

SECTION **RF** ROOF

CONTENTS

SUNROOF		
PRECAUTION	3	
PRECAUTIONS	3	
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	3	
Precaution for Work	3	
PREPARATION	4	
PREPARATION	4	
Special Service Tools	4	
Commercial Service Tools	4	
SYSTEM DESCRIPTION	5	
COMPONENT PARTS	5	
SUNROOF SYSTEM	5	
SUNROOF SYSTEM : Component Description	5	
SUNROOF SYSTEM : Sunroof Switch	6	
SUNROOF SYSTEM : Sunroof Motor Assembly	6	
SYSTEM	7	
System Description	7	
Circuit Diagram	10	
DIAGNOSIS SYSTEM (BCM)	11	
COMMON ITEM	11	
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)	11	
RETAIND PWR	12	
RETAIND PWR : CONSULT Function (BCM - RETAINED PWR)	12	
INTELLIGENT KEY	13	
INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)	13	
ECU DIAGNOSIS INFORMATION	17	
BCM (BODY CONTROL MODULE)	17	
List of ECU Reference	17	
SUNROOF SYSTEM	18	
Reference Value	18	
WIRING DIAGRAM	20	
SUNROOF MOTOR ASSEMBLY	20	
Wiring Diagram	20	
BASIC INSPECTION	27	
DIAGNOSIS AND REPAIR WORK FLOW	27	
Work Flow	27	
ADDITIONAL SERVICE WHEN REPLACING SUNROOF MOTOR ASSEMBLY	30	
Description	30	
Work Procedure	30	
ANTI-PINCH INSPECTION	31	
Description	31	
Work Procedure	31	
DTC/CIRCUIT DIAGNOSIS	32	
POWER SUPPLY AND GROUND CIRCUIT	32	
SUNROOF MOTOR ASSEMBLY	32	
SUNROOF MOTOR ASSEMBLY : Diagnosis Procedure	32	
VEHICLE SPEED SIGNAL CIRCUIT	34	
Component Function Check	34	
Diagnosis Procedure	34	
SUNROOF SERIAL LINK	35	
Component Function Check	35	
Diagnosis Procedure	35	

SUNROOF SWITCH	36	Work Flow	43
Component Function Check	36	Inspection Procedure	45
Diagnosis Procedure	36	Diagnostic Worksheet	47
Component Inspection	37		
SYMPTOM DIAGNOSIS	38	REMOVAL AND INSTALLATION	49
SUNROOF DOES NOT OPERATE PROPER- LY	38	GLASS LID	49
Description	38	Exploded View	49
Diagnosis Procedure	38	Removal and Installation	50
SUNROOF DOES NOT OPERATE PROPER- LY (INTELLIGENT KEY CONTROL)	39	Adjustment	50
Diagnosis Procedure	39	SUNROOF MOTOR ASSEMBLY	52
AUTO OPERATION DOES NOT OPERATE	40	Exploded View	52
Description	40	Removal and Installation	52
Diagnosis Procedure	40	SUNROOF UNIT ASSEMBLY	54
SUNROOF DOES NOT OPERATE ANTI- PINCH FUNCTION	41	Exploded View	54
Diagnosis Procedure	41	Removal and Installation	55
RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY	42	Disassembly and Assembly	56
Diagnosis Procedure	42	SUNSHADE	58
SQUEAK AND RATTLE TROUBLE DIAG- NOSES	43	Exploded View	58
		Removal and Installation	58
		WIND DEFLECTOR	60
		Exploded View	60
		Removal and Installation	60
		SUNROOF SWITCH	61
		Removal and Installation	61

PRECAUTION

PRECAUTIONS

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

INFOID:000000009673610

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 three minutes before performing any service.

Precaution for Work

INFOID:000000009673611

- After removing and installing the opening/closing parts, be sure to carry out fitting adjustments to check their operation.
- Check the lubrication level, damage, and wear of each part. If necessary, grease or replace it.

