ACTUATOR

3. CHECK FRONT LH SHOCK ABSORBER ACTUATOR

Perform the front LH shock absorber actuator. Refer to SCS-35, "Component Inspection".

Is the inspection result normal?
   YES  >> GO TO 4.
   NO   >> Replace the front LH shock absorber. Refer to FSU-27, "Exploded View".

4. PERFORM DATA MONITOR

With CONSULT-III
1. Start the engine.
2. Select “DATA MONITOR” of “E-SUS”.
3. Select “FL ACTUATOR CRNT” of “DATA MONITOR” screen.
4. Drive the vehicle and check whether it is within the following range.

   FL ACTUATOR CRNT : Approx. 0.65 – 2.0 A

Is the inspection result normal?
   YES  >> Check pin terminal and connection of each harness connector for damage or loose connections. Repair or replace error-detected parts.
   NO   >> Replace E-SUS control unit. Refer to SCS-61, “Exploded View”.

Component Inspection

1. PERFORM ACTIVE TEST

With CONSULT-III
1. Connect the E-SUS control unit harness connector and front LH shock absorber actuator harness connector.
2. Select “FRONT LEFT ACTUATOR” in “ACTIVE TEST”.
3. On the display, change the “Operation half cycle”, and check that the operation noise is heard from the actuator.

<table>
<thead>
<tr>
<th>Test item</th>
<th>Display Item</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHOCK ABSORBER ACTUATOR</td>
<td>FRONT LEFT ACTUATOR</td>
<td>0.1 seconds – 1 second (cycle in 0.1 seconds)</td>
</tr>
</tbody>
</table>

Is the inspection result normal?
   YES  >> INSPECTION END
   NO   >> Replace the front LH wheel shock absorber. Refer to FSU-27, "Exploded View".
C1D14 SHOCK ABSORBER ACTUATOR

Description

Integrated into each the shock absorbers on wheels and opens or closes the orifice by moving the solenoid core vertically with the control current from E-SUS control unit to regulate the damping force.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1D14</td>
<td>RR ACTUATOR SIG</td>
<td>An open or short circuit is detected in the rear RH wheel shock absorber actuator.</td>
<td>• Harness or connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Malfunction of the rear RH wheel shock absorber actuator</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• E-SUS control unit</td>
</tr>
</tbody>
</table>

DTC REPRODUCTION PROCEDURE

1. DTC REPRODUCTION PROCEDURE

With CONSULT-III

1. Start the engine and drive. Or select “E-SUS”, “REAR RIGHT ACTUATOR” of “ACTIVE TEST”, and perform the active test. Refer to SCS-10, "CONSULT-III Function".

Is DTC “C1D14” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-36, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

1. CHECK REAR RH SHOCK ABSORBER ACTUATOR CIRCUIT (1)

1. Disconnect the E-SUS control unit harness connector.
2. Check the resistance between the E-SUS control unit harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>B38</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Approx. 0.65 Ω</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2. CHECK REAR RH SHOCK ABSORBER ACTUATOR CIRCUIT (2)

1. Disconnect the rear RH shock absorber actuator harness connector.
2. Check the continuity between the E-SUS control unit harness connector and rear RH shock absorber actuator harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Rear RH shock absorber actuator</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Terminal</td>
</tr>
<tr>
<td>B38</td>
<td>8</td>
<td>B57</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Existed</td>
<td></td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning harness or connector.
3. CHECK REAR RH SHOCK ABSORBER ACTUATOR

Perform the rear RH shock absorber actuator. Refer to SCS-37, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace the rear RH shock absorber. Refer to RSU-10, "Exploded View".

4. PERFORM DATA MONITOR

With CONSULT-III
1. Start the engine.
2. Select “DATA MONITOR” of “E-SUS”.
3. Select “RR ACTUATOR CRNT” of “DATA MONITOR” screen.
4. Drive the vehicle and check whether it is within the following range.

**RR ACTUATOR CRNT**: Approx. 0.65 – 2.0 A

Is the inspection result normal?

YES >> Check pin terminal and connection of each harness connector for damage or loose connections. Repair or replace error-detected parts.
NO >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".

Component Inspection

1. PERFORM ACTIVE TEST

With CONSULT-III
1. Connect the E-SUS control unit harness connector and rear RH shock absorber actuator harness connector.
2. Select “REAR RIGHT ACTUATOR” in “ACTIVE TEST”.
3. On the display, change the “Operation half cycle”, and check that the operation noise is heard from the actuator.

