# SECTION SBC SEAT BELT CONTROL SYSTEM

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### **BASIC INSPECTION**

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

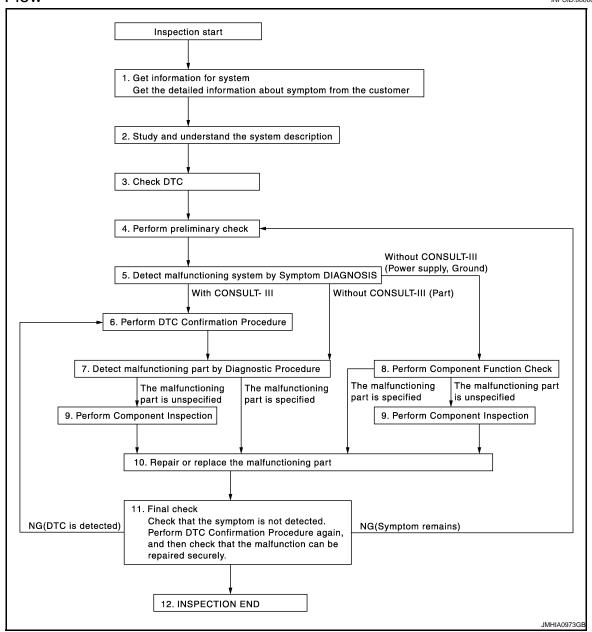
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### 1.GET INFORMATION FOR SYSTEM

Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred) as much as possible when the customer brings the vehicles in.

>> GO TO 2.

### $2.\mathsf{study}$ and understand the system description

Understand the operation condition or non-operation condition of pre-crash seat belt. Refer to <u>SBC-6</u>, "<u>System Description</u>".

>> GO TO 3.

#### DIAGNOSIS AND REPAIR WORK FLOW

#### < BASIC INSPECTION >

### 3.CHECK DTC

Perform "Self-diagnosis procedure" of appropriate DTC to check if DTC is detected again.

At this time, always connect CONSULT-III to the vehicle, and then check the diagnosis results in real time on "DATA MONITOR (AUTO RECORD)".

There is no priority for each DTC. Record them based on the following rules.

Current malfunction: Record all DTCs detected.

Past malfunction: Record up to 5 DTCs. When the 6th DTC is detected, it is overwritten to the last recorded DTC.

#### Is DTC detected?

YES >> GO TO 4.

NO >> Follow the diagnosis simulation test to check. Refer to GI-37, "Intermittent Incident".

#### 4. PERFORM PRELIMINARY CHECK

Perform preliminary check. Refer to SBC-57, "BOTH SIDES: Diagnosis Procedure".

>> GO TO 5.

### 5. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Identify the malfunctioning system with "Malfunctioning system by symptom diagnosis". Refer to <u>SBC-57, "BOTH SIDES: Diagnosis Procedure"</u>.

With CONSULT-III>>GO TO 6.

Without CONSULT-III>>GO TO 7 (Parts system).

Without CONSULT-III>>GO TO 8 (Power supply, ground system).

#### 6. PERFORM DTC CONFIRMATION PROCEDURE

Perform the inspection with "DTC CONFIRMATION PROCEDURE" of the applicable system.

>> GO TO 7.

### 7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Identify the malfunctioning part with "Diagnosis Procedure".

Are malfunctioning parts detected?

YES >> GO TO 10. NO >> GO TO 9.

### 8.PERFORM COMPONENT FUNCTION CHECK

Identify the malfunctioning part with "Component Function Check".

#### Are malfunctioning parts detected?

YES >> GO TO 10. NO >> GO TO 9.

#### 9. PERFORM COMPONENT INSPECTION

Perform the inspection with "Component Inspection".

>> GO TO 10.

### 10. REPAIR OR REPLACE THE MALFUNCTIONING PART

Repair or replace the specified malfunctioning parts.

After repairing or replacing, reconnect parts or connector disconnected in "Diagnosis Procedure", and then erase DTC if necessary. Refer to <u>SBC-14, "CONSULT-III Function"</u>.

>> GO TO 11.

### 11. FINAL CHECK

Perform "CONSULT-III function" again to check that the repair is performed correctly.

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#### **DIAGNOSIS AND REPAIR WORK FLOW**

#### < BASIC INSPECTION >

Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 4.

#### Are all malfunctions corrected?

- YES >> Before delivering the vehicle to the customer, check that that DTC is erased.
  - INSPECTION END
- NO >> DTC is reproduced: GO TO 6.

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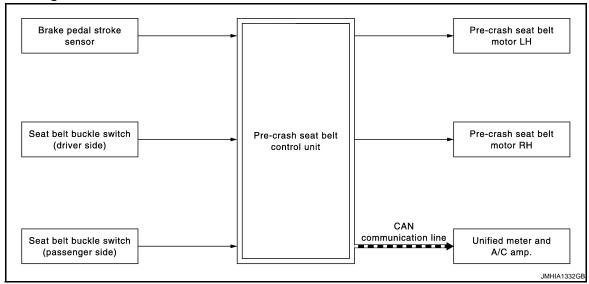
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### SYSTEM DESCRIPTION

#### PRE-CRASH SEAT BELT SYSTEM

System Diagram

INFOID:0000000005633175



### System Description

INFOID:0000000005633176

- Pre-crash seat belt is adopted to RH/LH seat belts.
- Pre-crush seat belt retracts shoulder webbing by a motor in pre-tensioner seat belt.
- Facilitates an emergency operation by restraining change in occupant posture while emergency braking is being applied.
- Restrains occupant faster and firmly, maximizes the effect of other devices like air bag, and reduces possible damage if a collision is unavoidable.
- Provides occupant a sense of ease by pulling occupants body to seat during braking that does not result a collision.

#### **FUNCTION DESCRIPTION**

Pre-crush seat belt is activated in the conditions as per the following. Emergency braking is applied.

#### **OPERATION CONDITION**

The activation and deactivation conditions of pre-crush seat belt are as per the following.

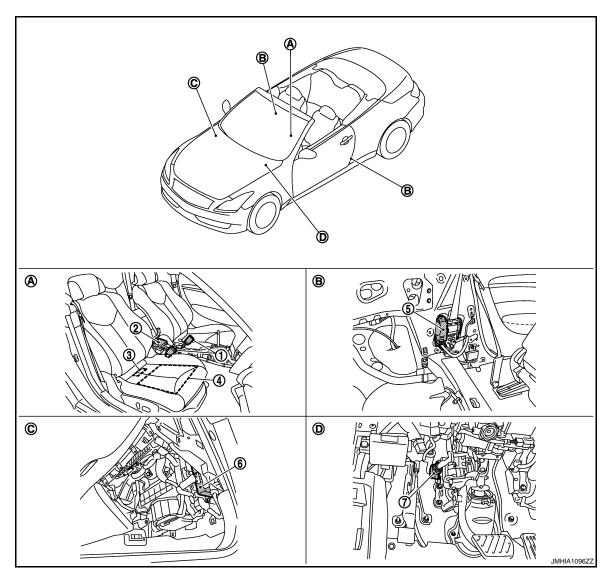
	Activating condition	Deactivating condition
Emergency braking is applied	<ul><li>Judges that emergency braking is applied</li><li>Vehicle speed is 15 km/h (9 MPH) or more</li></ul>	When the vehicle accelerates     The vehicle stays stopped

#### OPERATION PROHIBITION CONDITION

- Seat belt is not fastened (Only the seat belt that is not fastened does not operate).
- At fail-safe condition.

### **Component Parts Location**

INFOID:0000000005633177



- Seat belt buckle switch Driver side: B13 Passenger side: B213
- Occupant Classification System seat 5. sensor mat
- 7. Brake pedal stroke sensor E116
- D. Behind instrument driver lower cover

Pre-crash seat belt motor

B. Behind rear side finisher

LH: B28

RH: B228

- Occupant Classification System control unit B214
- . Pre-crash seat belt control unit M110
- C. Behind glove box assembly

### Component Description

INFOID:0000000005633178

Component	Function
Pre-crash seat belt control unit	It controls pre-crash seat belt motor according to input signal.
Pre-crash seat belt motor (Seat belt motor [RH/LH])	It is built into seat belt retractor, and it pulls, returns, and maintains according to the motor rotation.

Air bag diagnosis sensor unit E36

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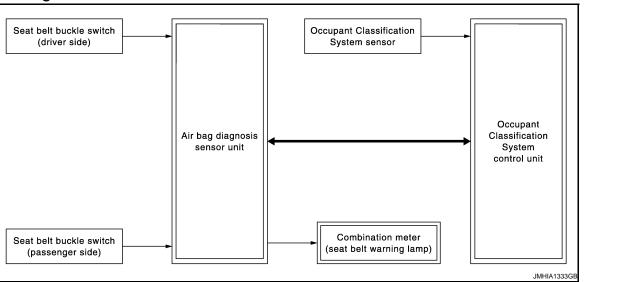
### PRE-CRASH SEAT BELT SYSTEM

### < SYSTEM DESCRIPTION >

Component	Function
Brake pedal stroke sensor	<ul> <li>It changes voltage according to brake pedal depressed amount and sends the signal to pre-crash seat belt control unit.</li> <li>There are 2 signals (brake pedal stroke sensor 1 and 2) sent from the brake pedal stroke sensor. Pre-crash seat belt control unit will judge the stroke amount and the speed of the brake pedal according to the voltage of the signa sent by each side.</li> </ul>
Seat belt buckle switch	It is arranged in the seat belt buckle and judges whether the seat belt is fastened or not fastened.
Unified meter and A/C amp	It transmits the vehicle status to pre-crash seat belt control unit using the CAN communication system.
Combination meter (Seat belt warning lamp)	It indicates a malfunction of pre-crash seat belt system.

### SEAT BELT WARNING SYSTEM

System Diagram



### System Description

INFOID:0000000005633180

INFOID:0000000005633179

- Turns ON seat belt warning lamp, when the Occupant Classification System judges adult or child in the front passenger seat and the passenger seat belt buckle switch is OFF.
- Operation of air bag diagnosis sensor unit when air bag diagnosis sensor unit receives information from Occupant Classification System.
- In addition, seat belt warning lamp illuminates, when the driver side seat belt is not fasten. This does not relate to the air bag diagnosis sensor unit.