PREPARATION

< PREPARATION >

[SUNROOF]

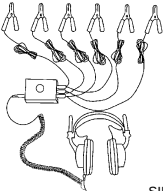
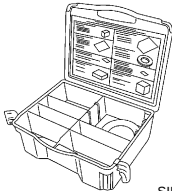
PREPARATION

PREPARATION

Special Service Tools

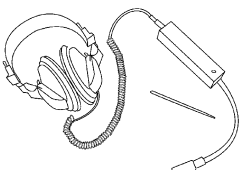
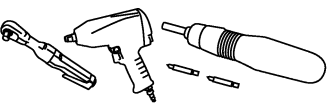
INFOID:000000009673633

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
(J-39570) Chassis ear  SIIA0993E	Locates the noise
(J-50397) NISSAN Squeak and Rattle Kit  SIIA0994E	Repairs the cause of noise

Commercial Service Tools

INFOID:000000009673634

Tool name	Description
Engine ear  SIIA0995E	Locates the noise
Power tool  PIIB1407E	

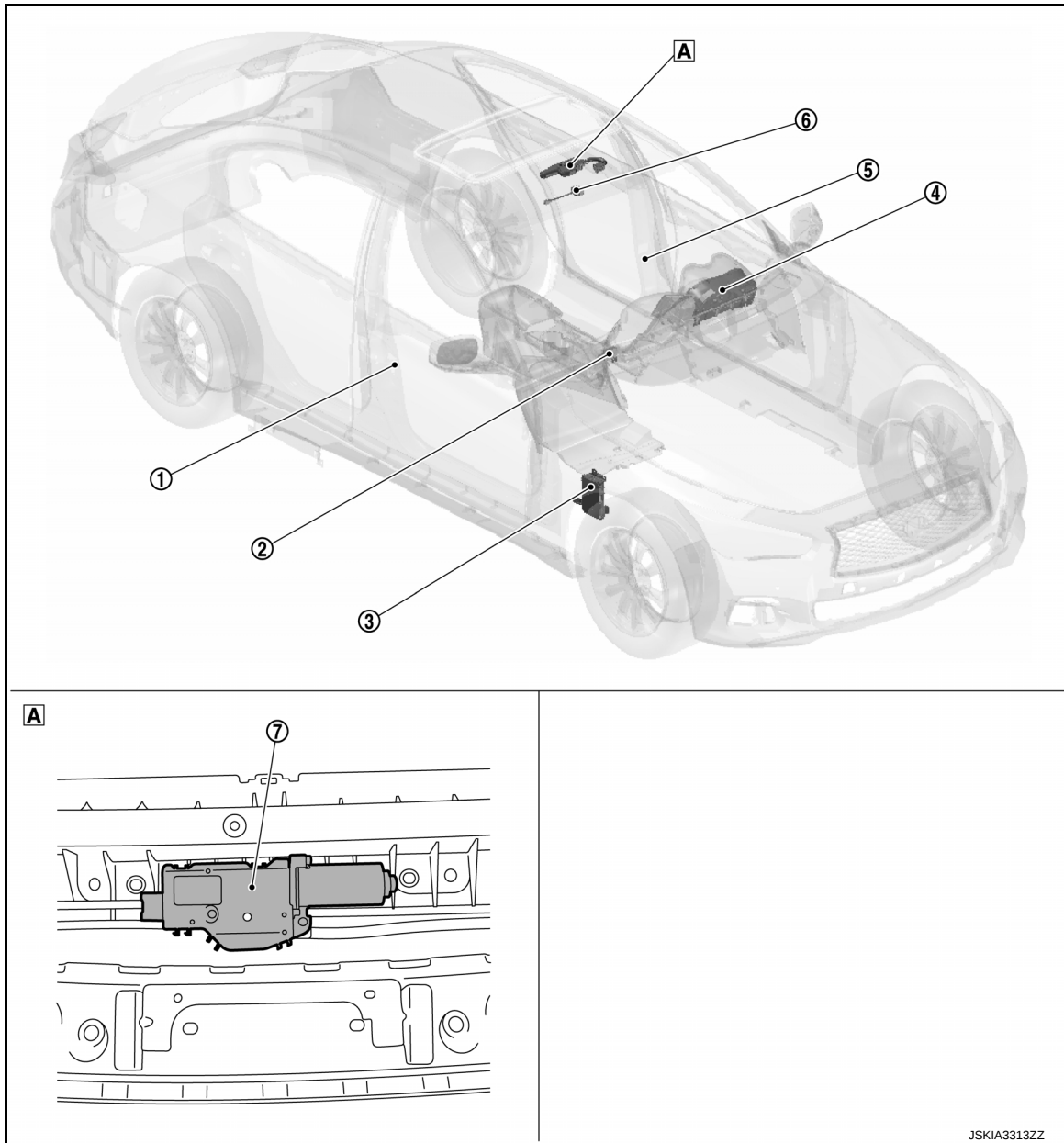
SYSTEM DESCRIPTION

COMPONENT PARTS

SUNROOF SYSTEM

SUNROOF SYSTEM : Component Description

INFOID:000000009602081



A View with headlining removed

No.	Component	Function
①	Front door switch RH	Refer to DLK-9, "DOOR LOCK SYSTEM : Component Parts Location" .
②	Remote keyless entry receiver	Refer to DLK-9, "DOOR LOCK SYSTEM : Component Parts Location" .
③	BCM	Supplies the power supply to sunroof motor assembly. Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