<table>
<thead>
<tr>
<th>Test item</th>
<th>Display Item</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHOCK ABSORBER ACTUATOR</td>
<td>REAR RIGHT ACTUATOR</td>
<td>0.1 seconds – 1 second (cycle in 0.1 seconds)</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the rear RH wheel shock absorber. Refer to RSU-10, "Exploded View".
C1D15 SHOCK ABSORBER ACTUATOR

Description

Integrated into each the shock absorbers on wheels and opens or closes the orifice by moving the solenoid core vertically with the control current from E-SUS control unit to regulate the damping force.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1D15</td>
<td>RL ACTUATOR SIG</td>
<td>An open or short circuit is detected in the rear LH wheel shock absorber actuator.</td>
<td>• Harness or connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Malfunction of the rear LH wheel shock absorber actuator</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• E-SUS control unit</td>
</tr>
</tbody>
</table>

DTC REPRODUCTION PROCEDURE

1. DTC REPRODUCTION PROCEDURE

With CONSULT-III

1. Start the engine and drive. Or select “E-SUS”, “REAR LEFT ACTUATOR” of “ACTIVE TEST”, and perform the active test. Refer to SCS-10, "CONSULT-III Function".


Is DTC “C1D15” detected?

YES >> Proceed to diagnosis procedure. Refer to SCS-38, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1. CHECK REAR LH SHOCK ABSORBER ACTUATOR CIRCUIT (1)

1. Disconnect the E-SUS control unit harness connector.

2. Check the resistance between the E-SUS control unit harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>B38</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK REAR LH SHOCK ABSORBER ACTUATOR CIRCUIT (2)

1. Disconnect the rear LH shock absorber actuator harness connector.

2. Check the continuity between the E-SUS control unit harness connector and rear LH shock absorber actuator harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Rear LH shock absorber actuator</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>B38</td>
<td>6</td>
<td>B30</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning harness or connector.
3. CHECK REAR LH SHOCK ABSORBER ACTUATOR

Perform the rear LH shock absorber actuator. Refer to SCS-39, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace the rear LH shock absorber. Refer to RSU-10, "Exploded View".

4. PERFORM DATA MONITOR

With CONSULT-III
1. Start the engine.
2. Select "DATA MONITOR" of "E-SUS".
3. Select "RL ACTUATOR CRNT" of "DATA MONITOR" screen.
4. Drive the vehicle and check whether it is within the following range.

   RL ACTUATOR CRNT : Approx. 0.65 – 2.0 A

Is the inspection result normal?

YES >> Check pin terminal and connection of each harness connector for damage or loose connections. Repair or replace error-detected parts.
NO >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".

Component Inspection

1. PERFORM ACTIVE TEST

With CONSULT-III
1. Connect the E-SUS control unit harness connector and rear LH shock absorber actuator harness connector.
2. Select "REAR LEFT ACTUATOR" in "ACTIVE TEST".
3. On the display, change the "Operation half cycle", and check that the operation noise is heard from the actuator.

<table>
<thead>
<tr>
<th>Test item</th>
<th>Display Item</th>
<th>Display Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHOCK ABSORBER ACTUATOR</td>
<td>REAR LEFT ACTUATOR</td>
<td>0.1 seconds – 1 second (cycle in 0.1 seconds)</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the rear LH wheel shock absorber. Refer to RSU-10, "Exploded View".
C1D16 E-SUS CONTROL UNIT

Description

• Controls the shock absorber actuators on 4 wheels according to the signals from each sensors.
• Stops the control signal to the shock absorber, when detecting any malfunction in the electrical system. The damping force is maintained at approximately the intermediate level between the maximum and the minimum values.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1D16</td>
<td>CONTROL UNIT</td>
<td>A malfunction occurs inside the E-SUS control unit.</td>
<td>E-SUS control unit</td>
</tr>
</tbody>
</table>

DTC REPRODUCTION PROCEDURE

1. DTC REPRODUCTION PROCEDURE

① With CONSULT-III
1. Turn the ignition switch OFF to ON.
   Is DTC “C1D16” detected?
   YES  >> Proceed to diagnosis procedure. Refer to SCS-40, "Diagnosis Procedure".
   NO   >> INSPECTION END