Status (front passenger seat)	Seat belt warning lamp (When front passenger seat is unbuckled)
Empty	OFF
An object	OFF
Child/ child-seat	ON
Adult	ON
Malfunction	OFF

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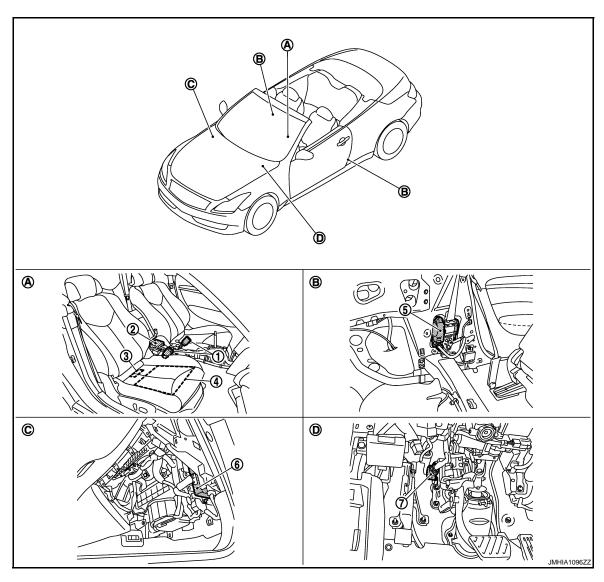
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### **Component Parts Location**

INFOID:0000000005633181



- Seat belt buckle switch Driver side: B13 Passenger side: B213
- 4. Occupant Classification System seat 5. sensor mat
- 7. Brake pedal stroke sensor E116
- A. Front seat
- D. Behind instrument driver lower cover

- 2. Air bag diagnosis sensor unit E36
- Pre-crash seat belt motor LH: B28
  - LH: B28 RH: B228
- . Behind rear side finisher
- Occupant Classification System control unit B214
- 6. Pre-crash seat belt control unit M110
- C. Behind glove box assembly

### Component Description

INFOID:0000000005633182

Component parts	Outline of function
Seat belt buckle switch (Driver side)	Detects if the seat belt buckle switch (driver side) is fastened or unfastened
Seat belt buckle switch (Passenger side)	Detects if the seat belt buckle switch (passenger side) is fastened or unfastened
Combination meter (Seat belt warning lamp)	Turns the seat belt warning lamp ON when the seat belt is unfastened
Occupant Classification System control unit	Judges the passenger seat condition based on the information from Occupant Classification System control unit

#### **SEAT BELT WARNING SYSTEM**

### < SYSTEM DESCRIPTION >

Component parts	Outline of function
Occupant Classification System seat sensor	Detects if the passenger seat is empty or occupied
Air bag diagnosis sensor unit	Turns ON seat belt warning lamp based on the information from Occupant Classification System control unit
Front passenger air bag OFF indicator	Turns the front passenger air bag OFF indicator lamp ON when the front passenger seat is occupied by a child or a child seat

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### ON BOARD DIAGNOSTIC (OBD) SYSTEM

#### < SYSTEM DESCRIPTION >

### ON BOARD DIAGNOSTIC (OBD) SYSTEM

### **Diagnosis Description**

#### INFOID:0000000005633183

#### **DIAGNOSIS FUNCTION**

When pre-crash seat belt control unit detects a malfunction, seat belt warning lamp blinks or turn ON and warns the user of the malfunction.

How to Read Seat Belt Warning Lamp

- 1. Turn the ignition switch from OFF to ON, and check that the seat belt warning lamp blinks.
- 2. Compare the seat belt warning lamp blinking pattern with the examples.

Seat Belt Warning Lamp Examples

Seat belt warning lamp operation	Condition	Reference item
ON OFF 7 sec.	No malfunction is detected	_
ON OFF 7 sec. 0.5 sec. 0.5 sec. SHIA0012E	Pre-crash seat belt system is malfunctioning	Check "CAUSE OF WARNING" in "Special Function" with CONSULT-III. Refer to SRC-21, "CONSULT-III Function"

### ON BOARD DIAGNOSTIC (OBD) SYSTEM

### < SYSTEM DESCRIPTION >

Seat belt warning lamp operation	Condition	Reference item	
ON OFF SHIA0013E	Seat belt is not fastened	_	
IGN ON			
ON OFF	Pre-crash seat belt control unit is malfunctioning     Seat belt warning lamp circuit is malfunctioning	Refer to SBC-28, "Diagnosis Procedure"	
SHIA0014E			

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### **DIAGNOSIS SYSTEM (PRE-CRASH SEAT BELT)**

#### < SYSTEM DESCRIPTION >

### DIAGNOSIS SYSTEM (PRE-CRASH SEAT BELT)

### **CONSULT-III Function**

INFOID:0000000005633184

Diagnosis for pre-crash seat belt system can be performed using CONSULT-III.

#### **APPLICATION ITEM**

Diagnosis Mode	Function description
Self-diagnosis Results	<ul> <li>Displays data recorded when a malfunction is detected.</li> <li>Can print out the display.</li> <li>Erases DTC recorded in memory.</li> </ul>
Data Monitor	Displays input data for pre-crash seat belt control unit in real time.
CAN DIAG SUPPORT MNTR	Monitors communication status of CAN communication.
ECU PART NUMBER	Displays pre-crash seat belt control unit part number.

#### **DATA MONITOR**

Monitor item	[Operation or unit]	Display item	
SB SW RH SIG	[ON/OFF]	ON/OFF status of RH seat belt switch signal is displayed.	
SB SW LH SIG	[ON/OFF]	ON/OFF status of LH seat belt switch signal is displayed.	
VHCL SPEED SE	[km/h]	Vehicle speed signal is displayed.	
B PEDAL SIG1	[V]	Brake pedal stroke sensor 1 signal voltage is displayed.	
B PEDAL SIG2	[V]	Brake pedal stroke sensor 2 signal voltage is displayed.	

#### **U1000 CAN COMM CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

### DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

Description INFOID:0000000005633185

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, 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 transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only. CAN Communication Signal Chart. Refer to LAN-25, "CAN Communication Signal Chart".

DTC Logic INFOID:0000000005633186

#### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When pre-crash seat belt control unit cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

### Diagnosis Procedure

INFOID:0000000005633187

### 1.PERFORM SELF DIAGNOSTIC

Turn ignition switch ON and wait for 2 seconds or more.

2. Check "Self Diagnostic Result".

#### Is DTC "U1000" displayed?

YES >> Refer to LAN-16, "Trouble Diagnosis Flow Chart".

>> Refer to GI-37, "Intermittent Incident". NO

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#### **B2451 SB MOTOR RH CIRC**

#### < DTC/CIRCUIT DIAGNOSIS >

#### B2451 SB MOTOR RH CIRC

Description INFOID:000000005633188

- It pulls, returns, and maintains according to the motor rotation.
- It is built into the seat belt retractor.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Self-diagnosis item	DTC Detection Condition	Possible causes	
B2451	Seat belt motor system RH	Circuit of seat belt motor (RH) is open or shorted	<ul> <li>Open circuit, short circuit to battery, and short circuit to ground in seat belt motor (RH) harness</li> <li>Pre-crash seat belt control unit</li> </ul>	

#### DTC CONFIRMATION PROCEDURE

### 1. SELF-DIAGNOSIS WITH PRE-CRASH SEAT BELT MOTOR RH CIRCUIT

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnostic result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to SBC-16, "Diagnosis Procedure".

NO >> Pre-crash seat belt motor RH system is normal.

### Diagnosis Procedure

INFOID:0000000005633190

### 1. CHECK PRE-CRASH SEAT BELT MOTOR RH CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect pre-crash seat belt control unit connector and pre-crash seat belt motor RH connector.
- Check continuity between pre-crash seat belt control unit harness connector and pre-crash seat belt motor RH harness connector.

Pre-crash seat	Pre-crash seat belt control unit		Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
M110	1	B228	1	Existed	
IVITIO	3	D220	2	LXISIEU	

4. Check continuity between pre-crash seat belt control unit harness connector and ground.

Pre-crash seat	belt control unit		Continuity	
Connector	Connector Terminal		Continuity	
M110	1	Ground	Not existed	
	3	-	Not existed	

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

### 2.SELF-DIAGNOSIS WITH PRE-CRASH SEAT BELT MOTOR RH CIRCUIT

- 1. Replace pre-crash seat belt motor RH.
- 2. Connect pre-crash seat belt control unit connector and pre-crash seat belt motor RH connector.
- Turn ignition switch ON.
- Check "Self-diagnostic result" with CONSULT-III.

#### Is DTC detected?

YES >> Replace pre-crash seat belt control unit.

NO >> INSPECTION END

#### **B2452 SB MOTOR LH CIRC**

#### < DTC/CIRCUIT DIAGNOSIS >

#### B2452 SB MOTOR LH CIRC

Description INFOID:0000000005633191

- It pulls, returns, and maintains according to the motor rotation.
- It is built into the seat belt retractor.

DTC Logic INFOID:0000000005633192

#### DTC DETECTION LOGIC

DTC No.	Self-diagnosis item	DTC Detection Condition	Possible causes
B2452	Seat belt motor system LH	Circuit of seat belt motor (LH) is open or shorted	Open circuit, short circuit to battery, and short circuit to ground in seat belt motor (LH) harness     Pre-crash seat belt control unit

#### DTC REPRODUCTION PROCEDURE

### ${f 1}$ . SELF-DIAGNOSIS WITH PRE-CRASH SEAT BELT MOTOR LH CIRCUIT

- Turn ignition switch ON.
- Check "Self-diagnostic result" with CONSULT-III.

#### Is DTC detected?

>> Refer to SBC-17, "Diagnosis Procedure".

>> Pre-crash seat belt motor LH system is normal. NO

#### Diagnosis Procedure

### 1. CHECK PRE-CRASH SEAT BELT MOTOR LH CIRCUIT

- Turn ignition switch OFF.
- Disconnect pre-crash seat belt control unit connector and pre-crash seat belt motor LH connector.
- Check continuity between pre-crash seat belt control unit harness connector and pre-crash seat belt motor LH harness connector.

Pre-crash seat l	belt control unit	Pre-crash seat belt motor LH  Connector Terminal		Continuity
Connector	Terminal			Continuity
M110	4	B28	2	Existed
WITTO	6	D20	1	LAISIGU

4. Check continuity between pre-crash seat belt control unit harness connector and ground.

Pre-crash seat b	elt control unit		Continuity	
Connector	Terminal	Ground	Continuity	
M110	4	Not exist	Not existed	
	6		INOL GAISIGU	

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

### 2.self-diagnosis with pre-crash seat belt motor LH circuit

- Replace pre-crash seat belt motor LH.
- 2. Connect pre-crash seat belt control unit connector and pre-crash seat belt motor LH connector.
- Turn ignition switch ON.
- Check "Self-diagnostic result" with CONSULT-III.

#### Is DTC detected?

YES >> Replace pre-crash seat belt control unit.

NO >> INSPECTION END

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#### **B2453 BR STROKE SEN CIRC**

#### < DTC/CIRCUIT DIAGNOSIS >

#### B2453 BR STROKE SEN CIRC

Description INFOID:000000005633194

 It changes voltage according to brake pedal depressed amount and sends the signal to pre-crash seat belt control unit.

