SECTION SBC
SEAT BELT CONTROL SYSTEM

CONTENTS

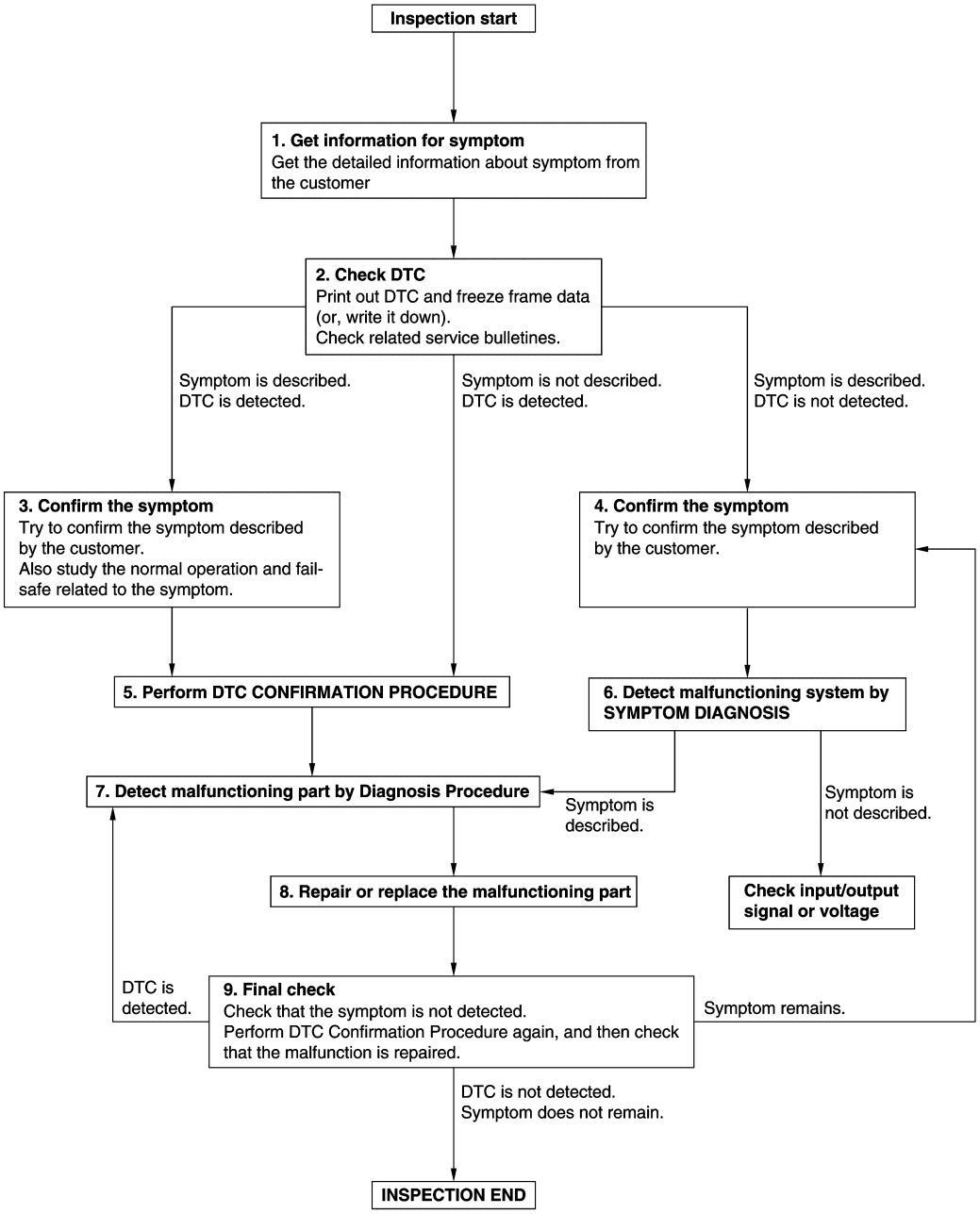
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000008157066

OVERALL SEQUENCE



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DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
2. Check operation condition of the function that is malfunctioning.

>> GO TO 2.

2.CHECK DTC

1. Check DTC.
2. Perform the following procedure if DTC is detected.

- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.
Symptom is described, DTC is not detected>>GO TO 4.
Symptom is not described, DTC is detected>>GO TO 5.

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Also study the normal operation and fail-safe related to the symptom.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
  If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIRMATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.
NO >> Check according to GI-42, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

Is the symptom described?

YES >> GO TO 7.
NO >> Monitor input data from related sensors or check voltage of related module terminals using CONSULT.

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-42, "Intermittent Incident".

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement.
3. Check DTC. If DTC is detected, erase it.

>> GO TO 9.

9. FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.
When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Is DTC detected and does symptom remain?

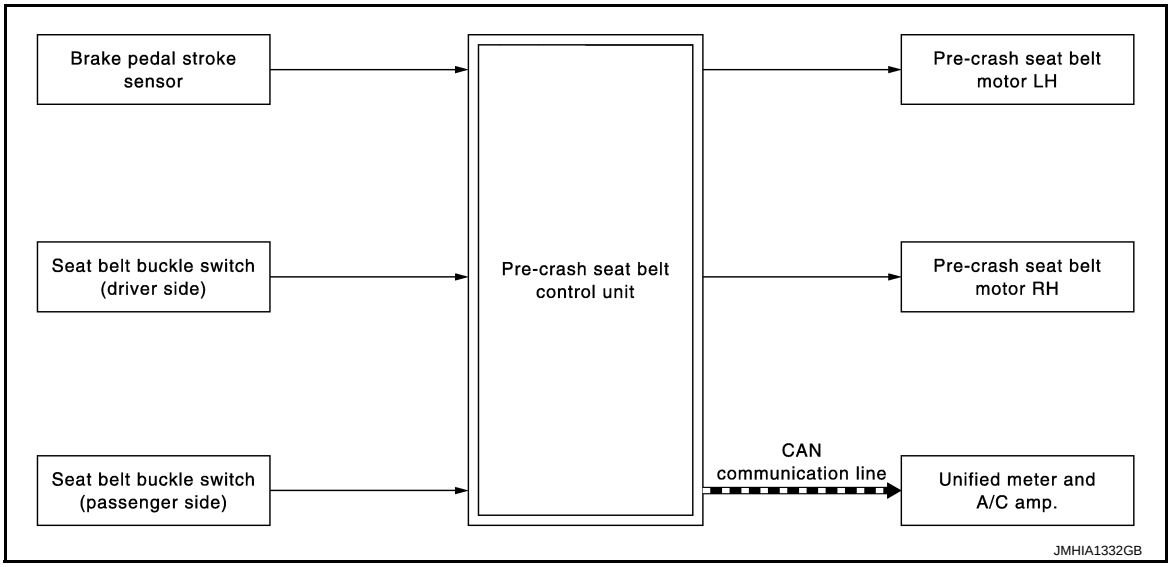
YES-1 >> DTC is detected: GO TO 7.
YES-2 >> Symptom remains: GO TO 4.
NO >> Before returning the vehicle to the customer, always erase DTC.

SYSTEM DESCRIPTION

PRE-CRASH SEAT BELT SYSTEM

System Diagram

INFOID:0000000008157067



System Description

INFOID:0000000008157068

- 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.