Diagnosis Procedure

1. PERFORM SELF-DIAGNOSIS

② With CONSULT-III
1. Turn the ignition switch OFF to ON.
2. Perform “E-SUS” self-diagnosis and check whether DTC “C1D16” is detected.
   CAUTION: Even when a record exists in the diagnosis history, replace E-SUS control unit.
   Is DTC “C1D16” detected?
   YES  >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".
   NO   >> Check pin terminal and connection of each harness connector for damage or loose connections. Repair or replace error-detected parts.
C1D18 IGN POWER SUPPLY

Description

Power supply for E-SUS control unit.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1D18</td>
<td>IGN VOLT</td>
<td>A malfunction is detected in the IGN supply voltage to E-SUS control unit.</td>
<td>• Harness or connector • E-SUS control unit</td>
</tr>
</tbody>
</table>

DTC REPRODUCTION PROCEDURE

With CONSULT-III

1. Turn the ignition switch OFF to ON.

Is DTC “C1D18” detected?

YES  >> Proceed to diagnosis procedure. Refer to SCS-41, "Diagnosis Procedure".
NO  >> INSPECTION END

Diagnosis Procedure

1. CHECK E-SUS CONTROL UNIT GROUND

1. Turn the ignition switch OFF.
2. Disconnect the E-SUS control unit harness connector.
3. Check the continuity between the E-SUS control unit harness connector and ground.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Connector</th>
<th>Terminal</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B38</td>
<td>18, 19</td>
<td>Ground</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES  >> GO TO 2.
NO  >> Repair or replace the malfunctioning harness or connector.

2. CHECK E-SUS CONTROL UNIT POWER SUPPLY CIRCUIT

1. Turn the ignition switch ON.

   CAUTION: Never start the engine.

2. Check the voltage between the E-SUS control unit harness connector and ground.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Connector</th>
<th>Terminal</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B38</td>
<td>1</td>
<td>Battery voltage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

Is the measured value “9.0 V” or less?

YES  >> Check the following items, and repair or replace the malfunctioning parts.
   • Open circuit in 10 A fuse (#16)
   • Short circuit between the 10 A fuse (#16) connector and E-SUS control unit harness connector terminal 1, 17
   • Battery or ignition switch

NO  >> GO TO 3.
C1D18 IGN POWER SUPPLY

3. CHECK TERMINAL

Check that there is no malfunction in the pin terminals and connection of the E-SUS control unit harness connector.

Is the inspection result normal?

YES  >> GO TO 4.
NO   >> Repair or replace the malfunctioning parts.

4. CHECK E-SUS CONTROL UNIT SIGNAL

With CONSULT-III
1. Connect the E-SUS control unit harness connector.
2. Start the engine.
   CAUTION:
   Always hold the vehicle stopped.
3. Select “DATA MONITOR” of “E-SUS”.
4. Check the value of “IGN” on “DATA MONITOR” screen.

Is the value in “DATA MONITOR” “16 V” or more?

YES  >> Perform the diagnosis by symptom for the charging system. Refer to CHG-23, "Symptom Table".
NO   >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".
C1D23 E-SUS CONTROL UNIT

Description

Performs good/no good judgment of the E-SUS control unit reprogramming.

DTC Logic

DTC REPRODUCTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Item</th>
<th>Malfunction detected condition</th>
<th>Possible causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1D23</td>
<td>C/U REPRO ERROR</td>
<td>A malfunction is detected at E-SUS control unit reprogramming.</td>
<td>E-SUS control unit</td>
</tr>
</tbody>
</table>

DTC REPRODUCTION PROCEDURE

1. DTC REPRODUCTION PROCEDURE

*With CONSULT-III*

1. Turn the ignition switch OFF to ON.

Is DTC “C1D23” detected?

YES  >> Proceed to diagnosis procedure. Refer to SCS-43, "Diagnosis Procedure".
NO   >> INSPECTION END

Diagnosis Procedure

1. PERFORM E-SUS CONTROL UNIT REPROGRAMMING

*With CONSULT-III*

Reprogram E-SUS control unit.

Is it completed successfully?

YES  >> GO TO 2.
NO   >> GO TO 3.

2. PERFORM SELF-DIAGNOSIS

*With CONSULT-III*

Perform “E-SUS” self-diagnosis.

Is DTC “C1D23” detected?

YES  >> GO TO 3.
NO   >> INSPECTION END

3. PERFORM E-SUS CONTROL UNIT REPROGRAMMING AGAIN

*With CONSULT-III*

1. Reprogram E-SUS control unit.

Is DTC “C1D23” detected?