• There are 2 signals (brake pedal stroke sensor 1 and 2) sent from the brake pedal stroke sensor. Pre-crash seat belt control unit judges the stroke amount and the speed of the brake pedal according to the voltage of the signal sent by each side.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Self-diagnosis item	DTC Detection Condition	Possible causes
B2453	BR STROKE SEN CIRC	Circuit of brake pedal stroke sensor output is open or shorted	Open circuit, short circuit to battery, and short circuit to ground in brake pedal stroke sensor harness     Pre-crash seat belt control unit     Brake pedal stroke sensor

#### DTC CONFIRMATION PROCEDURE

### 1. SELF-DIAGNOSIS WITH PRE-CRASH SEAT BELT CONTROL UNIT

- Turn ignition switch ON.
- 2. Check "Self-diagnostic result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to <u>SBC-18</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

#### Diagnosis Procedure

INFOID:0000000005633196

### ${f 1.}$ CHECK PRE-CRASH SEAT BELT CONTROL UNIT INPUT SIGNAL

- Turn ignition switch ON.
- 2. Select "B PEDAL SIG1" and "B PEDAL SIG2" in "DATA MONITOR" mode with CONSULT-III.
- 3. Check "B PEDAL SIG1" and "B PEDAL SIG2" indication under the following conditions.

Monitor item	Condition	Voltage (V) (Approx.)
B PEDAL SIG1	Brake released → depressed	1 → 4
B PEDAL SIG2	brake released → depressed	4 → 1

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 2.

### 2. CHECK BRAKE PEDAL STROKE SENSOR POWER SUPPLY

- Turn ignition switch OFF.
- Disconnect brake pedal stroke sensor connector.
- 3. Check voltage between brake pedal stroke sensor harness connector and ground.

Brake pedal	stroke sensor		Voltage (V)
Connector	Connector Terminal		(Approx.)
E116	2		5

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

#### **B2453 BR STROKE SEN CIRC**

#### < DTC/CIRCUIT DIAGNOSIS >

### 3.check brake pedal stroke sensor circuit

- Disconnect pre-crash seat belt control unit connector.
- Check continuity between pre-crash seat belt control unit harness connector and brake pedal stroke sensor harness connector.

Pre-crash sea	Pre-crash seat belt control unit		Brake pedal stroke sensor	
Connector	Terminal	Connector Terminal		Continuity
	16		1	
M110	20	E116	3	Existed
	21		4	

Check continuity between pre-crash seat belt control unit harness connector and ground.

Pre-crash seat belt control unit			Continuity
Connector	Terminal		Continuity
	16	Ground	Not existed
M110	20		
	21		

#### Is the inspection result normal?

>> Refer to SBC-19, "Component Inspection".

NO >> Repair or replace harness between pre-crash seat belt control unit and brake pedal stroke sensor.

#### f 4.CHECK BRAKE PEDAL STROKE SENSOR POWER SUPPLY CIRCUIT

- Disconnect pre-crash seat belt control unit connector.
- Check continuity between pre-crash seat belt control unit harness connector and brake pedal stroke sensor harness connector.

Pre-crash seat	Pre-crash seat belt control unit		Brake pedal stroke sensor	
Connector	Terminal	Connector	Terminal	Continuity
M110	18	E116	2	Existed

3. Check continuity between pre-crash seat belt control unit and ground.

Pre-crash seat belt control unit			Continuity
Connector Terminal		Ground	Continuity
M110	18		Not existed

#### Is the inspection result normal?

YES >> Replace pre-crash seat belt control unit. Refer to SBC-61, "Removal and Installation".

NO >> Repair or replace harness between pre-crash seat belt control unit and brake pedal stroke sensor.

#### 5. CHECK INTERMITTENT INCIDENT

Refer to GI-37, "Intermittent Incident".

#### >> INSPECTION END

### 1. CHECK BRAKE PEDAL STROKE SENSOR

Turn ignition switch OFF.

Component Inspection

- Disconnect brake pedal stroke sensor connector. 2.
- Check that continuity between brake pedal stroke sensor when performing the brake operation.

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#### **B2453 BR STROKE SEN CIRC**

#### < DTC/CIRCUIT DIAGNOSIS >

Brake pedal stroke sensor Terminal		- Condition	Resistance (KΩ) (Approx.)
2	1	Brake released → depressed	1.0 → 0.2
۷	3	brake released depressed	0.2 → 1.0

#### Is the inspection result normal?

YES >> Brake pedal stroke sensor system is normal.

NO >> Replace brake pedal stroke sensor. Refer to <u>SBC-60, "Removal and Installation"</u>.

#### **B2454 MOTOR PWR SUP CIRC**

#### < DTC/CIRCUIT DIAGNOSIS >

#### B2454 MOTOR PWR SUP CIRC

Description INFOID:0000000005633198

 When control unit activates pre-crush seat belt system, it retracts the shoulder belt with the electric motor and reduces seat belt slack.

Power supply is supplied constantly from battery power supply.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Self-diagnosis item	DTC Detection Condition	Possible causes
B2454	SEAT BLT PWR DR CIRC	Motor power supply circuit is open or shorted	Open circuit and short circuit to ground in drive circuit power supply harness     Pre-crash seat belt control unit

#### DTC CONFIRMATION PROCEDURE

### ${f 1}$ .self-diagnosis with pre-crash seat belt control unit

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnostic result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to <u>SBC-21, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

### Diagnosis Procedure

### 1. CHECK FUSE AND FUSIBLE LINK

Check that the following fuse and fusible link are not blown.

Terminal No.	Signal name	Fuse and fusible link No.
2	Battery power supply	G

#### Is the inspection result normal?

YES >> GO TO 2.

NO

>> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is

### 2.CHECK PRE-CRASH SEAT BELT MOTOR POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect pre-crash seat belt control unit connector.
- Check voltage between pre-crash seat belt control unit harness connector and ground.

Pre-crash seat belt control unit			Voltage (V) (Approx.)
Connector	Terminal	Ground	Battery voltage
M110	2		Dattery Voltage

#### Is the inspection result normal?

YES >> Replace pre-crash seat belt control unit. Refer to <a href="SBC-61">SBC-61</a>, "Removal and Installation".

NO >> Repair or replace harness between pre-crash seat belt control unit and fusible link.

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#### **B2455 PSB C/U INT CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

#### B2455 PSB C/U INT CIRCUIT

Description INFOID:000000005633201

- It controls pre-crash seat belt motor according to input signal.
- It consists of pre-crash seat belt control unit.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Self-diagnosis item	DTC Detection Condition	Possible causes
B2455	C/U internal circuit system	Pre-crash seat belt control unit internal circuit malfunction	Pre-crash seat belt control unit

#### DTC CONFIRMATION PROCEDURE

### ${f 1.}$ SELF-DIAGNOSIS WITH PRE-CRASH SEAT BELT CONTROL UNIT

- 1. Turn ignition switch ON.
- Check "Self-diagnostic result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to <u>SBC-22</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

#### Diagnosis Procedure

INFOID:0000000005633203

### 1...INSPECTION START

- Check "Self-diagnostic result" with CONSULT-III.
- 2. Touch "ERASE".
- 3. Perform DTC Confirmation Procedure. See <u>SBC-22</u>, "<u>DTC Logic</u>".

#### Is DTC B2455 displayed again?

YES >> Replace pre-crash seat belt control unit. Refer to <a href="SBC-61">SBC-61</a>, "Removal and Installation".

NO >> GO TO 2.

### 2. CHECK INTERMITTENT INCIDENT

Refer to GI-37, "Intermittent Incident".

>> INSPECTION END

#### < DTC/CIRCUIT DIAGNOSIS >

#### SEAT BELT BUCKLE SWITCH

#### DRIVER SIDE

### DRIVER SIDE : Description

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- Performs the control of tension reducer according to the seat belt buckle switch ON/OFF.
- Detects whether or not the seat belt is fastened when the ignition switch turns ON. If the seat belt is not fastened, illuminates the seat belt warning lamp on the combination meter.

#### **DRIVER SIDE: Component Function Check**

INFOID:0000000005633205

#### ${f 1}$ .CHECK PRE-CRASH SEAT BELT CONTROL UNIT INPUT SIGNAL

#### (P) With CONSULT-III

When checking "SB SW LH SIG" on DATA MONITOR screen, check that ON/OFF display changes synchronized with the insertion operation to the seat belt buckle.

Monitor item	Condition
SB SW LH SIG	When driver side seat belt is not fastened: OFF
	When driver side seat belt is fastened: ON

#### Is the inspection result normal?

YES >> Seat belt buckle switch (driver side) circuit is normal.

NO >> Refer to SBC-23, "DRIVER SIDE : Diagnosis Procedure".

#### DRIVER SIDE: Diagnosis Procedure

INFOID:0000000005633206

### 1. CHECK PRE-CRASH SEAT BELT CONTROL UNIT INPUT SIGNAL

Check that voltage between seat belt buckle switch (driver side) and ground.

(+) Seat belt buckle switch (driver side)		(–)	Condition	Voltage (V) (Approx.)
Connector	Terminal			(11 - )
D42 4		Cround	When driver side seat belt is not fastened	12
DIS	B13 1	Ground	When driver side seat belt is fastened	0

#### Is the inspection result normal?

YES >> Seat belt buckle switch (driver side) circuit is normal.

NO >> GO TO 2.

### 2.check seat belt buckle switch (driver side) circuit

- Turn ignition switch OFF.
- 2. Disconnect pre-crash seat belt control unit connector and seat belt buckle switch (driver side) connector.
- 3. Check continuity between pre-crash seat belt control unit and seat belt buckle switch (driver side).

Pre-crash seat belt control unit		Seat belt buckle switch (driver side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M110	10	B13	1	Existed

4. Check continuity between pre-crash seat belt control unit and ground.

Pre-crash seat belt control unit			Continuity
Connector Terminal		Ground	Continuity
M110	10		Not existed

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Revision: 2009 Novemver SBC-23 2010 G37 Convertible

#### < DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3.

NO >> Repair or replace harness between pre-crash seat belt control unit and seat belt buckle switch (driver side).

### 3.CHECK SEAT BELT BUCKLE SWITCH GROUND CIRCUIT

Check continuity between seat belt buckle switch (driver side) and ground.

Seat belt buckle switch (driver side)			Continuity
Connector	Connector Terminal		Continuity
B13	2		Existed

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness between seat belt buckle switch and ground.

#### f 4.CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)

Check seat belt buckle switch (driver side). Refer to <u>SBC-24, "DRIVER SIDE : Component Inspection"</u>. Is the inspection result normal?