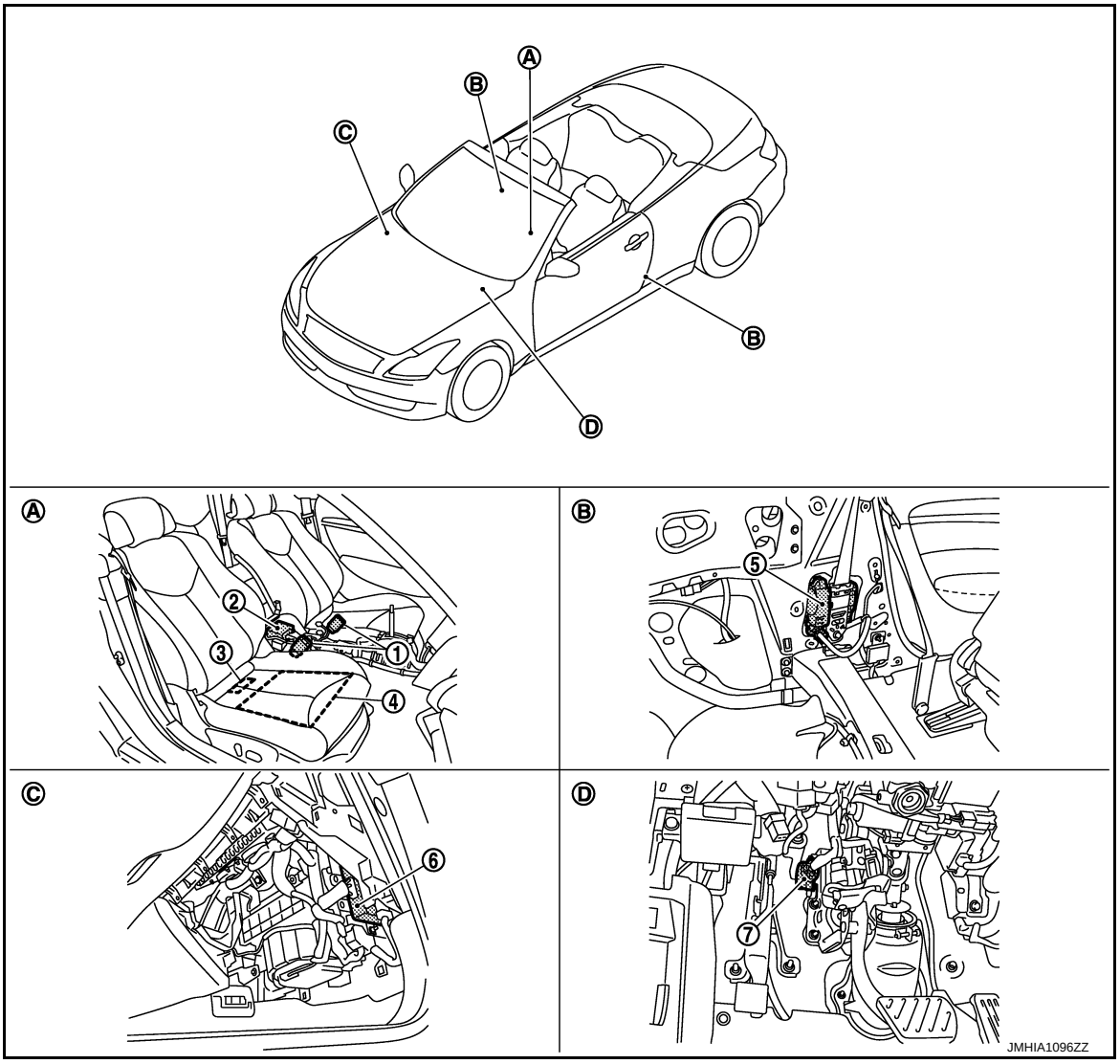
	Activating condition	Deactivating condition
Emergency braking is applied	• Judges that emergency braking is applied • Vehicle speed is 15 km/h (9 MPH) or more	• When the vehicle accelerates • The vehicle stays stopped

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:0000000008157069



1. Seat belt buckle switch
   Driver side: B13
   Passenger side: B213
2. Air bag diagnosis sensor unit E36
3. Occupant Classification System control unit B214
4. Occupant Classification System seat sensor mat
5. Pre-crash seat belt motor
   LH: B28
   RH: B228
6. Pre-crash seat belt control unit M110
7. Brake pedal stroke sensor E116

A. Front seat
B. Behind rear side finisher
C. Behind glove box assembly
D. Behind instrument driver lower cover

Component Description

INFOID:0000000008157070

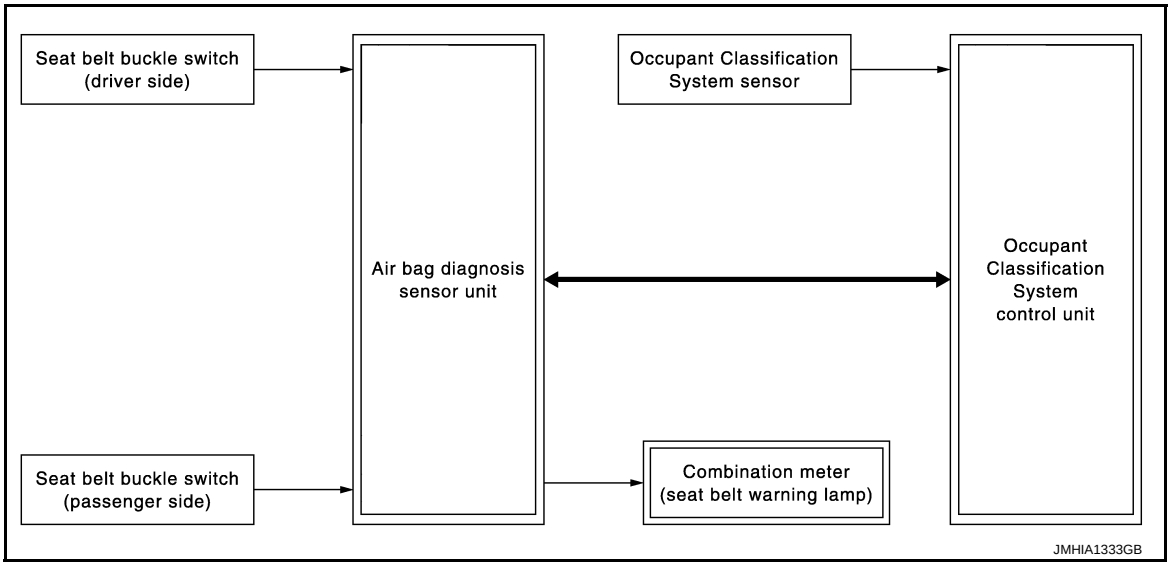
Component	Function
Pre-crash seat belt control unit	It controls pre-crash seat belt motor according to input signal.
Pre-crash seat belt motor (Seat belt motor [RH/LH])	It is built into seat belt retractor, and it pulls, returns, and maintains according to the motor rotation.

Component	Function
Brake pedal stroke sensor	• 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 will judge the stroke amount and the speed of the brake pedal according to the voltage of the signal sent by each side.
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

