SECTION RF
ROOF

CONTENTS

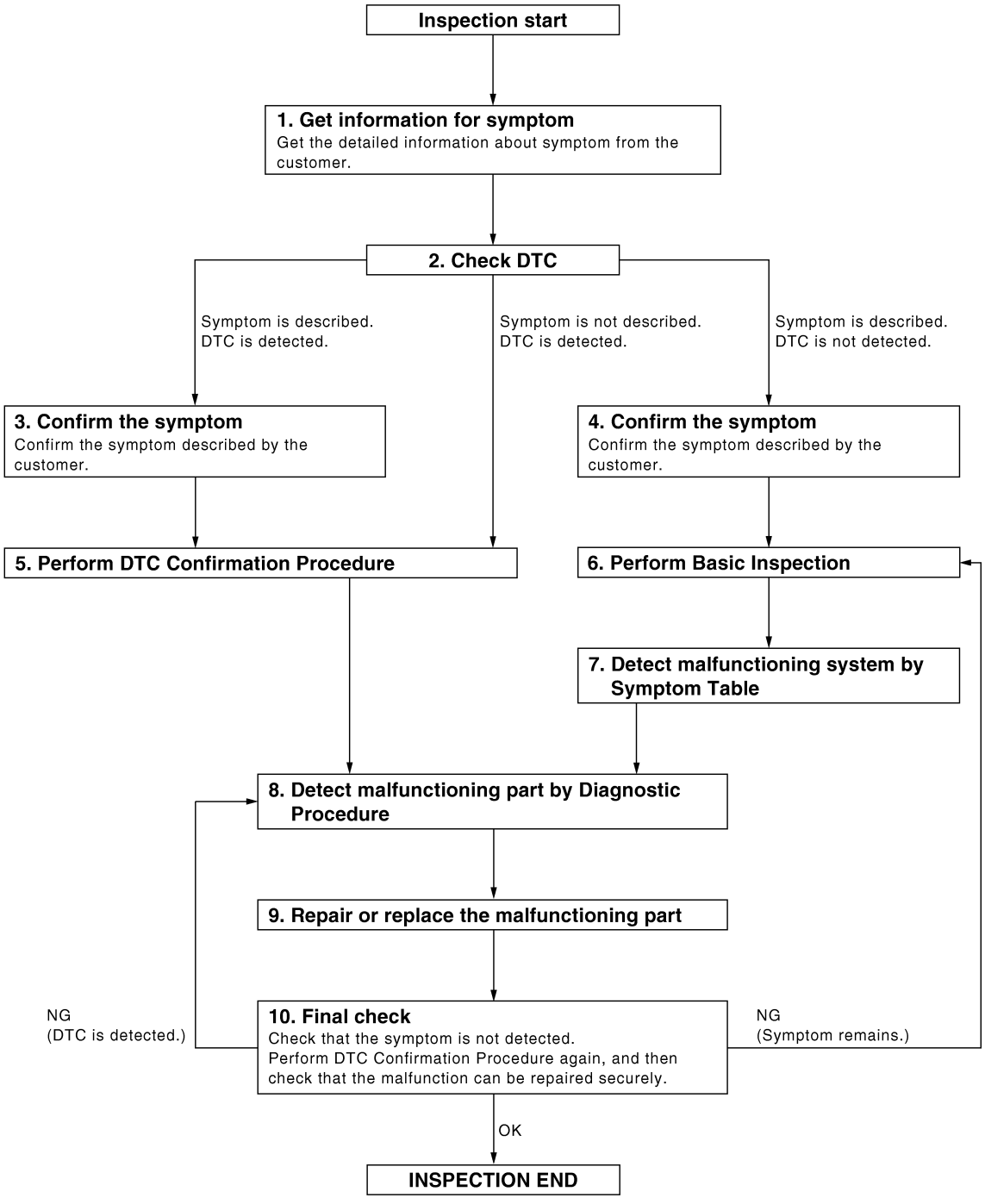
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009465658

OVERALL SEQUENCE



JMKIA0101GB

DETAILED FLOW

1. GET INFORMATION FOR SYMPTOM

Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2

2. CHECK DTC

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

- Record DTC and freeze frame data.
- 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.

Is any symptom described and any DTC detected?

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

3. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT to the vehicle in “DATA MONITOR” mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5

4. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT to the vehicle in “DATA MONITOR ” mode and check real time diagnosis results.
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 displayed DTC, and then check that DTC is detected again.
At this time, always connect CONSULT to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-63, "DTC Inspection Priority Chart" and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC Confirmation Procedure is not included in 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 8
NO >> Refer to GI-41, "Intermittent Incident".

6. PERFORM BASIC INSPECTION

Perform RF-7, "BASIC INSPECTION : Special Repair Requirement".

Inspection End>>GO TO 7

7. 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.

>> GO TO 8

8. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

NOTE:

The Diagnostic Procedure described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

Is malfunctioning part detected?

YES >> GO TO 9
NO >> Check voltage of related BCM terminals using CONSULT.

9. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 10

10. FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction has been repaired securely.

When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Does the symptom reappear?

YES (DTC is detected)>>GO TO 8
YES (Symptom remains)>>GO TO 6
NO >> Inspection End.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:0000000009465659

MEMORY RESET PROCEDURE

1. Please observe the following instructions at confirming the sunroof operation.
   NOTE:
   Do not disconnect the electronic power while the sunroof is operating or within 5 seconds after the sunroof stops (to wipe-out the memory of lid position and operating friction).
2. Initialization of system should be conducted after the following conditions.
   - When the battery has been disconnected or discharged.
   - When the sunroof motor is changed.
   - When the sunroof does not operate normally (incomplete initialization conditions).

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000009465660

INITIALIZATION PROCEDURE

If the sunroof does not close or open automatically, use the following procedure to return sunroof operation to normal.

1. Turn ignition switch ON.
2. Push and hold the sunroof tilt switch in the forward (DOWN) position until the sunroof is fully closed.
3. After the sunroof has closed all the way, push and hold the tilt switch forward (DOWN) again for more than 2 seconds to re-learn motor position.
4. Initialization is complete if the sunroof operates normally.

BASIC INSPECTION

BASIC INSPECTION : Special Repair Requirement

INFOID:0000000009465661

BASIC INSPECTION

1.INSPECTION START

1. Check the service history.
2. Check the following parts.

- Fuse/circuit breaker blown.
- Poor connection, open or short circuit of harness connector.
- Battery voltage.

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace the malfunctioning parts.

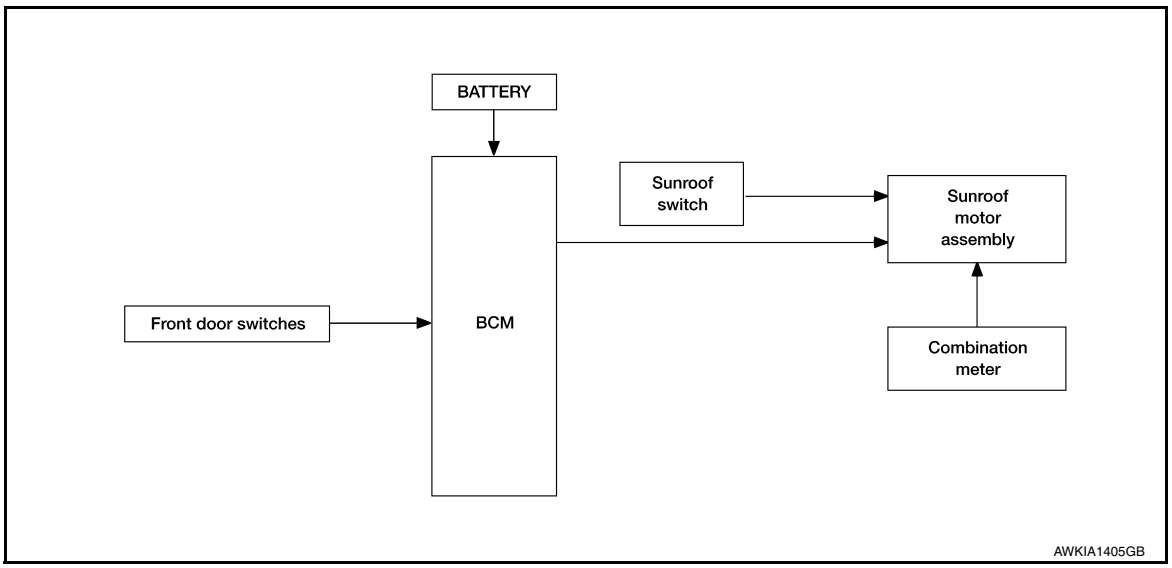
SYSTEM DESCRIPTION

SUNROOF SYSTEM

System Diagram

INFOID:0000000009465662

SUNROOF



System Description

INFOID:0000000009465663

SUNROOF SYSTEM
INPUT/OUTPUT SIGNAL CHART

Item	Input signal to sunroof motor assembly	Sunroof motor function	Actuator
Sunroof switch	Sunroof switch signal (tilt down or slide open)	Receives signal and moves the sunroof assembly to the correct position.	Sunroof motor
	Sunroof switch signal (tilt up or slide close)		
Combination meter	Vehicle speed signal	Receives speed signal and determines the amount of torque the motor requires.	
BCM	RAP signal	Retained power after the key is turned OFF and the front doors stay closed.	

SUNROOF OPERATION
- Sunroof motor assembly operates with the power supply that is output from BCM while ignition switch is ON or retained power is operating.
- Tilt up/ down & slide open/ close signals from sunroof switch enable sunroof motor to move arbitrarily.
- Sunroof motor assembly receives a vehicle speed signal from combination meter and controls the sunroof motor torque of tilt down at the time of high speed operation.

AUTO OPERATION
Sunroof AUTO feature makes it possible to slide open and slide close or tilt up and tilt down the sunroof without holding the sunroof switch in the slide open/tilt down or slide close/tilt up position.

RETAINED POWER OPERATION
- Retained power operation is an additional power supply function that enables the sunroof system to operate during 45 seconds, even when ignition switch is turned OFF.

Retained power function cancel conditions
- Door CLOSE (door switch OFF)→OPEN (door switch ON).

- When ignition switch is ON again.
- When timer time passes (45 seconds).

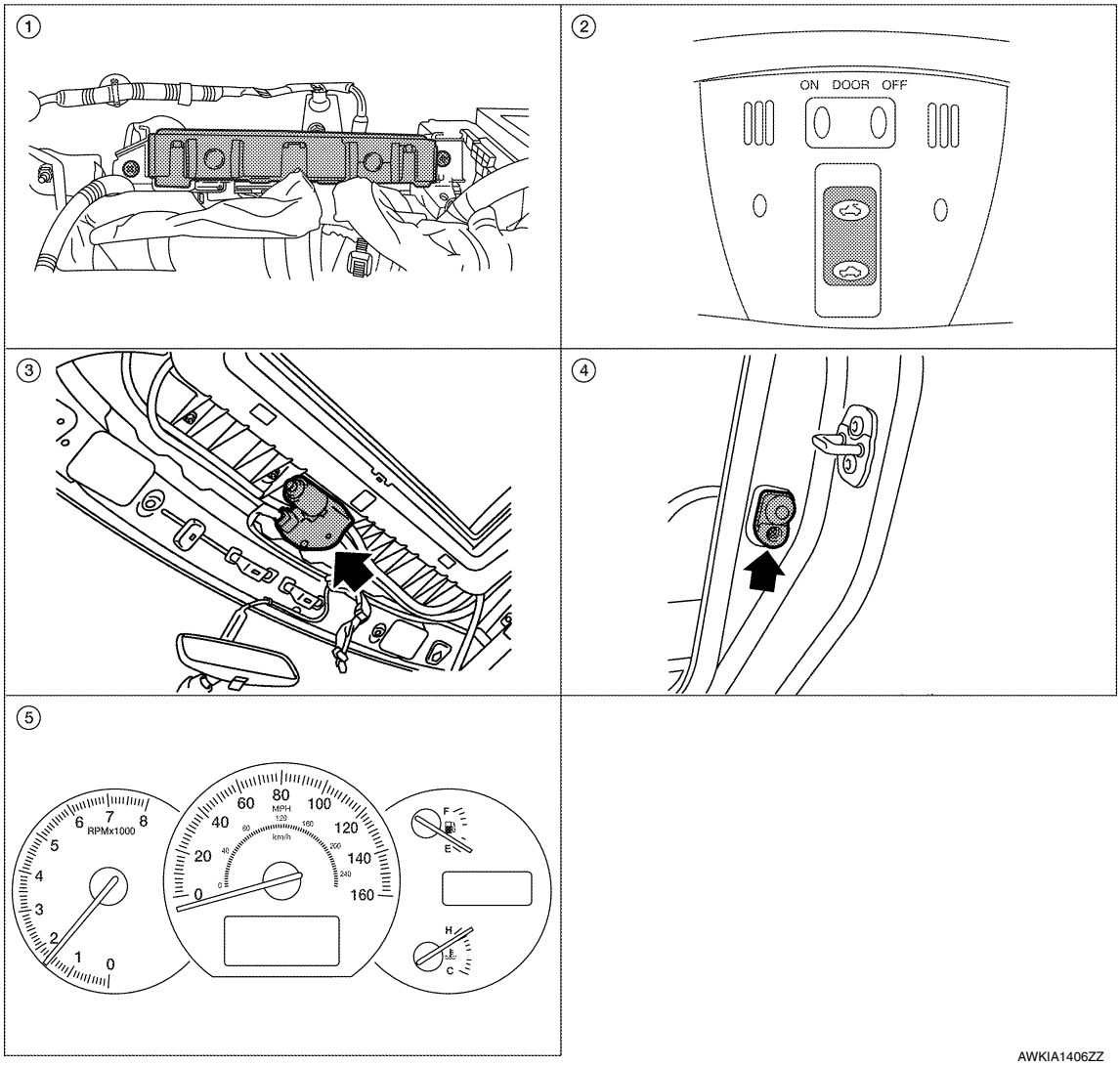
ANTI-PINCH FUNCTION

The CPU of sunroof motor assembly monitors the sunroof motor operation and the sunroof position (fully-closed or other) by the signals from sunroof motor.
When sunroof motor detects an interruption during the following slide close and tilt down operation, sunroof switch controls the motor for open and the sunroof will operate until full up position (when tilt down operates) or 150 mm (5.91 in) or more in an open direction (when slide close operates):

- close operation and tilt down when ignition switch is in the “ON” position

Component Parts Location

INFOID:0000000009465664



AWKIA1406ZZ

1. BCM M16, M17, M18 (view with instrument panel removed)
2. Sunroof switch R6
3. Sunroof motor assembly R5
4. Front door switch LH B8, RH B108
5. Combination meter M24

Component Description

INFOID:0000000009465665

Component	Function
BCM	Supplies the power supply to sunroof motor assembly.
Sunroof switch	Transmits tilt up/down & slides open/close operation signal to sunroof motor assembly.

Component	Function
Sunroof motor assembly	It is sunroof motor and CPU integrated type that enables tilt up/down & slide open/close by sunroof switch operation
Front door switch	Detects door open/close condition and transmits to BCM.
Combination meter	Transmits vehicle speed signal to sunroof motor assembly.

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010044836

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
ECU Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION
BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Intelligent Key system	INTELLIGENT KEY			×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Trunk open	TRUNK			×	×			
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000010044837

DATA MONITOR

Monitor Item [Unit]	Description
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:0000000010064717

Regarding Wiring Diagram information, refer to BCS-67, "Wiring Diagram".

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuses or fusible link are blown.

Terminal No.	Signal name	Fuse and fusible link No.
1	Battery power supply	H
11		10
24		7

Is the fuse or fusible link blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM.
3. Check voltage between BCM harness connector and ground.

Terminals			Voltage (Approx.)
(+)		(–)	
BCM		Ground	
Connector	Terminal		
M16	1		Battery voltage
M17	11		
M18	24		

Is the measurement normal?

YES >> GO TO 3
NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M17	13		Yes

Does continuity exist?

YES >> Inspection End.
NO >> Repair or replace harness.

SUNROOF MOTOR ASSEMBLY

SUNROOF MOTOR ASSEMBLY : Description

INFOID:0000000009465669

- BCM supplies power.

- CPU is integrated in sunroof motor assembly.
- Tilts up/down & slides open/close by sunroof switch operation.
- In order to close sunroof lid certainly with the signal from combination meter at the time of high speed run, the sunroof motor torque at the time of tilt-down operation is controlled.

SUNROOF MOTOR ASSEMBLY : Component Function Check

INFOID:0000000009465670

1. CHECK SUNROOF MOTOR FUNCTION

Do tilt up/down & slide open/close functions operate normally with sunroof switch?

Is the inspection result normal?

YES >> Sunroof motor assembly is OK.
NO >> Refer to RF-14, "SUNROOF MOTOR ASSEMBLY : Diagnosis Procedure".

SUNROOF MOTOR ASSEMBLY : Diagnosis Procedure

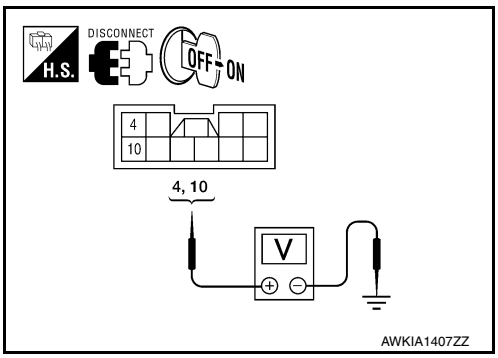
INFOID:0000000009465671

Regarding Wiring Diagram information, refer to RF-49, "Wiring Diagram".

SUNROOF MOTOR ASSEMBLY

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sunroof motor assembly.
3. Turn ignition switch ON.
4. Check voltage between sunroof motor assembly connector and ground.



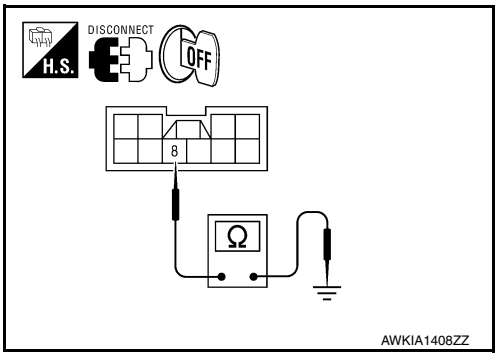
Terminal			Voltage (V) (Approx.)
(+)		(–)	
Sunroof motor assembly connector	Terminal		
R5	4	Ground	Battery voltage
	10		

Is the measurement value within the specification?

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

2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between sunroof motor assembly connector and ground.



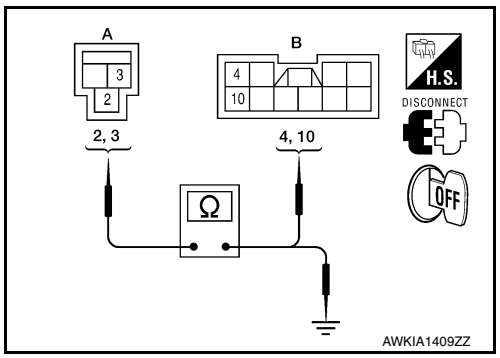
Sunroof motor assembly connector	Terminal	Ground	Continuity
R5	8		Yes

Is the inspection result normal?

YES >> GO TO 5
NO >> Repair or replace harness.

3. CHECK SUNROOF MOTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM.
3. Check continuity between BCM connector (A) and sunroof motor assembly connector (B).



BCM connector	Terminal	Sunroof motor assembly connector	Terminal	Continuity
M16 (A)	2	R5 (B)	10	Yes
	3		4	

4. Check continuity between BCM connector (A) and ground.

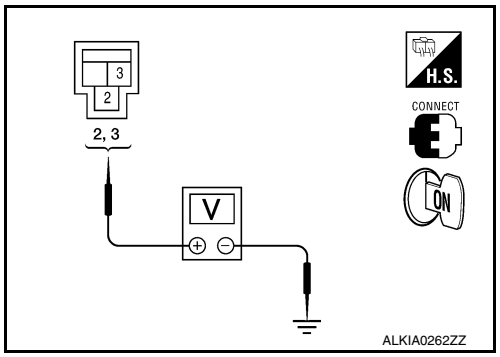
BCM connector	Terminal	Ground	Continuity
M16 (A)	2		No
	3		

Is the inspection result normal?

YES >> GO TO 4
NO >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between BCM connector and ground.



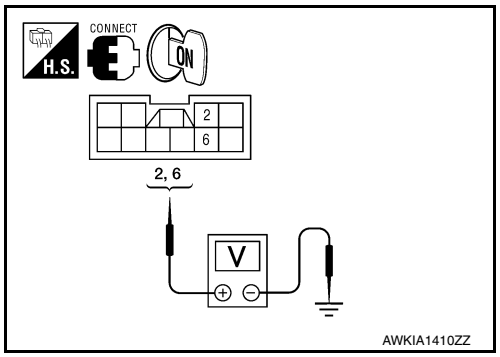
Terminals			Voltage (V) (Approx.)
(+)		(–)	
BCM connector	Terminal		
M16	2	Ground	Battery voltage
	3		

Is the measurement value within the specification?

YES >> Check condition of harness and connector.
NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

5. CHECK SUNROOF SWITCH INPUT SIGNAL

1. Connect sunroof motor assembly.
2. Turn ignition switch ON.
3. Check voltage between sunroof motor assembly connector and ground.



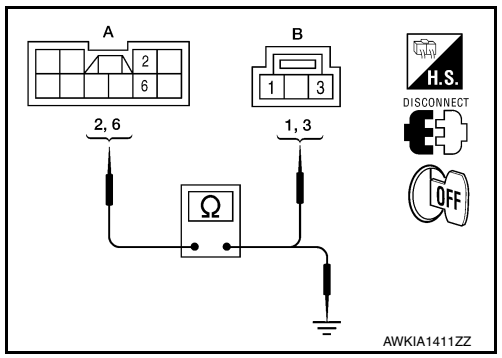
Sunroof motor assembly connector	Terminals (+)	Terminals (–)	Condition	Voltage (V) (Approx.)
R5	6	Ground	Sunroof switch is operated TILT DOWN or SLIDE OPEN	0
			Other than above	Battery voltage
	2		Sunroof switch is operated TILT UP or SLIDE CLOSE	0
			Other than above	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 8
NO >> GO TO 6

6. CHECK SUNROOF SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sunroof motor assembly and sunroof switch.
3. Check continuity between sunroof motor assembly connector (A) and sunroof switch connector (B).



Sunroof motor assembly connector	Terminal	Sunroof switch connector	Terminal	Continuity
R5 (A)	6	R6 (B)	1	Yes
	2		3	

4. Check continuity between sunroof motor assembly connector (A) and ground.

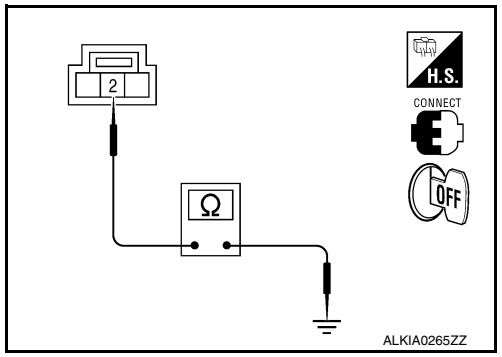
Sunroof motor assembly connector	Terminal	Ground	Continuity
R5 (A)	6		No
	2		

Is the inspection result normal?

YES >> GO TO 7
NO >> Repair or replace harness.

7. CHECK SUNROOF SWITCH GROUND CIRCUIT

1. Connect sunroof motor assembly.
2. Check continuity between sunroof switch connector and ground.



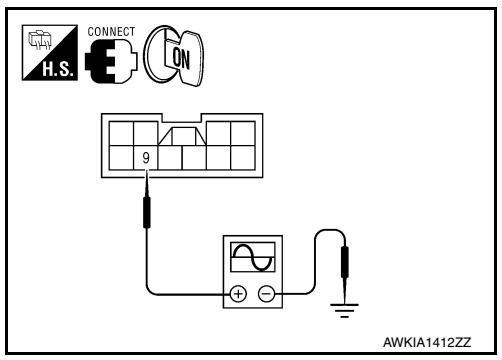
Sunroof switch connector	Terminal	Ground	Continuity
R6	2		Yes

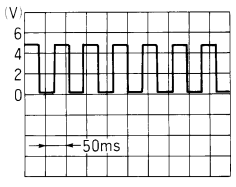
Is the inspection result normal?

YES >> Refer to RF-17, "SUNROOF MOTOR ASSEMBLY : Component Inspection".
NO >> Repair or replace harness.

8. CHECK COMBINATION METER SIGNAL

1. Connect sunroof motor assembly.
2. Turn ignition switch ON.
3. Check signal between sunroof motor assembly connector and ground with oscilloscope.



Terminals			Condition	Signal (Reference value)
(+)		(-)		
Sunroof motor assembly connector	Terminal			
R5	9	Ground	Speedometer operated [When vehicle speed is approx.40km/h (25MPH)]	

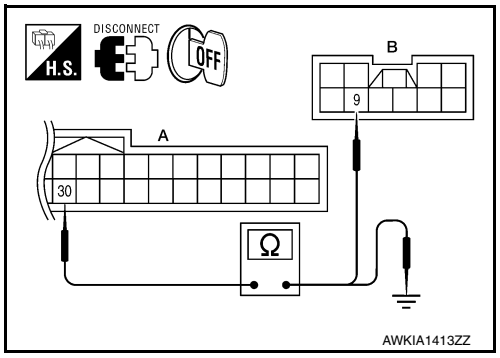
Is the inspection result normal?

YES >> Replace sunroof motor assembly. Refer to RF-72, "Removal and Installation". After that, refer to RF-7, "BASIC INSPECTION : Special Repair Requirement".

NO >> GO TO 9

9. CHECK COMBINATION METER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter.
3. Check continuity between combination meter connector (A) and sunroof motor assembly connector (B).



Combination meter connector	Terminal	Sunroof motor assembly connector	Terminal	Continuity
M24 (A)	30	R5 (B)	9	Yes

4. Check continuity between combination meter connector (A) and ground.

Combination meter connector	Terminal	Ground	Continuity
M24 (A)	30		No

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-122, "Removal and Installation".
NO >> Repair or replace harness.

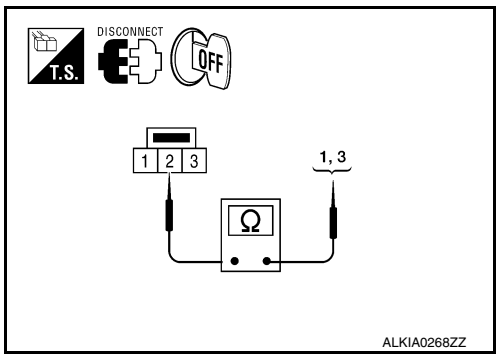
SUNROOF MOTOR ASSEMBLY : Component Inspection

INFOID:0000000009465672

SUNROOF SWITCH

1. CHECK SUNROOF SWITCH

1. Turn ignition switch OFF.
2. Disconnect sunroof switch.
3. Check continuity between sunroof switch terminals.



Terminals		Condition	Continuity
1	2	Sunroof switch is operated TILT DOWN or SLIDE OPEN	Yes
		Other than above	No
3		Sunroof switch is operated TILT UP or SLIDE CLOSE	Yes
		Other than above	No

Is the inspection result normal?

YES >> Sunroof switch is OK.
NO >> Replace sunroof switch (map lamp assembly). Refer to INL-84, "Removal and Installation".

SUNROOF MOTOR ASSEMBLY : Special Repair Requirement

INFOID:0000000009465673

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to RF-7, "BASIC INSPECTION : Special Repair Requirement".

>> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.
Refer to RF-7, "BASIC INSPECTION : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.
NO >> Check fitting adjustment. Refer to RF-68, "Inspection".

DOOR SWITCH

Description

INFOID:0000000009465674

Detects door open/close condition.

Component Function Check

INFOID:0000000009465675

1.CHECK FUNCTION

With CONSULT

Check door switches DOOR SW-DR, DOOR SW-AS in Data Monitor mode with CONSULT.

Monitor item	Condition
DOOR SW-DR	CLOSE → OPEN: OFF → ON
DOOR SW-AS	

Is the inspection result normal?

YES >> Door switch is OK.
NO >> Refer to RF-19, "Diagnosis Procedure".

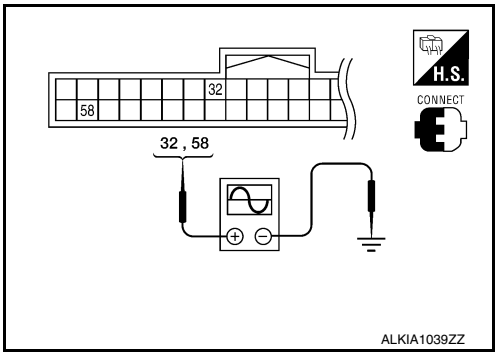
Diagnosis Procedure

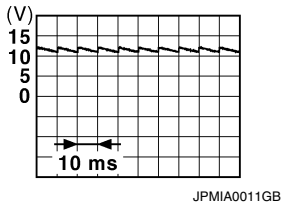
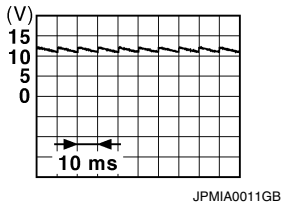
INFOID:0000000009465676

Regarding Wiring Diagram information, refer to RF-49, "Wiring Diagram".

1.CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check signal between BCM connector and ground with oscilloscope.



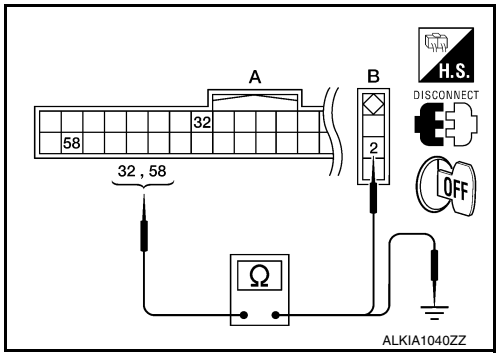
Terminals (+) BCM connector	Terminals (+) Terminal	Terminals (–)	Door condition		Voltage (V) (Approx.)
M18	58	Ground	Driver side	OPEN	0
				CLOSE	 JPMIA0011GB
	32		Passenger side	OPEN	0
				CLOSE	 JPMIA0011GB

Is the inspection result normal?

YES >> GO TO 4
NO >> GO TO 2

2.CHECK DOOR SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM connector and door switch connector.



BCM connector	Terminal	Door switch connector	Terminal	Continuity
A: M18	58	B: B8 (Driver side)	2	Yes
	32	B: B108 (Passenger side)		

3. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
A: M18	58		No
	32		

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair or replace harness between BCM and door switch.

3.CHECK DOOR SWITCH

Refer to RF-21, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4
NO >> Replace malfunctioning door switch.

4.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

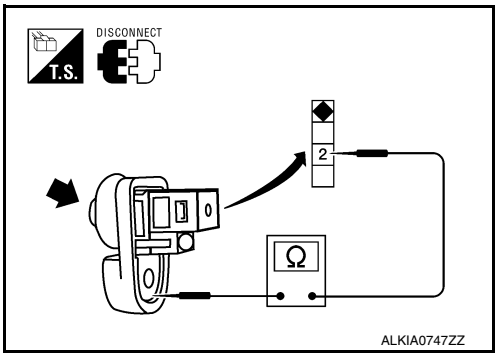
>> Inspection End.

Component Inspection

INFOID:0000000009465677

1.CHECK DOOR SWITCH

1. Turn ignition switch OFF.
2. Disconnect door switch connector.
3. Check door switch.



Terminal		Door switch condition	Continuity
Door switch			
2	Ground part of door switch	Pressed	No
		Released	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace malfunctioning door switch.