YES >> Replace pre-crash seat belt control unit. Refer to <u>SBC-61</u>, "Removal and Installation".

NO >> Replace seat belt buckle switch (driver side).

### DRIVER SIDE : Component Inspection

INFOID:0000000005633207

### 1. CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)

- Turn ignition switch OFF.
- 2. Disconnect seat belt buckle switch connector.
- 3. Check continuity of seat belt buckle (driver side).

Seat belt buckle switch (driver side) Terminal		Condition	Continuity
		Condition	
4	When driver side seat belt is not fastened	Not existed	
I	2	When driver side seat belt is fastened	Existed

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace seat belt buckle switch (driver side).

#### PASSENGER SIDE

#### PASSENGER SIDE : Description

INFOID:0000000005633208

- Performs the control of tension reducer according to the seat belt buckle switch ON/OFF.
- Detects whether or not the seat belt is fastened when the ignition switch turns ON. If the seat belt switch is not fastened, illuminates the seat belt warning lamp on the combination meter.

### PASSENGER SIDE : Component Function Check

INFOID:0000000005633209

### 1. CHECK PRE-CRASH SEAT BELT CONTROL UNIT INPUT SIGNAL

#### (P) With CONSULT-III

When checking "SB SW RH SIG" on DATA MONITOR screen, check that ON/OFF display changes are synchronized with the insertion operation to the seat belt buckle.

Monitor item	Condition
SB SW RH SIG	When driver side seat belt is not fastened: OFF
36 3W KH 316	When driver side seat belt is fastened: ON

#### Is the inspection result normal?

YES >> Seat belt buckle switch (passenger side) circuit is normal.

NO >> Refer to SBC-25, "PASSENGER SIDE : Diagnosis Procedure".

#### < DTC/CIRCUIT DIAGNOSIS >

### PASSENGER SIDE: Diagnosis Procedure

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### ${f 1.}$ CHECK PRE-CRASH SEAT BELT CONTROL UNIT INPUT SIGNAL

Check that voltage between seat belt buckle switch (passenger side) and ground.

(+) Seat belt buckle switch (passenger side)		(–)	Condition	Voltage (V) (Approx.)
Connector	Terminal			(, (PP10X.)
P242		Ground	When driver side seat belt is not fastened	5 or more
B213 1	When driver side seat belt is fastened		0	

#### Is the inspection result normal?

YES >> Seat belt buckle switch (passenger side) circuit is normal.

NO >> GO TO 2.

### 2.check seat belt buckle (passenger side) switch circuit

1. Turn ignition switch OFF.

- Disconnect pre-crash seat belt control unit connector and seat belt buckle switch (passenger side) connector.
- 3. Check continuity between pre-crash seat belt control unit and seat belt buckle switch (passenger side).

Pre-crash seat	Pre-crash seat belt control unit		Seat belt buckle switch (passenger side)	
Connector	Terminal	Connector	Terminal	Continuity
M110	8	B213	1	Existed

4. Check continuity between pre-crash seat belt control unit and ground.

Pre-crash seat belt control unit			Continuity
Connector Terminal		Ground	Continuity
M110	8		Not existed

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness between pre-crash seat belt control unit and seat belt buckle switch (passenger side).

### 3.check seat belt buckle switch ground circuit

Check continuity between seat belt buckle switch (passenger side) and ground.

Seat belt buckle switch (passenger side)			Continuity
Connector	Connector Terminal		Continuity
B213	2		Existed

#### Is the inspection result normal?

YES >> GO TO 4.

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NO >> Repair or replace harness between seat belt buckle switch and ground.

#### 4.CHECK SEAT BELT BUCKLE SWITCH (PASSENGER SIDE)

Check seat belt buckle switch (passenger side). Refer to <u>SBC-26, "PASSENGER SIDE : Component Inspection"</u>.

**SBC-25** 

#### Is the inspection result normal?

YES >> Replace pre-crash seat belt control unit. Refer to SBC-61, "Removal and Installation".

NO >> Replace seat belt buckle switch (passenger side).

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#### < DTC/CIRCUIT DIAGNOSIS >

### PASSENGER SIDE: Component Inspection

INFOID:0000000005633211

### 1. CHECK SEAT BELT BUCKLE SWITCH (PASSENGER SIDE)

- 1. Turn ignition switch OFF.
- 2. Disconnect seat belt buckle switch connector.
- 3. Check continuity of seat belt buckle (passenger side).

Seat belt buckle switch (passenger side)  Terminal		Condition	Continuity
		Condition	
1	2	When driver side seat belt is not fastened	Not existed
ı	2	When driver side seat belt is fastened	Existed

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace seat belt buckle switch (passenger side).

#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

### POWER SUPPLY AND GROUND CIRCUIT

### Diagnosis Procedure

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### 1. CHECK FUSE

Check that the following fuse and fusible link are not blown.

Terminal No.	Signal name	Fuse No.
13	Battery power supply	1

#### Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

### 2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect pre-crash seat belt control unit connectors.

3. Check voltage between harness pre-crash seat belt control unit connector and ground.

Pre-crash seat belt control unit			Voltage (V)
Connector Terminal		Ground	(Approx.)
M110	13		Battery voltage

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

### 3. CHECK GROUND CIRCUIT

Check continuity between pre-crash seat belt control unit harness connector and ground.

Pre-crash seat belt control unit			Continuity
Connector	Terminal	Ground	Continuity
M110	5	Existed	Evictod
	26		Existed

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair or replace harness.

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Revision: 2009 Novemver SBC-27 2010 G37 Convertible

#### **SEAT BELT WARNING LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

### SEAT BELT WARNING LAMP CIRCUIT

### Diagnosis Procedure

INFOID:0000000005633213

### 1. CHECK SEAT BELT WARNING LAMP CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect combination meter connector.
- 3. Turn ignition switch ON.
- 4. Check that voltage between combination meter harness connector and ground.

Combination meter			Voltage (V)
Connector	Terminal	Ground	(Approx.)
M53	36		Battery voltage

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace combination meter. Refer to MWI-130, "Removal and Installation".

### 2. CHECK SEAT BELT WARNING LAMP CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect air bag diagnosis sensor unit connector.
- Check continuity between combination meter harness connector and air bag diagnosis sensor unit harness connector.

Combina	tion meter	Air bag diagno	osis sensor unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B53	36	M147	24	Existed

4. Check continuity between combination meter and ground.

Combina	tion meter		Continuity
Connector	Terminal	Ground	Continuity
B53	36		Not existed

#### Is the inspection result normal?

YES >> Replace air bag diagnosis sensor unit. Refer to <u>SR-29</u>, "Removal and Installation".

NO >> Repair or replace harness.

SEAT BELT WARNING SYSTEM

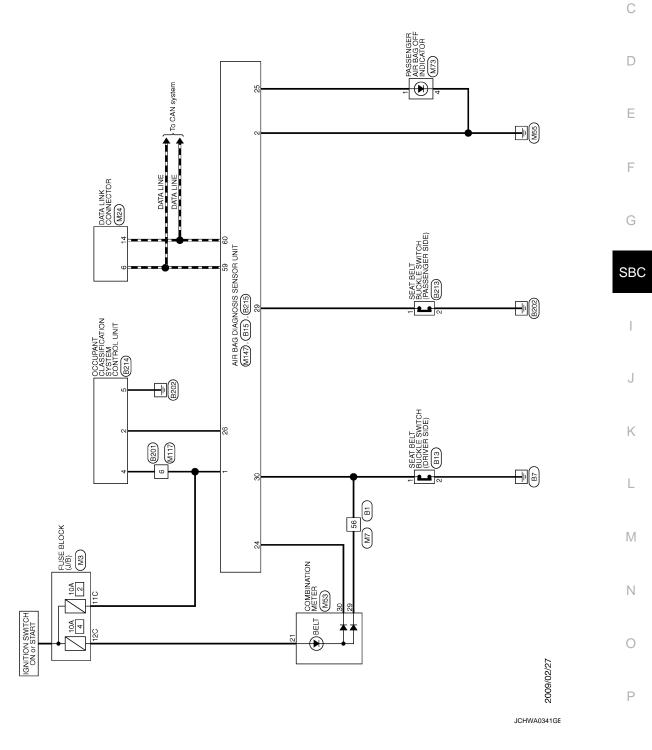
### SEAT BELT WARNING SYSTEM

Wiring Diagram - SEAT BELT WARNING SYSTEM -

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Community No B19		Connector Name SEAT BELT BUCKLE SWITCH (DRIVER SIDE)	Connector Type A03FW	1		о <u>п</u>			7			ē	of Wire	1 W	2 B -		-	Connector No. B15	Connector Name AIR BAG DIAGNOSIS SENSOR UNIT	Т	Connector Type NH22FY-2V-EX			H.S.		45 46 63 64	12 13 30 50 49 56		Terminal Color Signal Name [Specification]	of Wire	> :	30 SB IHBICKLE SWINDIT	3 >	34 Y SLH(=)	Y/B	<b>&gt;</b>	а.	7	SHIELD	>	Y/B						
93	3B			- FG	LG - [With BOSE system]	Y - [Without BOSE system]		LG - [Without BOSE system]	- SB	- 5			- ·		_ ^	Ľ.	BG -	п п		2 (		1 C				0	>		BR -	- 5	-	40		BG	-	- GR	GR	SB		- A//B							
	* *	45	47	48	49	49	20	20	51	52	53	54	22	99	22	09	61	62	83	49	3 3	8 5	à	88 88	8 2	8	81	82	83	84	82	80	16	93	94	92	96	97	66	001		_					
SEAT BELT WARNING SYSTEM	10	WIRE TO WIRE	TH80FW-CS16-TM4			12 12 12 12 12 12 12 12 12 12 12 12 12 1	10 12 10 10 10 10 10 10 10 10 10 10 10 10 10	98 90 81 82 82 82 82 82 83 83 84 85 82 83 83 83 83 83 83 83 83 83 83 83 83 83	CS C	51 00 00	ו	Simal Name [Specification]	Signal Name [Specification]	-	1	ī	ı	1	1	1	1	ı		1 1	1	ī	1	1	1	1	1	1 1	1	ı	1			1	T	T	1	- [With climate controlled seat]	- [Without climate controlled seat]	- [With climate controlled seat]	1	1	
T BEL		Connector Name	or Tyne				_					⊢	of Wire	W	٦	œ	>	*	a ,	5 6	H G	SHELD	-[	۵ ا	4 %	BB :	9	SB	GR	Α	88 8	ž -	} >	œ	>	SHIELD	ŋ	œ	BG	GR	BR	۵	>	^	GR	SHIELD	
SEAT B	200	Connect	Connector Type		B	Ě						Terminal	No.	-	2	က	4	2	9	Б Ş	2 9	2 5	2 ;	4 t	5 4	1	20	21	22	23	24	67	27	78	53	31	32	33	34	35	36	37	37	38	38	40	