INFOID:0000000008157071



System Description

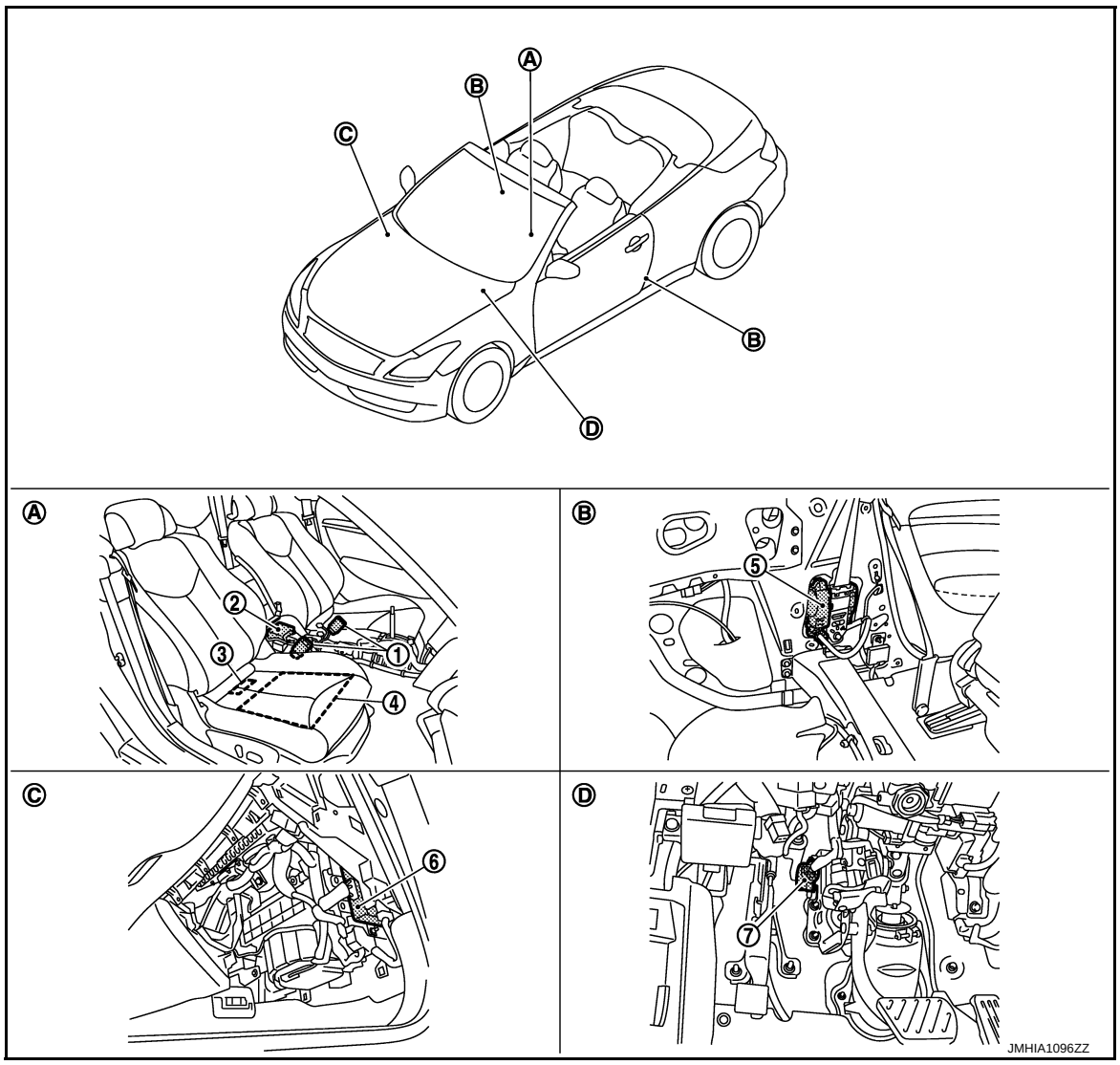
INFOID:0000000008157072

- 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

Component Parts Location

INFOID:0000000008157073



1. Seat belt buckle switch
   Driver side: B13
   Passenger side: B213
2. Air bag diagnosis sensor unit E36
3. Occupant Classification System control unit B214
4. Occupant Classification System seat sensor mat
5. Pre-crash seat belt motor
   LH: B28
   RH: B228
6. Pre-crash seat belt control unit M110
7. Brake pedal stroke sensor E116

A. Front seat
B. Behind rear side finisher
C. Behind glove box assembly
D. Behind instrument driver lower cover

Component Description

INFOID:0000000008157074

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

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

ON BOARD DIAGNOSTIC (OBD) SYSTEM

Diagnosis Description

INFOID:0000000008157075

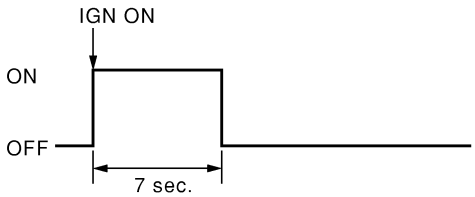
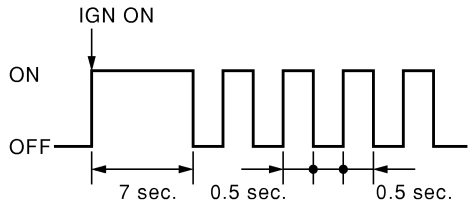
DIAGNOSIS FUNCTION

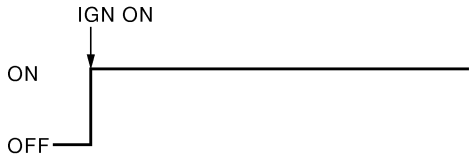
When pre-crash seat belt control unit detects a malfunction, seat belt warning lamp blinks or turn ON and warns the user of the malfunction.

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
 SHIA0011E	No malfunction is detected	—
 SHIA0012E	Pre-crash seat belt system is malfunctioning	Check “CAUSE OF WARNING” in “Special Function” with CONSULT. Refer to SRC-19, "CONSULT Function"

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

DIAGNOSIS SYSTEM (PRE-CRASH SEAT BELT)

CONSULT Function

INFOID:0000000008157076

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

APPLICATION ITEM

Diagnosis Mode	Function description
Self-diagnosis Results	• Displays data recorded when a malfunction is detected. • Can print out the display. • Erases DTC recorded in memory.
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

NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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.

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000008157077

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-23, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000008157078

DTC DETECTION LOGIC

DTC	CONSULT 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:0000000008157079

1.PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result”.

Is DTC “U1000” displayed?

YES >> Refer to LAN-14, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-42, "Intermittent Incident".

B2451 SB MOTOR RH CIRC

Description

INFOID:0000000008157080

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

DTC Logic

INFOID:0000000008157081

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	• Open circuit, short circuit to battery, and short circuit to ground in seat belt motor (RH) harness • Pre-crash seat belt control unit

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.

Is DTC detected?

YES >> Refer to SBC-16, "Diagnosis Procedure".
NO >> Pre-crash seat belt motor RH system is normal.

Diagnosis Procedure

INFOID:0000000008157082

1.CHECK PRE-CRASH SEAT BELT MOTOR RH CIRCUIT

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

Pre-crash seat belt control unit		Pre-crash seat belt motor RH		Continuity
Connector	Terminal	Connector	Terminal	
M110	1	B228	1	Existed
	3		2	

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

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

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.
3. Turn ignition switch ON.
4. Check “Self-diagnostic result” with CONSULT.

Is DTC detected?

YES >> Replace pre-crash seat belt control unit.
NO >> INSPECTION END

B2452 SB MOTOR LH CIRC

Description

INFOID:0000000008157083

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

DTC Logic

INFOID:0000000008157084

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

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

1. Turn ignition switch ON.
2. Check “Self-diagnostic result” with CONSULT.

Is DTC detected?

YES >> Refer to SBC-17, "Diagnosis Procedure".
NO >> Pre-crash seat belt motor LH system is normal.

Diagnosis Procedure

INFOID:0000000008157085

1.CHECK PRE-CRASH SEAT BELT MOTOR LH CIRCUIT

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

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

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

Pre-crash seat belt control unit		Ground	Continuity
Connector	Terminal		
M110	4		Not existed
	6		

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

1. Replace pre-crash seat belt motor LH.
2. Connect pre-crash seat belt control unit connector and pre-crash seat belt motor LH connector.
3. Turn ignition switch ON.
4. Check “Self-diagnostic result” with CONSULT.

Is DTC detected?

YES >> Replace pre-crash seat belt control unit.
NO >> INSPECTION END

B2453 BR STROKE SEN CIRC

Description

INFOID:0000000008157086

- 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

INFOID:0000000008157087

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

1. Turn ignition switch ON.
2. Check “Self-diagnostic result” with CONSULT.

Is DTC detected?

YES >> Refer to SBC-18, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008157088

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

1. Turn ignition switch ON.
2. Select “B PEDAL SIG1” and “B PEDAL SIG2” in “DATA MONITOR” mode with CONSULT.
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		4 → 1

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 2.

2.CHECK BRAKE PEDAL STROKE SENSOR POWER SUPPLY

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

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

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 4.

3.CHECK BRAKE PEDAL STROKE SENSOR CIRCUIT

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

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

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

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

Is the inspection result normal?

YES >> Refer to SBC-19, "Component Inspection".
NO >> Repair or replace harness between pre-crash seat belt control unit and brake pedal stroke sensor.

4.CHECK BRAKE PEDAL STROKE SENSOR POWER SUPPLY CIRCUIT

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

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

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

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

Is the inspection result normal?

YES >> Replace pre-crash seat belt control unit. Refer to SBC-47, "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-42, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000008157089

1.CHECK BRAKE PEDAL STROKE SENSOR

1. Turn ignition switch OFF.
2. Disconnect brake pedal stroke sensor connector.
3. Check that continuity between brake pedal stroke sensor when performing the brake operation.

Brake pedal stroke sensor		Condition	Resistance (KΩ) (Approx.)
Terminal			
2	1	Brake released → depressed	1.0 → 0.2
	3		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 SBC-46, "Removal and Installation".

B2454 MOTOR PWR SUP CIRC

Description

INFOID:0000000008157090

- 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

INFOID:0000000008157091

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

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

1. Turn ignition switch ON.
2. Check “Self-diagnostic result” with CONSULT.

Is DTC detected?

YES >> Refer to SBC-21, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008157092

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 blown.

2.CHECK PRE-CRASH SEAT BELT MOTOR POWER SUPPLY

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

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

Is the inspection result normal?

YES >> Replace pre-crash seat belt control unit. Refer to SBC-47, "Removal and Installation".
NO >> Repair or replace harness between pre-crash seat belt control unit and fusible link.

B2455 PSB C/U INT CIRCUIT

Description

INFOID:0000000008157093

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

DTC Logic

INFOID:0000000008157094

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

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

1. Turn ignition switch ON.
2. Check “Self-diagnostic result” with CONSULT.

Is DTC detected?

YES >> Refer to SBC-22, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008157095

1..INSPECTION START

1. Check “Self-diagnostic result” with CONSULT.
2. Touch “ERASE”.
3. Perform DTC Confirmation Procedure.
   See SBC-22, "DTC Logic".

Is DTC B2455 displayed again?

YES >> Replace pre-crash seat belt control unit. Refer to SBC-47, "Removal and Installation".
NO >> GO TO 2.