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000010065080

NOTE:
The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- Check Intelligent Key relative signal strength
- Confirm vehicle Intelligent Key antenna signal strength

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	OFF
	Front wiper switch HI	ON
FR WIPER LOW	Other than front wiper switch LO	OFF
	Front wiper switch LO	ON
FR WASHER SW	Front washer switch OFF	OFF
	Front washer switch ON	ON
FR WIPER INT	Other than front wiper switch INT	OFF
	Front wiper switch INT	ON
FR WIPER STOP	Front wiper is not in STOP position	OFF
	Front wiper is in STOP position	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
TURN SIGNAL R	Other than turn signal switch RH	OFF
	Turn signal switch RH	ON
TURN SIGNAL L	Other than turn signal switch LH	OFF
	Turn signal switch LH	ON
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	OFF
	Lighting switch 1ST or 2ND	ON
HI BEAM SW	Other than lighting switch HI	OFF
	Lighting switch HI	ON
HEAD LAMP SW 1	Other than lighting switch 2ND	OFF
	Lighting switch 2ND	ON
HEAD LAMP SW 2	Other than lighting switch 2ND	OFF
	Lighting switch 2ND	ON
PASSING SW	Other than lighting switch PASS	OFF
	Lighting switch PASS	ON
AUTO LIGHT SW	Other than lighting switch AUTO	OFF
	Lighting switch AUTO	ON
FR FOG SW	Front fog lamp switch OFF	OFF
	Front fog lamp switch ON	ON
DOOR SW-DR	Driver door closed	OFF
	Driver door opened	ON

Monitor Item	Condition	Value/Status
DOOR SW-AS	Passenger door closed	OFF
	Passenger door opened	ON
DOOR SW-RR	Rear door RH closed	OFF
	Rear door RH opened	ON
DOOR SW-RL	Rear door LH closed	OFF
	Rear door LH opened	ON
DOOR SW-BK	Trunk door closed	OFF
	Trunk door opened	ON
CDL LOCK SW	Other than power door lock switch LOCK	OFF
	Power door lock switch LOCK	ON
CDL UNLOCK SW	Other than power door lock switch UNLOCK	OFF
	Power door lock switch UNLOCK	ON
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	OFF
	Driver door key cylinder LOCK position	ON
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF
	Driver door key cylinder UNLOCK position	ON
HAZARD SW	When hazard switch is not pressed	OFF
	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
TR CANCEL SW	Trunk lid opener cancel switch OFF	OFF
	Trunk lid opener cancel switch ON	ON
TR/BD OPEN SW	Trunk lid opener switch OFF	OFF
	While the trunk lid opener switch is turned ON	ON
TRNK/HAT MNTR	Trunk lid closed	OFF
	Trunk lid opened	ON
RKE-LOCK	When LOCK button of Intelligent Key is not pressed	OFF
	When LOCK button of Intelligent Key is pressed	ON
RKE-UNLOCK	When UNLOCK button of Intelligent Key is not pressed	OFF
	When UNLOCK button of Intelligent Key is pressed	ON
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
	When TRUNK OPEN button of Intelligent Key is pressed	ON
RKE-PANIC	When PANIC button of Intelligent Key is not pressed	OFF
	When PANIC button of Intelligent Key is pressed	ON
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is not pressed and held	OFF
	When UNLOCK button of Intelligent Key is pressed and held	ON
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
OPTICAL SENSOR	When outside of the vehicle is bright	Close to 5 V
	When outside of the vehicle is dark	Close to 0 V
REQ SW -DR	When front door request switch is not pressed (driver side)	OFF
	When front door request switch is pressed (driver side)	ON
REQ SW -AS	When front door request switch is not pressed (passenger side)	OFF
	When front door request switch is pressed (passenger side)	ON

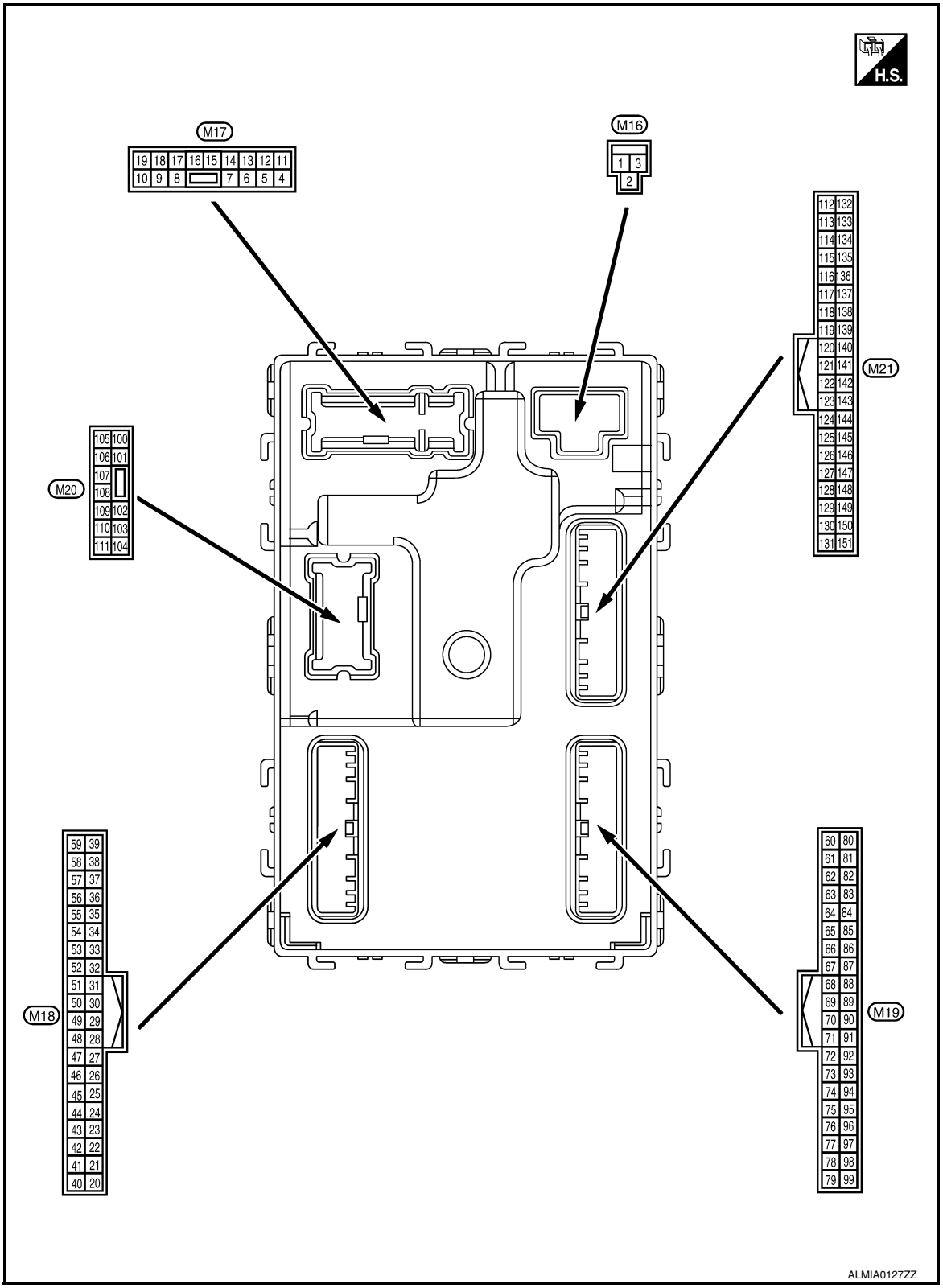
Monitor Item	Condition	Value/Status
REQ SW -RL	When rear door request switch is not pressed (driver side)	OFF
	When rear door request switch is pressed (driver side)	ON
REQ SW -RR	When rear door request switch is not pressed (passenger side)	OFF
	When rear door request switch is pressed (passenger side)	ON
REQ SW -BD/TR	When trunk opener request switch is not pressed	OFF
	When trunk opener request switch is pressed	ON
PUSH SW	When engine switch (push switch) is not pressed	OFF
	When engine switch (push switch) is pressed	ON
IGN RLY2 -F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
ACC RLY -F/B	Ignition switch OFF	OFF
	Ignition switch ACC or ON	ON
BRAKE SW 1	When the brake pedal is not depressed	ON
	When the brake pedal is depressed	OFF
DETE/CANCL SW	When selector lever is in P position	OFF
	When selector lever is in any position other than P	ON
SFT PN/N SW	When selector lever is in any position other than P or N	OFF
	When selector lever is in P or N position	ON
UNLK SEN -DR	Driver door UNLOCK status	OFF
	Driver door LOCK status	ON
PUSH SW -IPDM	When engine switch (push switch) is not pressed	OFF
	When engine switch (push switch) is pressed	ON
IGN RLY1 -F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
DETE SW -IPDM	When selector lever is in P position	OFF
	When selector lever is in any position other than P	ON
SFT PN -IPDM	When selector lever is in any position other than P or N	OFF
	When selector lever is in P or N position	ON
SFT P -MET	When selector lever is in any position other than P	OFF
	When selector lever is in P position	ON
SFT N -MET	When selector lever is in any position other than N	OFF
	When selector lever is in N position	ON
ENGINE STATE	Engine stopped	STOP
	While the engine stalls	STALL
	At engine cranking	CRANK
	Engine running	RUN
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
DOOR STAT-DR	Driver door LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door UNLOCK status	UNLK
DOOR STAT-AS	Passenger door LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door UNLOCK status	UNLK

Monitor Item	Condition	Value/Status
ID OK FLAG	Ignition switch ACC or ON	RESET
	Ignition switch OFF	SET
PRMT ENG STRT	When the engine start is prohibited	RESET
	When the engine start is permitted	SET
KEY SW -SLOT	When Intelligent Key is not inserted into key slot	OFF
	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
CONFRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	YET
	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE
TP 4	The ID of fourth key is not registered to BCM	YET
	The ID of fourth key is registered to BCM	DONE
TP 3	The ID of third key is not registered to BCM	YET
	The ID of third key is registered to BCM	DONE
TP 2	The ID of second key is not registered to BCM	YET
	The ID of second key is registered to BCM	DONE
TP 1	The ID of first key is not registered to BCM	YET
	The ID of first key is registered to BCM	DONE
AIR PRESS FL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	When ID of front LH tire transmitter is registered	DONE
	When ID of front LH tire transmitter is not registered	YET
ID REGST FR1	When ID of front RH tire transmitter is registered	DONE
	When ID of front RH tire transmitter is not registered	YET
ID REGST RR1	When ID of rear RH tire transmitter is registered	DONE
	When ID of rear RH tire transmitter is not registered	YET

Monitor Item	Condition	Value/Status
ID REGST RL1	When ID of rear LH tire transmitter is registered	DONE
	When ID of rear LH tire transmitter is not registered	YET
WARNING LAMP	Tire pressure indicator OFF	OFF
	Tire pressure indicator ON	ON
BUZZER	Tire pressure warning alarm is not sounding	OFF
	Tire pressure warning alarm is sounding	ON

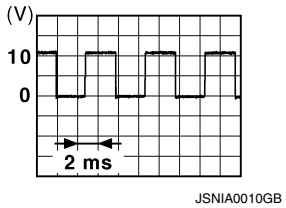
Terminal Layout

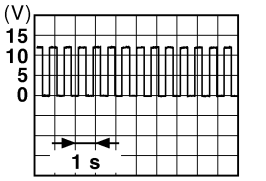
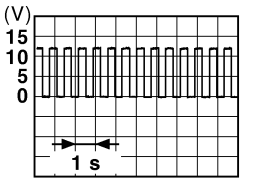
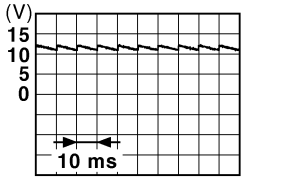
INFOID:0000000010065081

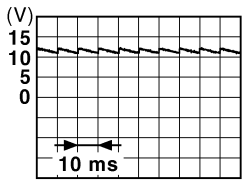
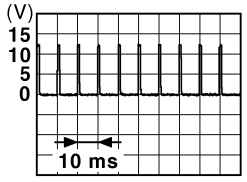
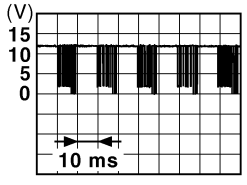


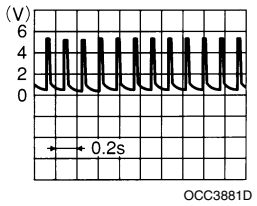
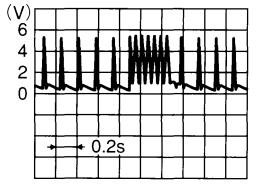
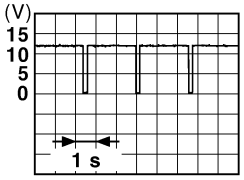
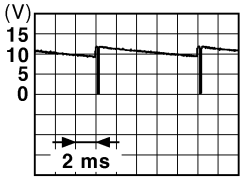
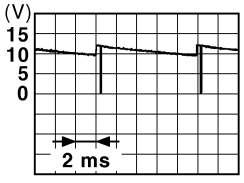
Physical Values

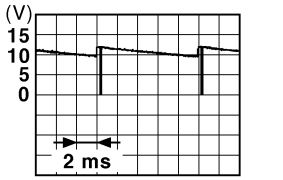
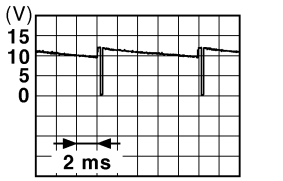
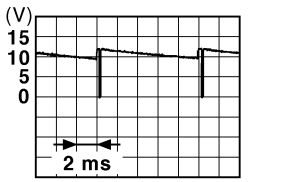
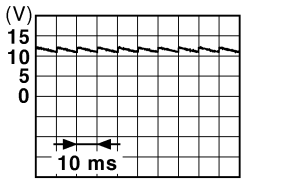
INFOID:0000000010065082

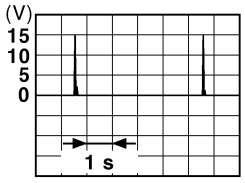
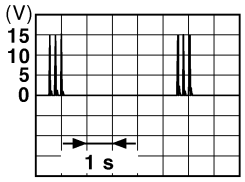
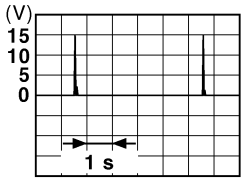
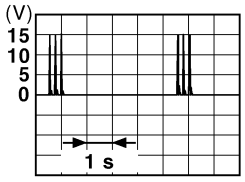
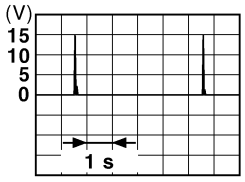
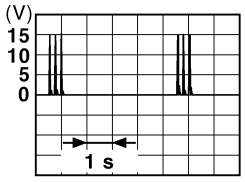
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OFF		Battery voltage
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage
4 (P/W)	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0V
				Any other time after passing the interior room lamp battery saver operation time		Battery voltage
5 (G)	Ground	Front door RH UNLOCK	Output	Front door RH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
7 (R/W)	Ground	Step lamp	Output	Step lamp	ON	0V
					OFF	Battery voltage
8 (V)	Ground	All doors LOCK	Output	All doors	LOCK (actuator is activated)	Battery voltage
					Other than LOCK (actuator is not activated)	0V
9 (L)	Ground	Front door LH UNLOCK	Output	Front door LH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
10 (G)	Ground	Rear door RH and rear door LH UNLOCK	Output	Rear door RH and rear door LH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
13 (B)	Ground	Ground	—	Ignition switch ON		0V
14 (GR/ W)	Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	OFF	0V
					ON	**NOTE:** When the illumination brightening/dimming level is in the neutral position  JSNIA0010GB
15 (Y/L)	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage
					ACC or ON	0V

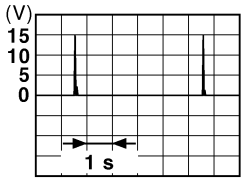
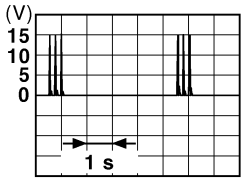
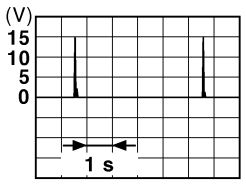
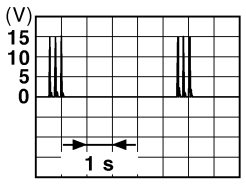
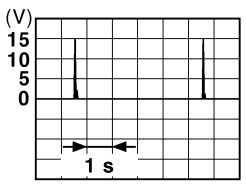
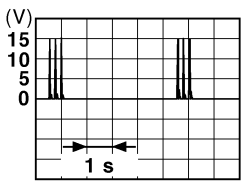
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch RH	 PKID0926E 6.5 V
18 (G/Y)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch LH	 PKID0926E 6.5 V
19 (Y)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	Battery voltage
					ON	0V
21 (P/B)	Ground	Optical sensor signal	Input	Ignition switch ON	When outside of the vehicle is bright	Close to 5V
					When outside of the vehicle is dark	Close to 0V
24 (R/W)	Ground	Stop lamp switch 1	Input	—		Battery voltage
26 (O/L)	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (brake pedal is released)	0V
					ON (brake pedal is depressed)	Battery voltage
27 (O)	Ground	Front door lock assembly LH (unlock sensor)	Input	Front door LH	LOCK status	 JPMIA0011GB 11.8V
					UNLOCK status	0V
29 (Y)	Ground	Key slot switch	Input	When Intelligent Key is inserted into key slot		Battery voltage
				When Intelligent Key is not inserted into key slot		0V
31 (G)	Ground	Rear window defogger feedback signal	Input	Rear window defogger switch	OFF	0V
					ON	Battery voltage

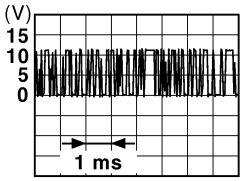
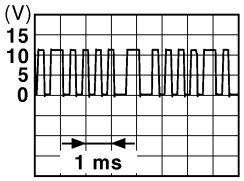
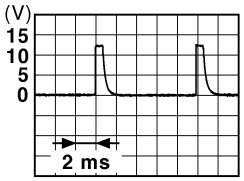
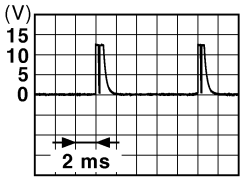
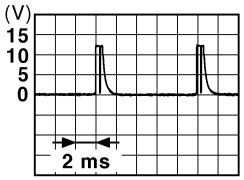
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	 JPMIA0011GB 11.8 V
					ON (when front door RH opens)	0V
37 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	CANCEL	 JPMIA0012GB 1.1V
					ON	0V
38 (GR/ W)	Ground	Rear window defogger ON signal	Input	Rear window defogger switch	OFF	5V
					ON	0V
40 (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON		 JPMIA0013GB 10.2V
				Ignition switch OFF or ACC		0V
41 (W)	Ground	Engine switch (push switch) illumination	Output	Engine switch (push switch) illumination	ON	5.5V
					OFF	0V
42 (R)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON	0V
					OFF	Battery voltage
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON		0V
46 (V/W)	Ground	Receiver & sensor power supply output	Output	Ignition switch	OFF	0V
					ACC or ON	5.0V

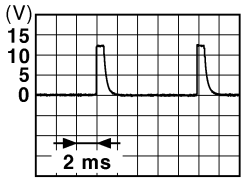
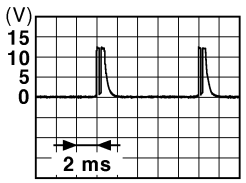
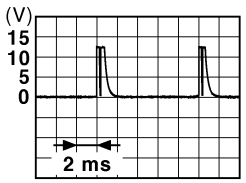
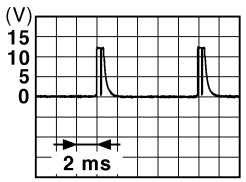
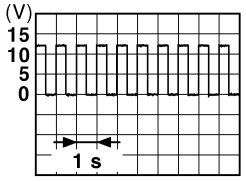
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
47 (G/O)	Ground	Tire pressure receiver signal	Input/ Output	Ignition switch ON	Standby state	 OCC3881D
					When receiving the signal from the transmitter	 OCC3880D
48 (R/G)	Ground	Selector lever transmission range switch signal	Input	Selector lever	P or N position	12.0V
					Except P and N positions	0V
49 (L/O)	Ground	Security indicator signal	Output	Security indicator	ON	0V
					Blinking	 JPMIA0014GB 11.3V
					OFF	Battery voltage
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Lighting switch 1ST	 JPMIA0031GB 10.7V
					Lighting switch high-beam	
					Lighting switch 2ND	
					Turn signal switch RH	
51 (L/W)	Ground	Combination switch OUTPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front wiper switch HI (Wiper intermittent dial 4)	 JPMIA0032GB 10.7V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • WIper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	

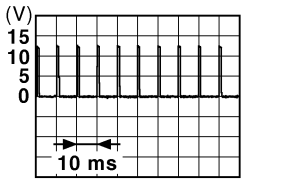
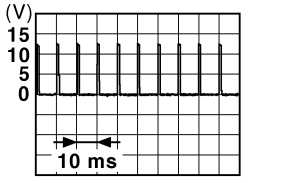
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
52 (G/B)	Ground	Combination switch OUTPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front washer switch ON (Wiper intermittent dial 4)	 JPMIA0033GB 10.7V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • WIper intermittent dial 5 • Wiper intermittent dial 6	
53 (LG/ R)	Ground	Combination switch OUTPUT 3	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Front wiper switch INT	 JPMIA0034GB 10.7V
					Front wiper switch LO	
					Lighting switch AUTO	
54 (G/Y)	Ground	Combination switch OUTPUT 4	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Front fog lamp switch ON	 JPMIA0035GB 10.7V
					Lighting switch 2ND	
					Lighting switch flash-to-pass	
					Turn signal switch LH	
57 (W)	Ground	Tire pressure warning check switch	Input	—		5V
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	 JPMIA0011GB 11.8V
					ON (front door LH OPEN)	0V
59 (G/R)	Ground	Rear window defogger relay	Output	Rear window defogger	Active	Battery voltage
					Not activated	0V

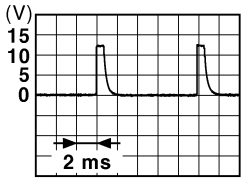
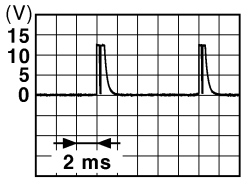
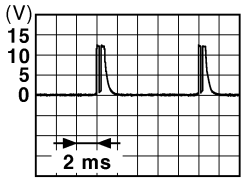
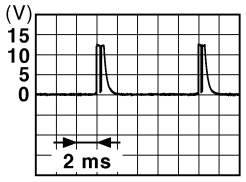
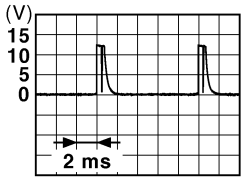
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
60 (B/R)	Ground	Front console antenna 2 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
61 (W/R)	Ground	Center console antenna 2 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
62 (V)	Ground	Front outside handle RH antenna (-)	Output	When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB

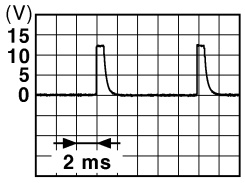
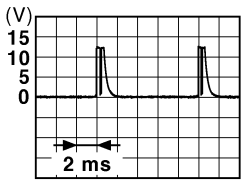
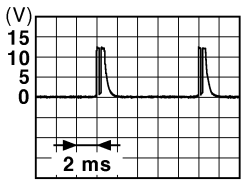
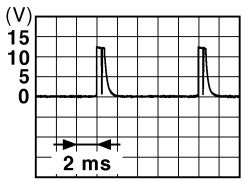
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
63 (P)	Ground	Front outside handle RH antenna (+)	Output	When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
64 (V)	Ground	Front outside handle LH antenna (-)	Output	When the front door LH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
65 (P)	Ground	Front outside handle LH antenna (+)	Output	When the front door LH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB

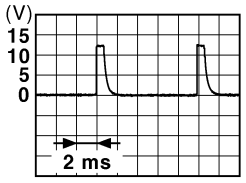
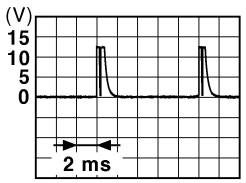
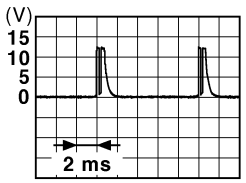
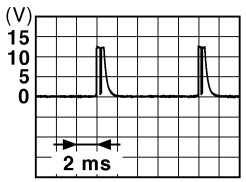
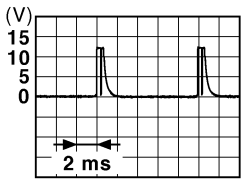
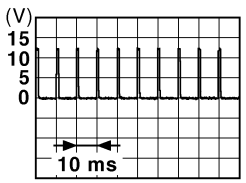
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
70 (R/B)	Ground	Ignition relay-2 control	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
71 (L/O)	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		 JMKIA0064GB
				When operating either button on Intelligent Key		 JMKIA0065GB
75 (R/Y)	Ground	Combination switch INPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Front fog lamp switch ON (Wiper intermittent dial 4)	 JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	 JPMIA0040GB 1.3V

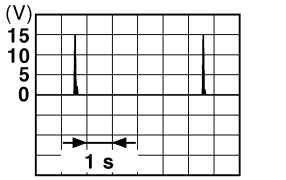
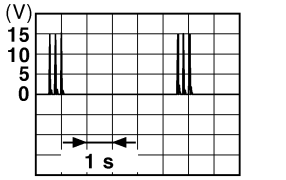
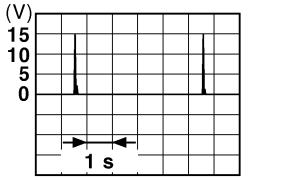
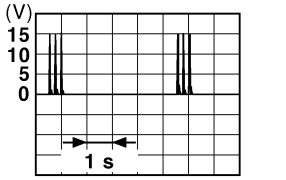
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
76 (R/G)	Ground	Combination switch INPUT 3	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch high-beam (Wiper intermittent dial 4)	 JPMIA0036GB 1.3V
					Lighting switch 2ND (Wiper intermittent dial 4)	 JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	 JPMIA0040GB 1.3V
78 (P)	Ground	CAN-L	Input/ Output	—		—
79 (L)	Ground	CAN-H	Input/ Output	—		—
80 (R/L)	Ground	Key slot illumination	Output	Key slot illumination	OFF	Battery voltage
					Blinking	 JPMIA0015GB 6.5V
					ON	0V
81 (LG)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage

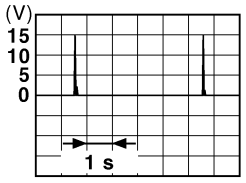
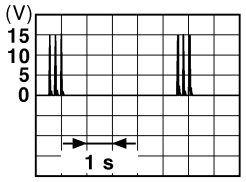
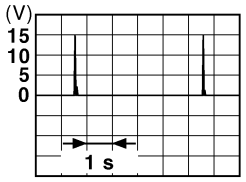
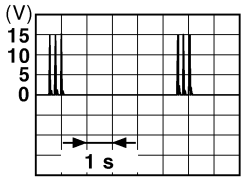
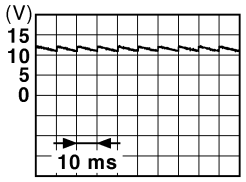
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
83 (L)	Ground	ACC relay control	Output	Ignition switch	OFF	0V
					ACC or ON	Battery voltage
84 (Y/R)	Ground	CVT shift selector	Output	—		Battery voltage
87 (G/B)	Ground	Selector lever P position switch	Input	Selector lever	P position	0V
					Any position other than P	Battery voltage
88 (R)	Ground	Front door RH request switch	Input	Front door RH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
89 (R)	Ground	Front door LH request switch	Input	Front door LH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
90 (Y)	Ground	Blower fan motor relay control	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		Battery voltage

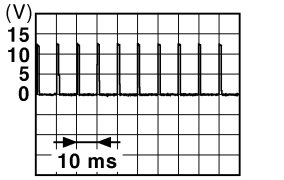
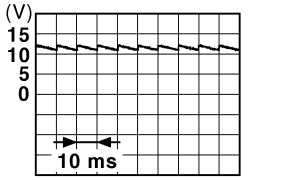
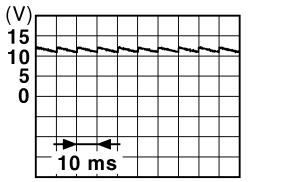
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
95 (R/W)	Ground	Combination switch INPUT 1	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0041GB 1.4V
					Turn signal switch LH	 JPMIA0037GB 1.3V
					Turn signal switch RH	 JPMIA0036GB 1.3V
					Front wiper switch LO	 JPMIA0038GB 1.3V
					Front washer switch ON	 JPMIA0039GB 1.3V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
96 (P/B)	Ground	Combination switch INPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch AUTO (Wiper intermittent dial 4)	 JPMIA0038GB 1.3V
					Lighting switch 1ST (Wiper intermittent dial 4)	 JPMIA0036GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	 JPMIA0039GB 1.3V

Terminal No. (Wire color) (+)	Terminal No. (Wire color) (-)	Description Signal name	Description Input/ Output	Condition		Value (Approx.)
97 (R/B)	Ground	Combination switch INPUT 2	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0041GB 1.4V
					Lighting switch flash-to-pass	 JPMIA0037GB 1.3V
					Lighting switch 2ND	 JPMIA0036GB 1.3V
					Front wiper switch INT	 JPMIA0038GB 1.3V
					Front wiper switch HI	 JPMIA0040GB 1.3V
98 (G/O)	Ground	Hazard switch	Input	Hazard switch	Pressed	0 V
					Not pressed	 JPMIA0012GB 1.1V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
103 (V)	Ground	Trunk lid opening.	Output	Trunk lid	Open (trunk lid opener actuator is activated)	Battery voltage
					Close (trunk lid opener actuator is not activated)	0V
110 (V/W)	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V
					OFF	Battery voltage
114 (B)	Ground	Trunk room antenna 1 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
115 (W)	Ground	Trunk room antenna 1 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
118 (L/O)	Ground	Rear bumper antenna (-)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
119 (BR/ W)	Ground	Rear bumper antenna (+)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
127 (BR/ W)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0V
130 (W)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	 JPMIA0011GB 11.8V
					ON (trunk is open)	0V
132 (R)	Ground	Starter motor relay control	Output	Ignition switch ON	When selector lever is in P or N position and the brake is depressed	Battery voltage
					When selector lever is in P or N position and the brake is not depressed	0V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
140 (BR)	Ground	Engine switch (push switch)	Input	Engine switch (push switch)	Pressed	0V
					Not pressed	Battery voltage
141 (BR)	Ground	Trunk opener request switch	Input	Trunk opener request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
144 (GR)	Ground	Request switch buzzer	Output	Request switch buzzer	Sounding	0V
					Not sounding	Battery voltage
147 (L/R)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Pressed	0V
					Not pressed	Battery voltage
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	 JPMIA0011GB 11.8V
					ON (when rear door RH opens)	0V
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	 JPMIA0011GB 11.8V
					ON (when rear door LH opens)	0V

Fail Safe

INFOID:0000000010065083

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Erase DTC
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Starter control relay signal • Starter relay status signal

Display contents of CONSULT	Fail-safe	Cancellation
B2562: LO VOLTAGE	Inhibit engine cranking	100 ms after the power supply voltage increases to more than 8.8 V
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent • Starter motor relay control signal • Starter relay status signal (CAN)
B260A: IGNITION RELAY	Inhibit engine cranking	500 ms after the following conditions are fulfilled • IGN relay (IPDM E/R) control signal: OFF (Battery voltage) • Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) • Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilled • Power position changes to ACC • Receives engine status signal (CAN)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions are fulfilled • Power position changes to ACC • Receives engine status signal (CAN)

DTC Inspection Priority Chart

INFOID:0000000010065084

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	• B2562: LO VOLTAGE
2	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	• B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM
4	• B2553: IGNITION RELAY • B2555: STOP LAMP • B2556: PUSH-BTN IGN SW • B2557: VEHICLE SPEED • B2560: STARTER CONT RELAY • B2601: SHIFT POSITION • B2602: SHIFT POSITION • B2603: SHIFT POSI STATUS • B2604: PNP SWITCH • B2605: PNP SWITCH • B2608: STARTER RELAY • B260A: IGNITION RELAY • B260F: ENG STATE SIG LOST • B2614: ACC RELAY CIRC • B2615: BLOWER RELAY CIRC • B2616: IGN RELAY CIRC • B2617: STARTER RELAY CIRC • B2618: BCM • B261A: PUSH-BTN IGN SW • B26E1: ENG STATE NO RECIV • C1729: VHCL SPEED SIG ERR • U0415: VEHICLE SPEED SIG

Priority	DTC
5	• C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL • C1734: CONTROL UNIT
6	• B2622: INSIDE ANTENNA • B2623: INSIDE ANTENNA

DTC Index

INFOID:0000000010065085

NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	BCS-32
U1010: CONTROL UNIT (CAN)	—	—	—	BCS-33
U0415: VEHICLE SPEED SIG	—	—	—	BCS-34
B2190: NATS ANTENNA AMP	×	—	—	SEC-37
B2191: DIFFERENCE OF KEY	×	—	—	SEC-40
B2192: ID DISCORD BCM-ECM	×	—	—	SEC-41
B2193: CHAIN OF BCM-ECM	×	—	—	SEC-42
B2553: IGNITION RELAY	—	—	—	PCS-46
B2555: STOP LAMP	—	—	—	SEC-43
B2556: PUSH-BTN IGN SW	—	×	—	SEC-46
B2557: VEHICLE SPEED	×	×	—	SEC-48
B2560: STARTER CONT RELAY	×	×	—	SEC-49

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2562: LOW VOLTAGE	—	—	—	BCS-35
B2601: SHIFT POSITION	×	×	—	SEC-50
B2602: SHIFT POSITION	×	×	—	SEC-53
B2603: SHIFT POSI STATUS	×	×	—	SEC-56
B2604: PNP SWITCH	×	×	—	SEC-59
B2605: PNP SWITCH	×	×	—	SEC-61
B2608: STARTER RELAY	×	×	—	SEC-63
B260A: IGNITION RELAY	×	×	—	PCS-48
B260F: ENG STATE SIG LOST	×	×	—	SEC-65
B2614: ACC RELAY CIRC	—	×	—	PCS-50
B2615: BLOWER RELAY CIRC	—	×	—	PCS-53
B2616: IGN RELAY CIRC	—	×	—	PCS-56
B2617: STARTER RELAY CIRC	×	×	—	SEC-67
B2618: BCM	×	×	—	PCS-59
B261A: PUSH-BTN IGN SW	—	×	—	PCS-60
B2622: INSIDE ANTENNA	—	—	—	DLK-60
B2623: INSIDE ANTENNA	—	—	—	DLK-63
B26E1: ENG STATE NO RES	×	×	—	SEC-66
C1704: LOW PRESSURE FL	—	—	×	WT-43
C1705: LOW PRESSURE FR	—	—	×	WT-43
C1706: LOW PRESSURE RR	—	—	×	WT-43
C1707: LOW PRESSURE RL	—	—	×	WT-43
C1708: [NO DATA] FL	—	—	×	WT-13
C1709: [NO DATA] FR	—	—	×	WT-13
C1710: [NO DATA] RR	—	—	×	WT-13
C1711: [NO DATA] RL	—	—	×	WT-13
C1712: [CHECKSUM ERR] FL	—	—	×	WT-15
C1713: [CHECKSUM ERR] FR	—	—	×	WT-15
C1714: [CHECKSUM ERR] RR	—	—	×	WT-15
C1715: [CHECKSUM ERR] RL	—	—	×	WT-15
C1716: [PRESSDATA ERR] FL	—	—	×	WT-17
C1717: [PRESSDATA ERR] FR	—	—	×	WT-17
C1718: [PRESSDATA ERR] RR	—	—	×	WT-17
C1719: [PRESSDATA ERR] RL	—	—	×	WT-17
C1720: [CODE ERR] FL	—	—	×	WT-15
C1721: [CODE ERR] FR	—	—	×	WT-15
C1722: [CODE ERR] RR	—	—	×	WT-15
C1723: [CODE ERR] RL	—	—	×	WT-15
C1724: [BATT VOLT LOW] FL	—	—	×	WT-15
C1725: [BATT VOLT LOW] FR	—	—	×	WT-15
C1726: [BATT VOLT LOW] RR	—	—	×	WT-15
C1727: [BATT VOLT LOW] RL	—	—	×	WT-15

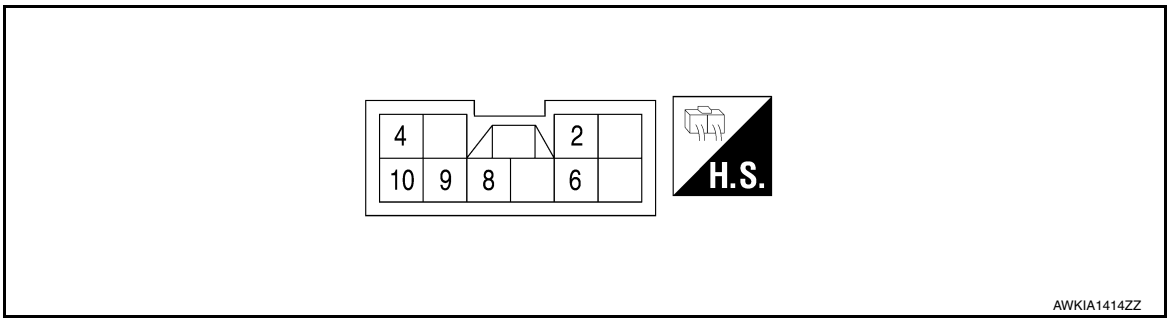
CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1729: VHCL SPEED SIG ERR	—	—	×	WT-19
C1734: CONTROL UNIT	—	—	×	WT-20