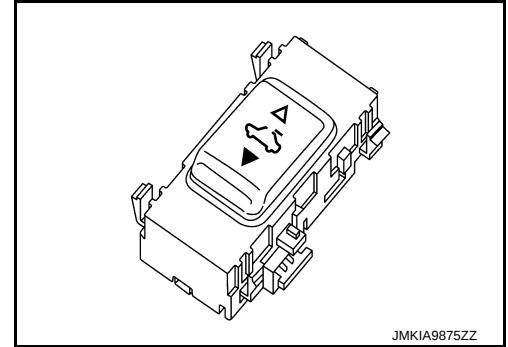
[SUNROOF]

No.	Component	Function
④	Combination meter	Transmits vehicle speed signal to sunroof motor assembly.
⑤	Front door switch LH	Refer to DLK-9, "DOOR LOCK SYSTEM : Component Parts Location" .
⑥	Sunroof switch	Refer to RF-6, "SUNROOF SYSTEM : Sunroof Switch" .
⑦	Sunroof motor assembly	Refer to RF-6, "SUNROOF SYSTEM : Sunroof Motor Assembly" .

SUNROOF SYSTEM : Sunroof Switch

INFOID:000000009602082

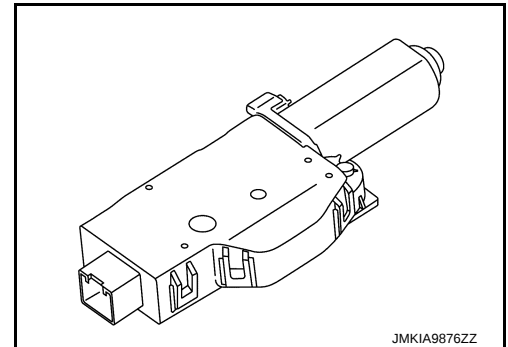
Transmits tilt up/slide close and tilt down/slide open signal to sunroof motor assembly.



SUNROOF SYSTEM : Sunroof Motor Assembly

INFOID:000000009602083

Sunroof motor and CPU are integrated in sunroof motor assembly. Sunroof motor assembly operates sunroof to tilt up/down or slide open/close by sunroof switch operation.