2.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

SEAT BELT BUCKLE SWITCH
DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000008157096

- 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:0000000008157097

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

With CONSULT

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:0000000008157098

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

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

(+)		(–)	Condition	Voltage (V) (Approx.)
Seat belt buckle switch (driver side)				
Connector	Terminal			
B13	1	Ground	When driver side seat belt is not fastened	12
			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

1. 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	
M110	10	B13	1	Existed

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

Pre-crash seat belt control unit		Ground	Continuity
Connector	Terminal		
M110	10		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 (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)		Ground	Continuity
Connector	Terminal		
B13	2		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness between seat belt buckle switch and ground.

4.CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)

Check seat belt buckle switch (driver side). Refer to SBC-24, "DRIVER SIDE : Component Inspection".

Is the inspection result normal?

YES >> Replace pre-crash seat belt control unit. Refer to SBC-47, "Removal and Installation".
NO >> Replace seat belt buckle switch (driver side).

DRIVER SIDE : Component Inspection

INFOID:0000000008157099

1.CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)

1. 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)		Condition	Continuity
Terminal			
1	2	When driver side seat belt is not fastened	Not existed
		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:0000000008157100

- 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:0000000008157101

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

With CONSULT
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
	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".

PASSENGER SIDE : Diagnosis Procedure

INFOID:0000000008157102

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

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

(+)		(–)	Condition	Voltage (V) (Approx.)
Seat belt buckle switch (passenger side)				
Connector	Terminal			
B213	1	Ground	When driver side seat belt is not fastened	5 or more
			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.
2. 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 belt control unit		Seat belt buckle switch (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
M110	8	B213	1	Existed

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

Pre-crash seat belt control unit		Ground	Continuity
Connector	Terminal		
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)		Ground	Continuity
Connector	Terminal		
B213	2		Existed

Is the inspection result normal?

YES >> GO TO 4.
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 SBC-26, "PASSENGER SIDE : Component Inspection".

Is the inspection result normal?

YES >> Replace pre-crash seat belt control unit. Refer to SBC-47, "Removal and Installation".
NO >> Replace seat belt buckle switch (passenger side).

PASSENGER SIDE : Component Inspection

INFOID:0000000008157103

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)		Condition	Continuity
Terminal			
1	2	When driver side seat belt is not fastened	Not existed
		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

Diagnosis Procedure

INFOID:0000000008157104

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		Ground	Voltage (V) (Approx.)
Connector	Terminal		
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		Ground	Continuity
Connector	Terminal		
M110	5		Existed
	26		

Does continuity exist?

YES >> INSPECTION END
NO >> Repair or replace harness.

SEAT BELT WARNING LAMP CIRCUIT

Diagnosis Procedure

INFOID:0000000008157105

1.CHECK SEAT BELT WARNING LAMP CIRCUIT

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

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

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace combination meter. Refer to MWI-111, "Removal and Installation".

2.CHECK SEAT BELT WARNING LAMP CIRCUIT

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

Combination meter		Air bag diagnosis sensor unit		Continuity
Connector	Terminal	Connector	Terminal	
B53	36	M147	24	Existed

4. Check continuity between combination meter and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
B53	36		Not existed

Is the inspection result normal?

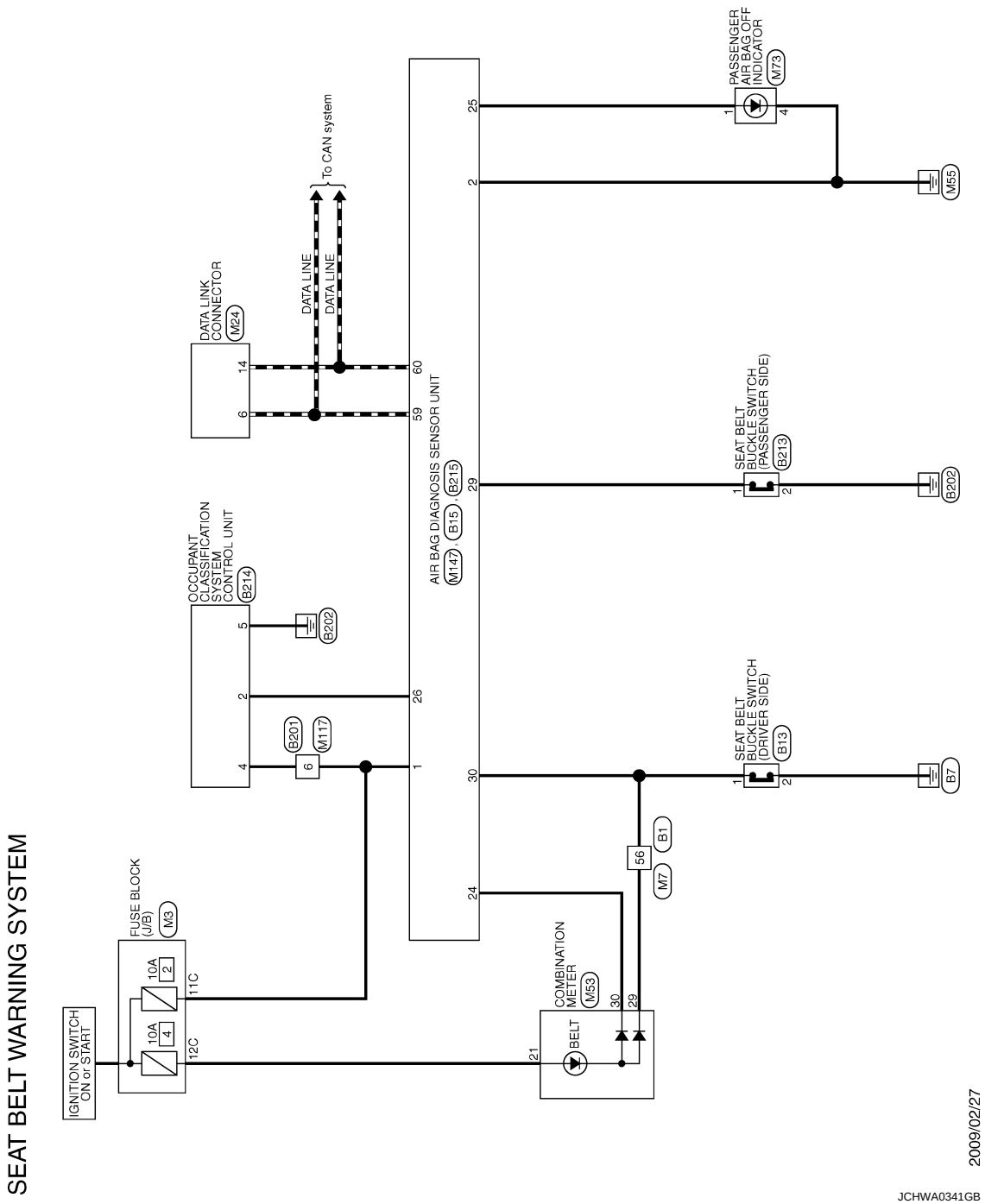
YES >> Replace air bag diagnosis sensor unit. Refer to SR-30, "Removal and Installation".
NO >> Repair or replace harness.

SEAT BELT WARNING SYSTEM

Wiring Diagram - SEAT BELT WARNING SYSTEM -

INFOID:0000000008157106

For connector terminal arrangements, harness layouts, and alphabets in a ⬡ (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



ECU DIAGNOSIS INFORMATION

PRE-CRASH SEAT BELT CONTROL UNIT

Reference Value

INFOID:0000000008157107

VALUES ON THE DIAGNOSIS TOOL

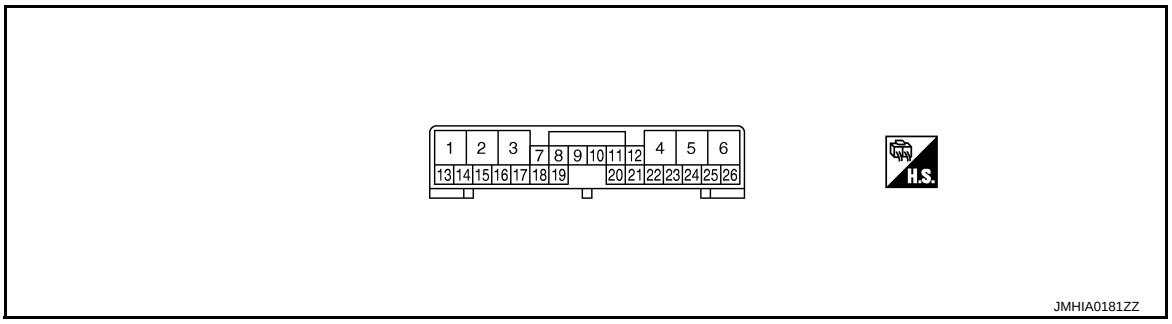
CONSULT MONITOR ITEM

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value (*1) (Approx.)
+	–	Signal name	Input/ Output		
1 (SB)	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 (LG)	Ground	RH seat belt motor forward (retract) signal	Output	—	—
4 (R)	Ground	LH seat belt motor forward (retract) signal	Output	—	—
5 (W)	Ground	Drive circuit ground	—	—	0
6 (BR)	Ground	LH seat belt motor release signal	Output	—	—
7 (G)	Ground	Indicator (seat belt warning lamp)	Output	LH seat belt is not fastened	Ground
				LH seat belt is fastened	Battery voltage
				LH seat belt is fastened or malfunction of system	Battery voltage ←→ Ground