SUNROOF MOTOR ASSEMBLY

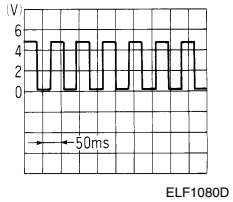
Reference Value

INFOID:0000000009465684

TERMINAL LAYOUT



PHYSICAL VALUES

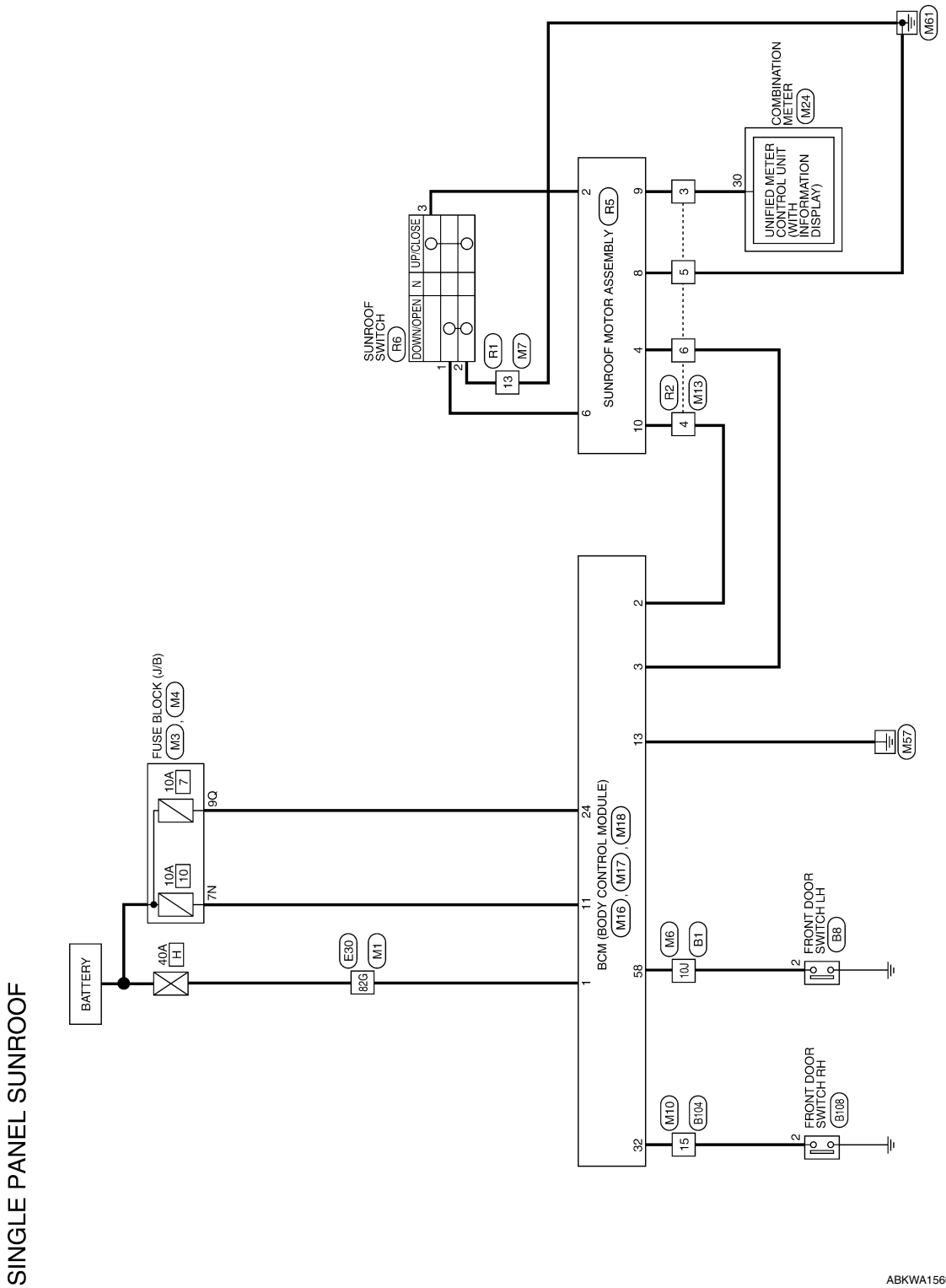
Terminal No. (Wire color)		Description		Condition	Voltage (V)
+	-	Signal name	Input/ Output		
2 (LG)	Ground	Sunroof close switch (BIT 1) signal	Input	Sunroof switch in following position • TILT UP • SLIDE CLOSE	0
				Other than above	Battery voltage
4 (L/W)	Ground	RAP signal	Input	Ignition switch ON	Battery voltage
				Within 45 seconds after ignition switch is turned to OFF.	Battery voltage
				When driver side or passenger side door is opened during retained power operation.	0
6 (Y)	Ground	Sunroof open switch (BIT 0) signal	Input	Sunroof switch in following position • TILT DOWN • SLIDE OPEN	0
				Other than above	Battery voltage
8 (B)	Ground	Ground	—	—	0
9 (L/B)	Ground	Vehicle speed signal (2-pulse)	Input	Speedometer operated [When vehicle speed is approx.40km/ h (25MPH)]	 ELF1080D
10 (R/Y)	Ground	Sunroof power supply	Input	—	Battery voltage

WIRING DIAGRAM

SUNROOF SYSTEM

Wiring Diagram

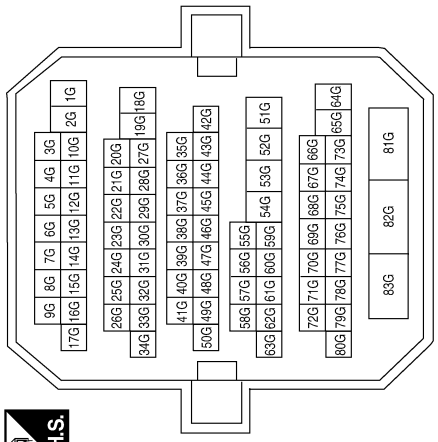
INFOID:0000000009465685



SINGLE PANEL SUNROOF CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

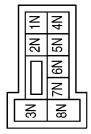
H.S.



Terminal No.	Color of Wire	Signal Name
82G	W/B	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

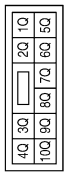
H.S.



Terminal No.	Color of Wire	Signal Name
7N	Y/R	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
9Q	R/W	–

ABKIA2714GB

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
13	B	–

Connector No.	M16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

1	3
2	

Terminal No.	Color of Wire	Signal Name
1	W/B	BATT (F/L)
2	R/Y	P/W POWER SUPPLY PERM
3	L/W	P/W POWER SUPPLY IGN

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

9J	8J	7J	6J	5J	4J	3J		1J
17J	16J	15J	14J	13J	12J	11J	10J	2J
	25J	24J	23J	22J			21J	20J	19J	18J
	30J	29J	28J	27J	26J					
		37J	36J	35J	34J	33J	32J	31J		
		46J	45J	44J	43J	42J	41J	40J	39J	38J
			55J	54J	53J	52J	51J	50J	49J	
			63J	62J	61J	60J	59J	58J	57J	56J	48J	47J
				70J	69J	68J	67J	66J	65J	64J		
				79J	78J	77J	76J	75J	74J	73J	72J	71J
					87J	86J	85J	84J				
					92J	91J	90J	89J	88J	83J	82J	81J	80J
						99J	98J	97J	96J	95J	94J	93J

Terminal No.	Color of Wire	Signal Name
10J	SB	–

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1		2
3	4	5	6

Terminal No.	Color of Wire	Signal Name
3	L/B	–
4	R/Y	–
5	B	–
6	L/W	–

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4		3	2	1
16	15	14	13	12	11	9	8

Terminal No.	Color of Wire	Signal Name
15	R/B	–

ABKIA2715GB

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
30	L/B	2P/R OUT

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40

Terminal No.	Color of Wire	Signal Name
24	R/W	BRAKE SW 1
32	R/B	AS DOOR SW 1
58	SB	DR DOOR SW

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

4	5	6	7		8	9	10
11	12	13	14	15	16	17	18	19

Terminal No.	Color of Wire	Signal Name
11	Y/R	BAT BCM FUSE
13	B	GND1

Terminal No.	Color of Wire	Signal Name
82G	LG	–

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1G	2G	3G	4G	5G	6G	7G	8G	9G
	10G	11G	12G	13G	14G	15G	16G	17G

18G	19G	20G	21G	22G	23G	24G	25G	26G
	27G	28G	29G	30G	31G	32G	33G	34G

35G	36G	37G	38G	39G	40G	41G
42G	43G	44G	45G	46G	47G	48G	49G	50G

51G	52G	53G	54G	55G	56G	57G	58G
				59G	60G	61G	62G	63G

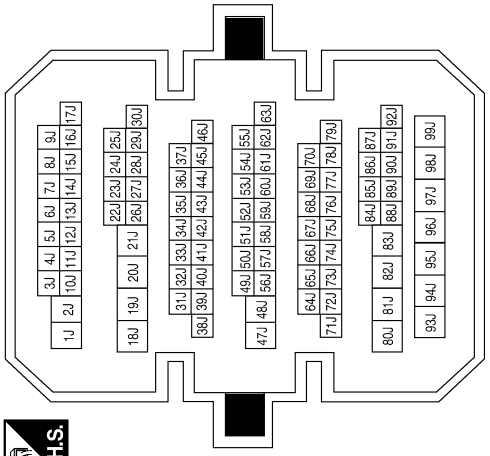
64G	65G	66G	67G	68G	69G	70G	71G	72G
	73G	74G	75G	76G	77G	78G	79G	80G

81G	82G	83G

ABKIA2716GB

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

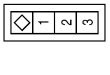
H.S.



Terminal No.	Color of Wire	Signal Name
10J	SB	–

Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	SB	–

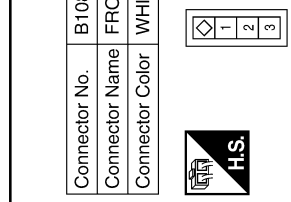
Connector No.	B104
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
15	GR	–

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

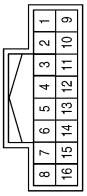
H.S.



Terminal No.	Color of Wire	Signal Name
2	GR	–

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
13	B	–

ABKIA2717GB

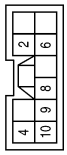
Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	L/B	–
4	R/Y	–
5	B	–
6	L/W	–

Connector No.	R5
Connector Name	SUNROOF MOTOR ASSEMBLY (WITHOUT DUAL PANEL SUNROOF)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	LG	–
4	L/W	–
6	Y	–
8	B	–
9	L/B	–
10	R/Y	–

Connector No.	R6
Connector Name	SUNROOF SWITCH (WITHOUT DUAL PANEL SUNROOF)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	B	–
3	LG	–

ABKIA4878GB

SYMPTOM DIAGNOSIS

SUNROOF DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000009465686

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.
Refer to BCS-36, "Diagnosis Procedure".

>> GO TO 2

2. CHECK SUNROOF MOTOR ASSEMBLY POWER SUPPLY AND GROUND CIRCUIT

Check sunroof motor assembly power supply and ground circuit.
Refer to RF-14, "SUNROOF MOTOR ASSEMBLY : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".
NO >> Repair or replace malfunctioning parts.

AUTO OPERATION DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000009465687

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to RF-7, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.
NO >> Perform basic inspection. Refer to RF-4, "Work Flow".

DOES NOT STOP FULLY-OPEN OR FULLY-CLOSED POSITION

Diagnosis Procedure

INFOID:0000000009465688

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to RF-7, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.
NO >> Perform basic inspection. Refer to RF-4, "Work Flow".

RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000009465689

1. CHECK FRONT DOOR SWITCH

Check front door switch.
Refer to DLK-67, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".
NO >> Repair or replace malfunctioning parts.

SUNROOF DOES NOT OPERATE ANTI-PINCH FUNCTION

Diagnosis Procedure

INFOID:0000000009465690

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to RF-7, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

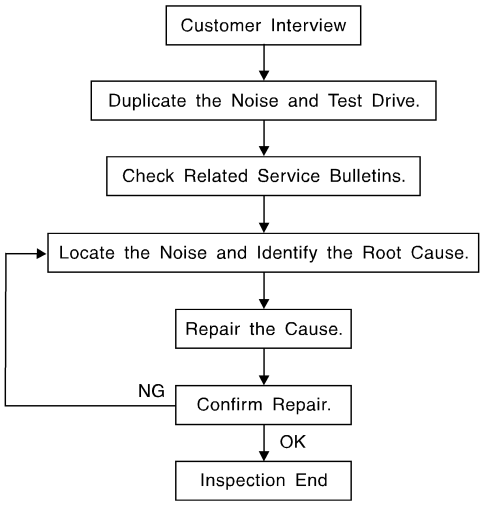
Is the inspection result normal?

YES >> Inspection End.
NO >> Perform basic inspection. Refer to RF-4, "Work Flow".

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:0000000009895329



SBT842

CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to RF-64, "Diagnostic Worksheet". This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by test driving the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.
- Squeak —(Like tennis shoes on a clean floor)
  Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces = higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping.
- Creak—(Like walking on an old wooden floor)
  Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle—(Like shaking a baby rattle)
  Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock —(Like a knock on a door)
  Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick—(Like a clock second hand)
  Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump—(Heavy, muffled knock noise)
  Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz—(Like a bumble bee)
  Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when you confirm the repair.

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

1) Close a door.
2) Tap or push/pull around the area where the noise appears to be coming from.
3) Rev the engine.
4) Use a floor jack to recreate vehicle “twist”.
5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on CVT and A/T models).
6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.

- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.
If a TSB relates to the symptom, follow the procedure to repair the noise.

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear: J-39565 and mechanic's stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
   - removing the components in the area that you suspect the noise is coming from.
     Do not use too much force when removing clips and fasteners, otherwise clips and fasteners can be broken or lost during the repair, resulting in the creation of new noise.
   - tapping or pushing/pulling the component that you suspect is causing the noise.
     Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
   - feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
   - placing a piece of paper between components that you suspect are causing the noise.
   - looking for loose components and contact marks.
     Refer to RF-61, "Generic Squeak and Rattle Troubleshooting".

REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
- separate components by repositioning or loosening and retightening the component, if possible.
- insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A NISSAN Squeak and Rattle Kit (J-50397) is available through your authorized NISSAN Parts Department.

CAUTION:
Do not use excessive force as many components are constructed of plastic and may be damaged.
NOTE:

- Always check with the Parts Department for the latest parts information.
- The materials contained in the NISSAN Squeak and Rattle Kit (J-50397) are listed on the inside cover of the kit; and can each be ordered separately as needed.
- The following materials not found in the kit can also be used to repair squeaks and rattles.
- SILICONE GREASE: Use instead of UHMW tape that will be visible or does not fit. The silicone grease will only last a few months.
- SILICONE SPRAY: Use when grease cannot be applied.
- DUCT TAPE: Use to eliminate movement.

CONFIRM THE REPAIR

Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.

Generic Squeak and Rattle Troubleshooting

INFOID:0000000009895330

Refer to Table of Contents for specific component removal and installation information.

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. Cluster lid A and the instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar finisher
4. Instrument panel to windshield
5. Instrument panel pins
6. Wiring harnesses behind the combination meter
7. A/C defroster duct and duct joint

These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

CAUTION:

Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you will not be able to recheck the repair.

CENTER CONSOLE

Components to pay attention to include:

1. Shift selector assembly cover to finisher
2. A/C control unit and cluster lid C
3. Wiring harnesses behind audio and A/C control unit

The instrument panel repair and isolation procedures also apply to the center console.

DOORS

Pay attention to the:

1. Finisher and inner panel making a slapping noise
2. Inside handle escutcheon to door finisher
3. Wiring harnesses tapping
4. Door striker out of alignment causing a popping noise on starts and stops

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks from the NISSAN Squeak and Rattle Kit (J-50397) to repair the noise.

TRUNK

Trunk noises are often caused by a loose jack or loose items put into the trunk by the owner.
In addition look for:

1. Trunk lid bumpers out of adjustment
2. Trunk lid striker out of adjustment
3. The trunk lid torsion bars knocking together
4. A loose license plate or bracket

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

SUNROOF/HEADLINING

Noises in the sunroof/headlining area can often be traced to one of the following:

1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
2. Sun visor shaft shaking in the holder
3. Front or rear windshield touching headlining and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

OVERHEAD CONSOLE (FRONT AND REAR)

Overhead console noises are often caused by the console panel clips not being engaged correctly. Most of these incidents are repaired by pushing up on the console at the clip locations until the clips engage.
In addition look for:

1. Loose harness or harness connectors.
2. Front console map/reading lamp lens loose.

3. Loose screws at console attachment points.

SEATS

When isolating seat noise it's important to note the position the seat is in and the load placed on the seat when the noise is present. These conditions should be duplicated when verifying and isolating the cause of the noise.

Cause of seat noise include:

1. Headrest rods and holder
2. A squeak between the seat pad cushion and frame
3. The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

UNDERHOOD

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

1. Any component installed to the engine wall
2. Components that pass through the engine wall
3. Engine wall mounts and connectors
4. Loose radiator installation pins
5. Hood bumpers out of adjustment
6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine rpm or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

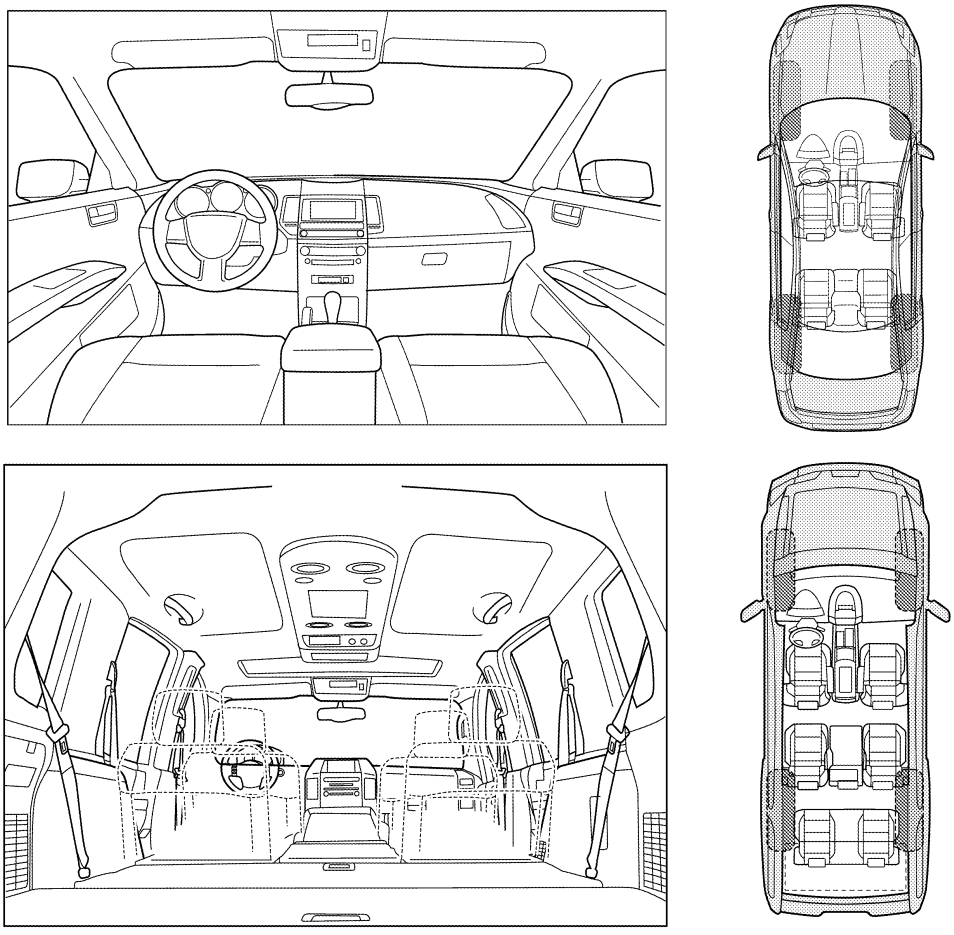
Diagnostic Worksheet

INFOID:0000000009895331

Dear Customer:
We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service advisor or technician to ensure we confirm the noise you are hearing.

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)
The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

LAIA0072E

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

_____

_____

II. WHEN DOES IT OCCUR? (please check the boxes that apply)

- ☐ Anytime
- ☐ 1st time in the morning
- ☐ Only when it is cold outside
- ☐ Only when it is hot outside
- ☐ After sitting out in the rain
- ☐ When it is raining or wet
- ☐ Dry or dusty conditions
- ☐ Other:

III. WHEN DRIVING:

- ☐ Through driveways
- ☐ Over rough roads
- ☐ Over speed bumps
- ☐ Only about ____ mph
- ☐ On acceleration
- ☐ Coming to a stop
- ☐ On turns: left, right or either (circle)
- ☐ With passengers or cargo
- ☐ Other: _____
- ☐ After driving _____ miles or _____ minutes

IV. WHAT TYPE OF NOISE

- ☐ Squeak (like tennis shoes on a clean floor)
- ☐ Creak (like walking on an old wooden floor)
- ☐ Rattle (like shaking a baby rattle)
- ☐ Knock (like a knock at the door)
- ☐ Tick (like a clock second hand)
- ☐ Thump (heavy muffled knock noise)
- ☐ Buzz (like a bumble bee)

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

_____

_____

_____

	YES	NO	Initials of person performing
Vehicle test driven with customer	☐	☐	_____
- Noise verified on test drive	☐	☐	_____
- Noise source located and repaired	☐	☐	_____
- Follow up test drive performed to confirm repair	☐	☐	_____

VIN: _____ Customer Name _____

W.O.# _____ Date: _____

This form must be attached to Work Order

LAIA0071E

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009465694

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 SR and SB section 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 SR section.**
- **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 Airbag Diagnosis Sensor Unit or other Airbag 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.**

Precaution for Work

INFOID:0000000009759592

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

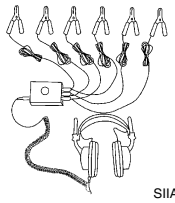
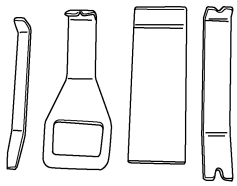
PREPARATION

PREPARATION

Special Service Tool

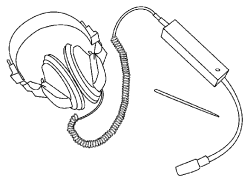
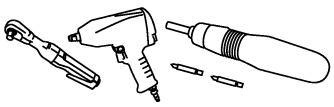
INFOID:0000000009465696

The actual shapes of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-39570) Chassis Ear  SIIA0993E	Locating the noise
— (J-50397) NISSAN Squeak and Rattle Kit  ALJIA1232ZZ	Repairing the cause of noise
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

Commercial Service Tools

INFOID:0000000009465697

Tool name	Description
Engine Ear  SIIA0995E	Locating the noise
Power tool  PIIB1407E	Loosening nuts, screws and bolts

REMOVAL AND INSTALLATION

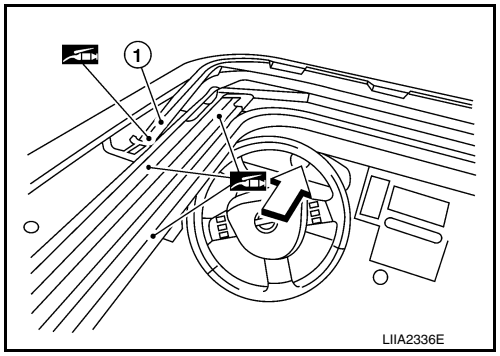
SUNROOF UNIT ASSEMBLY

Inspection

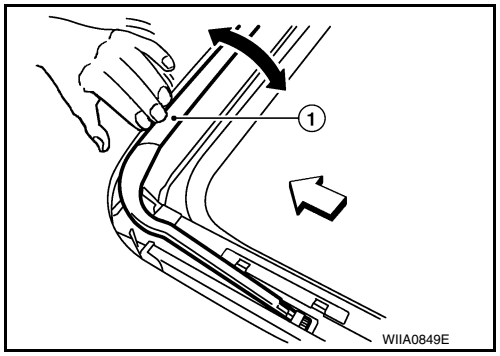
INFOID:0000000009465698

WIND DEFLECTOR

1. Open glass lid assembly fully.
2. Visually check for proper installation, damaged/deteriorated components, or foreign objects within mechanism. Correct as required for smooth operation.
3. Check for grease at the wind deflector arm (1) and pivot areas. If necessary, apply a sufficient amount of grease for non-binding operation.
   ⇦:Front



4. Check that the wind deflector (1) moves freely within the sunroof unit assembly while manually pressing down and releasing. If a malfunction is detected, remove the sunroof unit assembly and visually inspect. If damage is found, replace either wind deflector (1) or sunroof unit assembly as required.
   ⇦:Front



LINK AND WIRE ASSEMBLY

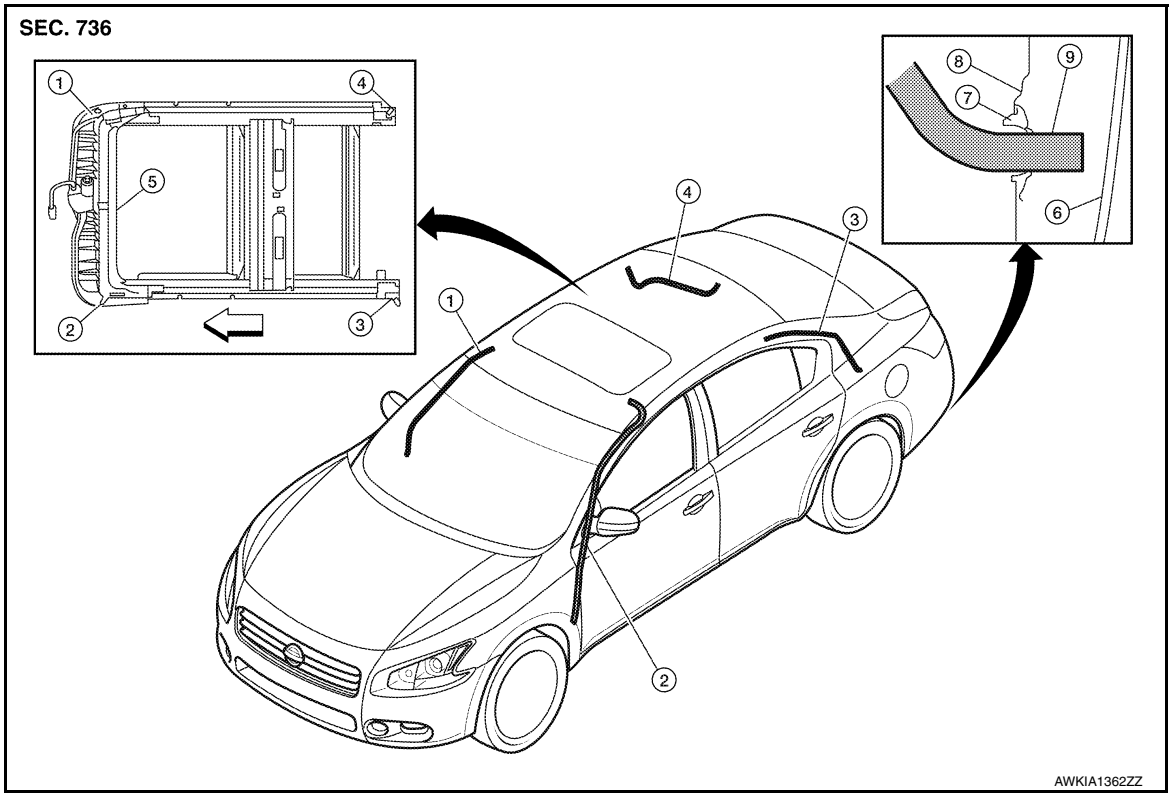
NOTE:
Before replacing a suspect part, make sure it is the source of noise being experienced.

1. Check link to determine if coating film has peeled off excessively enough that substrate is visible. Check also to determine if link is the source of noise. Replace as necessary.
2. Visually check to determine if a sufficient amount of grease has been applied to wire or rail groove. If not, add grease as required.
3. Check wire for any damage or deterioration. If any damage is found, replace sunroof unit assembly.

WEATHERSTRIP

1. Visually check weatherstrip for damage, deterioration, or deformation.
   • Open glass lid assembly partially to inspect front edge of weatherstrip.
   • Tilt up glass lid assembly fully to inspect sides and rear edge of weatherstrip.
   If any area of the weatherstrip is found to be damaged, replace the glass lid assembly. Refer to RF-72, "Removal and Installation".
2. Check for leakage around glass lid assembly.
   • Close glass lid assembly.
   • Pour water around surface to determine area of concern.
   - For gaps or misalignment, adjust glass lid assembly to specifications. Refer to ADJUSTMENT in this section.
   - For damaged sealing surfaces, either replace glass lid assembly RF-72, "Removal and Installation", or repair the panel.

DRAIN HOSES



1. Drain hose front (RH)
2. Drain hose front (LH)
3. Drain hose rear (LH)
4. Drain hose rear (RH)
5. Sunroof unit assembly
6. Fascia
7. Seal
8. Fender
9. Drain hose

⇦ Front

1. Remove the headlining. Refer to INT-33, "Removal and Installation".
2. Visually check drain hoses for:
   - Proper connection at sunroof unit assembly drain hose connector(s).
   - Damage, pinch, cracks, deterioration.
   - Proper fastening and routing on body panels.
3. Pour water through drain hoses to determine watertight performance.
   If damaged or leaking portions in any drain hose is found, replace entire drain hose as necessary.

ADJUSTMENT

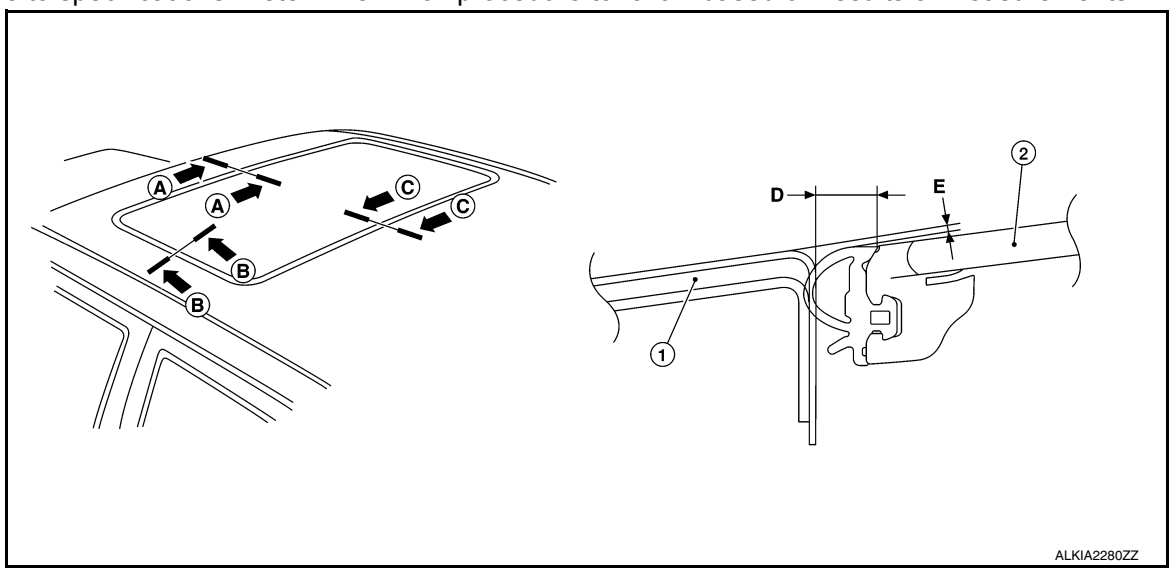
CAUTION:

- **Always work with a helper.**
- **Handle glass lid assembly with care to prevent damage.**

NOTE:

- For easier and more accurate installation, always mark each point before removal.
- After any adjustment, check sunroof operation and glass lid assembly alignment.

Inspect then measure the gap and surface height difference between the roof panel and glass lid assembly; compare to specifications. Determine which procedure to follow based on results of measurements.

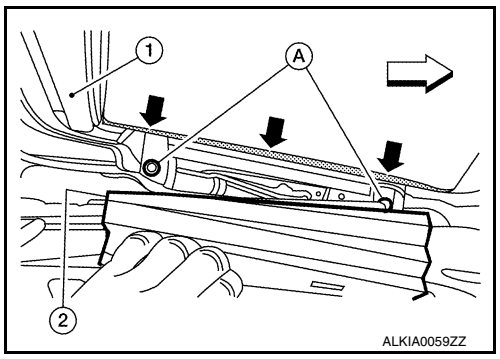


1. Roof panel
2. Glass lid assembly

Portion	D (Gap)	E (Surface height difference)
A – A	5.8 (0.23 in)	–0.8 ± 1.5 (–0.03 ± 0.06)
B – B	5.8 (0.23 in)	–0.8 ± 1.5 (–0.03 ± 0.06)
C – C	5.8 (0.23 in)	–0.8 ± 1.5 (–0.03 ± 0.06)

Gap adjustment (Front and Rear)

1. Open sunshade assembly (1).
   ⇦: Front
2. Tilt glass lid assembly up, then release side trim cover (2) and set aside.
3. Loosen glass lid assembly bolts (A) (2 each on left and right sides), then tilt glass lid assembly down.
4. Manually adjust glass lid assembly from outside of vehicle so gaps A-A and C-C are within specifications.
   NOTE:
   Temporarily snug glass lid assembly bolts to prevent movement between each adjustment.



5. Tilt glass lid assembly up and down several times using sunroof switch to check that it operates smoothly.
6. Tilt glass lid assembly up and tighten bolts to specification.
   NOTE:
   First tighten left front bolt, then right rear bolt on glass lid assembly to prevent uneven torque while tightening remaining bolts.
7. Attach side trim cover, then tilt glass lid assembly down.

Gap Adjustment (Sides)

1. Remove headlining. Refer to INT-33, "Removal and Installation".
2. Loosen sunroof unit assembly and sunroof side bracket bolts.
3. Carefully slide sunroof unit assembly side to side or add shims until gap is within specifications.
   NOTE:
   Temporarily snug sunroof unit assembly bolts to prevent movement between each adjustment.
4. Tilt glass lid assembly up and down several times using sunroof switch to check that it operates smoothly.
5. Tighten sunroof unit assembly and sunroof side bracket bolts.

NOTE:
First tighten left front sunroof unit assembly bolt, then right rear to prevent uneven torque while tightening remaining bolts.