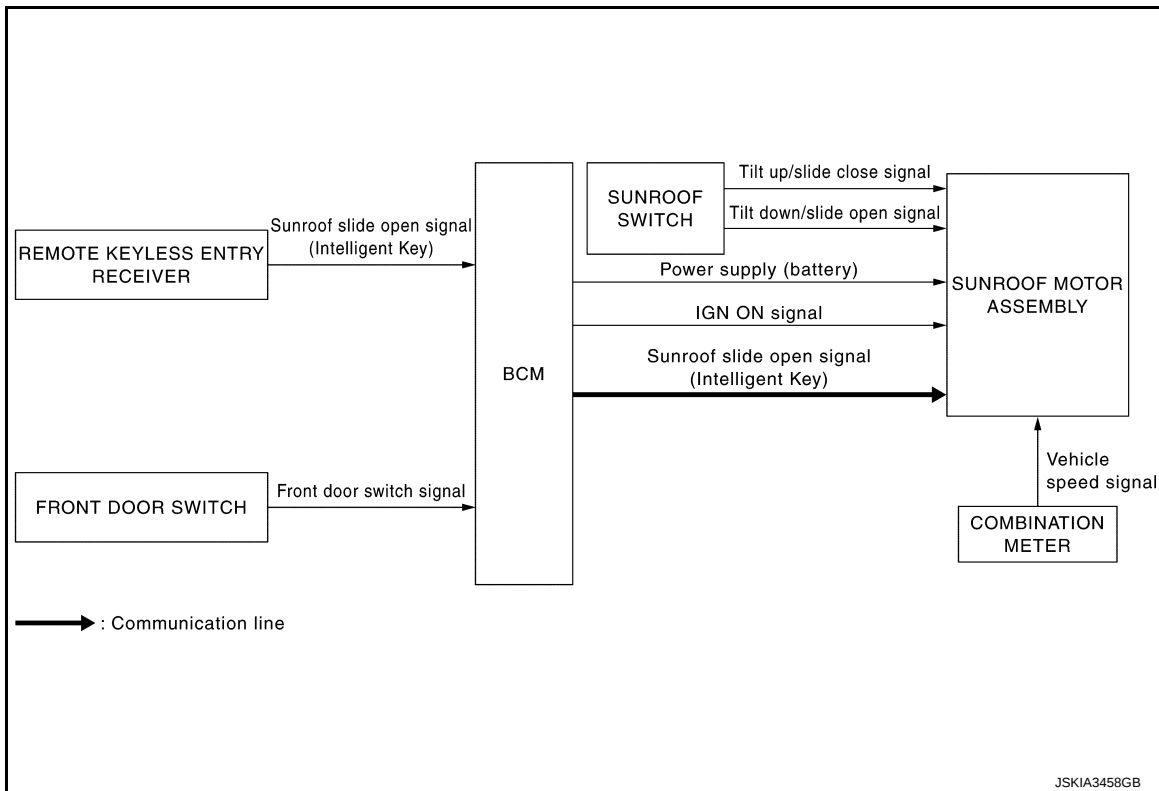


SYSTEM

System Description

INFOID:000000009602084

SYSTEM DIAGRAM



SUNROOF SYSTEM

- 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 or slide open/close signal from sunroof switch operates sunroof motor to move arbitrarily.
- Sunroof motor assembly receives a vehicle speed signal from combination meter.
- All power windows and sunroof open while press and hold Intelligent Key unlock button (open) for 3 seconds or more.
- Sunroof motor assembly operates when it receives sunroof slide open signal (when operated by Intelligent Key) from BCM via communication line.

NOTE:

When power window main switch is exchanged or is detached, it is necessary to do the initialization procedure. Refer to [PWC-40, "Description"](#).

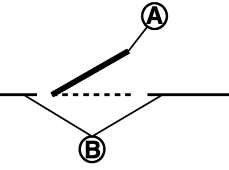
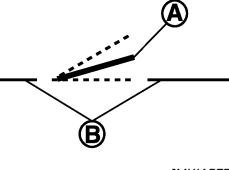
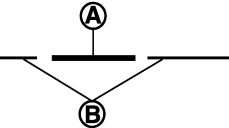
OPERATION DESCRIPTION

The sunroof operate to the following condition by the sunroof switch or Intelligent Key operation.

SYSTEM

< SYSTEM DESCRIPTION >

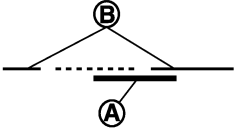
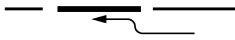
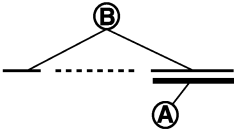
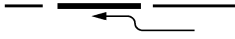
[SUNROOF]

Glass lid position before operation	Sunroof switch/Intelligent Key* operation	Sunroof action	Glass lid position after operation
Tilt up  JMKIA5777ZZ (A): Glass lid (B): Roof panel	Sunroof switch: Close (▼) or Intelligent Key: Lock/unlock button	Not activated	—
	Sunroof switch: Open (△)	Tilt down	Fully-closed  JMKIA5869ZZ
Tilt halfway-open  JMKIA5778ZZ (A): Glass lid (B): Roof panel	Sunroof switch: Close (▼)	Tilt up	Tilt up  JMKIA5870ZZ
	Intelligent Key: Lock/unlock button	Not activated	—
	Sunroof switch: Open (△)	Tilt down	Fully-closed  JMKIA5869ZZ
Fully-closed  JMKIA5779ZZ (A): Glass lid (B): Roof panel	Sunroof switch: Close (▼)	Tilt up	Tilt up  JMKIA5870ZZ
	Intelligent Key: Lock button	Not activated	—
	Sunroof switch: Open (△) or Intelligent Key: Unlock button	Open	Fully-open  JMKIA5871ZZ

SYSTEM

< SYSTEM DESCRIPTION >

[SUNROOF]

Glass lid position before operation	Sunroof switch/Intelligent Key* operation	Sunroof action	Glass lid position after operation
Halfway-open  JMKIA5780ZZ ①: Glass lid ②: Roof panel	Sunroof switch: Close (▼)	Close	Fully-closed  JMKIA5872ZZ
	Intelligent Key: Lock button	Not activated	—
	Sunroof switch: Open (△) or Intelligent Key: Unlock button	Open	Fully-open  JMKIA5871ZZ
Fully-open  JMKIA5781ZZ ①: Glass lid ②: Roof panel	Sunroof switch: Close (▼)	Close	Fully-closed  JMKIA5872ZZ
	Sunroof switch: Open (△) or Intelligent Key: Lock/unlock button	Not activated	—

*: Sunroof open while press and hold Intelligent Key unlock button.