Terminal No. (Wire color)		Description		Condition	Value (*1) (Approx.)
+	–	Signal name	Input/ Output		
8 (LG)	Ground	RH seat belt buckle switch signal	Input	RH seat belt is fastened	5 V or more
				RH seat belt is not fastened	Ground
10 (BR)	Ground	LH seat belt buckle switch signal	Input	LH seat belt is fastened	Battery voltage
				LH seat belt is not fastened	Ground
13 (W)	Ground	Control circuit power supply (IGN)	Input	IGN ON	Battery voltage
				IGN OFF	Ground
16 (W)	Ground	Brake pedal stroke sensor signal1	Input	Brake released → depressed	1 V → 4 V
				IGN OFF	0 V
18 (R)	Ground	Brake pedal stroke sensor power circuit	Output	IGN ON	5 V
				IGN OFF	0 V
20 (G)	Ground	Brake pedal stroke sensor signal2	Input	Brake released → depressed	4 V → 1 V
				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

*1: Perform the measurement while connecting the control unit and the harness.

Fail Safe

INFOID:0000000008157108

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	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

INFOID:0000000008157109

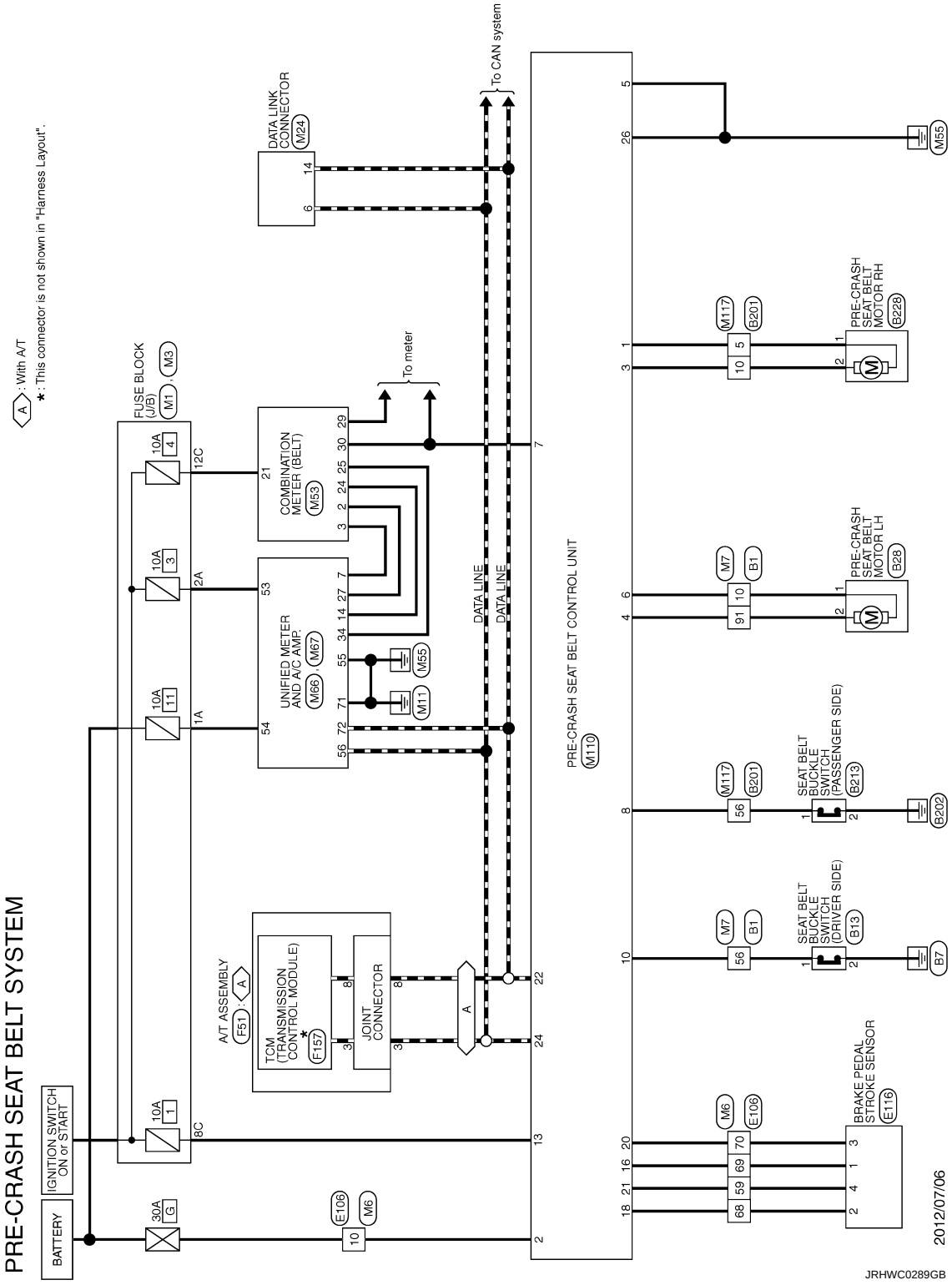
DTC	Trouble diagnosis name (CONSULT display)	DTC detection condition	Reference
—	—	No malfunction is detected	—
U1000	CAN COMM CIRCUIT	Pre-crash seat belt control unit cannot transmit and receive CAN communication signal for 2 seconds or more	SBC-15
B2451	SB MOTOR RH CIRC	RH seat belt motor circuit is 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

DTC	Trouble diagnosis name (CONSULT display)	DTC detection condition	Reference
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	SBC-22

Wiring Diagram - PRE-CRASH SEAT BELT SYSTEM -

INFOID:0000000008157110

For connector terminal arrangements, harness layouts, and alphabets in a ⟨⟩ (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



DIAGNOSIS SENSOR UNIT

DTC Index

INFOID:0000000008802719

DTC	Diagnostic item	Explanation		Reference page
—	NO DTC IS DETECTED.	When malfunction is indicated by the “AIR BAG” warning lamp in the user mode	Low battery voltage (Less than 9 V)	SRC-19, "CONSULT Function".
			Malfunction occurs in Occupant Classification System	SRC-202, "Diagnosis Procedure".
			Self-diagnostic result is not erased after repair	SRC-15, "Diagnosis with Air Bag Warning Lamp", SRC-19, "CONSULT Function".
			Intermittent malfunction is detected in the past	GI-42, "Intermittent Incident"
		No malfunction is detected		—
U1000	CAN COMM CIRCUIT	CAN communication system malfunction		SRC-21, "DTC Logic"
U1010	CONTROL UNIT (CAN)	Air bag diagnosis sensor unit is malfunctioning		SRC-22, "DTC Logic"
B1001-B1015	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning		• SRC-23, "DTC Logic". • SRC-25, "DTC Logic". • SRC-27, "DTC Logic".
B1017 B1020 B1021	OCCUPANT SENS C/U [UNIT FAIL]	Malfunction occurs in Occupant Classification System control unit		SRC-29, "DTC Logic".
B1018	OCCUPANT SENS [UNIT FAIL]	Malfunction occurs in Occupant Classification System sensor		SRC-31, "DTC Logic".
B1022	OCCUPANT SENS C/U [COMM FAIL]	Malfunction occurs in Occupant Classification System control unit, circuit of Occupant Classification System control unit air bag diagnosis sensor unit, or air bag diagnosis sensor unit		SRC-33, "DTC Logic".
B1023	PASS A/B INDCTR CKT	Passenger air bag OFF indicator circuit is open or shorted to ground or the circuits are shorted each other		SRC-35, "DTC Logic".
B1025 B1032 B1048	OCS SENSOR	Malfunction occurs in Occupant Classification System control unit, circuit of Occupant Classification System control unit air bag diagnosis sensor unit, or air bag diagnosis sensor unit		SRC-37, "DTC Logic".
B1026-B1031	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning or out of the specified specification		SRC-39, "DTC Logic".
B1033 B1034	CRASH ZONE SEN [UNIT FAIL]	Crash zone sensor is malfunctioning		SRC-41, "DTC Logic".
B1035	CRASH ZONE SEN [COMM FAIL]	Crash zone sensor is malfunctioning		SRC-43, "DTC Logic".
B1036	CRASH ZONE SEN [UNMATCH]	Crash zone sensor is out of the specified specification		SRC-45, "DTC Logic".
B1037 B1039 B1041	CRASH ZONE SEN1	Crash zone sensor is malfunctioning		SRC-47, "DTC Logic".
B1038	CRASH ZONE SEN [OPEN/UPR-VB-SHORT]	Crash zone sensor is malfunctioning		SRC-47, "DTC Logic".