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Connector No. B215 Connector Name AIR BAG DIAGNOSIS SENSOR UNIIT Connector Type NH2ZFY-IV-EX  15 38 38 31 32 11 10 12 12 11 10	of Wire Signal N Y Y	26   V   CODS INPUT	30   Y   CRH (+)   A   A   A   A   A   A   A   A   A	ector No. M3 ector Name FUSE BLOCK (J/E	<b>∞</b>	No. of Wire Control Co	B6: B0: LG R
SB	. — — — — — — — — — — — — — — — — — — —	seat BELT BLOKALE SWITCH (PASSENGER SIDE) rpe A03FW	<b>X−</b>  ∾	Color Signal Name [Specification] 1.0 - 1.		[8 65]	of Wire  V COMMUNICATION  R IGN  GND
89 90 91 92 94 94 96 97 97 98	99 Y	Connector Name Connector Type	H.S.	Terminal Co	Connector Name Connector Type	Terminal	
SEAT BELT WARNING SYSTEM Connector No. 8201 Connector Name WRE TO WIRE Connector Type ITH80FW-CS16-TM4  WAR TO WIRE WHITE TO WIR	Signal Name [Specification] -	- With climate controlled seat] - [Without climate controlled seat]	1 1 1 1 1 1	1 1 1 1 1 1 1 1	111111111111	1 1 1 1	1 1 1 1 1 1
SEAT BEL Connector No. Connector Type H.S.	0 4	× ∝ a o o	R BG LG SR R	SHELD G G SHELD SHELD SB SB	LG   G   C   C   C   C   C   C   C   C	വ വ ജ	SHELD O O V
SEAT BE Connector Name Connector Name Connector Type HS	Terminal No.	2 9 7 7 8 6	10 10 40 41 42 43	44 44 44 44 44 44 44 44 44 44 44 44 44	52 53 54 55 56 57 57 67	89 8 8 8 8	88 85 86 87

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#### **SEAT BELT WARNING SYSTEM**

SEA	T BEL	SEAT BELT WARNING SYSTEM										
Connector No	or No.	M7	44	<b>&gt;</b>	-	Connector No.		M24	H		GROUND	
Connect	Connector Name	WIRE TO WIRE	45	# %	1 1	Connector Name		DATA LINK CONNECTOR	24 SB	+	COMMUNICATION SIGNAL (LCD->AMP.)	
Connector Type	Ť	TH80MW-CS16-TM4	47	SB	1	Connector Type	r Type	BD16FW	ł	H	VEHICLE SPEED SIGNAL (8-PULSE)	
þ	_		48	5 1	-	4			H	Н	PARKING BRAKE SWITCH SIGNAL	
事		58 CS CS	49	5 E	- [With BOSE system]	手	Į		28 SB	1	BRAKE FLUID LEVEL SWITCH SIGNAL	
H.S.		1 6 1121 State State Tree 1 90 90 90 90 90 90 90 90 90 90 90 90 90	50	9 9	- [With BOSE system] - [With BOSE system]	H.S.	Ě	0 10 11 12 13 14 15 16	30 G	T	SEAT BELL BUCKLE SW SIGNAL (DRIVER SIDE)	
		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	20	9 9	- [Without BOSE system]		=	9 10 11 12 13 14 13 16	+	t	WASHER LEVEL SWITCH SIGNAL	
		0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	51	œ	-		=	1 2 3 4 5 6 7 8	33 R	_	ILLUMINATION CONTROL SIGNAL	
		33 (5) (5) (5) (5) (5) (5) (5) (5) (5) (5)	52	>	1				F	L	SELECT SWITCH SIGNAL	
			23	۵	1				37 SB	Н	ENTER SWITCH SIGNAL	
Terminal	_	Simal Nama [Spacification]	24	BR	_	Terminal	Color	Simal Nama [Cnacification]	38 L		TRIP A/B RESET SWITCH SIGNAL	
Š	of Wire	Ogna ivanie Lopecinoadori	22	>	- [With A/T]	ò	of Wire	Ognal valle [Opeomeanor]	$\dashv$	+	ILLUMINATION CONTROL SWITCH (-)	
-	BG	-	22	BB	- [With M/T]	e	LG D	1	40 BG	$\dashv$	ILLUMINATION CONTROL SWITCH (+)	
2	<sub>S</sub>	1	26	_	1	4	В	1				
က	ŋ	1	24	>	1	2	BR	1				
4	>	-	09	<sub>D</sub>	1	9	٦	1	Connector No.	M73		
2	_	1	9	BG	1	7	>	I	Connector Name		PASSENGER AIR BAG OFF INDICATOR	
9	В	-	62	В	1	8	g	ı		П		
6	_	-	63	>	1	=	SB	1	Connector Type	TH04MW-NH	IW-NH	
10	BR	1	64	SB	1	14	Д	1	ģ			
12	SHIELD	-	65	BR	_	16	œ	1	唐			
13	^	-	99	Υ	-				Ě			
14	BR	1	49	а	-				5		<u> </u>	
15	GR	1	89	٦	_	Connector No.		M53			Ţ.	
16	LG	1	69	Д	-	Connector Name		COMBINATION METER			+	
17	7	-	70	٦	-	0011100		COMBINATION METERS				
20	BR	-	80	5	_	Connector Type		SAB40FW				
21	ŋ	1	81	57	-	[			Terminal Color	or	[i+gi3]N [i3	
22	œ	1	82	>	ı	修			No. of Wire	lire	oignal Ivame [opecification]	
23	SB	-	83	BR	-	) I			1		-	
24	В	-	84	^	-	2			4 B		-	
25	W	-	82	٦	-		1 2 3	5 6 7 10 11 14 15 16 18 19 20				
56	>-	-	98	>	1							
27	>	_	87	GR	-							
28	۵	1	91	œ	1							
59	>		93	g	1	Terminal	Color	Signal Name [Specification]				
31	SHIELD	1	94	۵.	1	No.	of Wire					
35	g	1	95	GR	I	_	>	BATTERY POWER SUPPLY				
ee ee	œ	1	96	>	-	2	Ľ	COMMUNICATION SIGNAL (METER->AMP.)				
34	BG	1	97	SB	1	8	GR	COMMUNICATION SIGNAL (AMP>METER)				
32	æ	1	66	>	1	2	В	GROUND				
36	æ	1	100	Y/B	1	9	>	ALTERNATOR SIGNAL				
37	<u>a</u>	- [With climate controlled seat]				7	LG	AIR BAG SIGNAL				
37	-	- [Without climate controlled seat]				10	œ	SECURITY SIGNAL				
88	>	- [With climate controlled seat]				12	В	GROUND				
g	g	<ul> <li>[Without climate controlled seat]</li> </ul>				16	В	METER CONTROL SWITCH GROUND				
40	SHIELD	-				18	GR	ILL GND				
14	_	1				19	В	ILL GND				
45	۵	1				50	œ	ILL				
£	SHELD	1				21	œ	IGNITION SIGNAL				

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ELT WARNING SYSTEM  WIRE TO WIRE  THEOMW-CSIG-TMA  THEOMW-CSIG-TMA  THEOMW-CSIG-TMA  THEOMW-CSIG-TMA  Signal Name (Specification)  Signal Name (Specification)	W G W	92 P	BG	┞	H	T	 - X 66	Connector No. M14/	Connector Name AIR DAG DIAGNOSIS SENSOR UNIT	Connector Type NH28FY-EX	d	[ <b>7</b> ] [ ] [ ]	8	F	1	ŀ	Terminal Color Signal Name [Specification]	53 0	+	Y DB2 (+)	>	>	8 Y AS2 (+)	9 Y AS2 (-)	18 SB ECZS (+)	SHIELD	23 LG AIRBAG W/L	Н	25 R CUTOFF TELLTALE	59 L CAN-H	60 P CAN-L					
· · · · · · · · · · · · · · · · · · ·	BELT WARNING SYSTEM 2. M117 Inne WIRE TO WIRE	Т	1		31 41 51 81 85 85 85 85 85 85 85 85 85 85 85 85 85		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		- *				SB														- as									- ×

#### PRE-CRASH SEAT BELT CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

### **ECU DIAGNOSIS INFORMATION**

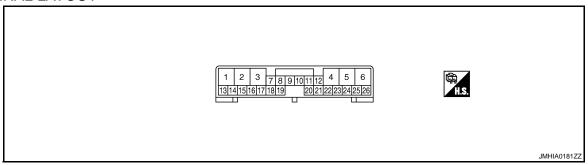
### PRE-CRASH SEAT BELT CONTROL UNIT

Reference Value

## VALUES ON THE DIAGNOSIS TOOL CONSULT-III MONITOR ITEM

Monitor item	Condition	Value/Status (Approx.)
B PEDAL SIG1 B PEDAL SIG2	Brake released Brake released	(1 V) (4 V)
B PEDAL SIG1 B PEDAL SIG2	Brake released → depressed Brake released → depressed	(1V→4 V) (4V→1 V)
SB SW RH SIG	RH seat belt is not fastened RH seat belt is fastened	OFF ON
SB SW LH SIG	LH seat belt is not fastened LH seat belt is fastened	OFF ON

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

	nal No. color)	Description		Condition	Value (*1)
+	-	Signal name	Input/ Output	Condition	(Approx.)
1 (G/R)	Ground	RH seat belt motor release signal	Output	_	_
2 (W)	Ground	Drive circuit power supply (+BAT)	Input	Seat belt motor non-operational	Battery voltage
3 (G/Y)	Ground	RH seat belt motor forward (retract) signal	Output	_	_
4 (GR/W)	Ground	LH seat belt motor forward (retract) signal	Output	_	_
5 (W)	Ground	Drive circuit ground	_	_	0
6 (LY)	Ground	LH seat belt motor release signal	Output	_	_
				LH seat belt is not fastened	Ground
7	Ground	Indicator (seat belt warning lamp)	Output	LH seat belt is fastened	Battery voltage
(G)		(	2 3-7	LH seat belt is fastened or malfunction of system	Battery voltage ←→ Ground
8	Ground	RH seat belt buckle switch signal	Input	RH seat belt is fastened	5 V or more
(LG)	Giouila	TATE SEAL DELL DUCKIE SWILCH SIGNAL	Input	RH seat belt is not fastened	Ground

#### PRE-CRASH SEAT BELT CONTROL UNIT

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#### < ECU DIAGNOSIS INFORMATION >

	nal No. color)	Description		Condition	Value (*1)
+	_	Signal name	Input/ Output	Condition	(Approx.)
10	Ground	LH seat belt buckle switch signal	Input	LH seat belt is fastened	Battery voltage
(SB)	Ground	LIT Seat belt buckle Switch Signal	mput	LH seat belt is not fastened	Ground
13	Ground	Control circuit power supply (IGN)	Input	IGN ON	Battery voltage
(W)	Giouria	Control circuit power supply (IGN)	Input	IGN OFF	Ground
16	Craund	Dreke model etreke oppositionald	laaut	Brake released → depressed	$1 \text{ V} \rightarrow 4 \text{ V}$
(W)	Ground	Brake pedal stroke sensor signal1	Input	IGN OFF	0 V
18	0	Desire and all attacks are as a second size of	0	IGN ON	5 V
(R)	Ground	Brake pedal stroke sensor power circuit	Output	IGN OFF	0 V
20	Ground	Brake pedal stroke sensor signal2	lanut	Brake released → depressed	4 V → 1 V
(G)	Giouria		Input	IGN OFF	0V
21 (B)	Ground	Brake pedal stroke sensor ground circuit	_	_	Ground
22 (P)	Ground	CAN communication signal (CAN L-line)	Input/ Output	_	_
24 (L)	Ground	CAN communication signal (CAN H-line)	Input/ Output	_	_
25	Ground	Shield ground	_	_	Ground
26 (B)	Ground	Control circuit ground	_	_	Ground

<sup>\*1:</sup> Perform the measurement while connecting the control unit and the harness.