YES  >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".
NO   >> GO TO 4.

4. ERASE ERROR RECORD

Erase the memory of E-SUS control unit self-diagnosis result (history).

>> End
U1000 CAN COMM CIRCUIT

Description

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detectability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information communication with less wiring. Each control unit communicates data but selectively reads required data only.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display item</th>
<th>Malfunction detected condition</th>
<th>Possible cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>U1000</td>
<td>CAN COMM CIRCUIT</td>
<td>E-SUS control unit is not communicate CAN communication signal for 2 seconds or more.</td>
<td>• CAN communication error</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Malfunction of E-SUS control unit</td>
</tr>
</tbody>
</table>

DTC CONFIRMATION PROCEDURE

1. DTC REPRODUCTION PROCEDURE

With CONSULT-III

1. Turn the ignition switch OFF to ON.

Is DTC “U1000” detected?

YES  >> Proceed to diagnosis procedure. Refer to SCS-44, "Diagnosis Procedure”.
NO   >> INSPECTION END

Diagnosis Procedure

1. PERFORM SELF-DIAGNOSIS

With CONSULT-III

Perform “E-SUS” self-diagnosis.

Is DTC “U1000” detected?

YES  >> CAN specification chart. Refer to LAN-29, "CAN System Specification Chart”.
NO   >> INSPECTION END
< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

Description

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detectability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information communication with less wiring. Each control unit communicates data but selectively reads required data only.

DTC Logic

DTC DETECTION LOGIC

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display item</th>
<th>Malfunction detected condition</th>
<th>Possible cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>U1010</td>
<td>CONTROL UNIT (CAN)</td>
<td>Detecting error during the initial diagnosis of CAN controller of E-SUS control unit.</td>
<td>Malfunction of E-SUS control unit</td>
</tr>
</tbody>
</table>

DTC CONFIRMATION PROCEDURE

1. DTC REPRODUCTION PROCEDURE

With CONSULT-III
1. Turn the ignition switch OFF to ON.

Is DTC “U1010” detected?

<table>
<thead>
<tr>
<th>YES</th>
<th>&gt;&gt; Proceed to diagnosis procedure. Refer to SCS-45, &quot;Diagnosis Procedure&quot;.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>&gt;&gt; INSPECTION END</td>
</tr>
</tbody>
</table>

Diagnosis Procedure

1. CHECK E-SUS CONTROL UNIT

Check E-SUS control unit harness connector for disconnection and deformation.

Is the inspection result normal?

<table>
<thead>
<tr>
<th>YES</th>
<th>&gt;&gt; Replace E-SUS control unit. Refer to SCS-61, &quot;Exploded View&quot;.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>&gt;&gt; Repair or replace error-detected parts.</td>
</tr>
</tbody>
</table>
MODE SELECT SWITCH (E-SUS MODE SELECT)

MODE SELECT SWITCH (E-SUS MODE SELECT)

Description

- Mode select switch (E-SUS mode select) can be switched to SPORT mode or AUTO mode manually.
- When the ignition switch is turned to ON, the mode lamp briefly illuminates, but it is not a malfunction.

<table>
<thead>
<tr>
<th>Selection mode</th>
<th>Target driving scene</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO mode</td>
<td>Normal driving (basic position)</td>
</tr>
<tr>
<td>SPORT mode</td>
<td>Sport-conscious driving</td>
</tr>
</tbody>
</table>

Component Function Check

1. CHECK MODE SELECT SWITCH (E-SUS MODE SELECT) OPERATION

Operate the mode select switch (E-SUS mode select) and check that the sport mode indicator lamp in the combination meter turns ON/OFF correctly.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sport mode indicator lamp illumination status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode select switch (E-SUS mode select): SPORT</td>
<td>ON</td>
</tr>
<tr>
<td>Mode select switch (E-SUS mode select): AUTO</td>
<td>OFF</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> INSPECTION END

NO >> Proceed to diagnosis procedure. Refer to SCS-46, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK MODE SELECT SWITCH (E-SUS MODE SELECT)

Check mode select switch (E-SUS mode select). Refer to SCS-47, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Mode select switch (E-SUS mode select) is malfunctioning. Replace Mode select switch (E-SUS mode select).

2. CHECK MODE SELECT SWITCH (E-SUS MODE SELECT) HARNESS

1. Disconnect E-SUS control unit harness connector.
2. Disconnect mode select switch (E-SUS mode select) connector.
3. Check the continuity between mode select switch (E-SUS mode select) harness connector and E-SUS control unit harness connector.