DTC	Diagnostic item	Explanation	Reference page
B1040	CRASH ZONE SEN [SHORT/UPR-GND-SHORT]	Crash zone sensor is malfunctioning	SRC-47, "DTC Logic".
B1042-B1047	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-49, "DTC Logic".
B1049 B1054	DRIVER AIRBAG MODULE [OPEN]	Driver air bag module circuit is open (including the spiral cable)	SRC-51, "DTC Logic".
B1050 B1055	DRIVER AIRBAG MODULE [VB-SHORT]	Driver air bag module circuit is shorted to power supply circuit (including the spiral cable)	SRC-53, "DTC Logic".
B1051 B1056	DRIVER AIRBAG MODULE [GND-SHORT]	Driver air bag module circuit is shorted to ground (including the spiral cable)	SRC-55, "DTC Logic".
B1052 B1057	DRIVER AIRBAG MODULE [SHORT]	Driver air bag module circuits are shorted to each other (including spiral cable)	SRC-57, "DTC Logic".
B1058-B1063	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-59, "DTC Logic".
B1065 B1070	ASSIST A/B MODULE [OPEN]	Passenger air bag module circuit is open	SRC-61, "DTC Logic".
B1066 B1071	ASSIST A/B MODULE [VB-SHORT]	Passenger air bag module circuit is shorted to power supply circuit	SRC-63, "DTC Logic".
B1067 B1072	ASSIST A/B MODULE [GND-SHORT]	Passenger air bag module circuit is shorted to ground	SRC-65, "DTC Logic".
B1068 B1073	ASSIST A/B MODULE [SHORT]	Passenger air bag module circuits are shorted to each other	SRC-67, "DTC Logic".
B1074-B1079	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-69, "DTC Logic".
B1080 B1096	DRIVER AIRBAG MODULE [SHORT]	Driver air bag module circuits are shorted to each other (including spiral cable)	SRC-71, "DTC Logic".
B1081	PRE-TEN FRONT RH [OPEN]	Seat belt pre-tensioner RH circuit is open	SRC-73, "DTC Logic".
B1082	PRE-TEN FRONT RH [VB-SHORT]	Seat belt pre-tensioner RH circuit is shorted to power supply circuit	SRC-75, "DTC Logic".
B1083	PRE-TEN FRONT RH [GND-SHORT]	Seat belt pre-tensioner RH circuit is shorted to ground	SRC-77, "DTC Logic".
B1084	PRE-TEN FRONT RH [SHORT]	Seat belt pre-tensioner RH circuits are shorted to each other	SRC-79, "DTC Logic".
B1086	PRE-TEN FRONT LH [OPEN]	Seat belt pre-tensioner LH circuit is open	SRC-81, "DTC Logic".
B1087	PRE-TEN FRONT LH [VB-SHORT]	Seat belt pre-tensioner LH circuit is shorted to power supply circuit	SRC-83, "DTC Logic".
B1088	PRE-TEN FRONT LH [GND-SHORT]	Seat belt pre-tensioner LH circuit is shorted to ground	SRC-85, "DTC Logic".
B1089	PRE-TEN FRONT LH [SHORT]	Seat belt pre-tensioner LH circuits are shorted to each other	SRC-87, "DTC Logic".
B1090-B1095	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-89, "DTC Logic".
B1106-B1111	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-91, "DTC Logic".
B1113 B1114	SATELLITE SENS RH [UNIT FAIL]	Satellite sensor RH is malfunctioning	SRC-93, "DTC Logic".
B1115	SATELLITE SENS RH [COMM FAIL]	Satellite sensor RH is malfunctioning	SRC-95, "DTC Logic".
B1116	SATELLITE SENS RH [UNMATCH]	Satellite sensor RH is out of the specified specification	SRC-97, "DTC Logic".

DTC	Diagnostic item	Explanation	Reference page
B1118 B1119	SATELLITE SENS LH [UNIT FAIL]	Satellite sensor LH is malfunctioning	SRC-99, "DTC Logic".
B1120	SATELLITE SENS LH [COMM FAIL]	Satellite sensor RH is malfunctioning	SRC-101, "DTC Logic".
B1121	SATELLITE SENS LH [UNMATCH]	Satellite sensor RH is out of the specified specification	SRC-103, "DTC Logic".
B1122-B1127	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-105, "DTC Logic".
B1129	SIDE MODULE RH [OPEN]	Side air bag module RH circuit is open	SRC-107, "DTC Logic".
B1130	SIDE MODULE RH [VB-SHORT]	Side air bag module RH circuit is shorted to power supply circuit	SRC-109, "DTC Logic".
B1131	SIDE MODULE RH [GND-SHORT]	Side air bag module RH circuit is shorted to ground	SRC-111, "DTC Logic".
B1132	SIDE MODULE RH [SHORT]	Seat belt pre-tensioner RH circuits are shorted to each other	SRC-113, "DTC Logic".
B1134	SIDE MODULE LH [OPEN]	Side air bag module LH circuit is open	SRC-115, "DTC Logic".
B1135	SIDE MODULE LH [VB-SHORT]	Side air bag module LH circuit is shorted to power supply circuit	SRC-117, "DTC Logic".
B1136	SIDE MODULE LH [GND-SHORT]	Side air bag module LH circuit is shorted to ground	SRC-119, "DTC Logic".
B1137	SIDE MODULE LH [SHORT]	Side air bag module LH circuits are shorted to each other	SRC-121, "DTC Logic".
B1138-B1143	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-123, "DTC Logic"
B1144	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning or out of the specified specification	SRC-125, "DTC Logic".
B1154-B1159	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-126, "DTC Logic".
B1170-B1175	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-128, "DTC Logic".
B1186-B1191	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-130, "DTC Logic".
B1202-B1207	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-132, "DTC Logic".
B1209	FRONTAL COLLISION DETECTION	Seat belt pre-tensioner, driver side air bag and passenger air bag are deployed	SRC-134, "DTC Logic".
B1210	SIDE COLLISION DETECTION	Side air bag and curtain air bag are deployed	SRC-135, "DTC Logic".
B1211	ROLLOVER DETECTION	Seat belt pre-tensioner side curtain air bag module are deployed because of rollover detection	SRC-136, "DTC Logic".
B1212-B1214	RH1 SAT-SENS	Satellite sensor RH is malfunctioning	SRC-137, "DTC Logic".
B1215-B1217	LH1 SAT-SENS	Satellite sensor LH is malfunctioning	SRC-139, "DTC Logic".
B1218-B1223	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-141, "DTC Logic".
B1234-B1239	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-143, "DTC Logic".
B1250-B1255	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-144, "DTC Logic".