6. Install headlining. Refer to INT-33, "Removal and Installation".

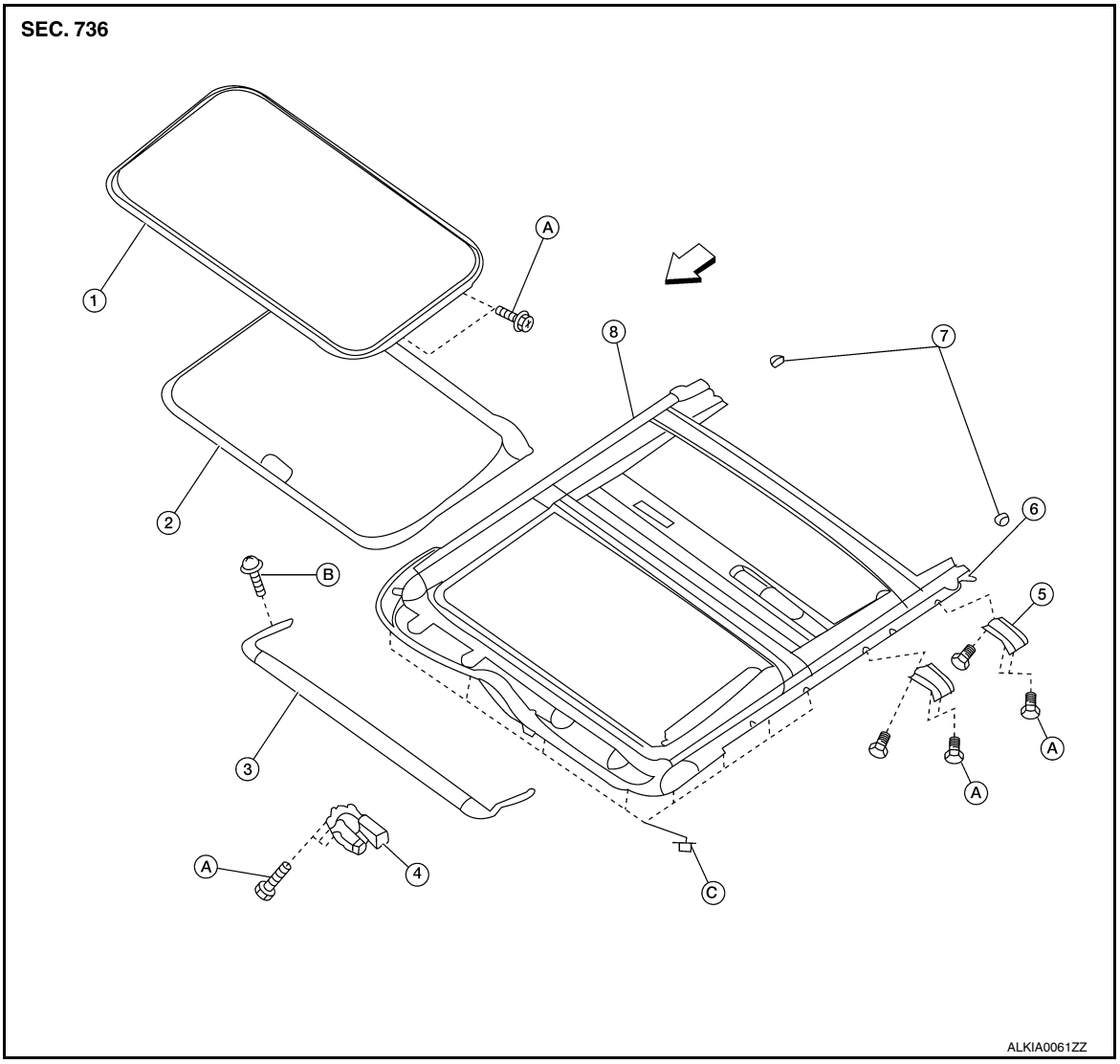
Height Adjustment

1. Tilt glass lid assembly up and down several times using sunroof switch to check that it operates smoothly.
2. Check height difference between roof surface and glass lid assembly surface, then compare to specifications.
3. If necessary, adjust height difference by using the following procedure.
   - Loosen glass lid assembly bolts.
   - Manually raise/lower glass lid assembly until height difference is within specification.
     NOTE:
     If necessary, shims may be added between sunroof unit assembly and roof to increase adjustment range. Refer to RF-72, "Removal and Installation".
     Temporarily snug sunroof unit assembly bolts to prevent movement between each adjustment.
   - Tilt glass lid assembly up and down several times using sunroof switch to check that it operates smoothly.
   - Tighten glass lid assembly and sunroof side bracket bolts.
     NOTE:
     First tighten left front bolt, then right rear bolt on glass lid assembly to prevent uneven torque while tightening remaining bolts.
   - After any adjustment, check sunroof operation and glass lid assembly alignment.

Exploded View

INFOID:0000000009465699

SEC. 736



1.	Glass lid assembly	2.	Sunshade	3.	Wind deflector
4.	Sunroof motor assembly	5.	Sunroof side bracket	6.	Drain hose connector
7.	Sunshade stopper	8.	Sunroof unit assembly	A.	Bolt
B.	Screw	C.	Nut	⇦	Front

Removal and Installation

INFOID:0000000009465700

CAUTION:

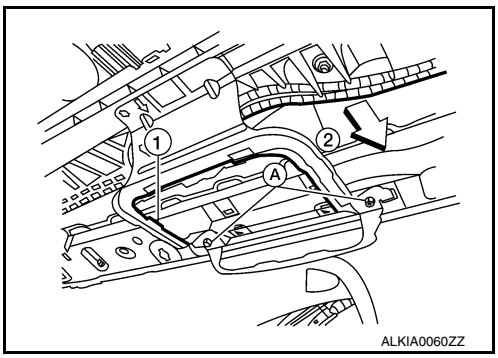
- **After installing either sunroof unit assembly or glass lid assembly, check gap/height adjustments and operation to make sure there is no malfunction.**
- **Always work with a helper.**
- **Handle glass lid assembly with care to prevent damage.**
- **When taking sunroof unit out, use shop cloths to protect the seats and trim from damage.**

SUNROOF UNIT ASSEMBLY

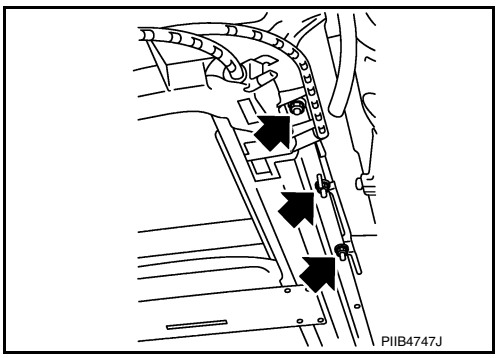
Removal

1. Close glass lid assembly.
2. Remove headlining. Refer to INT-33, "Removal and Installation".
3. Disconnect drain hoses.

4. Remove screws (A), then pull sunroof switch bracket (1) away from sunroof unit assembly (2).
   ⇦ Front
5. Disconnect the harness connector from the sunroof motor.



6. Remove bolts on the front end and side rails of the sunroof unit assembly.
7. Remove front sunroof side bracket bolts.
8. Remove rear sunroof side bracket bolts and remove sunroof unit assembly from roof panel.
9. Remove sunroof unit assembly through the passenger compartment while being careful not to damage the seats and trim.



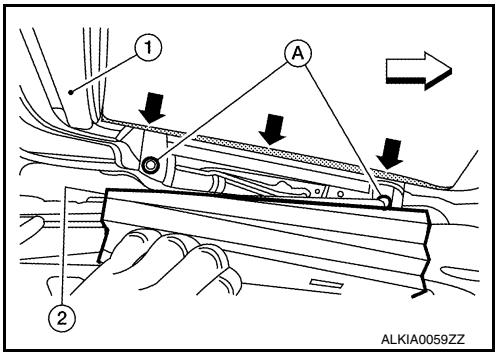
Installation

1. Loosely tighten the rear sunroof side bracket bolts to the sunroof unit assembly side rails.
2. Bring sunroof unit into passenger compartment and loosely tighten rear sunroof side bracket bolts to roof panel while supporting front.
3. Align the sunroof unit assembly front end rail and side rails with the locator pins, then loosely tighten the bolts.
4. Install remaining sunroof side brackets and loosely tighten bolts.
5. Tighten the sunroof unit assembly front end and side rail bolts diagonally to the specified torque.
6. Tighten the front sunroof side bracket bolts at the vehicle side first, then at the side rail end.
7. Tighten the rear sunroof side bracket bolts at the vehicle side first, then at the side rail end.
8. Connect the harness connector to the sunroof motor.
9. Install sunroof switch bracket.
10. Connect drain hoses.
11. Install headlining. Refer to INT-33, "Removal and Installation".

GLASS LID ASSEMBLY

Removal

1. Open sunshade (1), then close glass lid assembly.
   ⇦ Front
2. Slide the side trim covers (2) (LH/RH) inward, then release them from the glass lid assembly inside edge and set aside.
3. Remove the bolts (A) and glass lid assembly from sunroof unit assembly.



Installation

1. Position glass lid assembly to sunroof unit assembly.
2. Tighten glass lid assembly bolts to specification.
   NOTE:

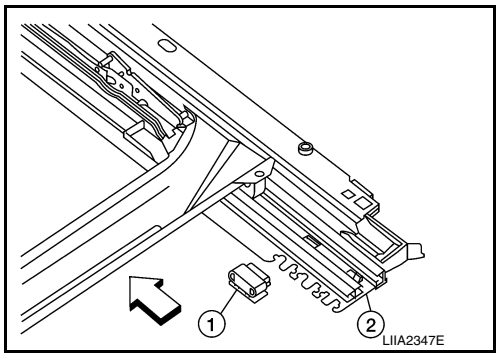
First tighten left front bolt, then right rear bolt on glass lid assembly to prevent uneven torque while tightening remaining bolts.

3. Slide side trim covers onto inside edge of glass lid assembly.
4. After installation, check sunroof operation and glass lid assembly alignment. Refer to RF-68, "Inspection".

SUNSHADE

Removal

1. Remove sunroof unit assembly. Refer to RF-72, "Exploded View".
2. Remove glass lid assembly. Refer to RF-72, "Removal and Installation".
3. Remove the sunshade stoppers (1) (LH/RH) from the sunroof unit assembly side rails (2).
   ⇦ Front
4. Slide sunshade rearward past sunroof unit assembly side rail ends to remove.



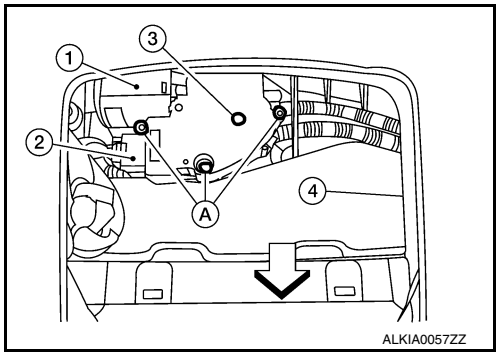
Installation

Installation is in the reverse order of removal.

SUNROOF MOTOR ASSEMBLY

Removal

1. Close glass lid assembly.
2. Remove front room/map lamp assembly from headlining (4). Refer to INL-84, "Removal and Installation".
   ⇦ Front
3. Remove sunroof motor assembly screws (A).
4. Disconnect harness connector (2) and remove sunroof motor assembly (1) from sunroof unit assembly front end rail.
   CAUTION:
   Do not run the removed sunroof motor assembly as a single unit.



Installation

1. Move sunroof motor assembly laterally little by little so that the gear is completely engaged into the wire on the sunroof unit assembly, and the mounting surfaces become parallel. Install the sunroof motor assembly screws, and tighten to the specified torque.
   CAUTION:
   Before installing the motor, be sure to place the link and wire assembly in the symmetrical and fully closed position.
   NOTE:
   If necessary, insert a suitable tool into the drive key (3) and rotate right or left slightly to assist in complete sunroof motor gear alignment.

   Remainder of installation is in the reverse order of removal.
2. Synchronize sunroof motor with sunroof unit assembly. Refer to RF-7, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

WorkFlow

INFOID:0000000010048974

DETAILED FLOW

1.OBTAIN INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

2.REPRODUCE THE MALFUNCTION INFORMATION

Check the malfunction on the vehicle that the customer describes.
Inspect the relation of the symptoms and the condition when the symptoms occur.

>> GO TO 3.

3.IDENTIFY THE MALFUNCTIONING SYSTEM WITH “SYMPTOM DIAGNOSIS”

Use “Symptom diagnosis” from the symptom inspection result in step 2 and then identify where to start performing the diagnosis based on possible causes and symptoms.

>> GO TO 4.

4.IDENTIFY THE MALFUNCTIONING PARTS WITH “DTC/CIRCUIT DIAGNOSIS”

Perform the diagnosis with “DTC/Circuit diagnosis” of the applicable system.

>> GO TO 5.

5.REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6.

6.FINAL CHECK

Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 2.

Are the malfunctions corrected?

YES >> Inspection End.
NO >> GO TO 3.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:0000000010048975

Initialization of system should be conducted after the following conditions.
- When the sunroof motor or sunshade motor is changed.
- When the sunroof of sunshade does not operate normally (incomplete initialization conditions).

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000010048976

INITIALIZATION PROCEDURE

If the sunroof or sunshade does not close or open automatically, use the following procedure to return sunroof or sunshade operation to normal.

1. Close the sunroof and sunshade, then release the sunroof switch once.
2. Press and hold the sunroof switch CLOSE (1st or 2nd) again (for approx. 10 seconds), then sunroof will move to forward and it will be stopped mechanically.
3. Release the sunroof switch, and press and hold the sunroof switch CLOSE (1st or 2nd) again, then sunroof and sunshade will automatically move to fully closed⇒fully open⇒fully closed.
4. Release sunroof switch, after the sunroof is fully closed.
5. Check sunroof and sunshade operation.

CHECK ANTI-PINCH FUNCTION

1. Full open the sunroof.
2. Place a piece of wood near fully closed position.
3. Close the sunroof completely with auto-slide close.
4. Check that sunroof lowers for approximately 150 mm (5.91 in) or 2 seconds without pinching a piece of wood and stop.
5. Full open the sunshade.
6. Place a piece of wood near fully closed position.
7. Close the sunshade completely with auto-slide close.
8. Check that sunshade lowers for approximately 150 mm (5.91 in) or 2 seconds without pinching a piece of wood and stop.

CAUTION:
- **Do not check with hands and other part of body because they may be pinched. Do not get pinched.**
- **Depending on environment and driving conditions, if a similar impact or load is applied to the sunroof it may lower.**
- **Check that auto-slide operates before inspection when system initialization is performed.**
- **Perform initial setting when auto-slide operation or anti-pinch function does not operate normally.**

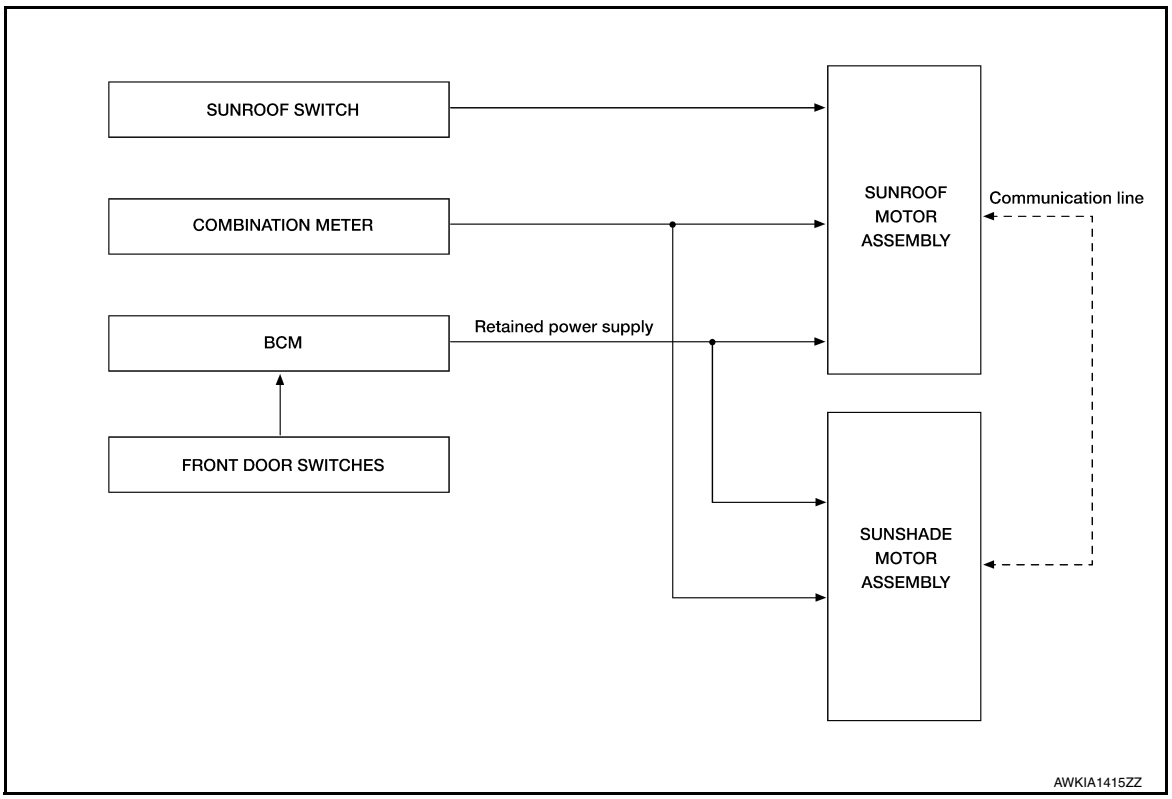
SYSTEM DESCRIPTION

SUNROOF SYSTEM

System Diagram

INFOID:0000000010048977

SUNROOF



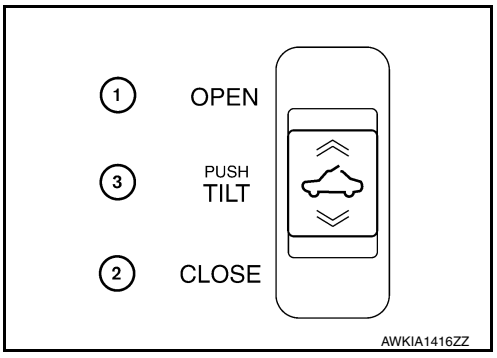
System Description

INFOID:0000000010048978

DESCRIPTION

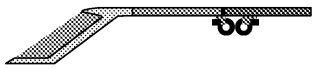
- Sunroof motor assembly and sunshade motor assembly operate with the power supplied from BCM while ignition switch is ON or retained power is operating.
- Sunroof motor assembly receives an operation signal from sunroof switch, and sends the signal to sunshade motor by communication line.
- Sunroof motor assembly and sunshade motor assembly receive a vehicle speed signal from combination meter and controls the sunroof motor and sunshade motor torque at the time of high speed operation.
- The sunroof switch can be operated in the directions of push/tilt, open (1st, 2nd) and close (1st, 2nd). It can operate the sunroof and sunshade by one switch.

(1) OPEN
(2) CLOSE
(3) PUSH/TILT



OPERATION DESCRIPTION

The sunroof and sunshade operate to the following condition by the sunroof switch operation.

Before Operation	Switch condition	Roof and sunshade operation	After Operation
 JMKIA1885ZZ	OPEN: 1st	Open the shade	 JMKIA1884ZZ
	OPEN: 2nd	Open the glass and shade (AUTO)	 JMKIA1887ZZ
	PUSH	Tilt up and open the shade at the same time	 JMKIA1886ZZ
 JMKIA1886ZZ	PUSH	Tilt down	 JMKIA1884ZZ
	CLOSE: 1st		
	CLOSE: 2nd	Tilt down and close the shade at the same time (AUTO)	 JMKIA1885ZZ

Before Operation	Switch condition	Roof and sunshade operation	After Operation
 JMKIA1887ZZ	PUSH	Tilt up	 JMKIA1886ZZ
	CLOSE: 1st	Close the glass	 JMKIA1884ZZ
	CLOSE: 2nd	Close the glass and shade at the same time (AUTO)	 JMKIA1885ZZ

AUTO OPERATION

The sunroof or sunshade operate automatically to the fully-open or fully-close position by operating the sunroof switch to the OPEN (2nd) or CLOSE (2nd) position.

RETAINED POWER OPERATION

Retained power operation is an additional power supply function that enables the sunroof system to operate for 45 seconds after ignition switch is turned OFF.

Retained power function cancel conditions

- Front door CLOSE (door switch OFF)→OPEN (door switch ON)
- Ignition switch is ON again.
- Timer passed (45 seconds)

ANTI-PINCH FUNCTION

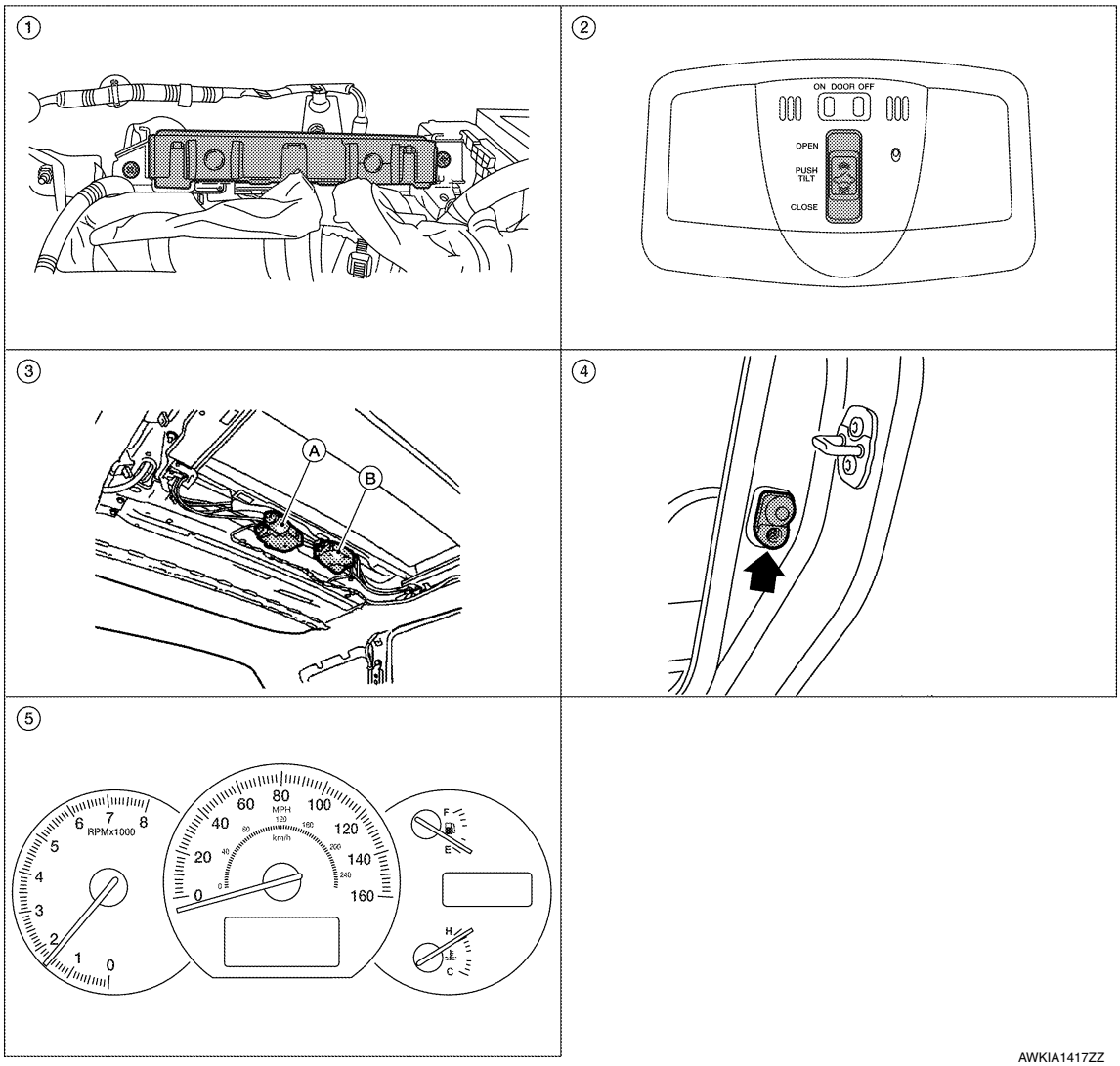
CAUTION:

There are some small distances immediately before the closed position which cannot be detected.

- The CPU of sunroof motor assembly monitors the sunroof condition by the signals from sunroof motor. When sunroof motor assembly detects an interruption during auto operation (close or tilt down operation), sunroof motor will tilt up or open [150 mm (5.91 in) or more] sunroof.
- The CPU of sunshade motor assembly monitors the sunshade condition by the signals from sunshade motor. When sunshade motor assembly detects an interruption during auto close operation, sunshade motor will open [150 mm (5.91 in) or more] sunshade.

Component Parts Location

INFOID:0000000010048979



AWKIA1417ZZ

1. BCM M16, M17, M18 (view with instrument panel removed)
2. Sunroof switch R14
3. A: Sunroof motor assembly R101 B: Sunshade motor assembly R102 (view with headlining removed)
4. Front door switch LH B8, RH B108
5. Combination meter M24

Component Description

INFOID:0000000010048980

Component	Function
BCM	Supplies power to sunroof motor assembly and sunshade motor assembly.
Combination meter	Transmits vehicle speed signal to sunroof motor assembly and sunshade motor assembly.
Sunroof motor assembly	It is sunroof motor and CPU integrated type that enables tilt up/down & slide open/close sunroof by sunroof switch operation. And sends sunroof switch operation signal to sunshade motor assembly via communication line.
Sunshade motor assembly	It is sunshade motor and CPU integrated type that enables open/close sunshade by sunroof switch operation.
Sunroof switch	Transmits switch operation signal to sunroof motor assembly.
Front door switches	Detects door open/close condition and transmits to BCM.

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010064712

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Work support	Changes the setting for each system function.
Configuration	• Enables to read and save the vehicle specification. • Enables to write the vehicle specification when replacing BCM.
CAN Diag Support Mntr	Monitors the reception status of CAN communication viewed from BCM.

SYSTEM APPLICATION
BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Intelligent Key system	INTELLIGENT KEY			×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Trunk open	TRUNK			×	×			
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

RETAINED PWR

CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000010064713

DATA MONITOR

Monitor Item [Unit]	Description
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:0000000010064716

Regarding Wiring Diagram information, refer to BCS-67, "Wiring Diagram".

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuses or fusible link are blown.

Terminal No.	Signal name	Fuse and fusible link No.
1	Battery power supply	H
11		10
24		7

Is the fuse or fusible link blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM.
3. Check voltage between BCM harness connector and ground.

Terminals			Voltage (Approx.)
(+)		(–)	
BCM		Ground	
Connector	Terminal		
M16	1		Battery voltage
M17	11		
M18	24		

Is the measurement normal?

YES >> GO TO 3
NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M17	13		Yes

Does continuity exist?

YES >> Inspection End.
NO >> Repair or replace harness.

SUNROOF MOTOR ASSEMBLY

SUNROOF MOTOR ASSEMBLY : Diagnosis Procedure

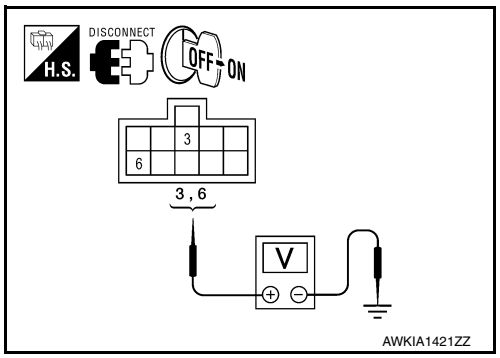
INFOID:0000000010048984

Regarding Wiring Diagram information, refer to RF-123, "Wiring Diagram".

1.CHECK POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect sunroof motor assembly connector.
3. Turn ignition switch ON.
4. Check voltage between sunroof motor assembly harness connector and ground.

(+)		(–)	Voltage (V) (Approx.)
Sunroof motor assembly			
Connector	Terminal		
R101	3	Ground	Battery voltage
	6		



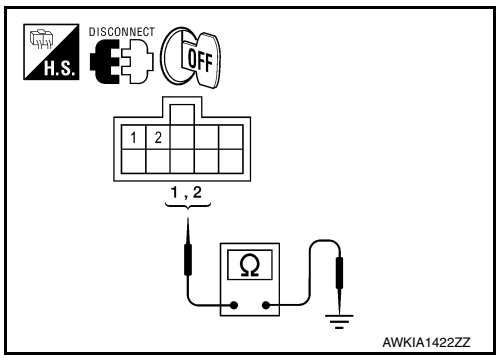
Is the inspection result normal?

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

2.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between sunroof motor assembly harness connector and ground.

Sunroof motor assembly		Ground	Continuity
Connector	Terminal		
R101	1		Yes
	2		



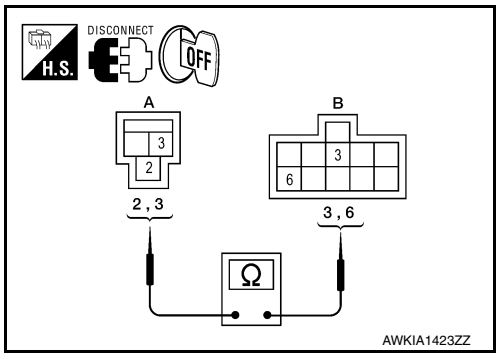
Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the harness.

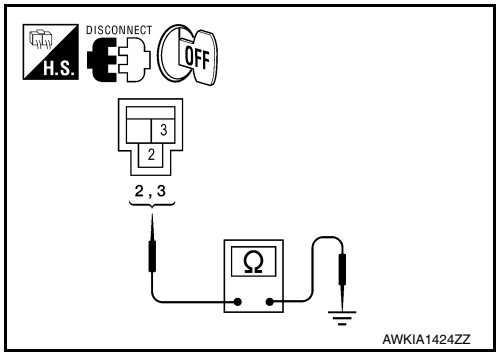
3.CHECK SUNROOF MOTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector (A) and sunroof motor assembly harness connector (B).

BCM (A)		Sunroof motor assembly (B)		Continuity
Connector	Terminal	Connector	Terminal	
M16	2	R101	6	Yes
	3		3	



4. Check continuity between BCM harness connector and ground.



BCM		Ground	Continuity
Connector	Terminal		
M16	2		No
	3		

Is the inspection result normal?

YES >> Replace the BCM. Refer to BCS-79, "Removal and Installation".
NO >> Repair or replace the harness.

4.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

SUNSHADE MOTOR ASSEMBLY

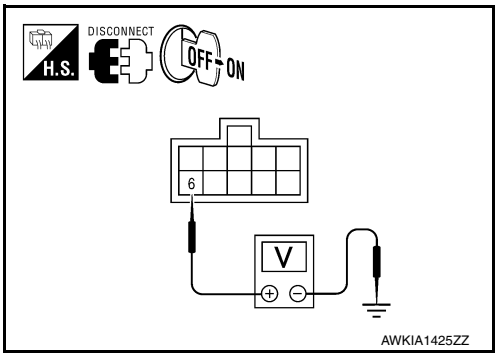
SUNSHADE MOTOR ASSEMBLY : Diagnosis Procedure

INFOID:0000000010048985

Regarding Wiring Diagram information, refer to RF-130, "Wiring Diagram".

1.CHECK POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect sunshade motor assembly connector.
3. Turn ignition switch ON.
4. Check voltage between sunshade motor assembly harness connector and ground.



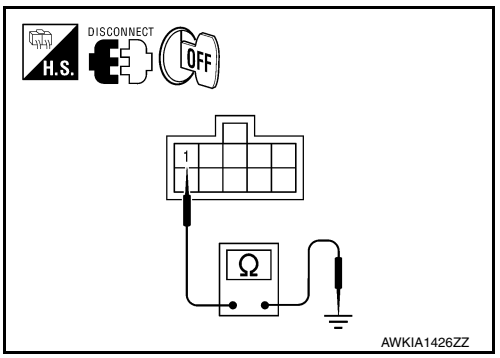
(+)		(–)	Voltage (V) (Approx.)
Sunshade motor assembly			
Connector	Terminal		
R102	6	Ground	Battery voltage

Is the inspection result normal?

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

2.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between sunshade motor assembly harness connector and ground.



Sunshade motor assembly		Ground	Continuity
Connector	Terminal		
R102	1		Yes

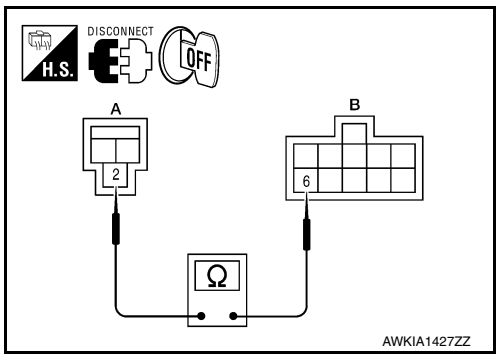
Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the harness.

3.CHECK SUNSHADE MOTOR CIRCUIT

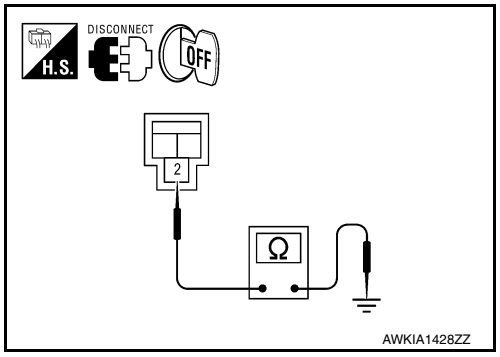
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector (A) and sunshade motor assembly harness connector (B).

BCM (A)		Sunshade motor assembly (B)		Continuity
Connector	Terminal	Connector	Terminal	
M16	2	R102	6	Yes



4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M16	2		No



Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> Repair or replace the harness.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

COMMUNICATION SIGNAL CIRCUIT

Description

INFOID:0000000010048986

Detects door open/close condition.

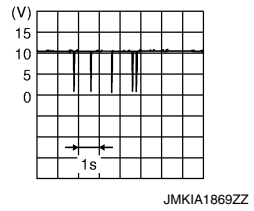
Diagnosis Procedure

INFOID:0000000010048987

Regarding Wiring Diagram information, refer to RF-123, "Wiring Diagram".

1.CHECK FRONT DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect sunshade motor assembly connector.
3. Turn ignition switch ON.
4. Check signal between sunshade motor assembly harness connector and ground with oscilloscope.

(+)		(–)	Voltage (V) (Approx.)
Sunshade motor assembly			
Connector	Terminal		
R102	7	Ground	

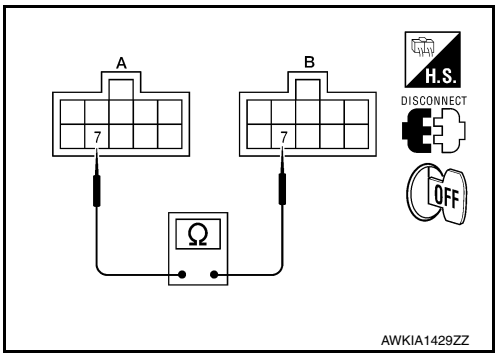
JMKIA1869ZZ

Is the inspection result normal?

YES >> Inspection End.
NO >> GO TO 2.