<table>
<thead>
<tr>
<th>E-SUS control unit</th>
<th>Mode select switch (E-SUS mode select)</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>B38</td>
<td>20</td>
<td>M179</td>
</tr>
</tbody>
</table>

4. Check the continuity between mode select switch (E-SUS mode select) harness connector and ground.

<table>
<thead>
<tr>
<th>Mode select switch (E-SUS mode select)</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>M179</td>
<td>3</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> GO TO 3.

NO >> If the open or short in harness, repair or replace harness.

3. CHECK COMBINATION METER
MODE SELECT SWITCH (E-SUS MODE SELECT)

< DTC/CIRCUIT DIAGNOSIS >

1. Connect E-SUS control unit harness connector.
2. Connect mode select switch (E-SUS mode select) harness connector.
3. Check the indication and operation of combination meter are normal. Refer to MWI-43, "Diagnosis Description".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace combination meter.

Component Inspection

1. CHECK MODE SELECT SWITCH (E-SUS MODE SELECT)

1. Turn the ignition switch OFF.
2. Disconnect mode select switch (E-SUS mode select) harness connector.
3. Check the continuity between mode select switch (E-SUS mode select) connector terminals.

<table>
<thead>
<tr>
<th>Mode select switch (E-SUS mode select)</th>
<th>Condition</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal 1 − 3</td>
<td>When mode select switch (E-SUS mode select): SPORT</td>
<td>Existed</td>
</tr>
<tr>
<td></td>
<td>When mode select switch (E-SUS mode select): AUTO</td>
<td>Not existed</td>
</tr>
</tbody>
</table>

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace mode select switch (E-SUS mode select).
SPORT MODE INDICATOR LAMP

Description

The following is the indications of indicator lamp after the engine start.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sport mode indicator lamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO mode</td>
<td>OFF</td>
</tr>
<tr>
<td>SPORT mode</td>
<td>ON</td>
</tr>
</tbody>
</table>

Component Function Check

1. SPORT MODE INDICATOR LAMP OPERATION CHECK

Check that the sport mode indicator lamp in the combination meter turns ON/OFF correctly when operating the mode select switch (E-SUS mode select).

Is the inspection result normal?
YES  >> INSPECTION END
NO   >> Proceed to diagnosis procedure. Refer to SCS-48, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK MODE SELECT SWITCH (E-SUS MODE SELECT)

Perform the trouble diagnosis for mode select switch (E-SUS mode select). Refer to SCS-46, "Diagnosis Procedure".

Is the inspection result normal?
YES  >> GO TO 2.
NO   >> Check mode select switch (E-SUS mode select). Refer to SCS-47, "Component Inspection".

2. CHECK SELF-DIAGNOSIS

With CONSULT-III

Perform “E-SUS” self-diagnosis.

Is the inspection result normal?
YES  >> GO TO 3.
NO   >> Check items displayed by self-diagnosis.

3. CHECK COMBINATION METER

Check the indication and operation of combination meter are normal. Refer to MWI-43, "Diagnosis Description".

Is the inspection result normal?
YES  >> Replace E-SUS control unit. Refer to SCS-61, "Exploded View".
NO   >> Repair or replace combination meter. Refer to MWI-146, "Exploded View".
### ECU DIAGNOSIS INFORMATION