Fail Safe

When a malfunction occurs in the following system, the pre-crash seat belt function is controlled according to the malfunctioning parts.

Display contents of CONSULT-III	Fail-safe	Cancellation
B2451: SB MOTOR RH CIRC	Deactivate the RH pre-crash seat belt function	Erase DTC
B2452: SB MOTOR LH CIRC	Deactivate the LH pre-crash seat belt function	Erase DTC
B2453: BR STROK SEN CIRC	Deactivate the interlock function during emergency brake operation	Erase DTC
B2454: MOTOR PWR SUP CIRC	Deactivate the pre-crash seat belt function	Erase DTC

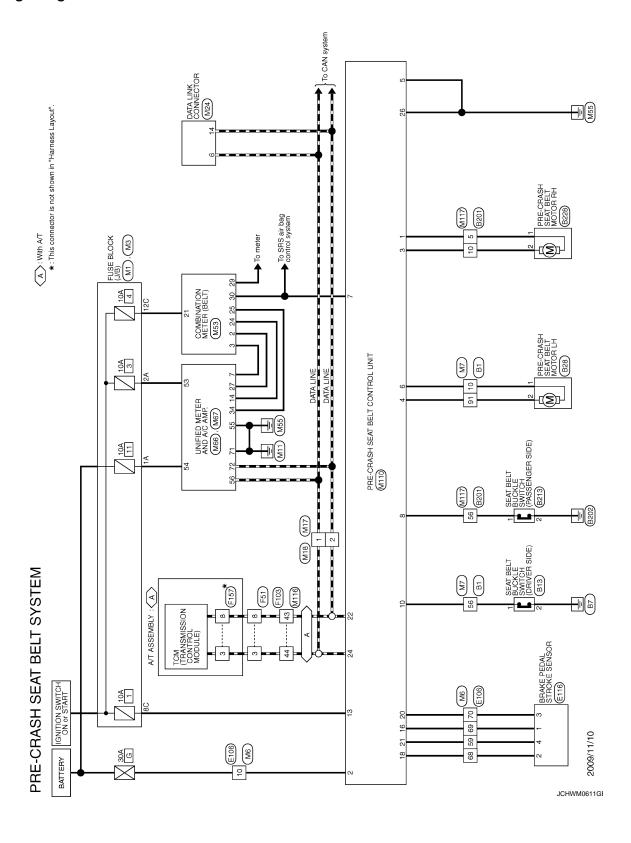
DTC Index

DTC	Trouble diagnosis name (CONSULT-III display)	DTC detection condition	Reference
_	_	No malfunction is detected	_
U1000	CAN COMM CIRCUIT	Pre-crash seat belt control unit cannot transmit and receive CAN communication signal for 2 seconds or more	SBC-15
B2451	SB MOTOR RH CIRC	RH seat belt motor circuit is shorted or open	SBC-16
B2452	SB MOTOR LH CIRC	LH seat belt motor circuit is shorted or open	SBC-17
B2453	BR STROK SEN CIRC	Brake pedal stroke sensor circuit is shorted or open	SBC-18
B2454	MOTOR PWR SUP CIRC	Motor power supply circuit is shorted or open	SBC-21
B2455	PSB C/U INT CIRCUIT	Internal breakdown in pre-crash seat belt control unit	<u>SBC-22</u>

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Wiring Diagram - PRE-CRASH SEAT BELT SYSTEM -

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### < ECU DIAGNOSIS INFORMATION >

The property of the property	Connector No.	Connector No.   B1	44	SB >	1 1	Connector No.		T BILOKI E CMITCH (DDN/ED CIDE)	5	× ∝	1 1	П
Comparison   Com	П	WIRE TO WIRE	46	* * *	1	Connector		SEAT BELT BUCKLE SWITCH (DRIVER SIDE)	7	$\coprod$	fith climate controlled seat	П
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Company   Comp	į		20	SB	- [With BOSE system]	2		•	_	GR	1	
Control Figure   Cont		21 00 00 00 00 00 00 00 00 00 00 00 00 00	20	PT	<ul><li>[Without BOSE system]</li></ul>	1		C	_	PT	-	1
Control Equipment   Cont			51	SB.	1			3	_	BG	1	
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### < ECU DIAGNOSIS INFORMATION >

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PRE-CRASH SEAT BELT SYSTEM

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Connector No.   M116	G
	SBC
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### < ECU DIAGNOSIS INFORMATION >

# **DIAGNOSIS SENSOR UNIT**

DTC Index

DTC	Diagnostic item		Explanation	Reference page
			Low battery voltage (Less than 9 V)	SRC-21, "CON- SULT-III Func- tion".
_	NO DTC IS DETECTED.	When malfunction is indicated by the "AIR BAG" warning lamp in the user mode	Self-diagnostic result is not erased after repair	SRC-15, "Diagnosis with Air Bag Warning Lamp", SRC-21, "CONSULT-III Function".
			Intermittent malfunction is detected in the past	GI-37, "Intermit- tent Incident"
		No malfunction is detec	cted	_
U1000	CAN COMM CIRCUIT	CAN communication sy	stem malfunction	SRC-22, "DTC Logic"
U1010	CONTROL UNIT (CAN)	Air bag diagnosis sens	or unit is malfunctioning	SRC-23, "DTC Logic"
B1001-B1015	CONTROL UNIT	Air bag diagnosis sens	or unit is malfunctioning	• SRC-24, "DTC Logic". • SRC-26, "DTC Logic". • SRC-28, "DTC Logic".
B1017 B1020 B1021	OCCUPANT SENS C/U [UNIT FAIL]	Malfunction occurs in C unit	Occupant Classification System control	SRC-30, "DTC Logic".
B1018	OCCUPANT SENS [UNIT FAIL]	Malfunction occurs in C	Occupant Classification System sensor	SRC-32, "DTC Logic".
B1022	OCCUPANT SENS C/U [COMM FAIL]	unit, circuit of Occupan	Occupant Classification System control t Classification System control unit air unit, or air bag diagnosis sensor unit	SRC-34, "DTC Logic".
B1023	PASS A/B INDCTR CKT	Passenger air bag OFF ground or the circuits a	Findicator circuit is open or shorted to re shorted each other	SRC-36, "DTC Logic".
B1025 B1032 B1048	OCS SENSOR	unit, circuit of Occupan	Occupant Classification System control t Classification System control unit air unit, or air bag diagnosis sensor unit	SRC-38, "DTC Logic".
B1026-B1031	CONTROL UNIT	Air bag diagnosis sense specified specification	or unit is malfunctioning or out of the	SRC-40, "DTC Logic".
B1033 B1034	CRASH ZONE SEN [UNIT FAIL]	Crash zone sensor is n	nalfunctioning	SRC-42, "DTC Logic".
B1035	CRASH ZONE SEN [COMM FAIL]	Crash zone sensor is n	nalfunctioning	SRC-44, "DTC Logic".
B1036	CRASH ZONE SEN [UNMATCH]	Crash zone sensor is o	out of the specified specification	SRC-46, "DTC Logic".
B1037 B1039 B1041	CRASH ZONE SEN1	Crash zone sensor is n	nalfunctioning	SRC-48, "DTC Logic".
B1042-B1047	CONTROL UNIT	Air bag diagnosis sens	or unit is malfunctioning	SRC-50, "DTC Logic".
B1049 B1054	DRIVER AIRBAG MODULE [OPEN]	Driver air bag module c	ircuit is open (including the spiral cable)	SRC-52, "DTC Logic".

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### < ECU DIAGNOSIS INFORMATION >