AUTO OPERATION

- Sunroof AUTO feature makes it possible to slide open, slide close, tilt up or tilt down the sunroof without holding the sunroof switch in the slide open/tilt down or slide close/tilt up position.
- Auto operation does not operate when operating sunroof using Intelligent Key.

RETAINED POWER OPERATION

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

RETAINED POWER FUNCTION CANCEL CONDITIONS

- Front door LH/RH CLOSE (door switch OFF)→OPEN (door switch ON).
- When ignition switch is ON again.
- When timer time passes. (45 seconds)

ANTI-PINCH FUNCTION

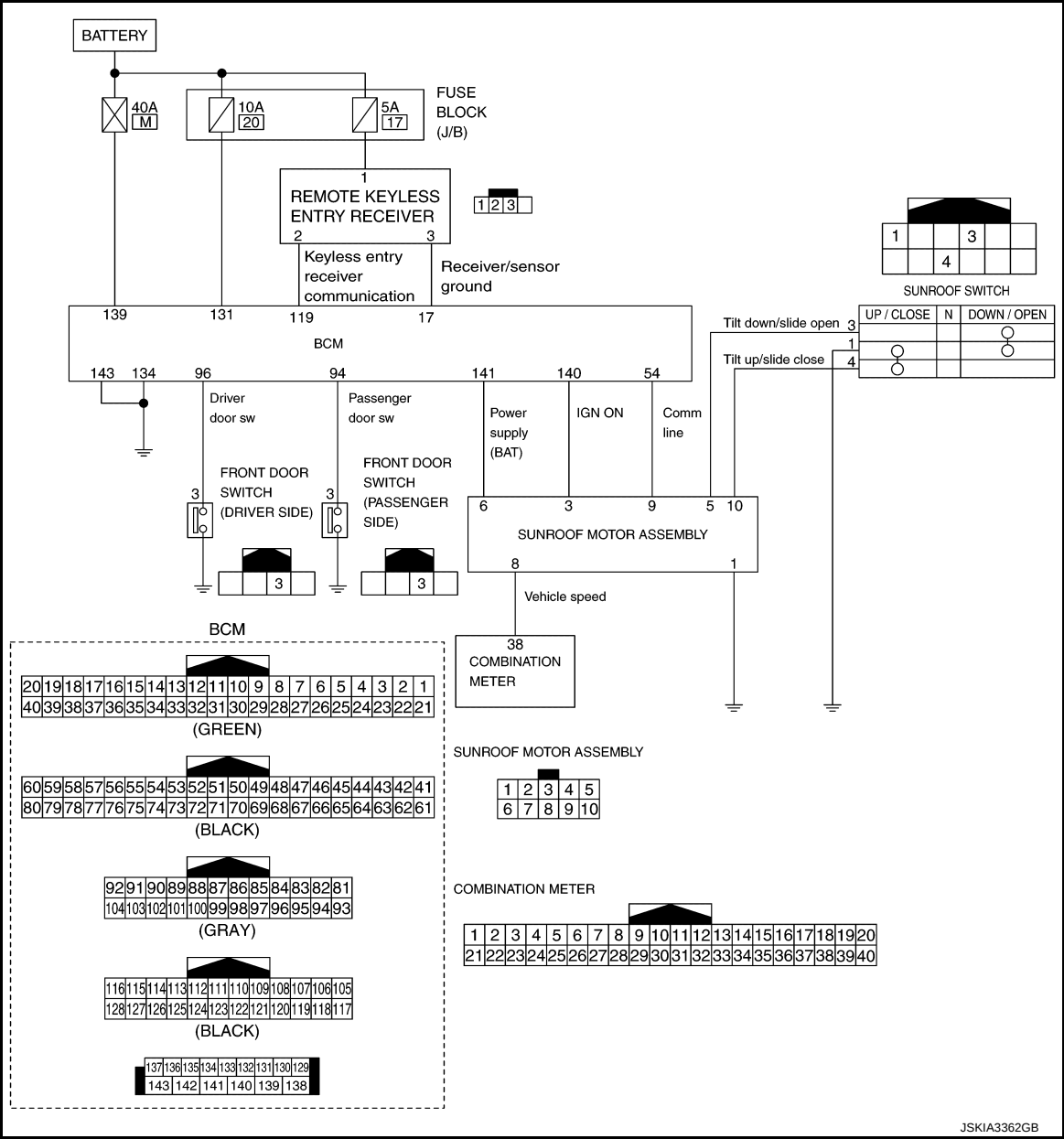
The CPU of sunroof motor assembly monitors the sunroof motor operation and the sunroof position (fully-closed or other) by the signals from sunroof motor.