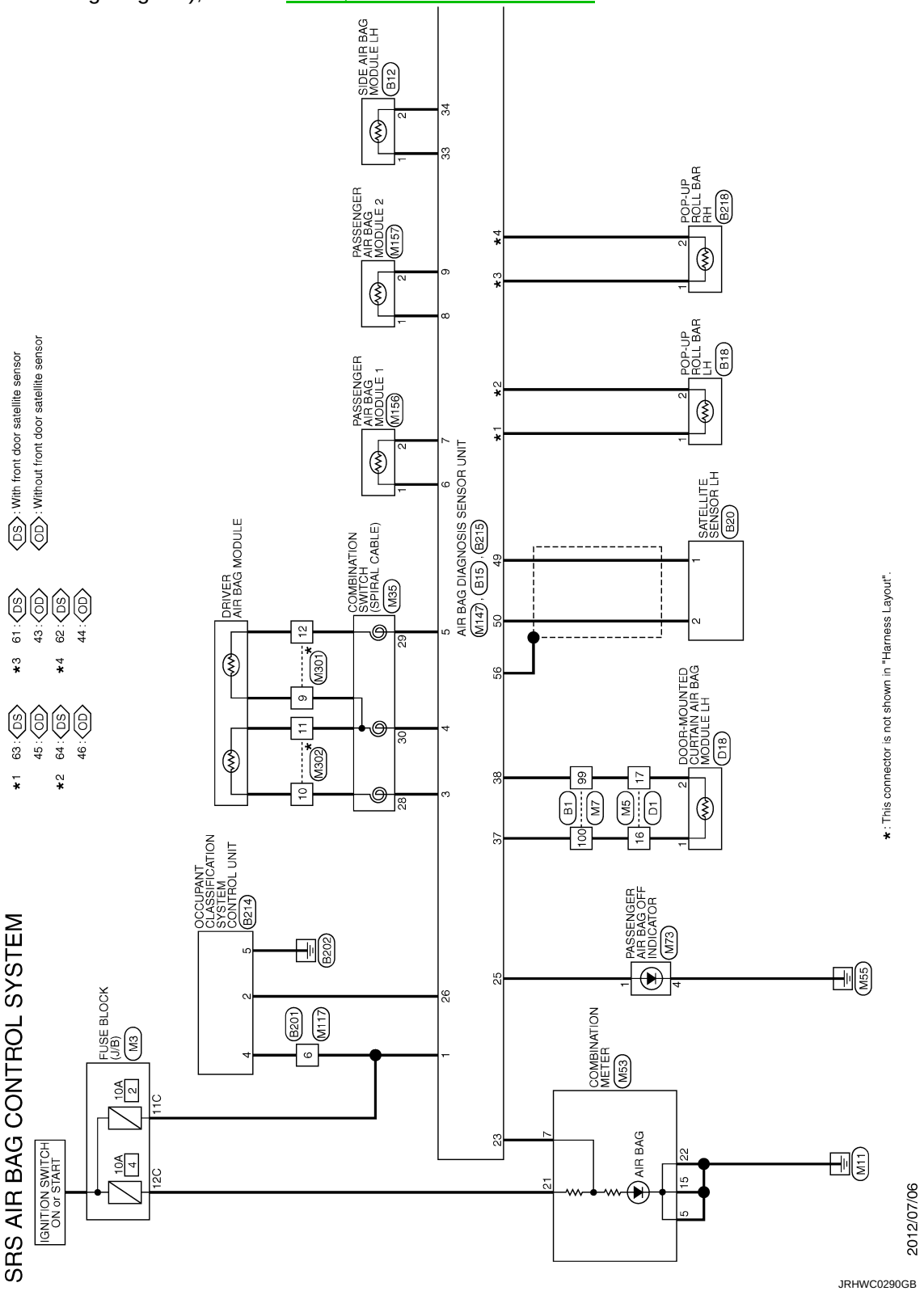
DTC	Diagnostic item	Explanation	Reference page
B1257	FR-RH DOOR MNT MODULE [OPEN]	Door mounted curtain air bag RH circuit is open	SRC-145, "DTC Logic"
B1258	FR-RH DOOR MNT MODULE [VB-SHORT]	Door mounted curtain air bag RH circuit is shorted to power supply circuit	SRC-147, "DTC Logic"
B1259	FR-RH DOOR MNT MODULE [GND-SHORT]	Door mounted curtain air bag RH circuit is shorted to ground	SRC-149, "DTC Logic"
B1260	FR-RH DOOR MNT MODULE [SHORT]	Door mounted curtain air bag RH circuit are shorted to each other	SRC-151, "DTC Logic"
B1262	FR-RH DOOR MNT MODULE [OPEN]	Door mounted curtain air bag LH circuit is open	SRC-153, "DTC Logic"
B1263	FR-LH DOOR MNT MODULE [VB-SHORT]	Door mounted curtain air bag LH circuit is shorted to power supply circuit	SRC-155, "DTC Logic"
B1264	FR-LH DOOR MNT MODULE [GND-SHORT]	Door mounted curtain air bag LH circuit is shorted to ground	SRC-157, "DTC Logic"
B1265	FR-LH DOOR MNT MODULE [SHORT]	Door mounted curtain air bag LH circuit are shorted to each other	SRC-159, "DTC Logic"
B1266-B1269	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-161, "DTC Logic".
B1282-B1285	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-162, "DTC Logic".
B1289	RH POP-UP BAR [OPEN]	Pop-up bar RH circuit is open	SRC-163, "DTC Logic"
B1290	RH POP-UP BAR [VB-SHORT]	Pop-up bar RH circuit is shorted to power supply circuit	SRC-165, "DTC Logic"
B1291	RH POP-UP BAR [GND-SHORT]	Pop-up bar RH circuit is shorted to ground	SRC-167, "DTC Logic"
B1292	RH POP-UP BAR [SHORT]	Pop-up bar RH circuit are shorted to each other	SRC-169, "DTC Logic"
B1294	LH POP-UP BAR [OPEN]	Pop-up bar LH circuit is open	SRC-171, "DTC Logic"
B1295	LH POP-UP BAR [VB-SHORT]	Pop-up bar LH circuit is shorted to power supply circuit	SRC-173, "DTC Logic"
B1296	LH POP-UP BAR [GND-SHORT]	Pop-up bar LH circuit is shorted to ground	SRC-175, "DTC Logic"
B1297	LH POP-UP BAR [SHORT]	Pop-up bar LH circuit are shorted to each other	SRC-177, "DTC Logic"
B1298	POP-UP BAR [DEPLOYED]	Pop-up bar is deployed	SRC-179, "DTC Logic"
B1336 B1337	FR-RH DOOR SATEL SENS [SENSOR MALFUNCTION]	Front door satellite sensor RH is malfunctioning	SRC-181, "DTC Logic"
B1338 B1340 B1341 B1342	FR-RH DOOR SATEL SENS [COMM MALFUNCTION]	Front door satellite sensor RH is malfunctioning	SRC-183, "DTC Logic"
B1339	FR-RH DOOR SATEL SENS [MIS-INSTALLATION]	Front door satellite sensor RH is out of the specified specification	SRC-185, "DTC Logic"
B1343 B1344	FR-LH DOOR SATEL SENS [SENSOR MALFUNCTION]	Front door satellite sensor LH is malfunctioning	SRC-186, "DTC Logic"
B1345 B1347 B1348 B1349	FR-LH DOOR SATEL SENS [COMM MALFUNCTION]	Front door satellite sensor LH is malfunctioning	SRC-188, "DTC Logic"
B1346	FR-LH DOOR SATEL SENS [MIS-INSTALLATION]	Front door satellite sensor LH is out of the specified specification	SRC-190, "DTC Logic"

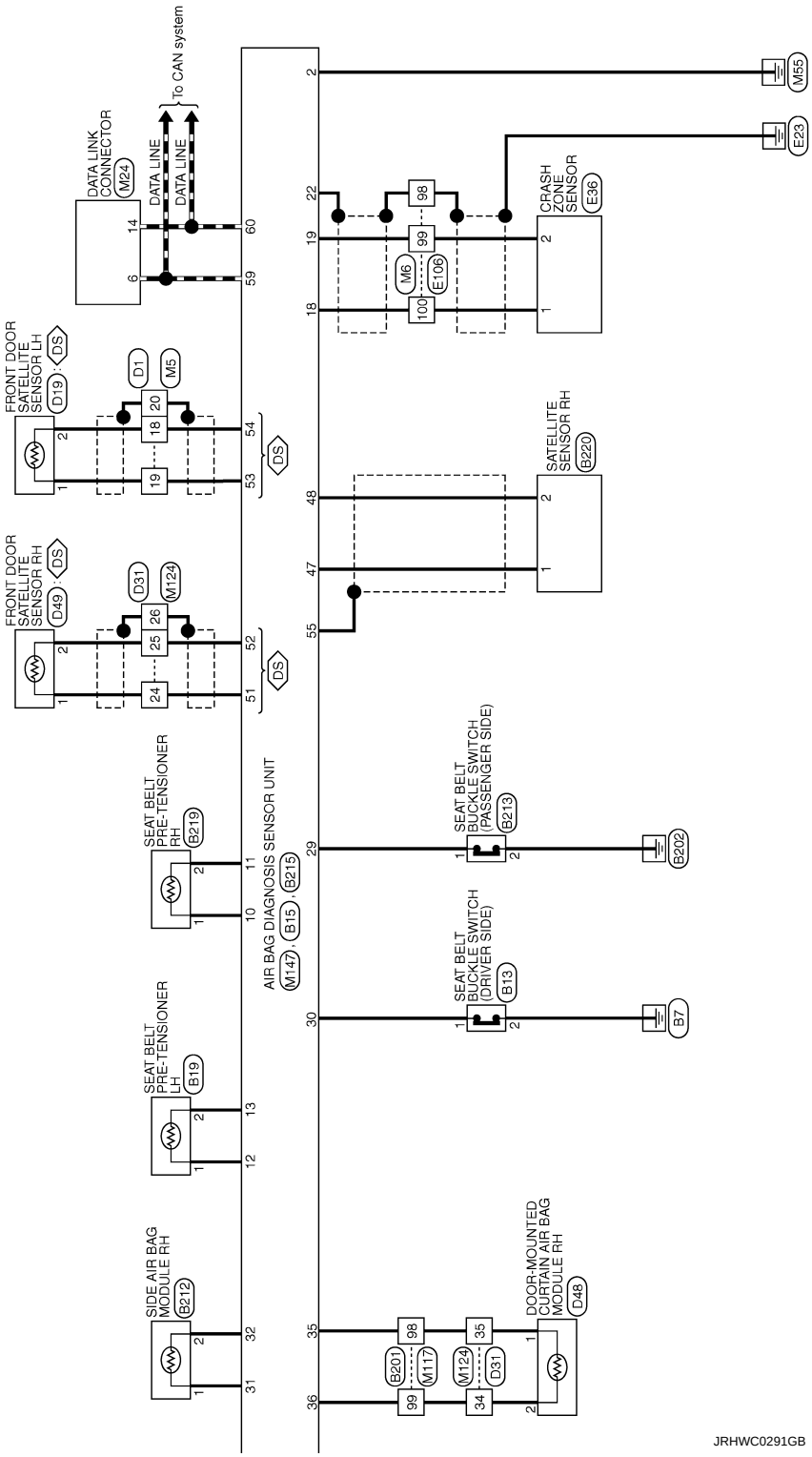
DTC	Diagnostic item	Explanation	Reference page
B1350 B1351	FR DOOR SATEL SENS	Front door satellite sensor is malfunctioning	SRC-191, "DTC Logic"
B1378-B1381	CONTROL UNIT	Air bag diagnosis sensor unit is malfunctioning	SRC-192, "DTC Logic"