DTC	Diagnostic item	Explanation	Reference page
B1050 B1055	DRIVER AIRBAG MODULE [VB-SHORT]	Driver air bag module circuit is shorted to power supply circuit (including the spiral cable)	SRC-54, "DTC Logic".
B1051 B1056	DRIVER AIRBAG MODULE [GND-SHORT]	Driver air bag module circuit is shorted to ground (including the spiral cable)	SRC-56, "DTC Logic".
B1052 B1057	DRIVER AIRBAG MODULE [SHORT]	Driver air bag module circuits are shorted to each other (including spiral cable)	SRC-58, "DTC Logic".
B1058-B1063	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-60, "DTC Logic".
B1065 B1070	ASSIST A/B MODULE [OPEN]	Passenger air bag module circuit is open	SRC-62, "DTC Logic".
B1066 B1071	ASSIST A/B MODULE [VB-SHORT]	Passenger air bag module circuit is shorted to power supply circuit	SRC-64, "DTC Logic".
B1067 B1072	ASSIST A/B MODULE [GND-SHORT]	Passenger air bag module circuit is shorted to ground	SRC-66, "DTC Logic".
B1068 B1073	ASSIST A/B MODULE [SHORT]	Passenger air bag module circuits are shorted to each other	SRC-68, "DTC Logic".
B1074-B1079	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-70, "DTC Logic".
B1080 B1096	DRIVER AIRBAG MODULE [SHORT]	Driver air bag module circuits are shorted to each other (including spiral cable)	SRC-72, "DTC Logic".
B1081	PRE-TEN FRONT RH [OPEN]	Seat belt pre-tensioner RH circuit is open	SRC-74, "DTC Logic".
B1082	PRE-TEN FRONT RH [VB-SHORT]	Seat belt pre-tensioner RH circuit is shorted to power supply circuit	SRC-76, "DTC Logic".
B1083	PRE-TEN FRONT RH [GND-SHORT]	Seat belt pre-tensioner RH circuit is shorted to ground	SRC-78, "DTC Logic".
B1084	PRE-TEN FRONT RH [SHORT]	Seat belt pre-tensioner RH circuits are shorted to each other	SRC-80, "DTC Logic".
B1086	PRE-TEN FRONT LH [OPEN]	Seat belt pre-tensioner LH circuit is open	SRC-82, "DTC Logic".
B1087	PRE-TEN FRONT LH [VB-SHORT]	Seat belt pre-tensioner LH circuit is shorted to power supply circuit	SRC-84, "DTC Logic".
B1088	PRE-TEN FRONT LH [GND-SHORT]	Seat belt pre-tensioner LH circuit is shorted to ground	SRC-86, "DTC Logic".
B1089	PRE-TEN FRONT LH [SHORT]	Seat belt pre-tensioner LH circuits are shorted to each other	SRC-88, "DTC Logic".
B1090-B1095	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-90, "DTC Logic".
B1106-B1111	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-92, "DTC Logic".
B1113 B1114	SATELLITE SENS RH [UNIT FAIL]	Satellite sensor RH is malfunctioning	SRC-94, "DTC Logic".
B1115	SATELLITE SENS RH [COMM FAIL]	Satellite sensor RH is malfunctioning	SRC-96, "DTC Logic".
B1116	SATELLITE SENS RH [UNMATCH]	Satellite sensor RH is out of the specified specification	SRC-98, "DTC Logic".
B1118 B1119	SATELLITE SENS LH [UNIT FAIL]	Satellite sensor LH is malfunctioning	SRC-100, "DTC Logic".
B1120	SATELLITE SENS LH [COMM FAIL]	Satellite sensor RH is malfunctioning	SRC-102, "DTC
B1121	SATELLITE SENS LH [UNMATCH]	Satellite sensor RH is out of the specified specification	SRC-104, "DTC

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### < ECU DIAGNOSIS INFORMATION >

DTC	Diagnostic item	Explanation	Reference page
B1122-B1127	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-106, "DTC Logic".
B1129	SIDE MODULE RH [OPEN]	Side air bag module RH circuit is open	SRC-108, "DTC Logic".
B1130	SIDE MODULE RH [VB-SHORT]	Side air bag module RH circuit is shorted to power supply circuit	SRC-110, "DTC Logic".
B1131	SIDE MODULE RH [GND-SHORT]	Side air bag module RH circuit is shorted to ground	SRC-112, "DTC Logic".
B1132	SIDE MODULE RH [SHORT]	Seat belt pre-tensioner RH circuits are shorted to each other	SRC-114, "DTC Logic".
B1134	SIDE MODULE LH [OPEN]	Side air bag module LH circuit is open	SRC-116, "DTC Logic".
B1135	SIDE MODULE LH [VB-SHORT]	Side air bag module LH circuit is shorted to power supply circuit	SRC-118, "DTC Logic".
B1136	SIDE MODULE LH [GND-SHORT]	Side air bag module LH circuit is shorted to ground	SRC-120, "DTC Logic".
B1137	SIDE MODULE LH [SHORT]	Side air bag module LH circuits are shorted to each other	SRC-122, "DTC Logic".
B1138-B1143	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-124, "DTC Logic"
B1144	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning or out of the specified specification	SRC-126, "DTC Logic".
B1145	CURTAIN MODULE RH [OPEN]	Curtain air bag module RH circuit is open	SRC-127, "DTC Logic".
B1146	CURTAIN MODULE RH [VB-SHORT]	Curtain air bag module RH circuit is shorted to power supply circuit	SRC-129, "DTC Logic".
B1147	CURTAIN MODULE RH [GND-SHORT]	Curtain air bag module RH circuit is shorted to ground	SRC-131, "DTC Logic".
B1148	CURTAIN MODULE RH [SHORT]	Curtain air bag module RH circuits are shorted to each other	SRC-133, "DTC Logic".
B1150	CURTAIN MODULE LH [OPEN]	Curtain air bag module LH circuit is open	SRC-135, "DTC Logic".
B1151	CURTAIN MODULE LH [VB-SHORT]	Curtain air bag module LH circuit is shorted to power supply circuits	SRC-137, "DTC Logic".
B1152	CURTAIN MODULE LH [GND-SHORT]	Curtain air bag module LH circuit is shorted to ground	SRC-139, "DTC Logic".
B1153	CURTAIN MODULE LH [SHORT]	Curtain air bag module LH circuits are shorted to each other	SRC-141, "DTC Logic".
B1154-B1159	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-143, "DTC Logic".
B1170-B1175	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-145, "DTC Logic".
B1186-B1191	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-147, "DTC Logic".
B1202-B1207	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-149, "DTC Logic".
B1209	FRONTAL COLLISION DETECTION	Seat belt pre-tensioner, driver side air bag and passenger air bag are deployed	SRC-151, "DTC Logic".
B1210	SIDE COLLISION DETECTION	Side air bag and curtain air bag are deployed	SRC-152, "DTC Logic".
B1211	ROLLOVER DETECTION	Seat belt pre-tensioner side curtain air bag module are de- ployed because of rollover detection	SRC-153, "DTC Logic".

# < ECU DIAGNOSIS INFORMATION >

DTC	Diagnostic item	Explanation	Reference page
B1212-B1214	RH1 SAT-SENS	Satellite sensor RH is malfunctioning	SRC-154, "DTC Logic".
B1215-B1217	LH1 SAT-SENS	Satellite sensor LH is malfunctioning	SRC-156, "DTC Logic".
B1218-B1223	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-158, "DTC Logic".
B1239	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-160, "DTC Logic"
B1257	FR-RH DOOR MNT MODULE [OPEN]	Door mounted curtain air bag RH circuit is open	SRC-161, "DTC Logic"
B1258	FR-RH DOOR MNT MODULE [VB-SHORT]	Door mounted curtain air bag RH circuit is shorted to power supply circuit	SRC-163, "DTC Logic"
B1259	FR-RH DOOR MNT MODULE [GND-SHORT]	Door mounted curtain air bag RH circuit is shorted to ground	SRC-165, "DTC Logic"
B1260	FR-RH DOOR MNT MODULE [SHORT]	Door mounted curtain air bag RH circuit are shorted to each other	SRC-167, "DTC Logic"
B1262	FR-RH DOOR MNT MODULE [OPEN]	Door mounted curtain air bag LH circuit is open	SRC-169, "DTC Logic"
B1263	FR-LH DOOR MNT MODULE [VB-SHORT]	Door mounted curtain air bag LH circuit is shorted to power supply circuit	SRC-171, "DTC Logic"
B1264	FR-LH DOOR MNT MODULE [GND-SHORT]	Door mounted curtain air bag LH circuit is shorted to ground	SRC-173, "DTC Logic"
B1265	FR-LH DOOR MNT MODULE [SHORT]	Door mounted curtain air bag LH circuit are shorted to each other	SRC-175, "DTC Logic"
B1289	RH POP-UP BAR [OPEN]	Pop-up bar RH circuit is open	SRC-177, "DTC Logic"
B1290	RH POP-UP BAR [VB-SHORT]	Pop-up bar RH circuit is shorted to power supply circuit	SRC-179, "DTC Logic"
B1291	RH POP-UP BAR [GND-SHORT]	Pop-up bar RH circuit is shorted to ground	SRC-181, "DTC Logic"
B1292	RH POP-UP BAR [SHORT]	Pop-up bar RH circuit are shorted to each other	SRC-183, "DTC Logic"
B1294	LH POP-UP BAR [OPEN]	Pop-up bar LH circuit is open	SRC-185, "DTC Logic"
B1295	LH POP-UP BAR [VB-SHORT]	Pop-up bar LH circuit is shorted to power supply circuit	SRC-187, "DTC Logic"
B1296	LH POP-UP BAR [GND-SHORT]	Pop-up bar LH circuit is shorted to ground	SRC-189, "DTC Logic"
B1297	LH POP-UP BAR [SHORT]	Pop-up bar LH circuit are shorted to each other	SRC-191, "DTC Logic"
B1298	POP-UP BAR [DEPLOYED]	Pop-up bar is deployed	SRC-193, "DTC Logic"

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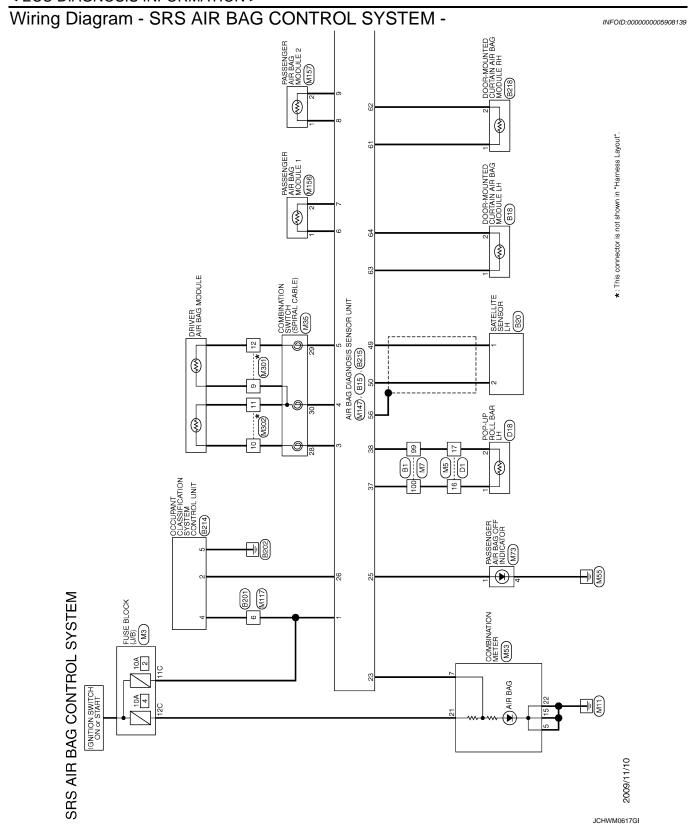
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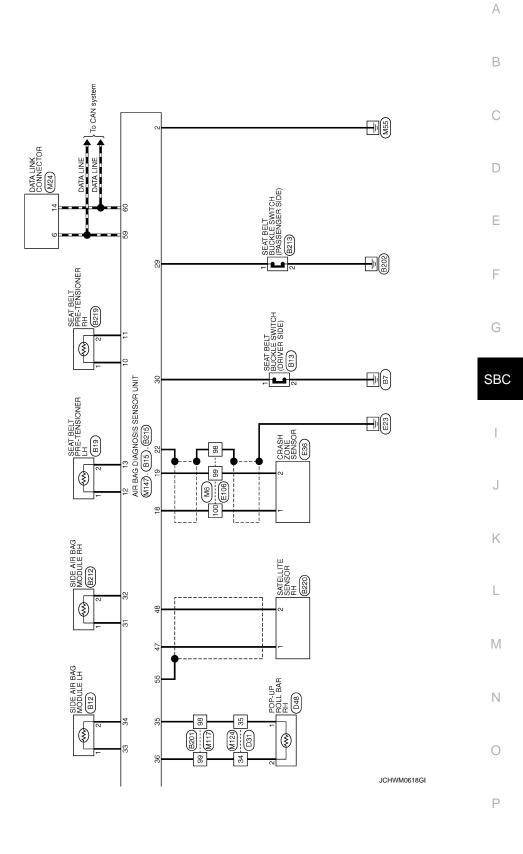
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### < ECU DIAGNOSIS INFORMATION >