2.CHECK COMMUNICATION SIGNAL CIRCUIT

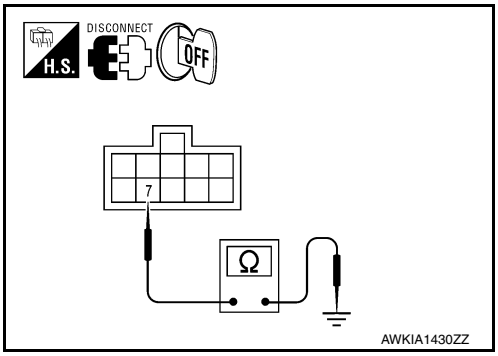
1. Turn ignition switch OFF.
2. Disconnect sunroof motor assembly connector.
3. Check continuity between sunshade motor assembly harness connector (A) and sunroof motor assembly harness connector (B).



AWKIA1429ZZ

Sunshade motor assembly (A)		Sunroof motor assembly (B)		Continuity
Connector	Terminal	Connector	Terminal	
R102	7	R101	7	Yes

4. Check continuity between sunshade motor assembly harness connector and ground.



AWKIA1430ZZ

Sunshade motor assembly		Ground	Continuity
Connector	Terminal		
R102	7		No

Is the inspection result normal?

YES >> Replace sunshade motor assembly. Refer to RF-153, "Removal and Installation".
NO >> Repair or replace harness.

SUNROOF SWITCH

Description

INFOID:0000000010048988

Transmits switch operation signal to sunroof motor assembly.

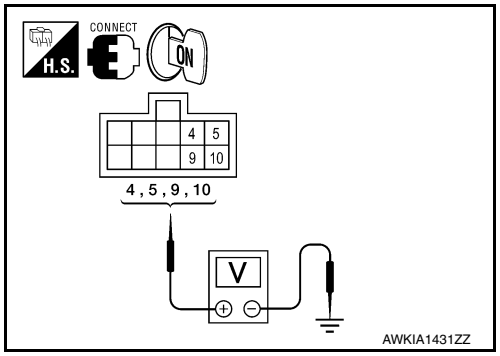
Diagnosis Procedure

INFOID:0000000010048989

Regarding Wiring Diagram information, refer to RF-123, "Wiring Diagram".

1.CHECK SUNROOF SWITCH INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between sunroof motor assembly harness connector and ground.



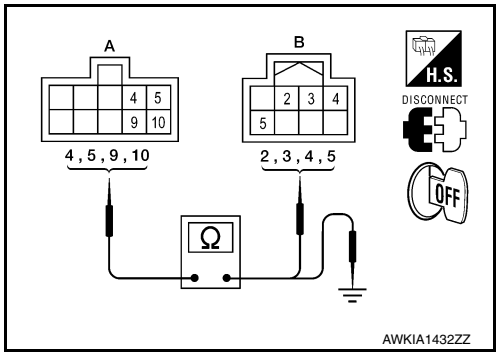
(+)		(–)	Condition	Voltage (V)
Sunroof motor assembly				
Connector	Terminals			
R101	4	Ground	Sunroof switch is operated PUSH	0
			Other than above	Battery voltage
	5		Sunroof switch is operated OPEN (1st or 2nd)	0
			Other than above	Battery voltage
	9		Sunroof switch is operated OPEN (2nd) or CLOSE (2nd)	0
			Other than above	Battery voltage
	10		Sunroof switch is operated CLOSE (1st or 2nd)	0
			Other than above	Battery voltage

Is the inspection result normal?

YES >> Replace sunroof motor. Refer to RF-152, "Removal and Installation".
NO >> GO TO 2.

2.CHECK SUNROOF SWITCH CIRCUIT

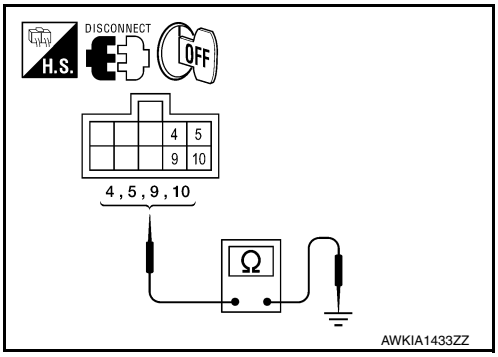
1. Turn ignition switch OFF.
2. Disconnect sunroof motor assembly connector and sunroof switch connector.
3. Check continuity between sunroof motor assembly harness connector (A) and sunroof switch harness connector (B).



Sunroof motor assembly (A)		Sunroof switch (B)		Continuity
Connector	Terminal	Connector	Terminal	
R101	4	R14	5	Yes
	5		3	
	9		2	
	10		4	

4. Check continuity between sunroof motor assembly harness connector and ground.

Sunroof motor assembly		Ground	Continuity
Connector	Terminal		
R101	4	Ground	No
	5		
	9		
	10		



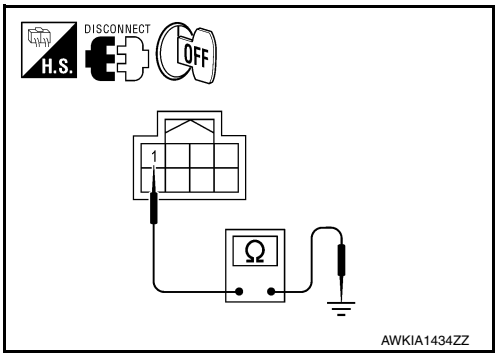
Is the inspection result normal?

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

3.CHECK SUNROOF SWITCH GROUND CIRCUIT

Check continuity between sunroof switch harness connector and ground.

Sunroof switch		Ground	Continuity
Connector	Terminal		
R14	1		Yes



Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the harness.

4.CHECK SUNROOF SWITCH

Check sunroof switch.
Refer to RF-89, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace sunroof switch. Refer to RF-171, "Removal and Installation".

5.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

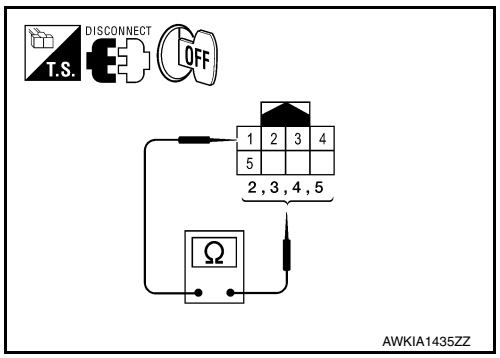
Component Inspection

INFOID:0000000010048990

SUNROOF SWITCH

1.CHECK SUNROOF SWITCH

1. Turn ignition switch OFF.
2. Disconnect sunroof switch connector.
3. Check continuity sunroof switch terminals.



Terminals		Condition	Continuity
2	1	Sunroof switch is operated OPEN (2nd) or CLOSE (2nd)	Yes
		Other than above	No
3		Sunroof switch is operated OPEN (1st) or OPEN (2nd)	Yes
		Other than above	No
4		Sunroof switch is operated CLOSE (1st) or CLOSE (2nd)	Yes
		Other than above	No
5		Sunroof switch is operated PUSH	Yes
		Other than above	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace sunroof switch. Refer to RF-171, "Removal and Installation".

DOOR SWITCH

Description

INFOID:0000000010048991

Detects door open/close condition.

Component Function Check

INFOID:0000000010048992

1.CHECK FUNCTION

With CONSULT

Check door switches DOOR SW-DR, DOOR SW-AS in Data Monitor mode with CONSULT.

Monitor item	Condition
DOOR SW-DR	CLOSE → OPEN: OFF → ON
DOOR SW-AS	

Is the inspection result normal?

YES >> Door switch is OK.
NO >> Refer to RF-91, "Diagnosis Procedure".

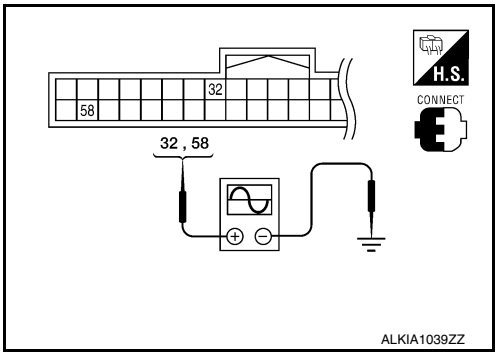
Diagnosis Procedure

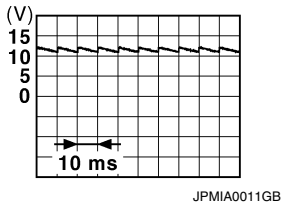
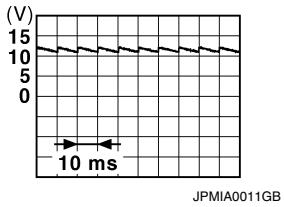
INFOID:0000000010048993

Regarding Wiring Diagram information, refer to RF-123, "Wiring Diagram".

1.CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check signal between BCM connector and ground with oscilloscope.



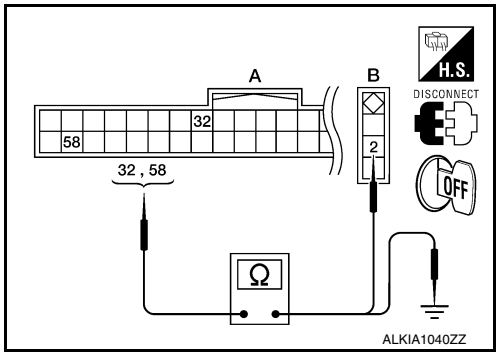
Terminals (+) BCM connector	Terminals (+) Terminal	Terminals (–)	Door condition		Voltage (V) (Approx.)
M18	58	Ground	Driver side	OPEN	0
				CLOSE	 JPMIA0011GB
	32		Passenger side	OPEN	0
				CLOSE	 JPMIA0011GB

Is the inspection result normal?

YES >> GO TO 4
NO >> GO TO 2

2.CHECK DOOR SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM connector and door switch connector.



BCM connector	Terminal	Door switch connector	Terminal	Continuity
A: M18	58	B: B8 (Driver side)	2	Yes
	32	B: B108 (Passenger side)		

3. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
A: M18	58		No
	32		

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair or replace harness between BCM and door switch.

3.CHECK DOOR SWITCH

Refer to RF-93, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4
NO >> Replace malfunctioning door switch.

4.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

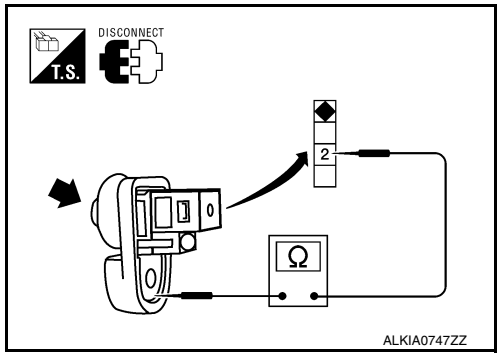
>> Inspection End.

Component Inspection

INFOID:0000000010048994

1.CHECK DOOR SWITCH

1. Turn ignition switch OFF.
2. Disconnect door switch connector.
3. Check door switch.



Terminal		Door switch condition	Continuity
Door switch			
2	Ground part of door switch	Pressed	No
		Released	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace malfunctioning door switch.

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000010064702

NOTE:
The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- Check Intelligent Key relative signal strength
- Confirm vehicle Intelligent Key antenna signal strength

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	OFF
	Front wiper switch HI	ON
FR WIPER LOW	Other than front wiper switch LO	OFF
	Front wiper switch LO	ON
FR WASHER SW	Front washer switch OFF	OFF
	Front washer switch ON	ON
FR WIPER INT	Other than front wiper switch INT	OFF
	Front wiper switch INT	ON
FR WIPER STOP	Front wiper is not in STOP position	OFF
	Front wiper is in STOP position	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
TURN SIGNAL R	Other than turn signal switch RH	OFF
	Turn signal switch RH	ON
TURN SIGNAL L	Other than turn signal switch LH	OFF
	Turn signal switch LH	ON
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	OFF
	Lighting switch 1ST or 2ND	ON
HI BEAM SW	Other than lighting switch HI	OFF
	Lighting switch HI	ON
HEAD LAMP SW 1	Other than lighting switch 2ND	OFF
	Lighting switch 2ND	ON
HEAD LAMP SW 2	Other than lighting switch 2ND	OFF
	Lighting switch 2ND	ON
PASSING SW	Other than lighting switch PASS	OFF
	Lighting switch PASS	ON
AUTO LIGHT SW	Other than lighting switch AUTO	OFF
	Lighting switch AUTO	ON
FR FOG SW	Front fog lamp switch OFF	OFF
	Front fog lamp switch ON	ON
DOOR SW-DR	Driver door closed	OFF
	Driver door opened	ON

Monitor Item	Condition	Value/Status
DOOR SW-AS	Passenger door closed	OFF
	Passenger door opened	ON
DOOR SW-RR	Rear door RH closed	OFF
	Rear door RH opened	ON
DOOR SW-RL	Rear door LH closed	OFF
	Rear door LH opened	ON
DOOR SW-BK	Trunk door closed	OFF
	Trunk door opened	ON
CDL LOCK SW	Other than power door lock switch LOCK	OFF
	Power door lock switch LOCK	ON
CDL UNLOCK SW	Other than power door lock switch UNLOCK	OFF
	Power door lock switch UNLOCK	ON
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	OFF
	Driver door key cylinder LOCK position	ON
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF
	Driver door key cylinder UNLOCK position	ON
HAZARD SW	When hazard switch is not pressed	OFF
	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
TR CANCEL SW	Trunk lid opener cancel switch OFF	OFF
	Trunk lid opener cancel switch ON	ON
TR/BD OPEN SW	Trunk lid opener switch OFF	OFF
	While the trunk lid opener switch is turned ON	ON
TRNK/HAT MNTR	Trunk lid closed	OFF
	Trunk lid opened	ON
RKE-LOCK	When LOCK button of Intelligent Key is not pressed	OFF
	When LOCK button of Intelligent Key is pressed	ON
RKE-UNLOCK	When UNLOCK button of Intelligent Key is not pressed	OFF
	When UNLOCK button of Intelligent Key is pressed	ON
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
	When TRUNK OPEN button of Intelligent Key is pressed	ON
RKE-PANIC	When PANIC button of Intelligent Key is not pressed	OFF
	When PANIC button of Intelligent Key is pressed	ON
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is not pressed and held	OFF
	When UNLOCK button of Intelligent Key is pressed and held	ON
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
OPTICAL SENSOR	When outside of the vehicle is bright	Close to 5 V
	When outside of the vehicle is dark	Close to 0 V
REQ SW -DR	When front door request switch is not pressed (driver side)	OFF
	When front door request switch is pressed (driver side)	ON
REQ SW -AS	When front door request switch is not pressed (passenger side)	OFF
	When front door request switch is pressed (passenger side)	ON

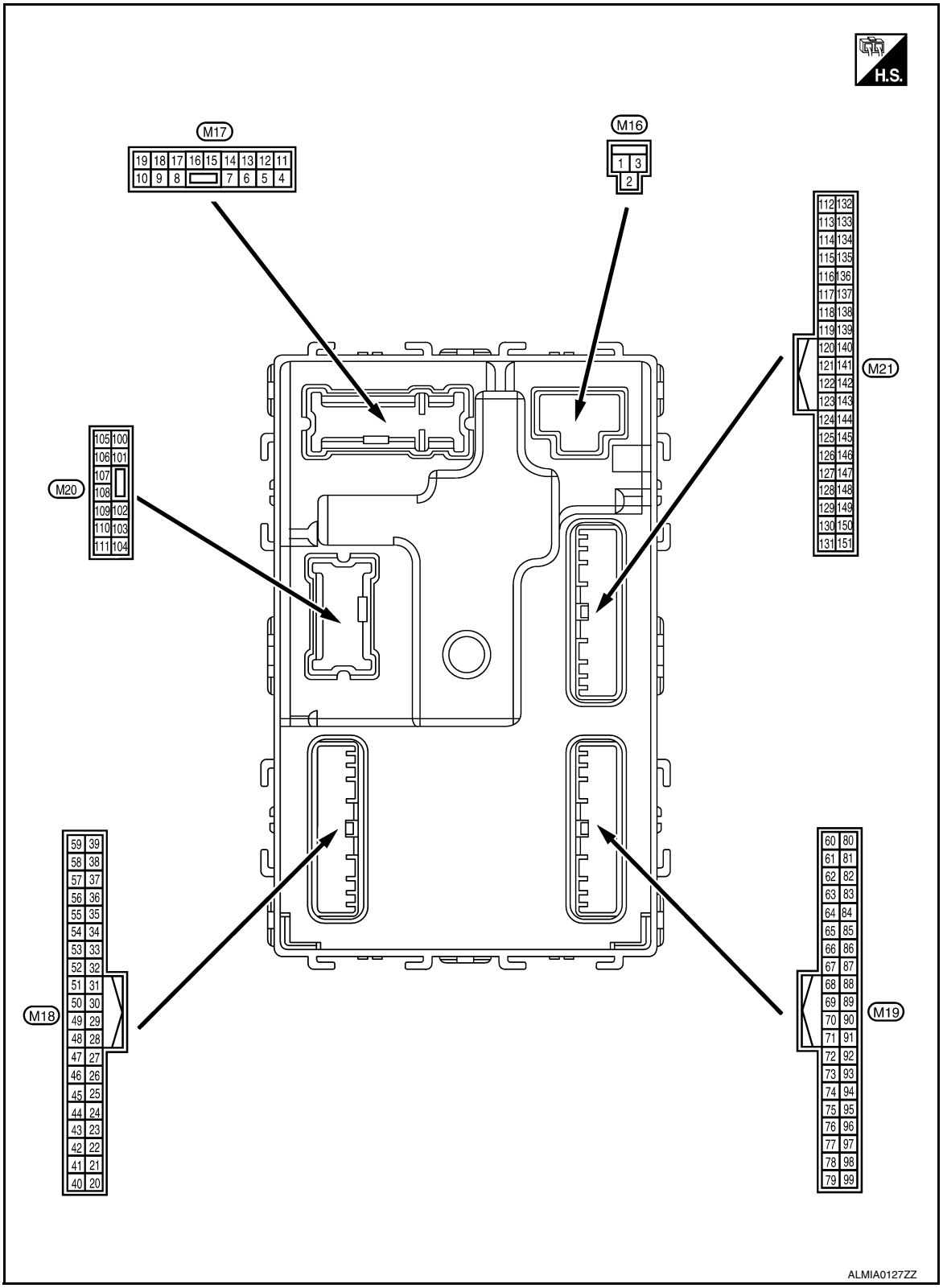
Monitor Item	Condition	Value/Status
REQ SW -RL	When rear door request switch is not pressed (driver side)	OFF
	When rear door request switch is pressed (driver side)	ON
REQ SW -RR	When rear door request switch is not pressed (passenger side)	OFF
	When rear door request switch is pressed (passenger side)	ON
REQ SW -BD/TR	When trunk opener request switch is not pressed	OFF
	When trunk opener request switch is pressed	ON
PUSH SW	When engine switch (push switch) is not pressed	OFF
	When engine switch (push switch) is pressed	ON
IGN RLY2 -F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
ACC RLY -F/B	Ignition switch OFF	OFF
	Ignition switch ACC or ON	ON
BRAKE SW 1	When the brake pedal is not depressed	ON
	When the brake pedal is depressed	OFF
DETE/CANCL SW	When selector lever is in P position	OFF
	When selector lever is in any position other than P	ON
SFT PN/N SW	When selector lever is in any position other than P or N	OFF
	When selector lever is in P or N position	ON
UNLK SEN -DR	Driver door UNLOCK status	OFF
	Driver door LOCK status	ON
PUSH SW -IPDM	When engine switch (push switch) is not pressed	OFF
	When engine switch (push switch) is pressed	ON
IGN RLY1 -F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
DETE SW -IPDM	When selector lever is in P position	OFF
	When selector lever is in any position other than P	ON
SFT PN -IPDM	When selector lever is in any position other than P or N	OFF
	When selector lever is in P or N position	ON
SFT P -MET	When selector lever is in any position other than P	OFF
	When selector lever is in P position	ON
SFT N -MET	When selector lever is in any position other than N	OFF
	When selector lever is in N position	ON
ENGINE STATE	Engine stopped	STOP
	While the engine stalls	STALL
	At engine cranking	CRANK
	Engine running	RUN
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
DOOR STAT-DR	Driver door LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door UNLOCK status	UNLK
DOOR STAT-AS	Passenger door LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door UNLOCK status	UNLK

Monitor Item	Condition	Value/Status
ID OK FLAG	Ignition switch ACC or ON	RESET
	Ignition switch OFF	SET
PRMT ENG STRT	When the engine start is prohibited	RESET
	When the engine start is permitted	SET
KEY SW -SLOT	When Intelligent Key is not inserted into key slot	OFF
	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
CONFRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	YET
	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE
TP 4	The ID of fourth key is not registered to BCM	YET
	The ID of fourth key is registered to BCM	DONE
TP 3	The ID of third key is not registered to BCM	YET
	The ID of third key is registered to BCM	DONE
TP 2	The ID of second key is not registered to BCM	YET
	The ID of second key is registered to BCM	DONE
TP 1	The ID of first key is not registered to BCM	YET
	The ID of first key is registered to BCM	DONE
AIR PRESS FL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	When ID of front LH tire transmitter is registered	DONE
	When ID of front LH tire transmitter is not registered	YET
ID REGST FR1	When ID of front RH tire transmitter is registered	DONE
	When ID of front RH tire transmitter is not registered	YET
ID REGST RR1	When ID of rear RH tire transmitter is registered	DONE
	When ID of rear RH tire transmitter is not registered	YET

Monitor Item	Condition	Value/Status
ID REGST RL1	When ID of rear LH tire transmitter is registered	DONE
	When ID of rear LH tire transmitter is not registered	YET
WARNING LAMP	Tire pressure indicator OFF	OFF
	Tire pressure indicator ON	ON
BUZZER	Tire pressure warning alarm is not sounding	OFF
	Tire pressure warning alarm is sounding	ON

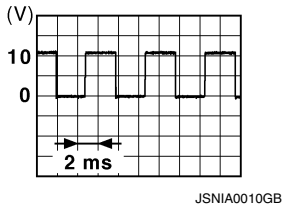
Terminal Layout

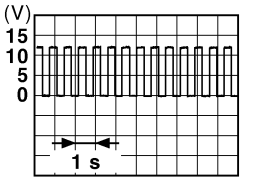
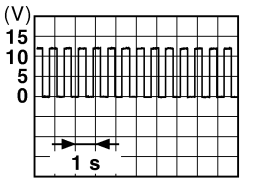
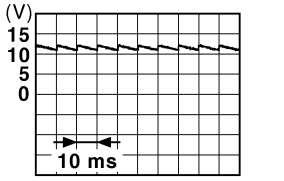
INFOID:0000000010064703

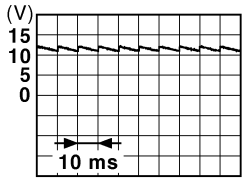
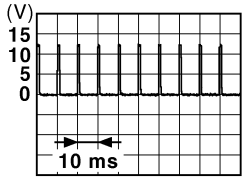
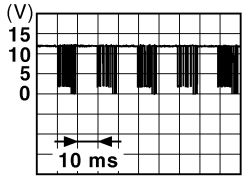


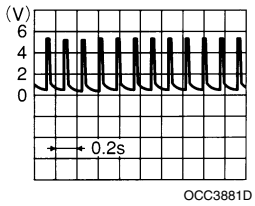
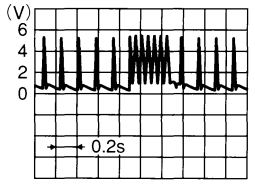
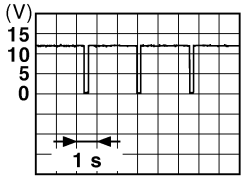
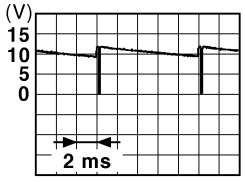
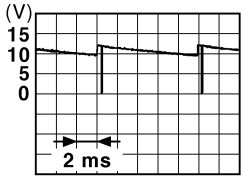
Physical Values

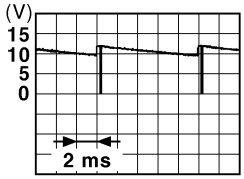
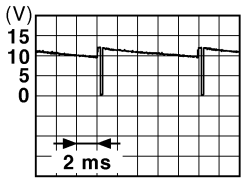
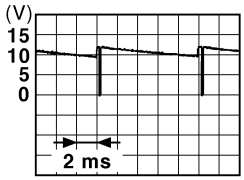
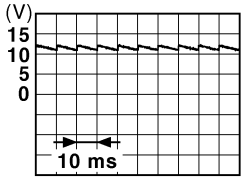
INFOID:0000000010064704

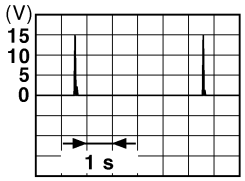
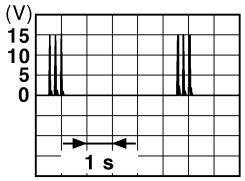
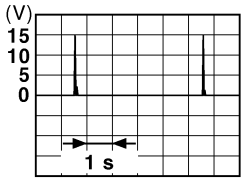
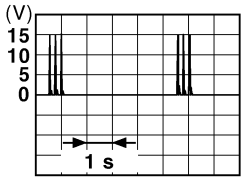
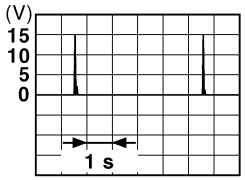
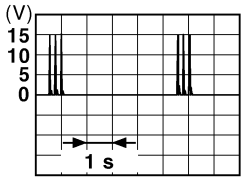
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OFF		Battery voltage
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage
4 (P/W)	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0V
				Any other time after passing the interior room lamp battery saver operation time		Battery voltage
5 (G)	Ground	Front door RH UNLOCK	Output	Front door RH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
7 (R/W)	Ground	Step lamp	Output	Step lamp	ON	0V
					OFF	Battery voltage
8 (V)	Ground	All doors LOCK	Output	All doors	LOCK (actuator is activated)	Battery voltage
					Other than LOCK (actuator is not activated)	0V
9 (L)	Ground	Front door LH UNLOCK	Output	Front door LH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
10 (G)	Ground	Rear door RH and rear door LH UNLOCK	Output	Rear door RH and rear door LH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
13 (B)	Ground	Ground	—	Ignition switch ON		0V
14 (GR/ W)	Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	OFF	0V
					ON	**NOTE:** When the illumination brightening/dimming level is in the neutral position  JSNIA0010GB
15 (Y/L)	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage
					ACC or ON	0V

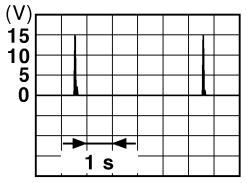
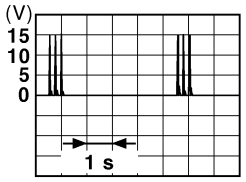
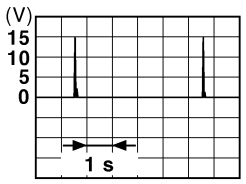
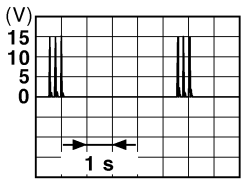
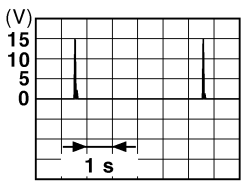
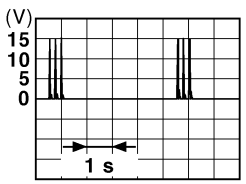
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch RH	 PKID0926E 6.5 V
18 (G/Y)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch LH	 PKID0926E 6.5 V
19 (Y)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	Battery voltage
					ON	0V
21 (P/B)	Ground	Optical sensor signal	Input	Ignition switch ON	When outside of the vehicle is bright	Close to 5V
					When outside of the vehicle is dark	Close to 0V
24 (R/W)	Ground	Stop lamp switch 1	Input	—		Battery voltage
26 (O/L)	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (brake pedal is released)	0V
					ON (brake pedal is depressed)	Battery voltage
27 (O)	Ground	Front door lock assembly LH (unlock sensor)	Input	Front door LH	LOCK status	 JPMIA0011GB 11.8V
					UNLOCK status	0V
29 (Y)	Ground	Key slot switch	Input	When Intelligent Key is inserted into key slot		Battery voltage
				When Intelligent Key is not inserted into key slot		0V
31 (G)	Ground	Rear window defogger feedback signal	Input	Rear window defogger switch	OFF	0V
					ON	Battery voltage

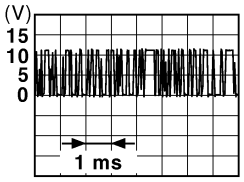
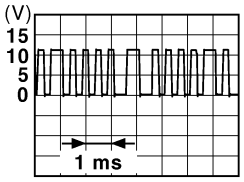
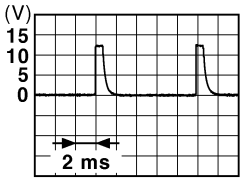
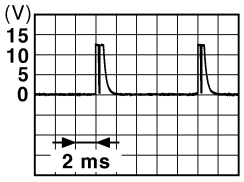
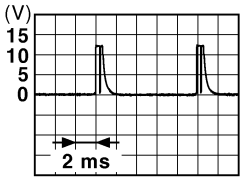
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	 JPMIA0011GB 11.8 V
					ON (when front door RH opens)	0V
37 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	CANCEL	 JPMIA0012GB 1.1V
					ON	0V
38 (GR/ W)	Ground	Rear window defogger ON signal	Input	Rear window defogger switch	OFF	5V
					ON	0V
40 (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON		 JPMIA0013GB 10.2V
				Ignition switch OFF or ACC		0V
41 (W)	Ground	Engine switch (push switch) illumination	Output	Engine switch (push switch) illumination	ON	5.5V
					OFF	0V
42 (R)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON	0V
					OFF	Battery voltage
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON		0V
46 (V/W)	Ground	Receiver & sensor power supply output	Output	Ignition switch	OFF	0V
					ACC or ON	5.0V

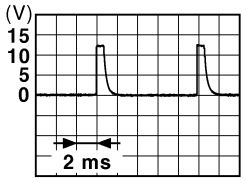
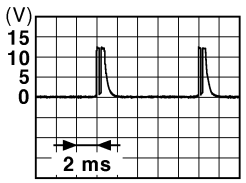
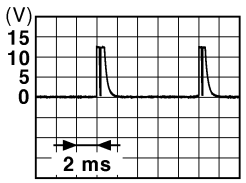
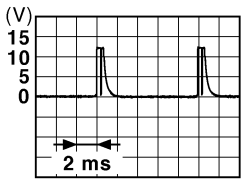
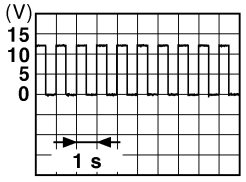
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
47 (G/O)	Ground	Tire pressure receiver signal	Input/ Output	Ignition switch ON	Standby state	 OCC3881D
					When receiving the signal from the transmitter	 OCC3880D
48 (R/G)	Ground	Selector lever transmission range switch signal	Input	Selector lever	P or N position	12.0V
					Except P and N positions	0V
49 (L/O)	Ground	Security indicator signal	Output	Security indicator	ON	0V
					Blinking	 JPMIA0014GB 11.3V
					OFF	Battery voltage
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Lighting switch 1ST	 JPMIA0031GB 10.7V
					Lighting switch high-beam	
					Lighting switch 2ND	
					Turn signal switch RH	
51 (L/W)	Ground	Combination switch OUTPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front wiper switch HI (Wiper intermittent dial 4)	 JPMIA0032GB 10.7V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • WIper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	

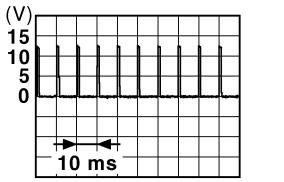
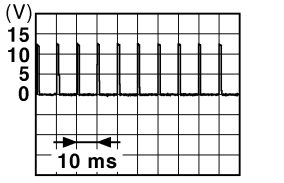
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
52 (G/B)	Ground	Combination switch OUTPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front washer switch ON (Wiper intermittent dial 4)	 JPMIA0033GB 10.7V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • WIper intermittent dial 5 • Wiper intermittent dial 6	
53 (LG/ R)	Ground	Combination switch OUTPUT 3	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Front wiper switch INT	 JPMIA0034GB 10.7V
					Front wiper switch LO	
					Lighting switch AUTO	
54 (G/Y)	Ground	Combination switch OUTPUT 4	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Front fog lamp switch ON	 JPMIA0035GB 10.7V
					Lighting switch 2ND	
					Lighting switch flash-to-pass	
					Turn signal switch LH	
57 (W)	Ground	Tire pressure warning check switch	Input	—		5V
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	 JPMIA0011GB 11.8V
					ON (front door LH OPEN)	0V
59 (G/R)	Ground	Rear window defogger relay	Output	Rear window defogger	Active	Battery voltage
					Not activated	0V

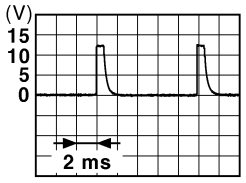
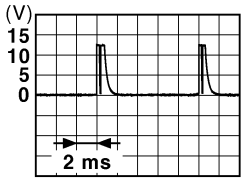
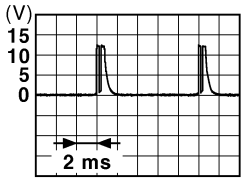
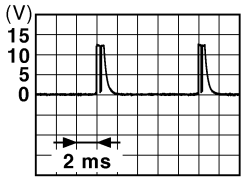
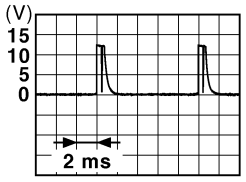
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
60 (B/R)	Ground	Front console antenna 2 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
61 (W/R)	Ground	Center console antenna 2 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
62 (V)	Ground	Front outside handle RH antenna (-)	Output	When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB

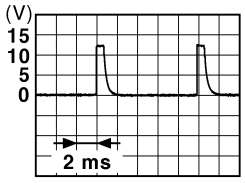
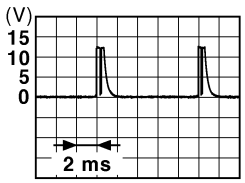
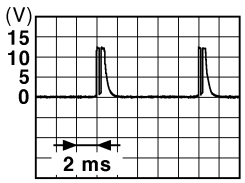
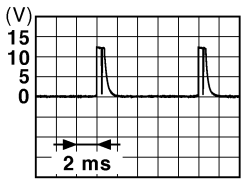
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
63 (P)	Ground	Front outside handle RH antenna (+)	Output	When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
64 (V)	Ground	Front outside handle LH antenna (-)	Output	When the front door LH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
65 (P)	Ground	Front outside handle LH antenna (+)	Output	When the front door LH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB

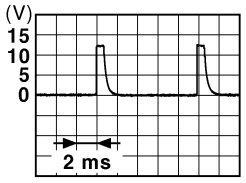
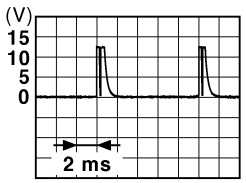
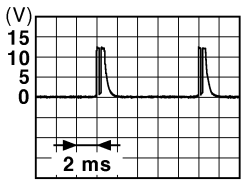
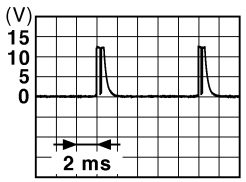
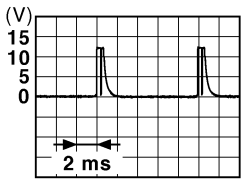
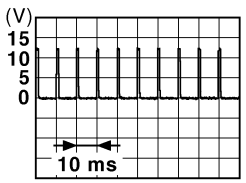
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
70 (R/B)	Ground	Ignition relay-2 control	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
71 (L/O)	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		 JMKIA0064GB
				When operating either button on Intelligent Key		 JMKIA0065GB
75 (R/Y)	Ground	Combination switch INPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Front fog lamp switch ON (Wiper intermittent dial 4)	 JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	 JPMIA0040GB 1.3V

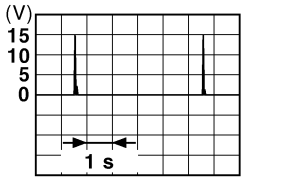
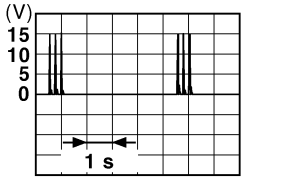
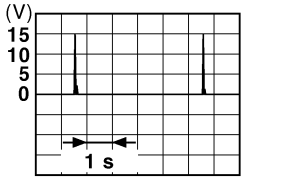
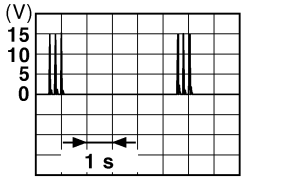
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
76 (R/G)	Ground	Combination switch INPUT 3	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch high-beam (Wiper intermittent dial 4)	 JPMIA0036GB 1.3V
					Lighting switch 2ND (Wiper intermittent dial 4)	 JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	 JPMIA0040GB 1.3V
78 (P)	Ground	CAN-L	Input/ Output	—		—
79 (L)	Ground	CAN-H	Input/ Output	—		—
80 (R/L)	Ground	Key slot illumination	Output	Key slot illumination	OFF	Battery voltage
					Blinking	 JPMIA0015GB 6.5V
					ON	0V
81 (LG)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage

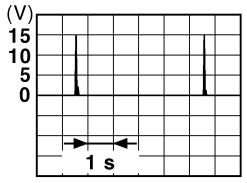
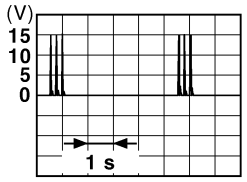
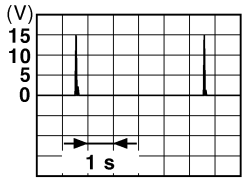
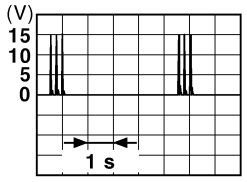
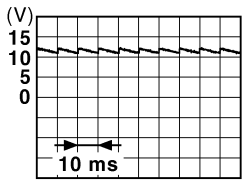
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
83 (L)	Ground	ACC relay control	Output	Ignition switch	OFF	0V
					ACC or ON	Battery voltage
84 (Y/R)	Ground	CVT shift selector	Output	—		Battery voltage
87 (G/B)	Ground	Selector lever P position switch	Input	Selector lever	P position	0V
					Any position other than P	Battery voltage
88 (R)	Ground	Front door RH request switch	Input	Front door RH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
89 (R)	Ground	Front door LH request switch	Input	Front door LH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
90 (Y)	Ground	Blower fan motor relay control	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		Battery voltage

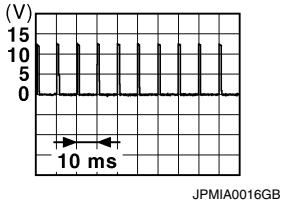
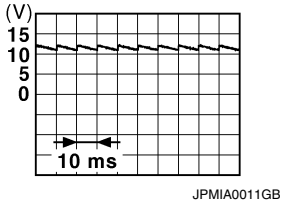
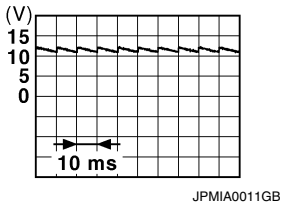
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
95 (R/W)	Ground	Combination switch INPUT 1	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0041GB 1.4V
					Turn signal switch LH	 JPMIA0037GB 1.3V
					Turn signal switch RH	 JPMIA0036GB 1.3V
					Front wiper switch LO	 JPMIA0038GB 1.3V
					Front washer switch ON	 JPMIA0039GB 1.3V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
96 (P/B)	Ground	Combination switch INPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch AUTO (Wiper intermittent dial 4)	 JPMIA0038GB 1.3V
					Lighting switch 1ST (Wiper intermittent dial 4)	 JPMIA0036GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	 JPMIA0039GB 1.3V

Terminal No. (Wire color) (+)	Terminal No. (Wire color) (-)	Description Signal name	Description Input/ Output	Condition		Value (Approx.)
97 (R/B)	Ground	Combination switch INPUT 2	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0041GB 1.4V
					Lighting switch flash-to-pass	 JPMIA0037GB 1.3V
					Lighting switch 2ND	 JPMIA0036GB 1.3V
					Front wiper switch INT	 JPMIA0038GB 1.3V
					Front wiper switch HI	 JPMIA0040GB 1.3V
98 (G/O)	Ground	Hazard switch	Input	Hazard switch	Pressed	0 V
					Not pressed	 JPMIA0012GB 1.1V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
103 (V)	Ground	Trunk lid opening.	Output	Trunk lid	Open (trunk lid opener actuator is activated)	Battery voltage
					Close (trunk lid opener actuator is not activated)	0V
110 (V/W)	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V
					OFF	Battery voltage
114 (B)	Ground	Trunk room antenna 1 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
115 (W)	Ground	Trunk room antenna 1 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
118 (L/O)	Ground	Rear bumper antenna (-)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
119 (BR/ W)	Ground	Rear bumper antenna (+)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
127 (BR/ W)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0V
130 (W)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	 JPMIA0011GB 11.8V
					ON (trunk is open)	0V
132 (R)	Ground	Starter motor relay control	Output	Ignition switch ON	When selector lever is in P or N position and the brake is depressed	Battery voltage
					When selector lever is in P or N position and the brake is not depressed	0V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
140 (BR)	Ground	Engine switch (push switch)	Input	Engine switch (push switch)	Pressed	0V
					Not pressed	Battery voltage
141 (BR)	Ground	Trunk opener request switch	Input	Trunk opener request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
144 (GR)	Ground	Request switch buzzer	Output	Request switch buzzer	Sounding	0V
					Not sounding	Battery voltage
147 (L/R)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Pressed	0V
					Not pressed	Battery voltage
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	 JPMIA0011GB 11.8V
					ON (when rear door RH opens)	0V
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	 JPMIA0011GB 11.8V
					ON (when rear door LH opens)	0V

Fail Safe

INFOID:0000000010064705

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Erase DTC
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Starter control relay signal • Starter relay status signal

Display contents of CONSULT	Fail-safe	Cancellation
B2562: LO VOLTAGE	Inhibit engine cranking	100 ms after the power supply voltage increases to more than 8.8 V
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent • Starter motor relay control signal • Starter relay status signal (CAN)
B260A: IGNITION RELAY	Inhibit engine cranking	500 ms after the following conditions are fulfilled • IGN relay (IPDM E/R) control signal: OFF (Battery voltage) • Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) • Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilled • Power position changes to ACC • Receives engine status signal (CAN)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions are fulfilled • Power position changes to ACC • Receives engine status signal (CAN)

DTC Inspection Priority Chart

INFOID:0000000010064706

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	• B2562: LO VOLTAGE
2	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	• B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM
4	• B2553: IGNITION RELAY • B2555: STOP LAMP • B2556: PUSH-BTN IGN SW • B2557: VEHICLE SPEED • B2560: STARTER CONT RELAY • B2601: SHIFT POSITION • B2602: SHIFT POSITION • B2603: SHIFT POSI STATUS • B2604: PNP SWITCH • B2605: PNP SWITCH • B2608: STARTER RELAY • B260A: IGNITION RELAY • B260F: ENG STATE SIG LOST • B2614: ACC RELAY CIRC • B2615: BLOWER RELAY CIRC • B2616: IGN RELAY CIRC • B2617: STARTER RELAY CIRC • B2618: BCM • B261A: PUSH-BTN IGN SW • B26E1: ENG STATE NO RECIV • C1729: VHCL SPEED SIG ERR • U0415: VEHICLE SPEED SIG

Priority	DTC
5	• C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL • C1734: CONTROL UNIT
6	• B2622: INSIDE ANTENNA • B2623: INSIDE ANTENNA

DTC Index

INFOID:0000000010064707

NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	BCS-32
U1010: CONTROL UNIT (CAN)	—	—	—	BCS-33
U0415: VEHICLE SPEED SIG	—	—	—	BCS-34
B2190: NATS ANTENNA AMP	×	—	—	SEC-37
B2191: DIFFERENCE OF KEY	×	—	—	SEC-40
B2192: ID DISCORD BCM-ECM	×	—	—	SEC-41
B2193: CHAIN OF BCM-ECM	×	—	—	SEC-42
B2553: IGNITION RELAY	—	—	—	PCS-46
B2555: STOP LAMP	—	—	—	SEC-43
B2556: PUSH-BTN IGN SW	—	×	—	SEC-46
B2557: VEHICLE SPEED	×	×	—	SEC-48
B2560: STARTER CONT RELAY	×	×	—	SEC-49

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2562: LOW VOLTAGE	—	—	—	BCS-35
B2601: SHIFT POSITION	×	×	—	SEC-50
B2602: SHIFT POSITION	×	×	—	SEC-53
B2603: SHIFT POSI STATUS	×	×	—	SEC-56
B2604: PNP SWITCH	×	×	—	SEC-59
B2605: PNP SWITCH	×	×	—	SEC-61
B2608: STARTER RELAY	×	×	—	SEC-63
B260A: IGNITION RELAY	×	×	—	PCS-48
B260F: ENG STATE SIG LOST	×	×	—	SEC-65
B2614: ACC RELAY CIRC	—	×	—	PCS-50
B2615: BLOWER RELAY CIRC	—	×	—	PCS-53
B2616: IGN RELAY CIRC	—	×	—	PCS-56
B2617: STARTER RELAY CIRC	×	×	—	SEC-67
B2618: BCM	×	×	—	PCS-59
B261A: PUSH-BTN IGN SW	—	×	—	PCS-60
B2622: INSIDE ANTENNA	—	—	—	DLK-60
B2623: INSIDE ANTENNA	—	—	—	DLK-63
B26E1: ENG STATE NO RES	×	×	—	SEC-66
C1704: LOW PRESSURE FL	—	—	×	WT-43
C1705: LOW PRESSURE FR	—	—	×	WT-43
C1706: LOW PRESSURE RR	—	—	×	WT-43
C1707: LOW PRESSURE RL	—	—	×	WT-43
C1708: [NO DATA] FL	—	—	×	WT-13
C1709: [NO DATA] FR	—	—	×	WT-13
C1710: [NO DATA] RR	—	—	×	WT-13
C1711: [NO DATA] RL	—	—	×	WT-13
C1712: [CHECKSUM ERR] FL	—	—	×	WT-15
C1713: [CHECKSUM ERR] FR	—	—	×	WT-15
C1714: [CHECKSUM ERR] RR	—	—	×	WT-15
C1715: [CHECKSUM ERR] RL	—	—	×	WT-15
C1716: [PRESSDATA ERR] FL	—	—	×	WT-17
C1717: [PRESSDATA ERR] FR	—	—	×	WT-17
C1718: [PRESSDATA ERR] RR	—	—	×	WT-17
C1719: [PRESSDATA ERR] RL	—	—	×	WT-17
C1720: [CODE ERR] FL	—	—	×	WT-15
C1721: [CODE ERR] FR	—	—	×	WT-15
C1722: [CODE ERR] RR	—	—	×	WT-15
C1723: [CODE ERR] RL	—	—	×	WT-15
C1724: [BATT VOLT LOW] FL	—	—	×	WT-15
C1725: [BATT VOLT LOW] FR	—	—	×	WT-15
C1726: [BATT VOLT LOW] RR	—	—	×	WT-15
C1727: [BATT VOLT LOW] RL	—	—	×	WT-15

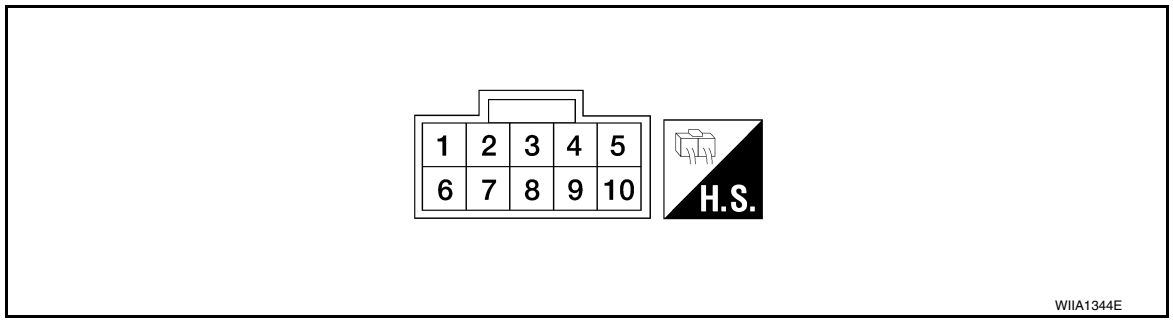
CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1729: VHCL SPEED SIG ERR	—	—	×	WT-19
C1734: CONTROL UNIT	—	—	×	WT-20

SUNROOF MOTOR ASSEMBLY

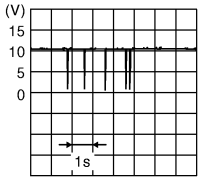
Reference Value

INFOID:0000000010049001

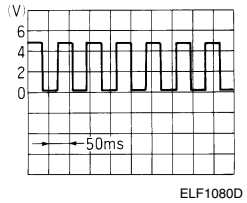
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Voltage (V) (Approx.)
+	-	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	—		0
2 (O)	Ground	Ground	—	—		0
3 (R)	Ground	RAP signal	Input	Ignition switch ON		Battery voltage
				Within 45 second after ignition switch is turned to OFF.		Battery voltage
				When driver side or passenger side door is opened during retained power operation or retained power operation is finished.		0
4 (Y)	Ground	Sunroof switch signal (PUSH)	Input	Sunroof switch	PUSH	0
					Other than above	Battery voltage
5 (LG)	Ground	Sunroof switch signal (OPEN)	Input	Sunroof switch	OPEN (1st and 2nd)	0
					Other than above	Battery voltage
6 (L)	Ground	Battery voltage	—	—		Battery voltage
7 (P)	Ground	Communication line	Input/ Output	Ignition switch ON		

JMKIA1869ZZ

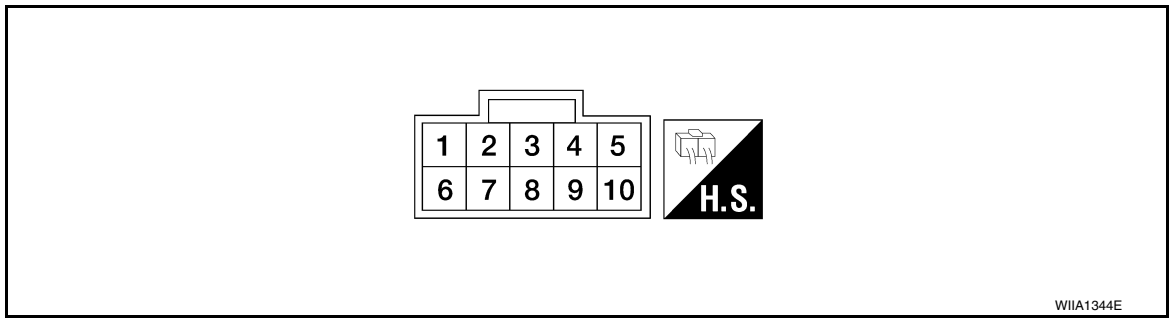
Terminal No. (Wire color)		Description		Condition		Voltage (V) (Approx.)
+	-	Signal name	Input/ Output			
8 (BR)	Ground	Vehicle speed signal (2-pulse)	Input	Speed meter operated [When vehicle speed is approx. 40km/h (25MPH)]		 ELF1080D
9 (W)	Ground	Sunroof switch signal (2nd)	Input	Sunroof switch	OPEN or CLOSE (2nd)	0
					Other than above	Battery voltage
10 (V)	Ground	Sunroof switch signal (CLOSE)	Input	Sunroof switch	CLOSE (1st and 2nd)	0
					Other than above	Battery voltage

SUNSHADE MOTOR ASSEMBLY

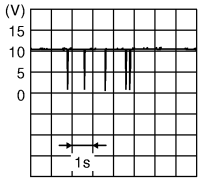
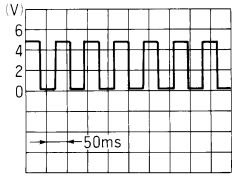
Reference Value

INFOID:0000000010049002

TERMINAL LAYOUT



PHYSICAL VALUES

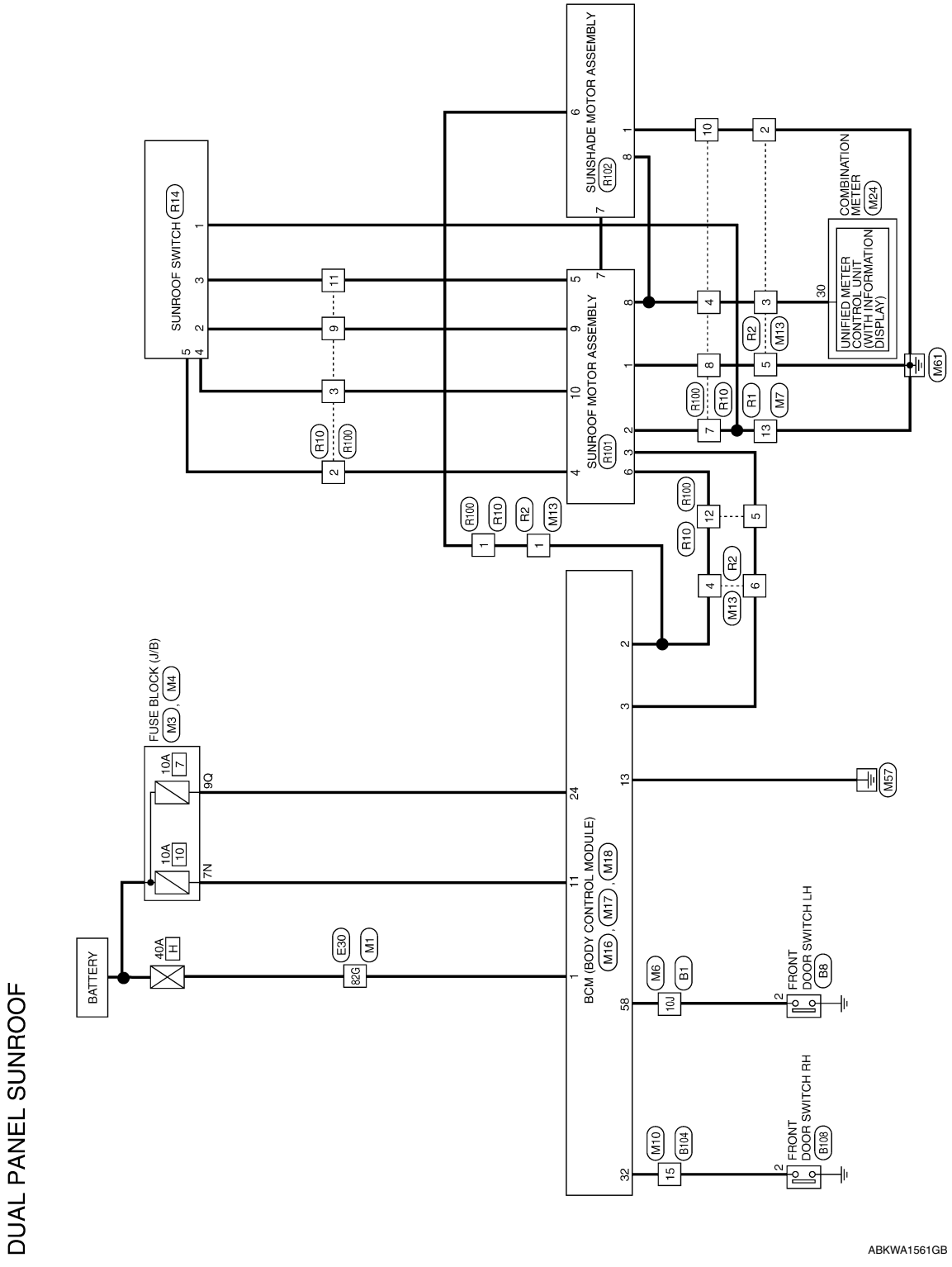
Terminal No. (Wire color)		Description		Condition	Voltage (V) (Approx.)
+	-	Signal name	Input/ Output		
1 (B)	Ground	Ground	—	—	0
6 (G)	Ground	Battery voltage	—	—	Battery voltage
7 (P)	Ground	Communication line	Input/ Output	Ignition switch ON	 JMKIA1869ZZ
8 (BR)	Ground	Vehicle speed signal (2-pulse)	Input	Speed meter operated [When vehicle speed is approx. 40km/h (25MPH)]	 ELF1080D

WIRING DIAGRAM

SUNROOF MOTOR ASSEMBLY

Wiring Diagram

INFOID:0000000010049003



DUAL PANEL SUNROOF CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

9G	8G	7G	6G	5G	4G	3G		2G	1G
17G	16G	15G	14G	13G	12G	11G	10G		
26G	25G	24G	23G	22G	21G	20G			
34G	33G	32G	31G	30G	29G	28G	27G	19G	18G
41G	40G	39G	38G	37G	36G	35G			
50G	49G	48G	47G	46G	45G	44G	43G	42G	
58G	57G	56G	55G						
63G	62G	61G	60G	59G	54G	53G	52G	51G	
72G	71G	70G	69G	68G	67G	66G			
80G	79G	78G	77G	76G	75G	74G	73G	65G	64G
			83G		82G		81G		

Terminal No.	Color of Wire	Signal Name
82G	W/B	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

3N		2N		1N
8N	7N	6N	5N	4N

Terminal No.	Color of Wire	Signal Name
7N	Y/R	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

4Q	3Q		2Q	1Q
10Q	9Q	8Q	7Q	6Q	5Q

Terminal No.	Color of Wire	Signal Name
9Q	R/W	–

ABKIA2719GB

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
13	B	–

Connector No.	M16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

1	3
2	

Terminal No.	Color of Wire	Signal Name
1	W/B	BATT (F/L)
2	R/Y	P/W POWER SUPPLY PERM
3	L/W	P/W POWER SUPPLY IGN

Terminal No.	Color of Wire	Signal Name
10J	SB	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2
3	4	5	6

Terminal No.	Color of Wire	Signal Name
1	R/Y	–
2	B	–
3	L/B	–
4	R/Y	–
5	B	–
6	L/W	–

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4		3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
15	R/B	–

ABKIA2720GB

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
30	L/B	2P/R OUT

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20		
59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40		

Terminal No.	Color of Wire	Signal Name
24	R/W	BRAKE SW 1
32	R/B	AS DOOR SW 1
58	SB	DR DOOR SW

Terminal No.	Color of Wire	Signal Name
82G	LG	–

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

4	5	6	7		8	9	10		
11	12	13	14	15	16	17	18	19	

Terminal No.	Color of Wire	Signal Name
11	Y/R	BAT BCM FUSE
13	B	GND1

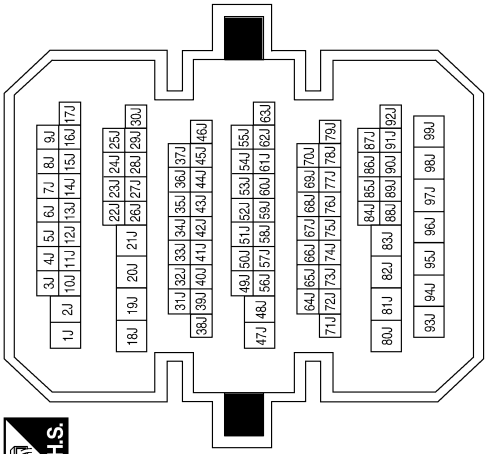
Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

ABKIA2721GB

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
10J	SB	–

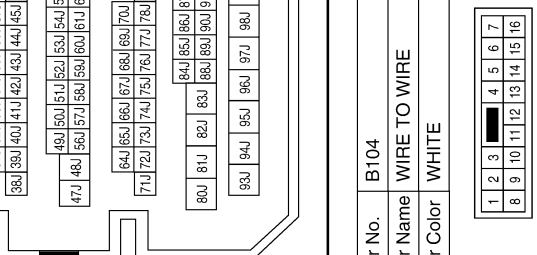
Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	SB	–

Connector No.	B104
Connector Name	WIRE TO WIRE
Connector Color	WHITE

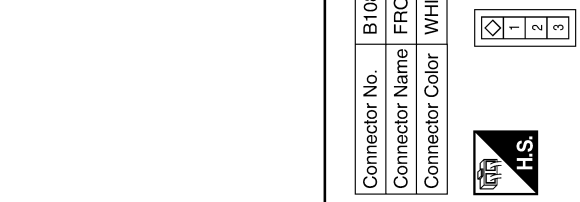
H.S.



Terminal No.	Color of Wire	Signal Name
15	GR	–

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

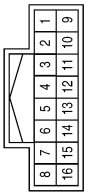
H.S.



Terminal No.	Color of Wire	Signal Name
2	GR	–

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

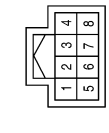


Terminal No.	Color of Wire	Signal Name
13	B	–

ABKIA2722GB

Connector No.	R14
Connector Name	SUNROOF SWITCH (WITH DUAL PANEL SUNROOF)
Connector Color	WHITE

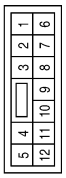
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	G	–
3	Y	–
4	LG	–
5	W/R	–

Connector No.	R10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

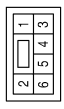
H.S.



Terminal No.	Color of Wire	Signal Name
1	R	–
2	W/R	–
3	LG	–
4	L/B	–
5	L/W	–
7	B	–
8	B	–
9	G	–
10	B/L	–
11	Y	–
12	R/Y	–

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

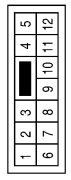


Terminal No.	Color of Wire	Signal Name
1	R	–
2	B/L	–
3	L/B	–
4	R/Y	–
5	B	–
6	L/W	–

Terminal No.	Color of Wire	Signal Name
5	R	–
7	O	–
8	B	–
9	W	–
10	B	–
11	LG	–
12	L	–

Connector No.	R100
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	Y	–
3	V	–
4	BR	–

ABKIA3848GB

Connector No.	R101
Connector Name	SUNROOF MOTOR ASSEMBLY (WITH DUAL PANEL SUNROOF)
Connector Color	GRAY

H.S.

1	2	3	4	5
6	7	8	9	10

Terminal No.	Color of Wire	Signal Name
1	B	–
2	O	–
3	R	–
4	Y	–
5	LG	–
6	L	–
7	P	–
8	BR	–
9	W	–
10	V	–

Connector No.	R102
Connector Name	SUNSHADE MOTOR ASSEMBLY (WITH DUAL PANEL SUNROOF)
Connector Color	GRAY

H.S.

1	2	3	4	5
6	7	8	9	10

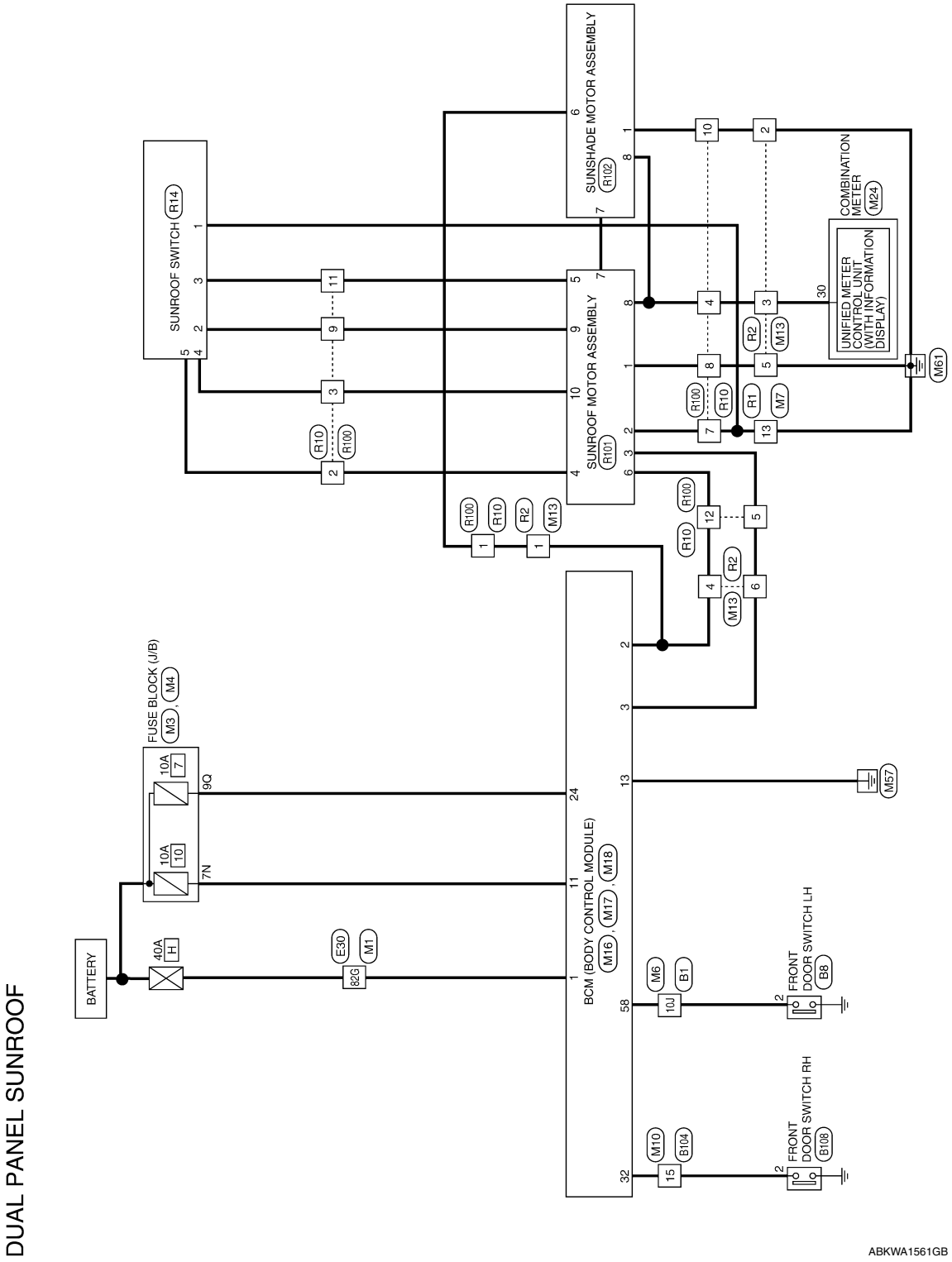
Terminal No.	Color of Wire	Signal Name
1	B	–
6	G	–
7	P	–
8	BR	–

ABKIA4879GB

SUNSHADE MOTOR ASSEMBLY

Wiring Diagram

INFOID:0000000010049004



DUAL PANEL SUNROOF CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

9G	8G	7G	6G	5G	4G	3G		2G	1G
17G	16G	15G	14G	13G	12G	11G	10G		
26G	25G	24G	23G	22G	21G	20G			
34G	33G	32G	31G	30G	29G	28G	27G	19G	18G
41G	40G	39G	38G	37G	36G	35G			
50G	49G	48G	47G	46G	45G	44G	43G	42G	
58G	57G	56G	55G						
63G	62G	61G	60G	59G	54G	53G	52G	51G	
72G	71G	70G	69G	68G	67G	66G			
80G	79G	78G	77G	76G	75G	74G	73G	65G	64G
		83G		82G			81G		

Terminal No.	Color of Wire	Signal Name
82G	W/B	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

		2N	1N	
3N			4N	
	7N	6N	5N	
8N				

Terminal No.	Color of Wire	Signal Name
7N	Y/R	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

4Q	3Q		2Q	1Q
10Q	9Q	8Q	7Q	6Q	5Q

Terminal No.	Color of Wire	Signal Name
9Q	R/W	–

ABKIA2719GB

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
13	B	–

Connector No.	M16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

1	3
2	

Terminal No.	Color of Wire	Signal Name
1	W/B	BATT (F/L)
2	R/Y	P/W POWER SUPPLY PERM
3	L/W	P/W POWER SUPPLY IGN

Terminal No.	Color of Wire	Signal Name
10J	SB	–

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2
3	4
5	6

Terminal No.	Color of Wire	Signal Name
1	R/Y	–
2	B	–
3	L/B	–
4	R/Y	–
5	B	–
6	L/W	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

9J	8J	7J	6J	5J	4J	3J		1J
17J	16J	15J	14J	13J	12J	11J	10J	2J
25J	24J	23J	22J				20J	19J
30J	29J	28J	27J	26J		21J		18J
	37J	36J	35J	34J	33J	32J	31J	
	46J	45J	44J	43J	42J	41J	40J	39J
	55J	54J	53J	52J	51J	50J	49J	38J
	63J	62J	61J	60J	59J	58J	57J	56J
	70J	69J	68J	67J	66J	65J	64J	48J
	79J	78J	77J	76J	75J	74J	73J	72J
	87J	86J	85J	84J				71J
	92J	91J	90J	89J	88J	83J	82J	81J
	99J	98J	97J	96J	95J	94J	93J	80J

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4		3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
15	R/B	–

ABKIA2720GB

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

4	5	6	7		8	9	10
11	12	13	14	15	16	17	18	19

Terminal No.	Color of Wire	Signal Name
11	Y/R	BAT BCM FUSE
13	B	GND1

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40

Terminal No.	Color of Wire	Signal Name
24	R/W	BRAKE SW 1
32	R/B	AS DOOR SW 1
58	SB	DR DOOR SW

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
30	L/B	2P/R OUT

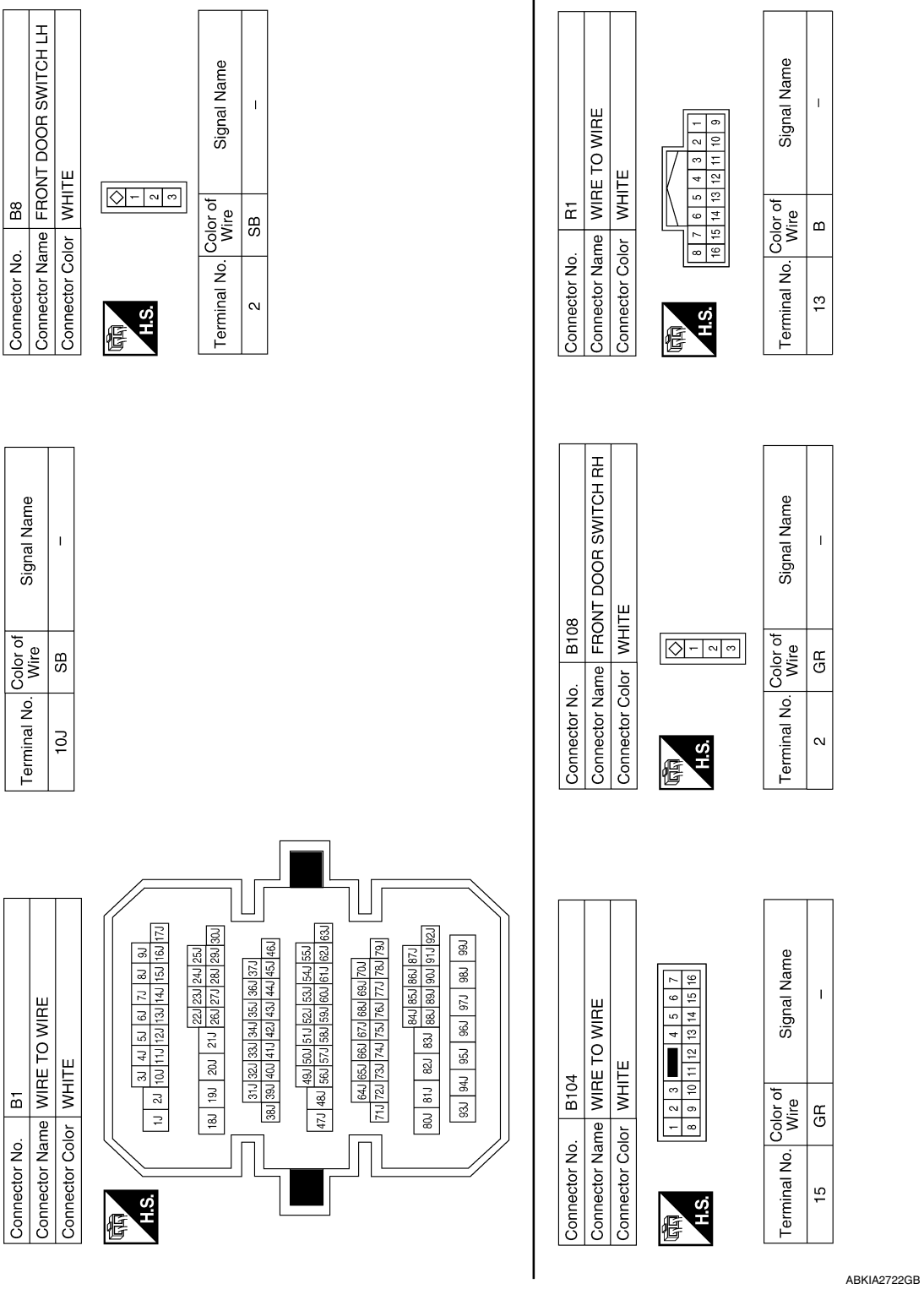
Terminal No.	Color of Wire	Signal Name
82G	LG	–

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

		3G	4G	5G	6G	7G	8G	9G	
	1G	2G	10G	11G	12G	13G	14G	15G	16G	17G
		20G	21G	22G	23G	24G	25G	26G	
18G	19G	27G	28G	29G	30G	31G	32G	33G	34G
		35G	36G	37G	38G	39G	40G	41G	
42G	43G	44G	45G	46G	47G	48G	49G	50G	
					55G	56G	57G	58G	
51G	52G	53G	54G	59G	60G	61G	62G	63G	
		66G	67G	68G	69G	70G	71G	72G	
64G	65G	73G	74G	75G	76G	77G	78G	79G	80G
				81G	82G		83G		

ABKIA2721GB



ABKIA2722GB

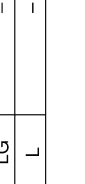
Connector No.	R14
Connector Name	SUNROOF SWITCH (WITH DUAL PANEL SUNROOF)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	G	–
3	Y	–
4	LG	–
5	W/R	–

Connector No.	R10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

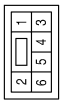


Terminal No.	Color of Wire	Signal Name
1	R	–
2	W/R	–
3	LG	–
4	L/B	–
5	L/W	–
7	B	–
8	B	–
9	G	–
10	B/L	–
11	Y	–
12	R/Y	–

Terminal No.	Color of Wire	Signal Name
5	R	–
7	O	–
8	B	–
9	W	–
10	B	–
11	LG	–
12	L	–

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

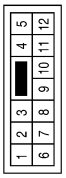
H.S.