#### E-SUS CONTROL UNIT

**Reference Value**

**VALUES ON THE DIAGNOSIS TOOL**

<table>
<thead>
<tr>
<th>Monitor Item</th>
<th>Condition</th>
<th>Value/Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEHICLE SPEED</td>
<td>Vehicle stopped</td>
<td>0 km/h (MPH)</td>
</tr>
<tr>
<td></td>
<td>While driving for a period of time after the engine starts. <strong>CAUTION:</strong> Check tire pressure in normal condition.</td>
<td>Almost in accordance with the speedometer display. (Within ±10%)</td>
</tr>
<tr>
<td>ST ANGLE SIG</td>
<td>Neutral</td>
<td>Approx. 0 deg</td>
</tr>
<tr>
<td></td>
<td>Steering</td>
<td>0 – 780 deg</td>
</tr>
<tr>
<td>IGN</td>
<td>Always</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>REQUESTED TRQ</td>
<td>• Engine: At idle speed after warm-up</td>
<td>Approx. 26 Nm</td>
</tr>
<tr>
<td></td>
<td>• Selector lever: P or N position</td>
<td></td>
</tr>
<tr>
<td>FR BDY G-SEN VOL</td>
<td>When stopped</td>
<td>Approx. 2.35 – 2.65 V</td>
</tr>
<tr>
<td></td>
<td>While driving</td>
<td>Approx. 0.5 – 4.5 V</td>
</tr>
<tr>
<td>FL BDY G-SEN VOL</td>
<td>When stopped</td>
<td>Approx. 2.35 – 2.65 V</td>
</tr>
<tr>
<td></td>
<td>While driving</td>
<td>Approx. 0.5 – 4.5 V</td>
</tr>
<tr>
<td>R G-SEN VOL</td>
<td>When stopped</td>
<td>Approx. 2.35 – 2.65 V</td>
</tr>
<tr>
<td></td>
<td>While driving</td>
<td>Approx. 0.5 – 4.5 V</td>
</tr>
<tr>
<td>FR WHL G-SEN VOL</td>
<td>When stopped</td>
<td>Approx. 2.35 – 2.65 V</td>
</tr>
<tr>
<td></td>
<td>While driving</td>
<td>Approx. 0.5 – 4.5 V</td>
</tr>
<tr>
<td>FL WHL G-SEN VOL</td>
<td>When stopped</td>
<td>Approx. 2.35 – 2.65 V</td>
</tr>
<tr>
<td></td>
<td>While driving</td>
<td>Approx. 0.5 – 4.5 V</td>
</tr>
<tr>
<td>FR ACTUATOR CRNT</td>
<td>Vehicle stopped</td>
<td>Approx. 0.65 A</td>
</tr>
<tr>
<td></td>
<td>While driving</td>
<td>Approx. 0.65 – 2.0 A</td>
</tr>
<tr>
<td>FL ACTUATOR CRNT</td>
<td>Vehicle stopped</td>
<td>Approx. 0.65 A</td>
</tr>
<tr>
<td></td>
<td>While driving</td>
<td>Approx. 0.65 – 2.0 A</td>
</tr>
<tr>
<td>RR ACTUATOR CRNT</td>
<td>Vehicle stopped</td>
<td>Approx. 0.65 A</td>
</tr>
<tr>
<td></td>
<td>While driving</td>
<td>Approx. 0.65 – 2.0 A</td>
</tr>
<tr>
<td>RL ACTUATOR CRNT</td>
<td>Vehicle stopped</td>
<td>Approx. 0.65 A</td>
</tr>
<tr>
<td></td>
<td>While driving</td>
<td>Approx. 0.65 – 2.0 A</td>
</tr>
<tr>
<td>G-SEN VOL</td>
<td>Ignition switch ON</td>
<td>Approx. 4.75 – 5.25 V</td>
</tr>
<tr>
<td>BRK FLD PRESS</td>
<td>Brake deactivated</td>
<td>Approx. 0 bar</td>
</tr>
<tr>
<td></td>
<td>Brake activated</td>
<td>–40 – 300 bar</td>
</tr>
<tr>
<td>STP LAMP SW</td>
<td>Depress the brake</td>
<td>On</td>
</tr>
<tr>
<td></td>
<td>Do not depress the brake</td>
<td>Off</td>
</tr>
<tr>
<td>MODE SW</td>
<td>Sport mode</td>
<td>On</td>
</tr>
<tr>
<td></td>
<td>Auto mode</td>
<td>Off</td>
</tr>
<tr>
<td>FAIL MODE SIG</td>
<td>Fail-safe mode</td>
<td>On</td>
</tr>
<tr>
<td></td>
<td>Normal mode</td>
<td>Off</td>
</tr>
<tr>
<td>CONTROL MODE</td>
<td>Sport mode</td>
<td>SPORT</td>
</tr>
<tr>
<td></td>
<td>Auto mode</td>
<td>AUTO</td>
</tr>
</tbody>
</table>