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### < ECU DIAGNOSIS INFORMATION >

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### < ECU DIAGNOSIS INFORMATION >

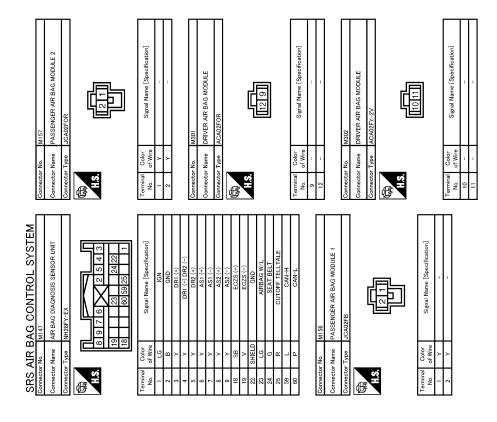
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### < ECU DIAGNOSIS INFORMATION >

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#### SEAT BELT WARNING LAMP DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

### SYMPTOM DIAGNOSIS Α SEAT BELT WARNING LAMP DOES NOT TURN OFF Diagnosis Procedure INFOID:0000000005633221 В 1. CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE) Check seat belt buckle switch (driver side). Refer to SBC-23, "DRIVER SIDE: Component Function Check" Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. D 2..CHECK SEAT BELT BUCKLE SWITCH (PASSENGER SIDE) Check seat belt buckle switch (passenger side). Refer to SBC-24, "PASSENGER SIDE: Component Function Е Check" Is the inspection result normal? YES >> GO TO 3. F NO >> Repair or replace the malfunctioning parts. 3..CHECK SEAT BELT WARNING LAMP CIRCUIT Check seat belt warning lamp circuit. Refer to SBC-28, "Diagnosis Procedure" Is the inspection result normal? YES >> GO TO 4. SBC NO >> Repair or replace the malfunctioning parts. 4. CONFIRM THE OPERATION Confirm the operation again. Is the inspection result normal? YES >> Check intermittent incident. Refer to GI-37, "Intermittent Incident". NO >> GO TO 1. K L M Ν

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#### SEAT BELT WARNING LAMP DOES NOT TURN ON

#### < SYMPTOM DIAGNOSIS >

#### SEAT BELT WARNING LAMP DOES NOT TURN ON

### Diagnosis Procedure

INFOID:0000000005633222

### 1. CHECK SELF-DIAGNOSIS RESULT

Perform "COMBINATION METER" self-diagnostic result. Refer to MWI-80, "DTC Index"

#### Is DTC detected?

YES >> Repair or replace the malfunctioning parts.

NO >> GO TO 2.

### 2. CHECK POWER SUPPLY

Check that fuses are not blown.

Check ignition power supply of combination meter. Refer to SBC-27, "Diagnosis Procedure"

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

### 3.CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)

Check seat belt buckle switch (driver side). Refer to <u>SBC-23, "DRIVER SIDE : Component Function Check"</u> Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

### 4..CHECK SEAT BELT BUCKLE SWITCH (PASSENGER SIDE)

Check seat belt buckle switch (passenger side). Refer to <u>SBC-24, "PASSENGER SIDE : Component Function Check"</u>

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

#### 5...CHECK SEAT BELT WARNING LAMP CIRCUIT

Check seat belt warning lamp circuit. Refer to SBC-28. "Diagnosis Procedure"

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace the malfunctioning parts.

#### 6.CONFIRM THE OPERATION

Confirm the operation again.

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-37, "Intermittent Incident".

NO >> GO TO 1.

### PRE-CRASH SEAT BELT DOES NOT OPERATE

PRE-CRASH SEAT BELT DOES NOT OPERATE	
< SYMPTOM DIAGNOSIS >	_
PRE-CRASH SEAT BELT DOES NOT OPERATE	А
BOTH SIDES	
BOTH SIDES : Diagnosis Procedure	зВ
1. CHECK POWER SUPPLY AND GROUND CIRCUIT	
Check power supply and ground circuit. Refer to SBC-27, "Diagnosis Procedure"	С
Is the inspection result normal?  YES >> GO TO 2.	
NO >> Repair or replace the malfunctioning parts.	D
2.CONFIRM THE OPERATION	
Confirm the operation again.	E
Is the inspection result normal?  YES >> Check intermittent incident. Refer to GI-37. "Intermittent Incident".	
NO >> GO TO 1.	
DRIVER SIDE	F
DRIVER SIDE : Diagnosis Procedure	_
1. CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)	G
Check seat belt buckle switch (driver side). Refer to SBC-23, "DRIVER SIDE: Component Function Check"	SBC
Is the inspection result normal?  YES >> GO TO 2.	SBC
NO >> Repair or replace the malfunctioning parts.	
2.CONFIRM THE OPERATION	I
Confirm the operation again.	-
<u>Is the inspection result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-37</u> , "Intermittent Incident".	J
NO >> GO TO 1.	
PASSENGER SIDE	K
PASSENGER SIDE : Diagnosis Procedure	5
1. CHECK SEAT BELT BUCKLE SWITCH (PASSENGER SIDE)	L
Check seat belt buckle switch (passenger side). Refer to SBC-24, "PASSENGER SIDE: Component Function	<del>_</del>
Check"  Is the inspection result normal?	M
YES >> GO TO 2.	
NO >> Repair or replace the malfunctioning parts.	Ν
2.CONFIRM THE OPERATION	_
Confirm the operation again. <u>Is the inspection result normal?</u>	0
is the inspection result normal:	

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YES  $\rightarrow$  Check intermittent incident. Refer to GI-37, "Intermittent Incident". NO  $\rightarrow$  GO TO 1.

#### **PRECAUTIONS**

#### < PRECAUTION >

### **PRECAUTION**

### **PRECAUTIONS**

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.

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Service Procedure Precautions for Models with a Pop-up Roll Bar

#### **WARNING:**

- Risk of passenger injury or death may increase if the pop-up roll bar does not deploy during a roll over collision. In order to reduce the chance of an incident where the pop-up roll bar is inoperative, all maintenance must be performed by a NISSAN or INFINITI dealer.
- Before removing and installing the pop-up roll bar component parts and harness, always turn the
  ignition switch OFF, disconnect the battery negative terminal, and wait for 3 minutes or more. (The
  purpose of this operation is to discharge electricity that is accumulated in the auxiliary power supply
  circuit in the air bag diagnosis sensor unit.)
- When repairing, removing, and installing a pop-up roll bar, always refer to SRS AIR BAG and SRS AIR BAG CONTROL warnings in the Service Manual.

### Precaution for Battery Service

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

#### PRE-INSPECTION FOR DIAGNOSTIC

< PERIODIC MAINTENANCE >

### PERIODIC MAINTENANCE

### PRE-INSPECTION FOR DIAGNOSTIC

Description INFOID:00000000005633229

#### **WARNING:**

- The following tests should be performed in a safe, open place that is free of traffic and obstacles.
- The tests should be performed on a dry, paved road. Never attempt to perform the tests on a wet or unpaved road, open road, or highway. (This may cause an accident or personal injury.)
- Driver and passenger should assume seat belt may operate and prepare themselves accordingly.
- Fasten driver and passenger seat belts.
- 2. Drive at approximately 25 km/h (16 MPH).
- 3. Notify passenger of a sudden stop. Driver and passenger prepare themselves for the possibility of system not operating. Then, driver fully depresses the brake pedal to stop suddenly.
- 4. Check that the shoulder of the seat belt is pulled while braking.

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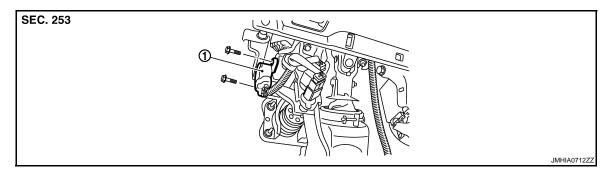
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# **REMOVAL AND INSTALLATION**

### BRAKE PEDAL STROKE SENSOR

Exploded View



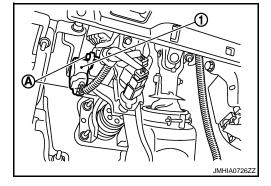
1. Brake pedal stroke sensor

#### Removal and Installation

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#### **REMOVAL**

- 1. Remove the instrument panel lower cover LH. Refer to <u>IP-13, "A/T MODELS : Removal and Installation"</u> (A/T models) or <u>IP-23, "M/T MODELS : Removal and Installation"</u>(M/T models).
- 2. Disconnect the brake pedal stroke sensor connector.
- 3. Remove the screws (A).
- 4. Remove the brake pedal stroke sensor (1).



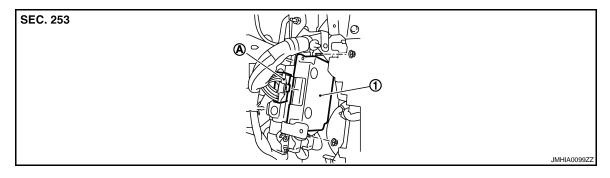
#### **INSTALLATION**

Install in the reverse order of removal.

#### < REMOVAL AND INSTALLATION >

### PRE-CRASH SEAT BELT CONTROL UNIT

Exploded View



- 1. Pre-crash seat belt control unit
- Pre-crash seat belt control unit connector

#### Removal and Installation

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#### **REMOVAL**

- Remove the glove box. Refer to <u>IP-13</u>, "A/T <u>MODELS</u>: <u>Removal and Installation</u>" (A/T models) or <u>IP-23</u>, "<u>M/T MODELS</u>: <u>Removal and Installation</u>" (M/T models).
- 2. Disconnect the pre-crash seat belt control unit connector (A).
- 3. Remove the screws.
- 4. Remove the pre-crash seat belt control unit (1).

#### **INSTALLATION**

Install in the reverse order of removal.

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