Terminal No.	Color of Wire	Signal Name
1	R	–
2	B/L	–
3	L/B	–
4	R/Y	–
5	B	–
6	L/W	–

Connector No.	R100
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	Y	–
3	V	–
4	BR	–

ABKIA3848GB

Connector No.	R102
Connector Name	SUNSHADE MOTOR ASSEMBLY (WITH DUAL PANEL SUNROOF)
Connector Color	GRAY

H.S.

1	2	3	4	5
6	7	8	9	10

Terminal No.	Color of Wire	Signal Name
1	B	–
6	G	–
7	P	–
8	BR	–

Connector No.	R101
Connector Name	SUNROOF MOTOR ASSEMBLY (WITH DUAL PANEL SUNROOF)
Connector Color	GRAY

H.S.

1	2	3	4	5
6	7	8	9	10

Terminal No.	Color of Wire	Signal Name
1	B	–
2	O	–
3	R	–
4	Y	–
5	LG	–
6	L	–
7	P	–
8	BR	–
9	W	–
10	V	–

ABKIA4879GB

SYMPTOM DIAGNOSIS

SUNROOF DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000010049005

1.CHECK SUNROOF MECHANISM

Check the following.
- Operation malfunction caused by sunroof mechanism deformation, pinched harness or other foreign materials
- Operation malfunction and interference with other parts by poor installation

Is the inspection result normal?

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

2.CHECK SUNROOF MOTOR ASSEMBLY POWER SUPPLY AND GROUND CIRCUIT

Check sunroof motor assembly power supply and ground circuit.
Refer to RF-83, "SUNROOF MOTOR ASSEMBLY : Diagnosis Procedure"

Is the inspection result normal?

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

3.CHECK SUNROOF SWITCH

Check sunroof switch.
Refer to RF-88, "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 result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".
NO >> GO TO 1.

SUNSHADE SYSTEM DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000010049006

1.CHECK SUNSHADE MECHANISM

Check the following.
- Operation malfunction caused by sunshade mechanism deformation, pinched harness or other foreign materials
- Operation malfunction and interference with other parts by poor installation

Is the inspection result normal?

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

2.CHECK SUNSHADE MOTOR ASSEMBLY POWER SUPPLY AND GROUND CIRCUIT

Check sunshade motor assembly power supply and ground circuit.
Refer to RF-85, "SUNSHADE MOTOR ASSEMBLY : Diagnosis Procedure".

Is the inspection result normal?

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

3.CHECK COMMUNICATION CIRCUIT

Check communication circuit.
Refer to RF-87, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the harness.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".
NO >> GO TO 1.

AUTO OPERATION DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010049007

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.
Refer to RF-76, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Sunroof and sunshade system is normal.
NO >> GO TO 2.

2.CHECK SUNROOF SWITCH

Check sunroof switch.
Refer to RF-88, "Diagnosis Procedure".

Is the inspection result normal?

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

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".
NO >> GO TO 1.

RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000010049008

1.CHECK FRONT DOOR SWITCH

Check front door switch.
Refer to DLK-67, "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 result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".
NO >> GO TO 1.

ANTI-PINCH FUNCTION DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010049009

1.CHECK SUNROOF AND SUNSHADE MECHANISM

Check the following.
- Operation malfunction caused by sunroof and sunshade mechanism deformation, pinched harness or other foreign materials
- Operation malfunction and interference with other parts by poor installation

Is the inspection result normal?

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

2.PERFORM INITIALIZATION

Perform initialization procedure.
Refer to RF-76, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

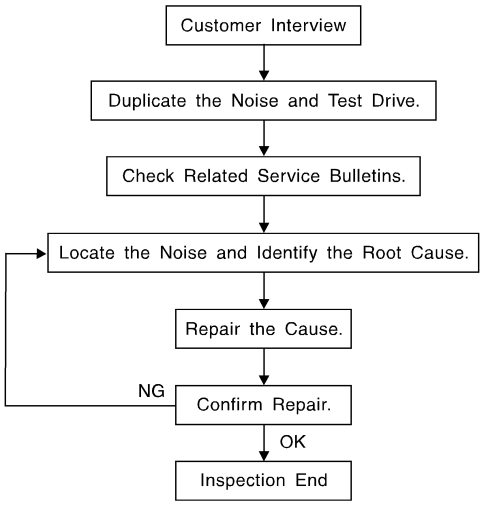
Is the inspection result normal?

YES >> Sunroof and sunshade system is normal.
NO >> GO TO 1.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:0000000010064674



SBT842

CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to RF-144, "Diagnostic Worksheet". This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by test driving the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.
- Squeak —(Like tennis shoes on a clean floor)
  Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces = higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping.
- Creak—(Like walking on an old wooden floor)
  Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle—(Like shaking a baby rattle)
  Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock —(Like a knock on a door)
  Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick—(Like a clock second hand)
  Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump—(Heavy, muffled knock noise)
  Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz—(Like a bumble bee)
  Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when you confirm the repair.

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

1) Close a door.
2) Tap or push/pull around the area where the noise appears to be coming from.
3) Rev the engine.
4) Use a floor jack to recreate vehicle “twist”.
5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on CVT and A/T models).
6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.

- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.
If a TSB relates to the symptom, follow the procedure to repair the noise.

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear: J-39565 and mechanic's stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
   - removing the components in the area that you suspect the noise is coming from.
     Do not use too much force when removing clips and fasteners, otherwise clips and fasteners can be broken or lost during the repair, resulting in the creation of new noise.
   - tapping or pushing/pulling the component that you suspect is causing the noise.
     Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
   - feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
   - placing a piece of paper between components that you suspect are causing the noise.
   - looking for loose components and contact marks.
     Refer to RF-145, "Generic Squeak and Rattle Troubleshooting".

REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:

- separate components by repositioning or loosening and retightening the component, if possible.
- insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A NISSAN Squeak and Rattle Kit (J-50397) is available through your authorized NISSAN Parts Department.

CAUTION:
Do not use excessive force as many components are constructed of plastic and may be damaged.
NOTE:

- Always check with the Parts Department for the latest parts information.
- The materials contained in the NISSAN Squeak and Rattle Kit (J-50397) are listed on the inside cover of the kit; and can each be ordered separately as needed.
- The following materials not found in the kit can also be used to repair squeaks and rattles.

- SILICONE GREASE: Use instead of UHMW tape that will be visible or does not fit. The silicone grease will only last a few months.
- SILICONE SPRAY: Use when grease cannot be applied.
- DUCT TAPE: Use to eliminate movement.

CONFIRM THE REPAIR

Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.

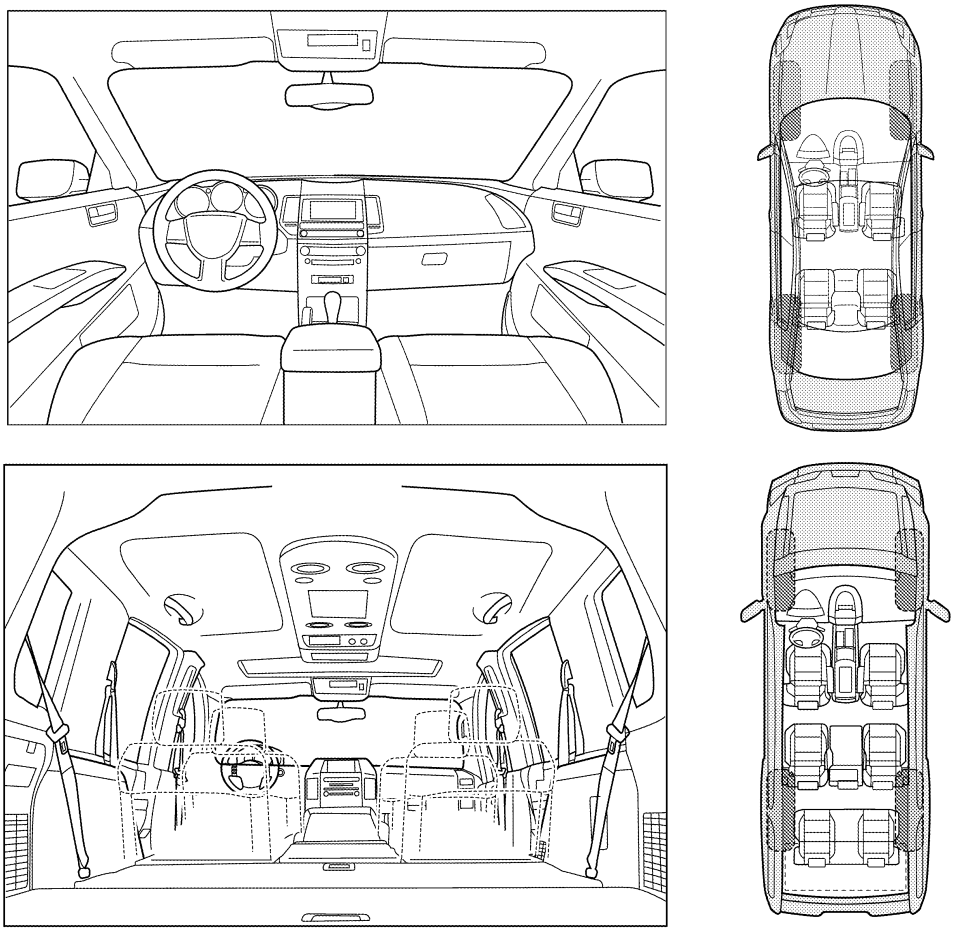
Diagnostic Worksheet

INFOID:0000000010064676

Dear Customer:
We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service advisor or technician to ensure we confirm the noise you are hearing.

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)
The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

LAIA0072E

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

_____

_____

II. WHEN DOES IT OCCUR? (please check the boxes that apply)

- ☐ Anytime
- ☐ 1st time in the morning
- ☐ Only when it is cold outside
- ☐ Only when it is hot outside
- ☐ After sitting out in the rain
- ☐ When it is raining or wet
- ☐ Dry or dusty conditions
- ☐ Other:

III. WHEN DRIVING:

- ☐ Through driveways
- ☐ Over rough roads
- ☐ Over speed bumps
- ☐ Only about ____ mph
- ☐ On acceleration
- ☐ Coming to a stop
- ☐ On turns: left, right or either (circle)
- ☐ With passengers or cargo
- ☐ Other: _____
- ☐ After driving _____ miles or _____ minutes

IV. WHAT TYPE OF NOISE

- ☐ Squeak (like tennis shoes on a clean floor)
- ☐ Creak (like walking on an old wooden floor)
- ☐ Rattle (like shaking a baby rattle)
- ☐ Knock (like a knock at the door)
- ☐ Tick (like a clock second hand)
- ☐ Thump (heavy muffled knock noise)
- ☐ Buzz (like a bumble bee)

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

_____

_____

_____

	YES	NO	Initials of person performing
Vehicle test driven with customer	☐	☐	_____
- Noise verified on test drive	☐	☐	_____
- Noise source located and repaired	☐	☐	_____
- Follow up test drive performed to confirm repair	☐	☐	_____

VIN: _____ Customer Name _____

W.O.# _____ Date: _____

This form must be attached to Work Order

LAIA0071E

Generic Squeak and Rattle Troubleshooting

INFOID:0000000010064675

Refer to Table of Contents for specific component removal and installation information.

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. Cluster lid A and the instrument panel
2. Acrylic lens and combination meter housing

3. Instrument panel to front pillar finisher
4. Instrument panel to windshield
5. Instrument panel pins
6. Wiring harnesses behind the combination meter
7. A/C defroster duct and duct joint

These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

CAUTION:

Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you will not be able to recheck the repair.

CENTER CONSOLE

Components to pay attention to include:

1. Shift selector assembly cover to finisher
2. A/C control unit and cluster lid C
3. Wiring harnesses behind audio and A/C control unit

The instrument panel repair and isolation procedures also apply to the center console.

DOORS

Pay attention to the:

1. Finisher and inner panel making a slapping noise
2. Inside handle escutcheon to door finisher
3. Wiring harnesses tapping
4. Door striker out of alignment causing a popping noise on starts and stops

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks from the NISSAN Squeak and Rattle Kit (J-50397) to repair the noise.

TRUNK

Trunk noises are often caused by a loose jack or loose items put into the trunk by the owner.
In addition look for:

1. Trunk lid bumpers out of adjustment
2. Trunk lid striker out of adjustment
3. The trunk lid torsion bars knocking together
4. A loose license plate or bracket

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

SUNROOF/HEADLINING

Noises in the sunroof/headlining area can often be traced to one of the following:

1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
2. Sun visor shaft shaking in the holder
3. Front or rear windshield touching headlining and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

OVERHEAD CONSOLE (FRONT AND REAR)

Overhead console noises are often caused by the console panel clips not being engaged correctly. Most of these incidents are repaired by pushing up on the console at the clip locations until the clips engage.
In addition look for:

1. Loose harness or harness connectors.
2. Front console map/reading lamp lens loose.
3. Loose screws at console attachment points.

SEATS

When isolating seat noise it's important to note the position the seat is in and the load placed on the seat when the noise is present. These conditions should be duplicated when verifying and isolating the cause of the noise.

Cause of seat noise include:

1. Headrest rods and holder
2. A squeak between the seat pad cushion and frame
3. The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

UNDERHOOD

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

1. Any component installed to the engine wall
2. Components that pass through the engine wall
3. Engine wall mounts and connectors
4. Loose radiator installation pins
5. Hood bumpers out of adjustment
6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine rpm or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009465740

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 SR and SB section 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 SR section.**
- **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 Airbag Diagnosis Sensor Unit or other Airbag 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.**

Precaution for Work

INFOID:0000000009759593

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

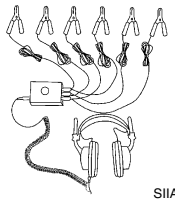
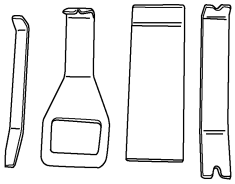
PREPARATION

PREPARATION

Special Service Tool

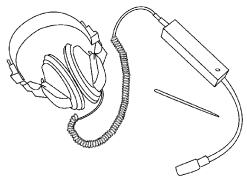
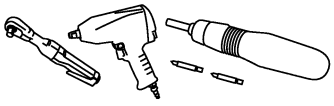
INFOID:0000000009465742

The actual shapes of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-39570) Chassis Ear  SIIA0993E	Locating the noise
— (J-50397) NISSAN Squeak and Rattle Kit  ALJIA1232ZZ	Repairing the cause of noise
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

Commercial Service Tools

INFOID:0000000009465743

Tool name	Description
Engine Ear  SIIA0995E	Locating the noise
Power tool  PIIB1407E	Loosening nuts, screws and bolts

REMOVAL AND INSTALLATION

GLASS LID

Removal and Installation

INFOID:0000000009465744

REMOVAL

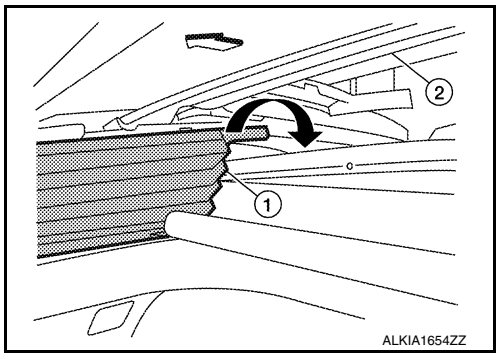
CAUTION:

- **Always work with a helper.**
- **Handle glass lid with care to prevent damage.**

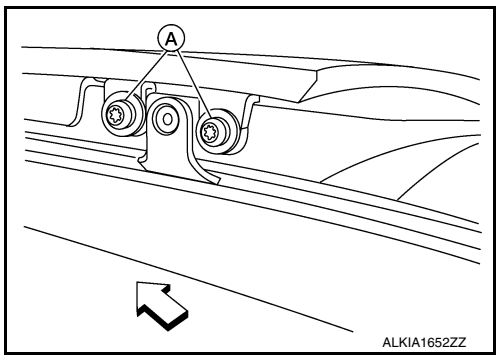
NOTE:

For easier and more accurate installation, always mark each point before removal.

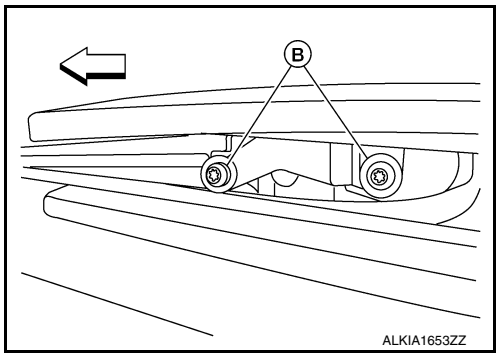
1. Open sunshade.
2. Tilt glass lid up, then slide rearward to expose all the glass lid bolts.
3. Release the slide clip, then remove inner blind (1) (LH/RH) from the glass lid (2).
   ⇦: Front



4. Remove the glass lid rear bolts (A), two on both the left and right sides.
   ⇦: Front



5. Remove the glass lid front bolts (B), two on both the left and right sides.
   ⇦: Front



6. Remove the glass lid from the vehicle.

INSTALLATION

CAUTION:

After installing the glass lid, perform the water leak test.

Installation is in the reverse order of removal.

NOTE:

- After installing, perform glass lid adjustment procedure. Refer to RF-155, "Inspection and Adjustment".

- After adjustment, always check for proper sunroof operation. If necessary, perform initialization procedure to synchronize entire system. Refer to RF-76, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

SUNROOF MOTOR ASSEMBLY

Removal and Installation

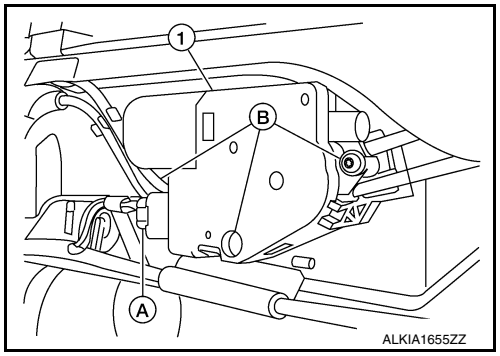
INFOID:0000000009465745

REMOVAL

CAUTION:

- **Before removing sunroof motor, check that glass lid is fully closed.**
- **After removing sunroof motor, do not attempt to rotate sunroof motor assembly as a single unit.**

1. Close glass lid.
2. Remove the headlining. Refer to INT-33, "Removal and Installation".
3. Disconnect the harness connector (A) from the sunroof motor assembly.
4. Remove sunroof motor assembly screws (B), then remove sunroof motor assembly (1) from sunroof unit assembly frame.



INSTALLATION

CAUTION:

Before installing the sunroof motor assembly, be sure to the place the link and wire assembly in the symmetrical and fully closed position.

1. Move the sunroof motor assembly laterally so that the gear is completely engaged into the wire on the sunroof unit assembly frame, and mounting surface becomes parallel.
2. Install and tighten sunroof motor assembly screws.
3. Connect the harness connector to the sunroof motor assembly.
4. Install the headlining. Refer to INT-33, "Removal and Installation".
5. Perform initilization procedure. Refer to RF-76, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

SUNSHADE MOTOR ASSEMBLY

Removal and Installation

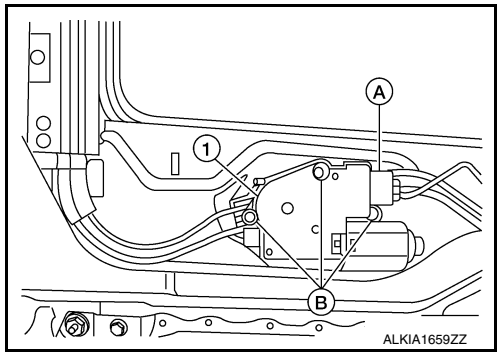
INFOID:0000000009465746

REMOVAL

CAUTION:

- **Before removing sunshade motor, check that glass lid is fully closed.**
- **After removing sunshade motor, do not attempt to rotate sunshade motor assembly as a single unit.**

1. Close glass lid.
2. Remove the headlining. Refer to INT-33, "Removal and Installation".
3. Disconnect the harness connector (A) from the sunshade motor assembly.
4. Remove sunroof motor assembly screws (B), then remove sunroof motor assembly (1) from sunroof unit assembly frame.



INSTALLATION

CAUTION:

Before installing the sunshade motor assembly, be sure to the place the link and wire assembly in the symmetrical and fully closed position.

1. Move the sunshade motor assembly laterally so that the gear is completely engaged into the wire on the sunroof unit assembly frame, and mounting surface becomes parallel.
2. Install and tighten sunshade motor assembly screws.
3. Connect the harness connector to the sunshade motor assembly.
4. Install the headlining. Refer to INT-33, "Removal and Installation".
5. Perform initilization procedure. Refer to RF-76, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

ROOF LINK ASSEMBLY

Removal and Installation

INFOID:0000000009465747

Removal

1. Remove the sunshade. Refer to RF-153, "Removal and Installation".
2. Remove the wind deflector. Refer to RF-168, "Removal and Installation".
3. Remove the glass lid assembly. Refer to RF-150, "Removal and Installation".
4. Remove the sunroof motor. Refer to RF-152, "Removal and Installation".
5. Remove the sunshade motor. Refer to RF-153, "Removal and Installation".
6. Remove the track assembly.
   - Remove the 5 screws and 4 harness clips (LH).
   - Remove the 5 screws (RH).
7. Slide the guide link out of the channels.

Installation

Installation is in the reverse order of removal.

SUNROOF UNIT ASSEMBLY

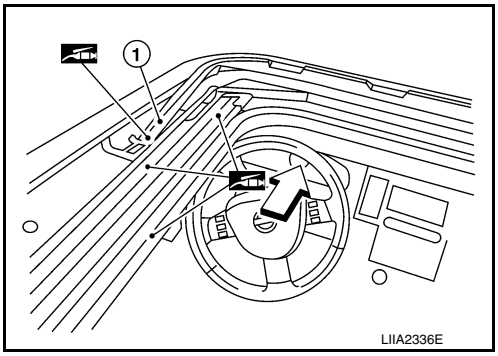
Inspection and Adjustment

INFOID:0000000009465748

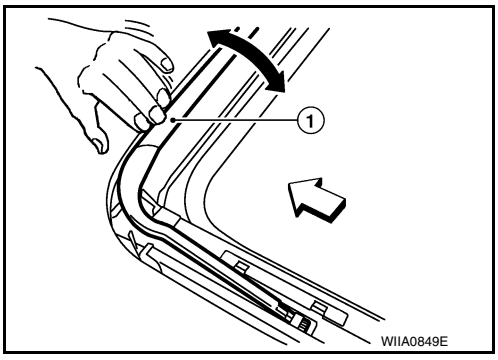
INSPECTION

Wind Deflector

1. Open glass lid assembly fully.
2. Visually check for proper installation, damaged/deteriorated components, or foreign objects within mechanism. Correct as required for smooth operation.
3. Check for grease at the wind deflector arm (1) and pivot areas. If necessary, apply a sufficient amount of grease for non-binding operation.
   ⇦: Front



4. Check that the wind deflector (1) moves freely within the sunroof unit assembly while manually pressing down and releasing. If a malfunction is detected, remove the sunroof unit assembly and visually inspect; refer to RF-158, "Removal and Installation". If damage is found, replace either wind deflector (1) or sunroof unit assembly as required.
   ⇦: Front



Link And Wire Assembly

NOTE:

Before replacing a suspect part, make sure it is the source of noise being experienced.

1. Check link to determine if coating film has peeled off excessively enough that substrate is visible. Check also to determine if link is the source of noise. Replace as necessary.
2. Visually check to determine if a sufficient amount of grease has been applied to wire or rail groove. If not, add grease as required.
3. Check wire for any damage or deterioration.

Weatherstrip

1. Visually check weatherstrip for damage, deterioration, or deformation.
   • Open glass lid partially to inspect front edge of weatherstrip.
   • Tilt up glass lid fully to inspect sides and rear edge of weatherstrip.
   If any area of the weatherstrip is found to be damaged, replace as required.
2. Check for leakage around glass lid assembly.
   • Close glass lid assembly.
   • Pour water around surface to determine area of concern.
   - For gaps or misalignment, adjust glass lid to specifications. Refer to ADJUSTMENT in this section.
   - For damaged sealing surfaces, either replace glass lid weatherstrip, or repair the sealing panel.

ADJUSTMENT

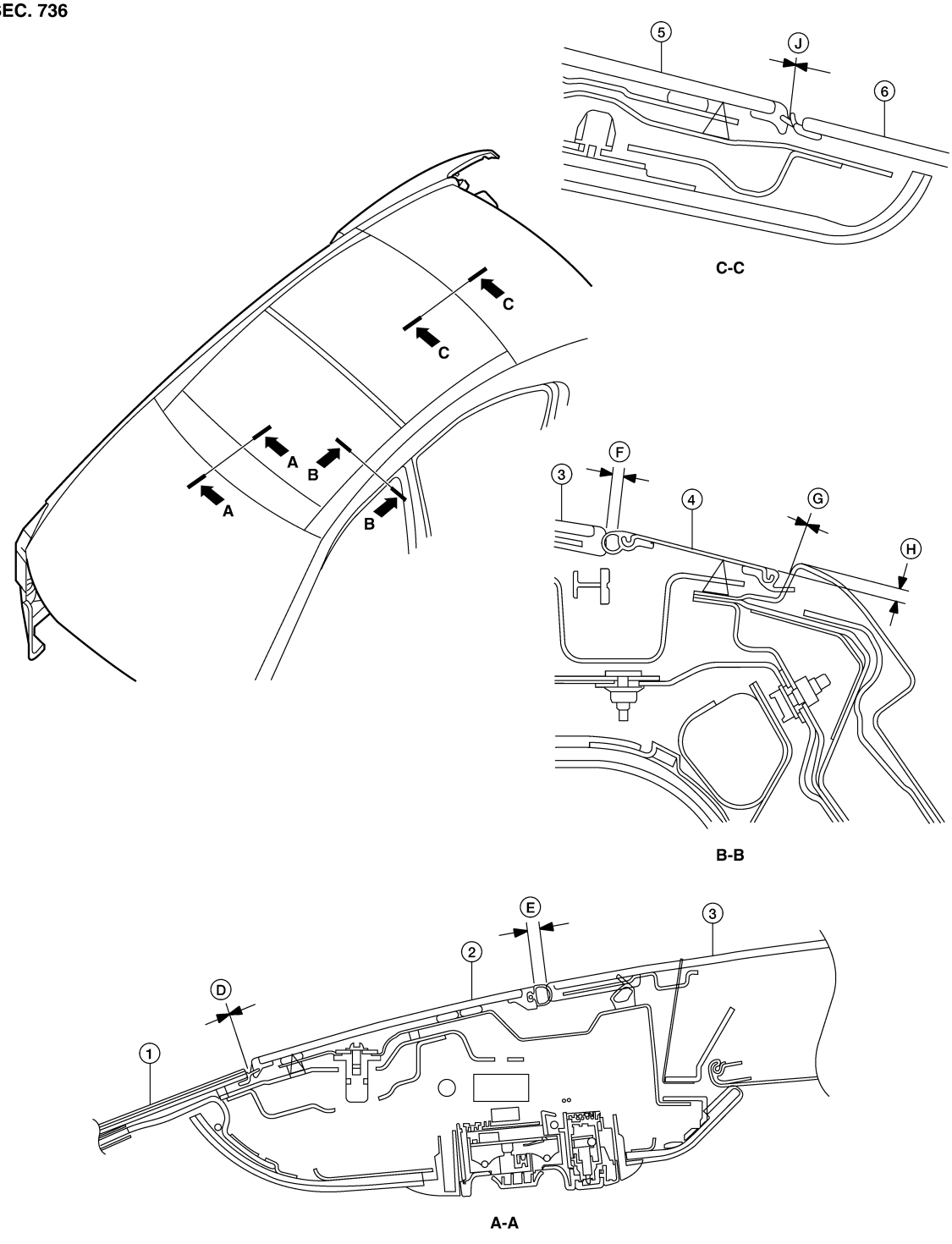
CAUTION:

- **Always work with a helper.**
- **Handle glass lid assembly with care to prevent damage.**

NOTE:

- For easier and more accurate installation, always mark each point before removal.
- After any adjustment, check sunroof operation and glass lid assembly alignment.