When sunroof motor detects an interruption during the tilt down or slide close operation, sunroof switch controls the motor to operate sunroof to tilt up position (when tilt down operate) or to reverse 130 mm – 160 mm (5.12 in – 6.30)* in open direction (when slide close operate).

*: When the distance between pinching position and fully-open position is less than 150 mm, sunroof reverses to fully-open position.

Circuit Diagram

INFOID:000000009602085



DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[SUNROOF]

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000009725450

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

×: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER	×	×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
—	AIR CONDITONER*		×	×
- Intelligent Key system - Engine start system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
IVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk lid open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR			×

*: This item is not used.

FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[SUNROOF]

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power position status of the moment a particular DTC is detected*	While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK"*)
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)
	LOCK>ACC		While turning power supply position from "LOCK" *to "ACC"
	ACC>ON		While turning power supply position from "ACC" to "IGN"
	RUN>ACC		While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)
	RUN>URGENT		While turning power supply position from "RUN" to "ACC" (Emergency stop operation)
	ACC>OFF		While turning power supply position from "ACC" to "OFF"
	OFF>LOCK		While turning power supply position from "OFF" to "LOCK"*
	OFF>ACC		While turning power supply position from "OFF" to "ACC"
	ON>CRANK		While turning power supply position from "IGN" to "CRANKING"
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is "LOCK"*.) to low power consumption mode
	LOCK		Power supply position is "LOCK" (Ignition switch OFF)*
	OFF		Power supply position is "OFF" (Ignition switch OFF)
	ACC		Power supply position is "ACC" (Ignition switch ACC)
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)
	CRANKING		Power supply position is "CRANKING" (At engine cranking)
IGN Counter	0 - 39	The number of times that ignition switch is turned ON after DTC is detected • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.	

NOTE:

*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.

- Closing door
- Opening door
- Door is locked using door request switch
- Door is locked using Intelligent Key

The power supply position shifts to "ACC" when the push-button ignition switch (push switch) is pushed at "LOCK".

RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:000000009725447

Data monitor

NOTE:

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[SUNROOF]

Monitor Item	Description
DOOR SW-DR	Indicates [ON/OFF] condition of driver side door switch.
DOOR SW-AS	Indicates [ON/OFF] condition of passenger side door switch.

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:000000009725448

WORK SUPPORT

Monitor item	Description
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis
LOCK/UNLOCK BY I-KEY	Door lock function (door request switch) mode can be changed to operation in this mode - On: Operate - Off: Non-operation
ENGINE START BY I-KEY	Engine start function mode can be changed to operation with this mode - On: Operate - Off: Non-operation
TRUNK/GLASS HATCH OPEN	Reminder function (trunk lid opener request switch) mode can be changed to operation with this mode - On: Operate - Off: Non-operation
AUTO LOCK SET	Auto door lock operation time can be changed in this mode - MODE 1: OFF - MODE 2: 30 sec. - MODE 3: 1 minute - MODE 4: 2 minutes - MODE 5: 3 minutes - MODE 6: 4 minutes - MODE 7: 5 minutes
SHORT CRANKING OUTPUT	Starter motor can operate during the times below 70 msec 100 msec 200 msec
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode
RETRACTABLE MIRROR SET	NOTE: This item is displayed, but cannot be used
TOUCH SENSOR UNLOCK FUNCTION SETTING	One touch unlock function can be changed to operation with this mode - On: Operate - Off: Non-operation
IGN/ACC BATTERY SAVER	Ignition battery saver system mode can be changed to operation with this mode - On: Operate - Off: Non-operation
REMOTE ENGINE STARTE	NOTE: This item is displayed, but cannot be used
INTELLIGENT KEY LINK SET	NOTE: This item is displayed, but cannot be used
ANSWER BACK	Reminder function (door request switch and Intelligent Key) mode can be selected from the following with this mode - On: S mode (buzzer or horn reminder non-operation) - Off: C mode (buzzer or horn operate)
ANSWER BACK I-KEY LOCK UNLOCK	Reminder function (door request switch) mode can be selected from the following with this mode - BUZZER: Sound Intelligent Key warning buzzer - HORN: Sound horn - Off: Only hazard warning lamp operate - INVALID: This item is displayed, but cannot be used