Wiring Diagram - SRS AIR BAG CONTROL SYSTEM -

INFOID:0000000008802720

For connector terminal arrangements, harness layouts, and alphabets in a ⬡ (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".




To CAN system
DATA LINK CONNECTOR M24
DATA LINE
DATA LINE
FRONT DOOR SATELLITE SENSOR LH D19
FRONT DOOR SATELLITE SENSOR RH D49
SEAT BELT PRE-TENSIONER RH B219
SEAT BELT PRE-TENSIONER LH B19
SIDE AIR BAG MODULE RH B212
AIR BAG DIAGNOSIS SENSOR UNIT M147, B15, B215
SEAT BELT BUCKLE SWITCH (PASSENGER SIDE) B213
SEAT BELT BUCKLE SWITCH (DRIVER SIDE) B13
SATELLITE SENSOR RH B220
CRASH ZONE SENSOR E36
DOOR-MOUNTED CURTAIN AIR BAG MODULE RH D48
M55
E23
B202
B7
JRHWC0291GB

SYMPTOM DIAGNOSIS

SEAT BELT WARNING LAMP DOES NOT TURN OFF

Diagnosis Procedure

INFOID:0000000008157113

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.

2. CHECK SEAT BELT BUCKLE SWITCH (PASSENGER SIDE)

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

Is the inspection result normal?

YES >> GO TO 3.
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.
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-42, "Intermittent Incident".
NO >> GO TO 1.

SEAT BELT WARNING LAMP DOES NOT TURN ON

Diagnosis Procedure

INFOID:0000000008157114

1.CHECK SELF-DIAGNOSIS RESULT

Perform “COMBINATION METER” self-diagnostic result. Refer to MWI-71, "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 SBC-23, "DRIVER SIDE : Component Function Check"

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 SBC-24, "PASSENGER SIDE : Component Function Check"

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-42, "Intermittent Incident".
NO >> GO TO 1.

PRE-CRASH SEAT BELT DOES NOT OPERATE

BOTH SIDES

BOTH SIDES : Diagnosis Procedure

INFOID:0000000008157115

1. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit. Refer to SBC-27, "Diagnosis Procedure"

Is the inspection result normal?

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

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".
NO >> GO TO 1.

DRIVER SIDE

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000008157116

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.

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".
NO >> GO TO 1.

PASSENGER SIDE

PASSENGER SIDE : Diagnosis Procedure

INFOID:0000000008157117

1. CHECK SEAT BELT BUCKLE SWITCH (PASSENGER SIDE)

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

Is the inspection result normal?

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

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".
NO >> GO TO 1.

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000008157118

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:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 “SRS AIR BAG”.**
- **Never 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:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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.**

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

INFOID:0000000008157119

WARNING:

Always observe the following items for preventing accidental activation.

- **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

INFOID:0000000008157120

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.

PERIODIC MAINTENANCE

PRE-INSPECTION FOR DIAGNOSTIC

Description

INFOID:0000000008157121

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.**

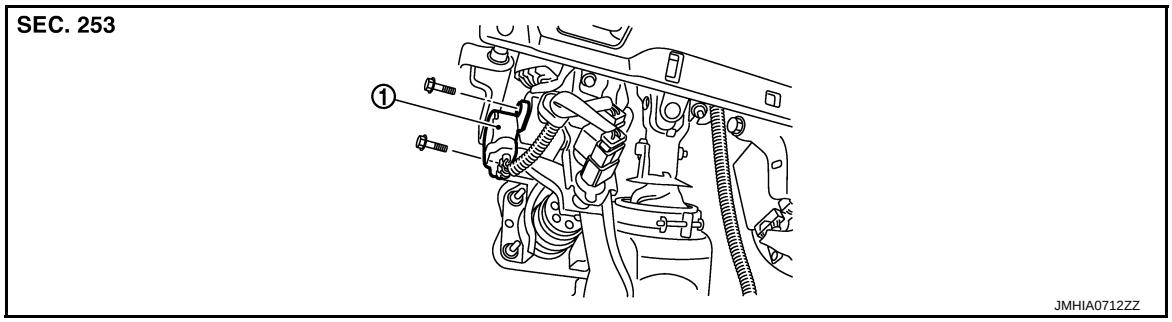
1. Fasten driver and passenger seat belts.
2. Drive at approximately 25 km/h (16 MPH).
3. Notify passenger of a sudden stop. Driver and passenger prepare themselves for the possibility of system not operating. Then, driver fully depresses the brake pedal to stop suddenly.
4. Check that the shoulder of the seat belt is pulled while braking.

REMOVAL AND INSTALLATION

BRAKE PEDAL STROKE SENSOR

Exploded View

INFOID:0000000008157122



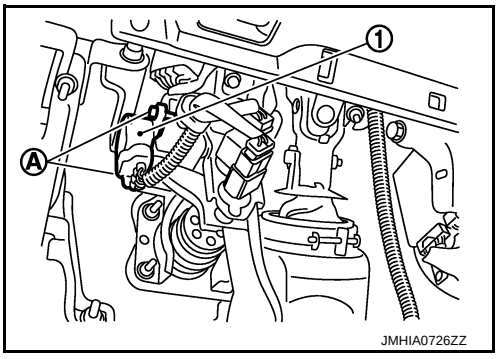
1. Brake pedal stroke sensor

Removal and Installation

INFOID:0000000008157123

REMOVAL

1. Remove the instrument panel lower cover LH. Refer to IP-13, "A/T MODELS : Removal and Installation" (A/T models) or IP-24, "M/T MODELS : Removal and Installation"(M/T models).
2. Disconnect the brake pedal stroke sensor connector.
3. Remove the screws (A).
4. Remove the brake pedal stroke sensor (1).



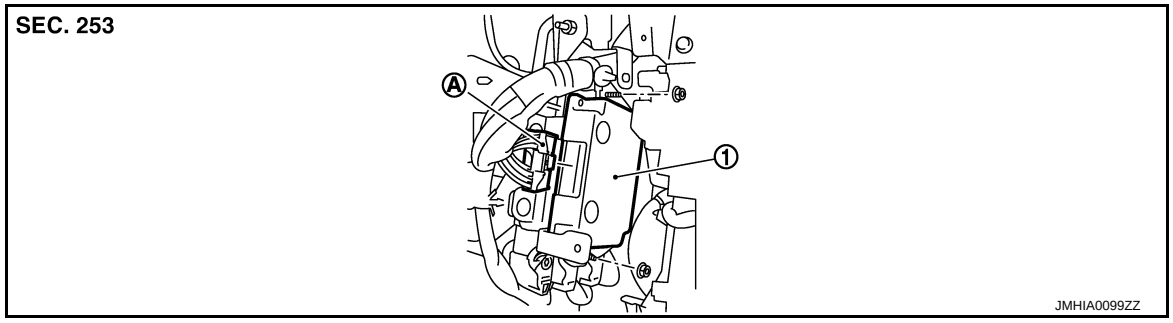
INSTALLATION

Install in the reverse order of removal.

PRE-CRASH SEAT BELT CONTROL UNIT

Exploded View

INFOID:0000000008157124



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

Removal and Installation

INFOID:0000000008157125

REMOVAL

1. Remove the glove box. Refer to IP-13, "A/T MODELS : Removal and Installation" (A/T models) or IP-24, "M/T MODELS : Removal and Installation" (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.