SEC. 736

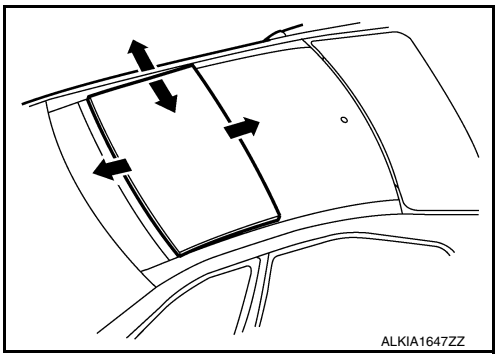


AWKIA1549ZZ

Unit: mm (in)

1.	Windshield	2.	Front sunroof glass	3.	Glass lid
4.	Roof side finisher	5.	Rear sunroof glass	6.	Rear window glass
D.	0.0 (No clearance)	E.	1.4 ± 0.45 (0.055 ± 0.018)	F.	1.4 ± 0.45 (0.055 ± 0.018)
G.	0.0 (No clearance)	H.	5.5 +2.5/ -1.5 (0.217 +0.098/ -0.059)	J.	0.0 (No clearance)

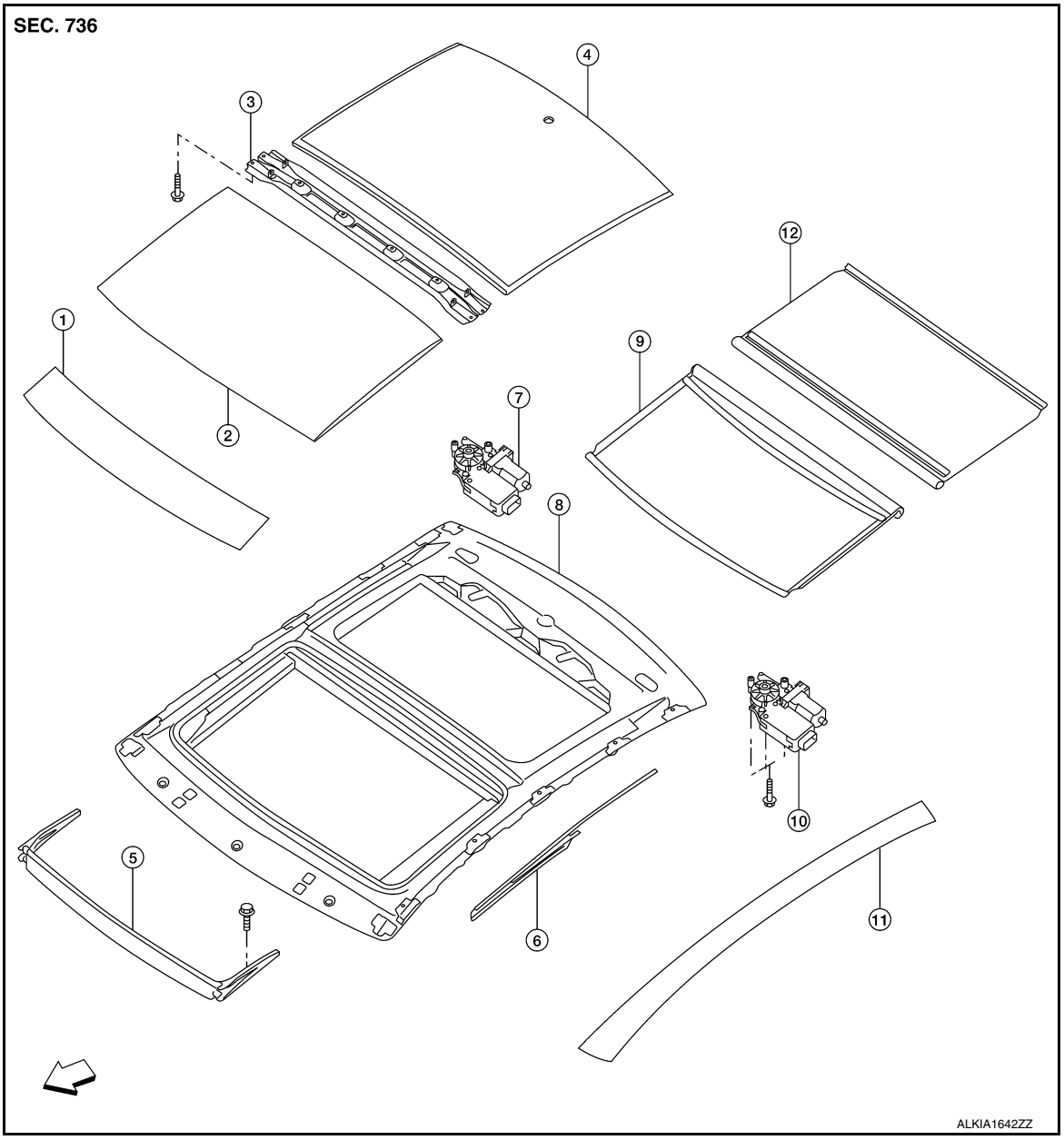
1. Open sunshade.
2. Tilt glass lid up, then slide rearward to expose all the glass lid bolts.
3. Loosen glass lid bolts (4 each on left and right sides), then fully close glass lid.
4. Manually adjust glass lid from outside of vehicle so gaps A-A and B-B are within specifications.
   NOTE:
   Temporarily snug glass lid bolts to prevent movement between each adjustment.
5. Tilt glass lid up and down several times using sunroof switch to check that it operates smoothly.
6. Open glass lid up and tighten bolts to specification.
   NOTE:
   First tighten left front bolt, then right rear bolt on glass lid to prevent uneven torque while tightening remaining bolts.



7. Perform initialization procedure to make sure the closing operation is accurate and synchronized properly. Refer to RF-76, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".
8. Perform water leak test.

Exploded View

INFOID:0000000009465749



1. Front sunroof glass
2. Glass lid
3. Sunshade carrier assembly
4. Rear sunroof glass
5. Wind deflector
6. Inner blind
7. Sunshade motor assembly
8. Sunroof frame
9. Front sunshade
10. Sunroof motor assembly
11. Roof side finisher
12. Rear sunshade

⇦ Front

Removal and Installation

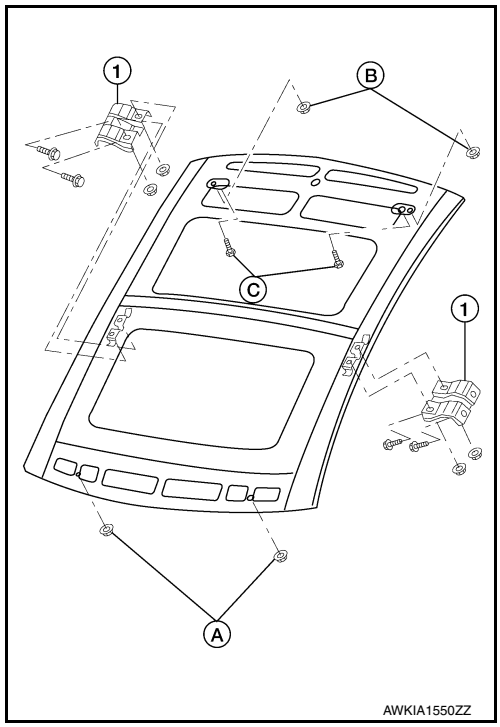
INFOID:0000000009465750

REMOVAL

CAUTION:

- **Before servicing, turn ignition switch OFF, disconnect both battery terminals and wait at least 3 minutes.**
- **Always work with a helper.**
- **When taking sunroof unit assembly out, use cloths to protect the seats and trim from damage.**
- **Do not reuse the front or rear sunroof glass which has been removed once.**

1. Disconnect the negative and positive battery terminals, then wait at least 3 minutes. Refer to PG-67, "Removal and Installation (Battery)".
2. Remove the headlining. Refer to INT-33, "Removal and Installation".
3. Remove the glass lid. Refer to RF-150, "Removal and Installation".
4. Remove the wind deflector. Refer to RF-168, "Removal and Installation".
5. Apply protective tape over the weather stripping seal.
6. Remove the sunshade carrier assembly. Refer to RF-153, "Removal and Installation".
7. Apply protective tape to the body surrounding the entire sunroof frame.
8. Remove the front sunroof glass. Refer to RF-164, "Removal and Installation".
9. Remove the roof side finishers. Refer to RF-162, "Removal and Installation".
10. Remove the rear window glass. Refer to GW-14, "Removal and Installation".
11. Remove the satellite antenna. Refer to AV-174, "Removal and Installation" (Bose W/Monochrome Display) AV-494, "Removal and Installation" (Bose W/Color Display W/O NAVI) or AV-665, "Removal and Installation" (Bose W/Color Display W/NAVI).
12. Remove the rear sunroof glass. Refer to RF-166, "Removal and Installation".
13. Disconnect the harness connectors from the sunroof motor assembly and sunshade motor assembly.
14. Remove the front nuts (A), the rear nuts (B), and the rear bolts (C) from the dual panel sunroof.
15. Cut adhesive.
    - Pass piano wire though the adhesive with a wire pierce.
    - Tie piano wire on both ends to assist in wire grip.
    - Pull piano wire with sawing motion to cut through adhesive, working around entire circumference.
16. Using a helper, carefully lift each side and remove sunroof frame from vehicle.



INSTALLATION

WARNING:

- **Keep heat and open flames away as primers and adhesive are flammable.**
- **The materials contained in the kit are harmful if swallowed, and may irritate skin and eyes. Do not let them contact the skin or eyes.**
- **Use in an open, well ventilated location. Do not breathe the vapors. They may be harmful if inhaled. Move immediately to an area with fresh air if affected by vapor inhalation.**

CAUTION:

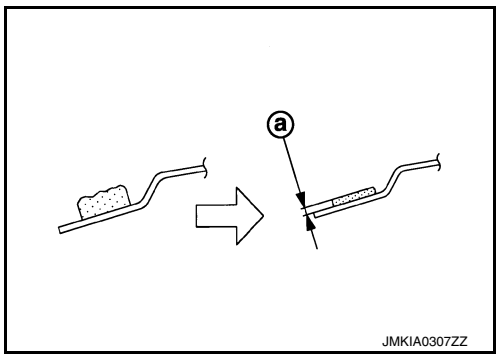
After installing the sunroof unit assembly and glass lid, perform the leak test and check that there is no air or water intrusion.

NOTE:

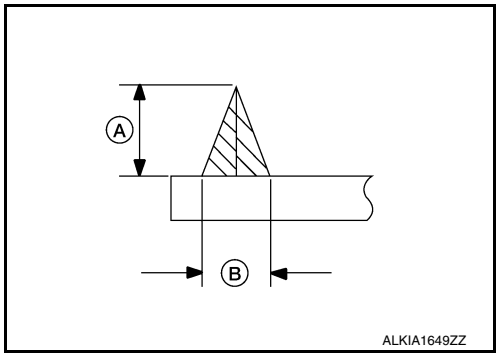
- Use a genuine Nissan Urethane Adhesive Kit (if available) or an equivalent and follow the instructions furnished with it.
- Inform the customer that the vehicle should remain stationary until the urethane adhesive has completely cured (approximately 24 hours). Curing time varies with temperature and humidity.

1. Using a knife or spatula, trim the adhesive (sealant) remaining on body down to approximately 2 mm thick (a) so that the contour becomes smooth.

CAUTION:
If bonded area on body is scratched, be sure to repair it with a 2-component urethane. Do not use lacquer.



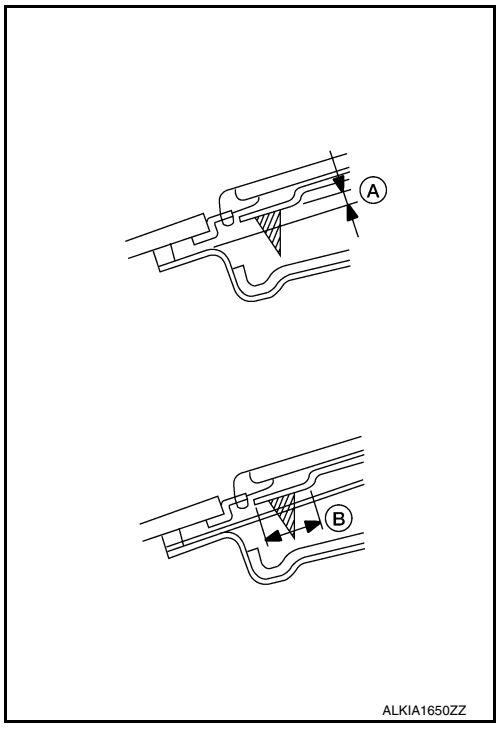
2. When installing new sunroof unit assembly frame, mount the roof frame dry (no adhesive) first onto the vehicle and paint mating marks on body and sunroof frame, then remove sunroof frame again.
3. Thoroughly clean bonding area on sunroof frame and body with isopropyl alcohol or equivalent.
4. Apply primer to the body and the sunroof frame (lower) surfaces.
5. Apply adhesive along the entire circumference of the sunroof unit assembly frame contact area of body within the time specified in the instructions for the adhesive.
   - Open adhesive by cutting off the nozzle tip and set it in a sealant gun.
   - Form a continuous bead of adhesive resembling the measurements in applied thickness (A), and in applied width (B) on the body panel.



Adhesive applied thickness (A) : 13 ± 1 mm (0.51 in ± 0.039 in)
Adhesive applied width (B) : 8 ± 1 mm (0.31 ± 0.039 in)

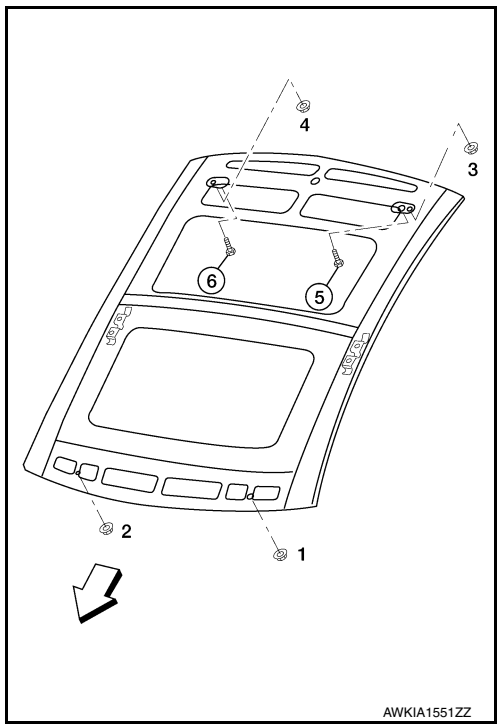
6. Using a helper, position the sunroof unit assembly frame over the body, visually aligning the paint mating marks. Then, lower the studs at each corner through the body panel holes, carefully installing the sunroof unit assembly to the body.
7. Press down lightly by hand only on the frame to expand the adhesive contact completely so that it resembles a compressed thickness (A), and a compressed width (B) between the sunroof unit assembly frame and the body.

Adhesive compressed thickness (A) : 5 +2/-1 mm (0.20 +0.079/-0.039 in)
Adhesive compressed width (B) : Front edge 15 mm (0.59 in)
: Side edge 21 mm (0.83 in)
: Rear edge 15 mm (0.59 in)



8. Install and tighten the sunroof unit assembly nuts and bolts in the order shown within five minutes.
   ⇦: Front

   Sunroof unit assembly nuts and bolts : 17 N·m (1.7kg-m, 13 ft-lb)



9. Install the sunshade carrier assembly. Refer to RF-153, "Removal and Installation".
10. Using a suitable tool, remove any adhesive overflow, or work into pocket voids so as to make the surface edge smooth.
11. Install the rear sunroof glass. Refer to RF-166, "Removal and Installation".
12. Install the rear window glass. Refer to GW-14, "Removal and Installation".
13. Install the roof side finishers. Refer to RF-162, "Removal and Installation".
14. Install the front sunroof glass. Refer to RF-164, "Removal and Installation".
15. Connect the harness connectors to the sunroof motor assembly and sunshade motor assembly.
16. Install the wind deflector. Refer to RF-168, "Removal and Installation".
17. Install the glass lid. Refer to RF-150, "Removal and Installation".
    NOTE:
    After installation, carry out fitting adjustment. Refer to RF-76, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".
18. Install the satellite antenna. Refer to AV-174, "Removal and Installation" (Bose W/Monochrome Display) AV-494, "Removal and Installation" (Bose W/Color Display W/O NAVI) or AV-665, "Removal and Installation" (Bose W/Color Display W/NAVI).
19. Install the headlining. Refer to INT-33, "Removal and Installation".
20. Check for water leaks.
    NOTE:
    - Perform the water leakage check more than 2 hours after sunroof unit assembly installation.
    - After glass lid fitting adjustment, carry out water leakage check by spreading water over entire roof surface.
21. Remove the protective tape from the vehicle.

ROOF FINISHER

Removal and Installation

INFOID:0000000009465751

REMOVAL

1. Open the glass lid.
2. Apply protective tape around the roof side finisher to protect the surface from damage.
3. Cut adhesive.
   - Pass piano wire through the adhesive with a wire pierce.
   - Tie piano wire on both ends to assist in wire grip.
   - Pull piano wire with sawing motion to cut through adhesive, working along the length of the panel.
4. Remove the roof side finisher.

INSTALLATION

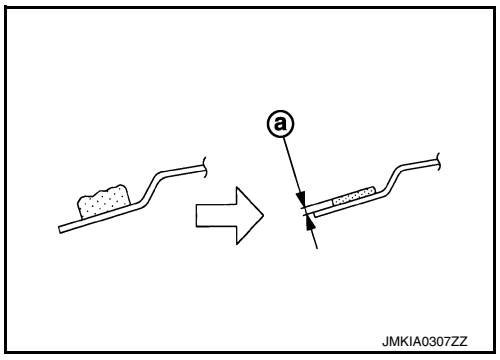
WARNING:

- **Keep heat and open flames away as primers and adhesive are flammable.**
- **The materials contained in the kit are harmful if swallowed, and may irritate skin and eyes. Never let them contact the skin or eyes.**
- **Use in an open, well ventilated location. Never breathe the vapors. They may be harmful if inhaled. Move immediately to an area with fresh air if affected by vapor inhalation.**

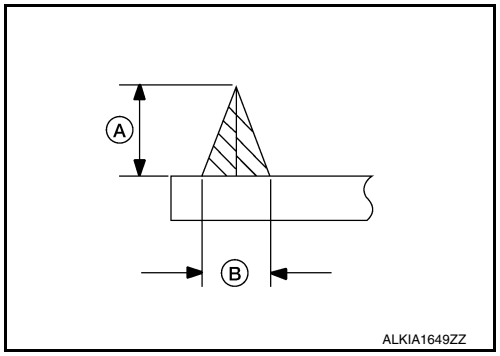
NOTE:

- Use a genuine Nissan Urethane Adhesive Kit (if available) or an equivalent and follow the instructions furnished with it.
- Inform the customer that the vehicle should remain stationary until the urethane adhesive has completely cured (approximately 24 hours). Curing time varies with temperature and humidity.

1. Using a knife or spatula, trim the adhesive (sealant) remaining on body down to approximately 2 mm thick (a) so that the contour becomes smooth.
   CAUTION:
   If bonded area on body is scratched, be sure to repair it with a 2-component urethane. Do not use lacquer.



2. When installing new roof side finisher, position the roof side finisher dry (no adhesive) first onto the vehicle and paint mating marks on the body and roof side finisher, then remove it again.
3. Thoroughly clean bonding area on the roof side finisher and the body with isopropyl alcohol or equivalent.
4. Apply primer to the body and the roof side trim (lower) surfaces.
5. Apply adhesive to the contact areas of the body within the time specified in the instructions for the adhesive.
   - Open adhesive by cutting off the nozzle tip and set it in a sealant gun.
   - Form a continuous bead of adhesive resembling the measurements in applied thickness (A), and in applied width (B) on the body panel.



Adhesive applied thickness (A) : 13 ± 1 mm (0.51 ± 0.039 in)
Adhesive applied width (B) : 8 ± 1 mm (0.31 ± 0.039 in)

6. Position the roof side finisher, align the paint marks, then lower it into position.
7. Press down lightly by hand to evenly expand the adhesive contact with the roof side finisher.
8. Using a suitable tool, remove any adhesive overflow.
9. Remove the protective tape.

FRONT SUNROOF GLASS

Removal and Installation

INFOID:0000000009465752

REMOVAL

1. Remove the wind deflector. Refer to RF-168, "Removal and Installation".
2. Tape down the glass lid weatherstrip along the from sunroof glass with protective tape.
3. Apply protective tape around the front sunroof glass to protect the surface from damage.
4. Cut adhesive.
   - Pass piano wire through the adhesive with a wire pierce.
   - Tie piano wire on both ends at assist in wire grip.
   - Pull piano wire with a sawing motion to cut through the adhesive.
5. Remove the front sunroof glass.

INSTALLATION

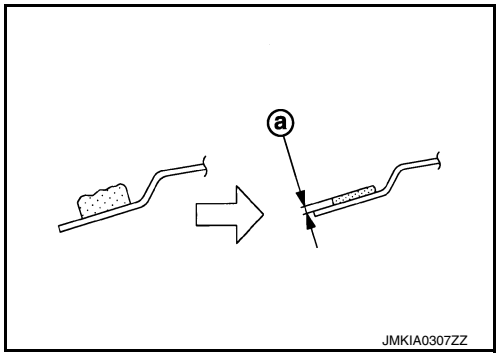
WARNING:

- **Keep heat and open flames away as primers and adhesive are flammable.**
- **The materials contained in the kit are harmful if swallowed, and may irritate skin and eyes. Never let them contact the skin or eyes.**
- **Use in an open, well ventilated location. Never breathe the vapors. They may be harmful if inhaled. Move immediately to an area with fresh air if affected by vapor inhalation.**

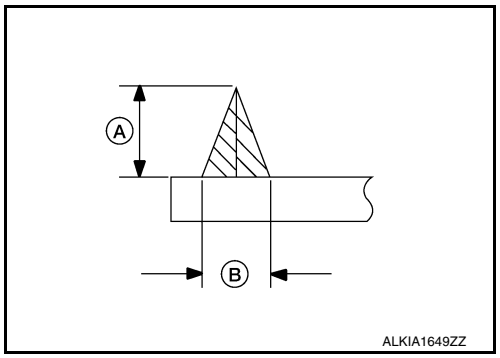
NOTE:

- Use a genuine Nissan Urethane Adhesive Kit (if available) or an equivalent and follow the instructions furnished with it.
- Inform the customer that the vehicle should remain stationary until the urethane adhesive has completely cured (approximately 24 hours). Curing time varies with temperature and humidity.

1. Using a knife or spatula, trim the adhesive (sealant) remaining on body down to approximately 2 mm thick (a) so that the contour becomes smooth.
   CAUTION:
   If bonded area on body is scratched, be sure to repair it with a 2-component urethane. Do not use lacquer.



2. When installing new front sunroof glass, position the front sunroof glass (no adhesive) first onto the vehicle and paint mating marks on the body and the front sunroof glass, then remove it again.
3. Thoroughly clean bonding area on the front sunroof glass and the body with isopropyl alcohol or equivalent.
4. Apply primer to the body and the front sunroof glass (lower) surfaces.
5. Apply adhesive to the contact areas of the body within the time specified in the instructions for the adhesive.
   - Open adhesive by cutting off the nozzle tip and set it in a sealant gun.
   - Form a continuous bead of adhesive resembling the measurements in applied thickness (A), and in applied width (B) on the body panel.



Adhesive applied thickness (A) : 13 ± 1 mm (0.51 ± 0.039 in)
Adhesive applied width (B) : 8 ± 1 mm (0.31 ± 0.039 in)

6. Position the front sunroof glass, align the paint marks and lower it into position.
7. Press down lightly by hand to evenly expand the adhesive contact with the front sunroof glass.
8. Using a suitable tool, remove any adhesive overflow.
9. Remove the protective tape.

REAR SUNROOF GLASS

Removal and Installation

INFOID:0000000009465753

REMOVAL

1. Apply protective tape around all of the glass panels to be removed.
2. Remove the satellite radio antenna. Refer to AV-174, "Removal and Installation" (Bose W/Monochrome Display), AV-495, "Removal and Installation" (Bose W/Color Display W/O Navi), or AV-665, "Removal and Installation" (Bose W/Color Display W/Navi).
3. Remove the rear window glass. Refer toGW-14, "Removal and Installation".
4. Remove the glass lid. Refer to RF-150, "Removal and Installation".
5. Remove the roof side finishers. Refer to RF-162, "Removal and Installation".
6. Cut adhesive.
   - Pass piano wire through the adhesive with a wire pierce.
   - Tie piano wire on both ends at assist in wire grip.
   - Pull piano wire with a sawing motion to cut through the adhesive.
7. Remove the rear sunroof glass.

INSTALLATION

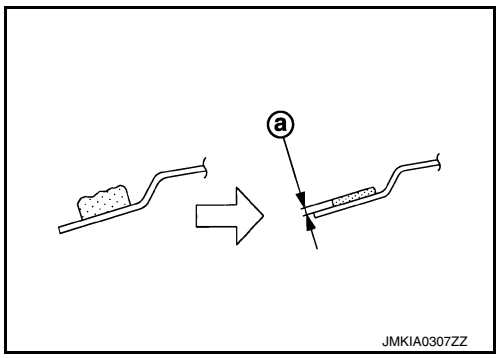
WARNING:

- **Keep heat and open flames away as primers and adhesive are flammable.**
- **The materials contained in the kit are harmful if swallowed, and may irritate skin and eyes. Never let them contact the skin or eyes.**
- **Use in an open, well ventilated location. Never breathe the vapors. They may be harmful if inhaled. Move immediately to an area with fresh air if affected by vapor inhalation.**

NOTE:

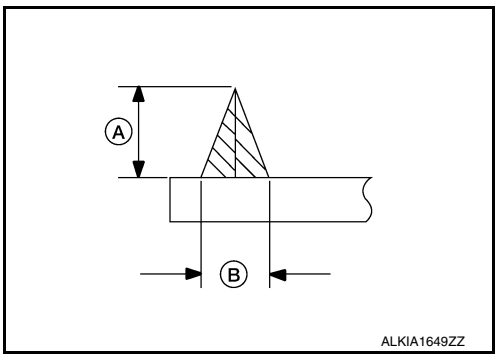
- Use a genuine Nissan Urethane Adhesive Kit (if available) or an equivalent and follow the instructions furnished with it.
- Inform the customer that the vehicle should remain stationary until the urethane adhesive has completely cured (approximately 24 hours). Curing time varies with temperature and humidity.

1. Using a knife or spatula, trim the adhesive (sealant) remaining on body down to approximately 2 mm thick (a) so that the contour becomes smooth.
   CAUTION:
   If bonded area on body is scratched, be sure to repair it with a 2-component urethane. Do not use lacquer.



2. When installing new rear sunroof glass, position the rear sunroof glass (no adhesive) first onto the vehicle and paint mating marks on the body and the rear sunroof glass, then remove it again.
3. Thoroughly clean bonding area on the rear glass panel and the body with isopropyl alcohol or equivalent.
4. Apply primer to the sunroof frame anywhere the surface has been scratched and the rear sunroof glass (lower) surfaces.

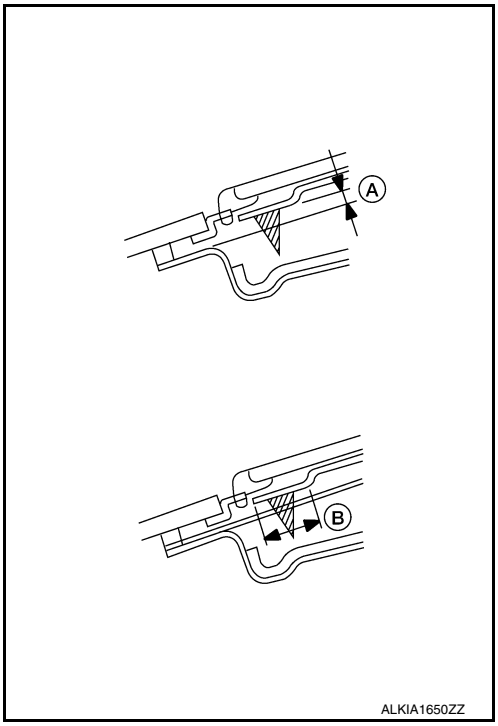
5. Apply adhesive along the entire circumference of the rear sunroof glass frame contact area of the body within the time specified in the instructions for the adhesive. Also apply adhesive around the satellite antenna hole outward from the hole along the sunroof frame to cover the existing adhesive.
   - Open adhesive by cutting off the nozzle tip and set it in a sealant gun.
   - Form a continuous bead of adhesive resembling the measurements in applied thickness (A), and in applied width (B) on the sunroof frame.



Adhesive applied thickness (A) : 13 ± 1 mm (0.51 ± 0.039 in)
Adhesive applied width (B) : 8 ± 1 mm (0.31 ± 0.039 in)

6. Position the rear sunroof glass, align the paint marks and lower it into position.
7. Press down lightly by hand to evenly expand the adhesive contact with the rear sunroof glass. Press down by hand to expand the adhesive contact completely so that it resembles a compressed thickness (A), and a compressed width (B).

Adhesive compressed thickness (A)	**: 5 +2, -1mm (0.20 +0.079 - 0.039 in)**
Adhesive compressed width (B)	**: Front edge 15 mm (0.59 in)** **: Side edge 21 mm (0.83 in)** **: Rear edge 15 mm (0.59 in)**



8. Install the rear window glass. Refer to GW-14, "Removal and Installation".
9. Install the roof side finishers. Refer to RF-162, "Removal and Installation".
10. Install the glass lid. Refer to RF-150, "Removal and Installation".
    NOTE:
    After installation, carry out fitting adjustment. Refer to RF-155, "Inspection and Adjustment".
11. Install the satellite radio antenna. Refer to AV-174, "Removal and Installation" (Bose W/Monochrome Display), AV-495, "Removal and Installation" (Bose W/Color Display W/O Navi), or AV-665, "Removal and Installation" (Bose W/Color Display W/Navi).
12. Check for water leaks.
    NOTE:
    - Perform the water leakage check more than 2 hours after sunroof unit assembly installation.
    - After glass lid fitting adjustment, carry out water leakage check by spreading water over entire roof surface.
13. Remove the protective tape from the vehicle.

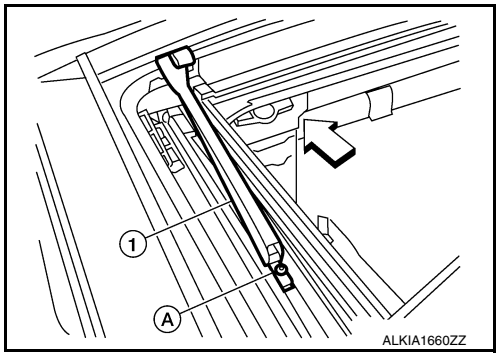
WIND DEFLECTOR

Removal and Installation

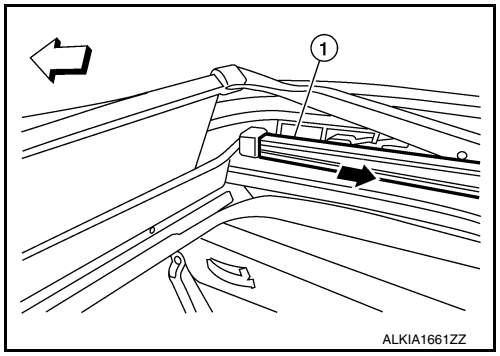
INFOID:0000000009465754

REMOVAL

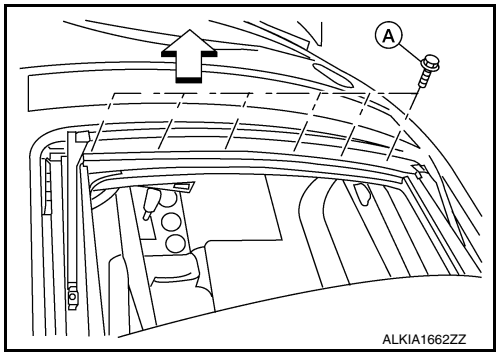
1. Open the glass lid.
2. Remove the side screw (A) to release the wind deflector side arms (1).
   ⇦: Front



3. Disconnect and release the inner blind (1) slide clip from wind deflector.
   ⇦: Front



4. Remove the front screws (A), then remove wind deflector from sunroof unit assembly.
   ⇦: Front



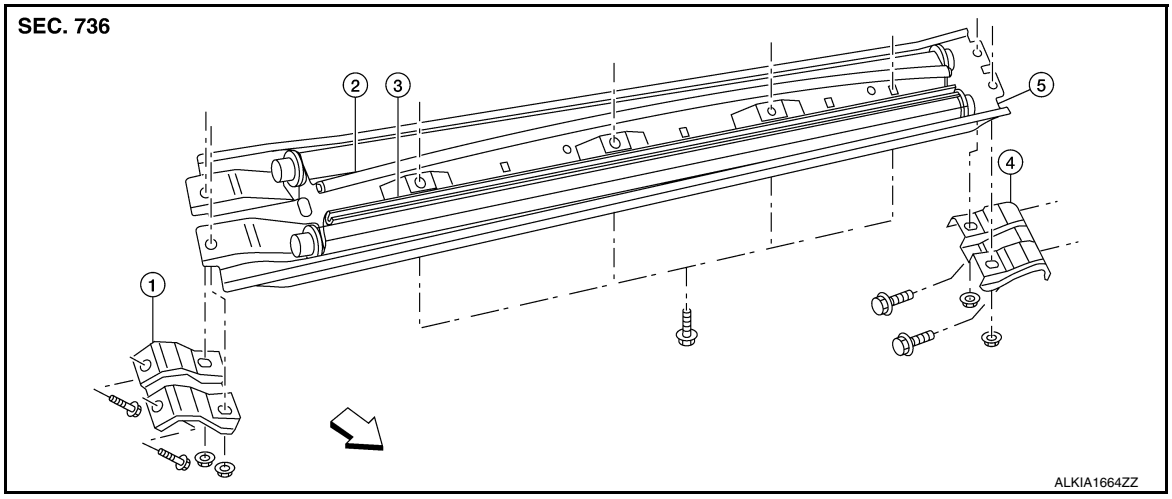
INSTALLATION

Installation is in the reverse order of removal.

SUNSHADE

Exploded View

INFOID:0000000009465755



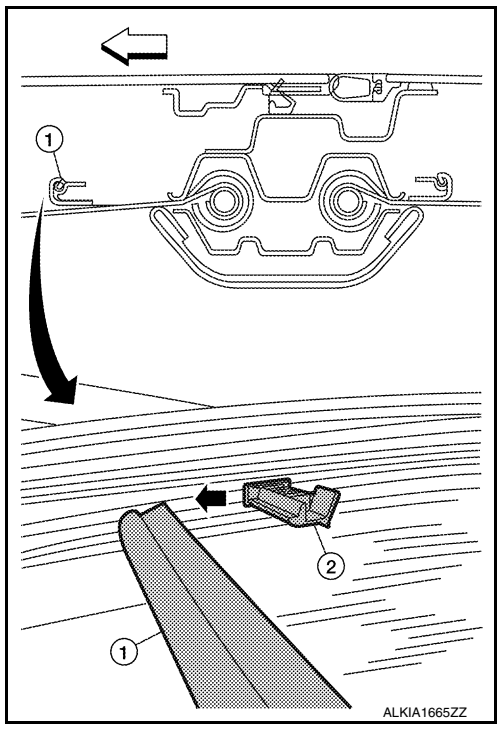
1. Center bracket (RH)
2. Rear sunshade
3. Front sunshade
4. Center bracket (LH)
5. Sunshade carrier assembly
⇦ Front

Removal and Installation

INFOID:0000000009465756

REMOVAL

1. Open glass lid and sunshades.
2. Remove the headlining. Refer to INT-33, "Removal and Installation".
3. Release front sunshade rail (1) from sunshade drive post (2).
   ⇦: Front
4. Repeat sunshade drive post release for the rear sunshade.
5. Remove side curtain air bag module bolts (two on each (LH/RH) sides) for access.
6. Release harness clips from sunshade carrier assembly.
7. Remove the center bracket nuts and bolts, then remove the center brackets (LH/RH).
8. Remove the sunshade carrier assembly bolts, then lower sunshade and remove from vehicle.
   • Release the end key slot from the sunshades.



INSTALLATION

CAUTION:

Be careful not to release the spring when installing the sunshade.

1. Wind the shade around the core post.
2. Insert the round end of the shade (front - black curved rail) into the sunshade carrier assembly.

3. Using a suitable tool, wind the double-D tang end 20 turns counter-clockwise (when viewed from the end).
4. Insert the double-d tang end into the slot and lock it into the carrier.
5. Position the sunshade carrier assembly and install the bolts.
6. Position the center brackets (LH/RH) and install the bolts and nuts.
7. Install the side curtain air bag module bolts.
8. Install the headliner. Refer to INT-33, "Removal and Installation".

SUNROOF SWITCH

Removal and Installation

INFOID:0000000009465757

The sunroof switch (1) is an integrated part of the front room/map lamp (2), and therefore serviced as an assembly. For front room/map lamp removal and installation procedures, refer to INL-84, "Removal and Installation".