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[SUNROOF]

Monitor item	Description
ANSWERBACK KEYLESS LOCK UNLOCK	Reminder function (Intelligent Key) mode can be selected from the following with this mode • On: Horn and hazard warning lamp operate • Off: Only hazard warning lamp operate
WELCOME LIGHT OP SET	NOTE: This item is displayed, but cannot be used

SELF-DIAG RESULT

Refer to [BCS-62. "DTC Index"](#).

DATA MONITOR

NOTE:

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

Monitor Item	Condition
REQ SW -DR	Indicates [On/Off] condition of front door request switch (driver side)
REQ SW -AS	Indicates [On/Off] condition of front door request switch (passenger side)
REQ SW -BD/TR	Indicates [On/Off] condition of trunk lid opener request switch
PUSH SW	Indicates [On/Off] condition of push-button ignition switch
SHFTLCK SLNID PWR SPLY	Indicates [On/Off] condition of the power supply from BCM to shift lock solenoid
CLUCH SW	NOTE: This item is displayed, but cannot be monitored
BRAKE SW 1	Indicates [On/Off]* condition of stop lamp switch power supply
BRAKE SW 2	Indicates [On/Off] condition of stop lamp switch
DETE/CANCL SW	Indicates [On/Off] condition of P position
SFT PN/N SW	Indicates [On/Off] condition of P or N position
UNLK SEN -DR	Indicates [On/Off] condition of driver door UNLOCK status
PUSH SW -IPDM	Indicates [On/Off] condition of push-button ignition switch
IGN RLY1 -F/B	Indicates [On/Off] condition of ignition relay 1
DETE SW -IPDM	Indicates [On/Off] condition of P position
SFT PN -IPDM	Indicates [On/Off] condition of P or N position
SFT P -MET	Indicates [On/Off] condition of P position
SFT N -MET	Indicates [On/Off] condition of N position
ENGINE STATE	Indicates [STOP/STALL/CRANK/RUN] condition of engine states
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [km/h]
VEH SPEED 2	Display the vehicle speed signal received from ABS or VDC or TCM by numerical value [km/h]
DOOR STAT-DR	Indicates [LOCK/READY/UNLK] condition of driver door status
DOOR STAT-AS	Indicates [LOCK/READY/UNLK] condition of passenger door status
DOOR STAT-RR	Indicates [LOCK/READY/UNLK] condition of rear door RH status
DOOR STAT-RL	Indicates [LOCK/READY/UNLK] condition of rear door LH status
BK DOOR STATE	NOTE: This item is displayed, but cannot be monitored
ID OK FLAG	Indicates [Set/Reset] condition of Intelligent Key ID
PRMT ENG STRT	Indicates [Set/Reset] condition of engine start possibility
PRMT RKE STRT	NOTE: This item is displayed, but cannot be monitored
I-KEY OK FLAG	Indicates [KEY On/NOT On] condition of Intelligent Key ID and Intelligent Key is detected inside vehicle
PRBT ENG STRT	Indicates whether or not the engine is in start prohibited status

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[SUNROOF]