**TERMINAL LAYOUT**

Revision: 2009 August
## PHYSICAL VALUES

<table>
<thead>
<tr>
<th>Terminal No. (Wire color)</th>
<th>Description</th>
<th>Condition</th>
<th>Value (Approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ (L) Ground</td>
<td>E-SUS control unit power supply</td>
<td>Input</td>
<td>Ignition switch ON</td>
</tr>
<tr>
<td>2 (P)</td>
<td>Front RH shock absorber actuator LOW terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3 (V)</td>
<td>Front RH shock absorber actuator HI terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4 (G)</td>
<td>Front LH shock absorber actuator LOW terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5 (Y)</td>
<td>Front LH shock absorber actuator HI terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6 (LG)</td>
<td>Rear LH shock absorber actuator HI terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7 (V)</td>
<td>Rear LH shock absorber actuator LOW terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8 (L)</td>
<td>Rear RH shock absorber actuator HI terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>9 (P)</td>
<td>Rear RH shock absorber actuator LOW terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10 (O)</td>
<td>Front LH wheel vertical G sensor output voltage</td>
<td>Input</td>
<td>Ignition switch ON</td>
</tr>
<tr>
<td>11 (SB)</td>
<td>Front RH body vertical G sensor output voltage</td>
<td>Input</td>
<td>Ignition switch ON</td>
</tr>
<tr>
<td>12 (R)</td>
<td>Front LH body vertical G sensor output voltage</td>
<td>Input</td>
<td>Ignition switch ON</td>
</tr>
<tr>
<td>14 (G)</td>
<td>Rear body vertical G sensor output voltage</td>
<td>Input</td>
<td>Ignition switch ON</td>
</tr>
<tr>
<td>17 (L)</td>
<td>E-SUS control unit power supply</td>
<td>Input</td>
<td>Ignition switch ON</td>
</tr>
<tr>
<td>18 (B)</td>
<td>Ground</td>
<td>—</td>
<td>Always</td>
</tr>
<tr>
<td>19 (B)</td>
<td>Ground</td>
<td>—</td>
<td>Always</td>
</tr>
<tr>
<td>20 (W)</td>
<td>Mode switch terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>23 (G)</td>
<td>Mode lamp terminal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>24 (W)</td>
<td>Front RH wheel vertical G sensor output voltage</td>
<td>Input</td>
<td>Ignition switch ON</td>
</tr>
</tbody>
</table>
### Terminal No. (Wire color) | Description | Condition | Value (Approx.)
---|---|---|---
+ | - | Signal name | Input/Output |
25 (Y) | Ground | Rear body vertical G sensor ground | — | Always | 0 V |
26 (BR) | Ground | Front vertical G sensor ground | — | Always | 0 V |
27 (GR) | Ground | Front vertical G sensor power supply | Output | Ignition switch ON | Approx. 4.75 – 5.25 V |
29 (P) | — | CAN-L | — | — | — |
30 (LG) | Ground | Rear vertical G sensor power supply | Output | Ignition switch ON | Approx. 4.75 – 5.25 V |
32 (L) | — | CAN-H | — | — | — |

**CAUTION:**

Never extend connector terminals forcibly, when checking voltage using a circuit tester for voltage inspection.
### E-SUS CONTROL UNIT

**ECU DIAGNOSIS INFORMATION**

#### CONTINUOUS DAMPING CONTROL

<table>
<thead>
<tr>
<th>Connector No.</th>
<th>Connector Name</th>
<th>Connector Type</th>
<th>Terminal No.</th>
<th>Color</th>
<th>Signal Name (Specification)</th>
</tr>
</thead>
<tbody>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>1</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>2</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>3</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>4</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>5</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>6</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>7</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>8</td>
<td>J</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>9</td>
<td>K</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td>10</td>
<td>L</td>
<td></td>
</tr>
</tbody>
</table>

---

**Revision:** 2009 August

**Model:** FX35/FX50
### E-SUS CONTROL UNIT

#### CONTINUOUS DAMPING CONTROL

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Color</th>
<th>Signal Name (Specification)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B</td>
<td>FRONT BODY VERTICAL G SENSOR RH</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>FRONT BODY VERTICAL G SENSOR LH</td>
</tr>
</tbody>
</table>

#### FRONT SENSOR REAR RIGHT ACTUATOR RH

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Color</th>
<th>Signal Name (Specification)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>FRONT SENSOR REAR RIGHT ACTUATOR RH</td>
</tr>
</tbody>
</table>

#### FRONT SENSOR REAR LEFT ACTUATOR LH

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Color</th>
<th>Signal Name (Specification)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>FRONT SENSOR REAR LEFT ACTUATOR LH</td>
</tr>
</tbody>
</table>

---

Revision: 2009 August

SCS-54

2010 FX35/FX50
E-SUS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

<table>
<thead>
<tr>
<th>Continous No.</th>
<th>Signal Name (Specification)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Revision: 2009 August
Fail-safe

Continuous Damping Control system

- When detecting any malfunction in each component of the system, it enters the fail-safe status.
- The damping force is simultaneously maintained at approximately the intermediate level between the maximum and the minimum values, when entering the fail-safe status.
- Even if the switch is operated in the fail-safe status, lamp illuminates in SPORT mode or AUTO mode.
When multiple DTCs are detected simultaneously, check one by one depending on the following priority list.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Priority order item (DTC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• U1000 CAN COMM CIRCUIT</td>
</tr>
<tr>
<td></td>
<td>• U1010 CONTROL UNIT (CAN)</td>
</tr>
<tr>
<td>2</td>
<td>Other than the above</td>
</tr>
</tbody>
</table>

### DTC Index

<table>
<thead>
<tr>
<th>DTC</th>
<th>Display Items</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1D01</td>
<td>VEHICLE SPEED SIG</td>
<td>SCS-12, &quot;DTC Logic&quot;</td>
</tr>
<tr>
<td>C1D03</td>
<td>ST ANGLE SPEED SIG</td>
<td>SCS-14, &quot;DTC Logic&quot;</td>
</tr>
<tr>
<td>C1D05</td>
<td>REQST TRQ SIG</td>
<td>SCS-16, &quot;DTC Logic&quot;</td>
</tr>
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SPORT MODE INDICATOR LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS
SPORT MODE INDICATOR LAMP DOES NOT TURN ON

Description

Sport mode indicator lamp does not turns ON when mode select switch (E-SUS mode select) is operated to SPORT mode.

Diagnosis Procedure

1. CHECK SPORT MODE INDICATOR LAMP

Perform the trouble diagnosis of sport mode indicator lamp. Refer to SCS-48, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check that there is no malfunction in each harness connector pin terminal or disconnection.
NO >> Repair or replace the specific malfunctioning part.
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the “SRS AIR BAG”.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precautions for terminology

The Continuous Damping Control is the trademark owned by ThyssenKrupp ZF Sachs AG.

Precautions for diagnosis

When disconnecting the harness connector from E-SUS control unit, disconnect it only after checking that the lock lever on the harness connector is opened.
REMOVAL AND INSTALLATION

E-SUS CONTROL UNIT

Exploded View

1. E-SUS control unit
   ← Vehicle front

Removal and Installation

REMOVAL
1. Turn the ignition switch OFF.
2. Remove the luggage side finisher lower (LH). Refer to INT-28, "Exploded View".
3. Disconnect the E-SUS control unit connector.
4. Remove the E-SUS control unit mounting bolts.
5. Remove the E-SUS control unit from vehicle.

INSTALLATION
Install in the reverse order of removal.
NOTE:
The above figure shows left side. Right side is the mirror image.

Removal and Installation

REMOVAL
1. Turn the ignition switch OFF.
2. Remove the engine room covers (LH/RH). Refer to EM-174, "Exploded View".
3. Disconnect the front body vertical G sensor connector.
4. Remove the front body vertical G sensor mounting bolts.
5. Remove the front body vertical G sensor from vehicle.

INSTALLATION
Install in the reverse order of removal.
FRONT WHEEL VERTICAL G SENSOR

Exploded View

NOTE:
The above figure shows left side. Right side is the mirror image.

Removal and Installation

REMOVAL
1. Turn the ignition switch OFF.
2. Remove the air cleaner case. Refer to EM-177, "Exploded View".
3. Disconnect the front wheel vertical G sensor connector.
4. Remove the front tire.
5. Remove the bracket mounting bolts.
6. Remove the front wheel vertical G sensor mounting nut.
7. Remove the front wheel vertical G sensor from front strut.

INSTALLATION
Install in the reverse order of removal.
Removal and Installation

REMOVAL
1. Turn the ignition switch OFF.
2. Remove the Luggage floor spacer. Refer to INT-28, "Exploded View".
3. Disconnect the rear body vertical G sensor connector.
4. Remove the rear body vertical G sensor mounting bolts.
5. Remove the rear body vertical G sensor from vehicle.

INSTALLATION
Install in the reverse order of removal.
Removal and Installation

Refer to FSU-27, "Exploded View" (front shock absorber), RSU-10, "Exploded View" (rear shock absorber) for removal and installation.

CAUTION:
Never disassemble the shock absorber because the shock absorber actuator is integrated into the shock absorber.