Monitor Item	Condition
ID AUTHENT CANCEL TIMER	Indicates whether or not it is in engine start possible status when Intelligent Key verification is unnecessary
ACC BATTERY SAVER	Indicates [On/Off] whether or not ignition battery saver is in operation
CRNK PRBT TMR	Indicates [On/Off] whether or not in cranking prohibited status due to starter motor protection function operation
AUT CRANK TMR	Indicates [On/Off] whether or not in AUTO CRANKING MODE status
CRNK PRBT TME	Indicates the time for changing from cranking prohibited status to cranking possible status
AUT CRANK TMR	Indicates the time that AUTO CRANKING MODE operates
CRANKING TME	Indicates the cranking operation time
SHORT CRANK	NOTE: This item is displayed, but not used
DETE SW PWR	Indicates [On/Off] condition of the power supply from BCM to the A/T shift selector (detention switch)
IGN RLY3-REQ	Indicates [On/Off] condition of blower relay control signal
ACC RLY-REQ	Indicates [On/Off] condition of accessory relay control signal
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored
TRNK/HAT MNTR	Indicates [On/Off] condition of trunk room lamp switch
RKE-LOCK	Indicates [On/Off] condition of LOCK signal from Intelligent Key
RKE-UNLOCK	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key
RKE-TR/BD	Indicates [On/Off] condition of trunk open signal from Intelligent Key
RKE-PANIC	Indicates [On/Off] condition of panic alarm signal from Intelligent Key
RKE-MODE CHG	NOTE: This item is displayed, but cannot be monitored
RKE PBD	NOTE: This item is displayed, but cannot be monitored

*: OFF is displayed when brake pedal is depressed while brake switch power supply is OFF.

ACTIVE TEST

Test item	Description
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation - On: Operates - Off: Non-operation
INSIDE BUZZER	This test is able to check warning chime in combination meter operation - Take Out: Take away warning chime sounds when CONSULT screen is touched - Key: Key warning chime sounds when CONSULT screen is touched - Knob: OFF position warning chime sounds when CONSULT screen is touched - Off: Non-operation
INDICATOR	This test is able to check information display (combination meter) operation - KEY ON: [Intelligent Key system malfunction] displays when CONSULT screen is touched - KEY IND: [Steering lock unit ID registration complete] displays when CONSULT screen is touched - Off: Non-operation
INT LAMP	This test is able to check interior room lamp operation - On: Operates - Off: Non-operation
FLASHER	This test is able to check hazard warning lamp operation The hazard warning lamps are activated after "LH/RH/Off" on CONSULT screen is touched

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[SUNROOF]

Test item	Description
HORN	This test is able to check horn operation • On: Operates
IGN CONT2	This test is able to operate the blower relay in fuse block (J/B) • On: Operates • Off: Non-operation
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation Push-ignition switch illumination illuminates when "On" on CONSULT screen is touched
PUSH SWITCH INDICATOR	This test is able to check push-ignition switch indicator operation when "On" on CONSULT screen is touched
ACC CONT	This test is able to operate the accessory relay in fuse block (J/B) • On: Operates • Off: Non-operation
IGN CONT1	This test is able to operate the ignition relay in IPDM E/R • On: Operates • Off: Non-operation
IGNITION RELAY	This test is able to operate the ignition relay in fuse block (J/B) • On: Operates • Off: Non-operation
ST CONT LOW	This test is able to operate the starter relay in IPDM E/R • On: Non-operation • Off: Operates
BATTERY SAVER	This test is able to check interior room lamp battery saver operation • On: Outputs interior room lamp power supply to turn interior room lamps ON. • Off: Cuts interior room lamp power supply to turn interior room lamps OFF.
TRUNK/BACK DOOR	This test is able to check trunk lid open operation. This actuator opens when "Open" on CONSULT screen is touched.
RETRACTABLE MIRROR	NOTE: This item is displayed, but cannot be used
INTELLIGENT KEY LINK(CAN)	NOTE: This item is displayed, but cannot be used
REVERSE LAMP TEST	NOTE: This item is displayed, but cannot be used
DOOR HANDLE LAMP TEST	This test is able to check outside handle lamp operation • On: Operates • Off: Non-operation
DR SEAT LAMP TEST	NOTE: This item is displayed, but cannot be used
AS SEAT LAMP TEST	NOTE: This item is displayed, but cannot be used
SHIFT SPOT LAMP TEST	NOTE: This item is displayed, but cannot be used
TRUNK/LUGGAGE LAMP TEST	This test is able to check trunk room lamp operation • On: Operates • Off: Non-operation
KEYFOB P/W TEST	This test is able to check keyless power window up/down operation • Up: Non-operation • Down*: Power window and sunroof open • Off: Non-operation
SHIFTLOCK SORENOID TEST	NOTE: This item is displayed, but cannot be used

*: When ignition switch is OFF, driver door opened, power window and sunroof is closed.

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

List of ECU Reference

INFOID:0000000009602086

ECU	Reference
BCM	BCS-35, "Reference Value"
	BCS-60, "Fail-safe"
	BCS-61, "DTC Inspection Priority Chart"
	BCS-62, "DTC Index"

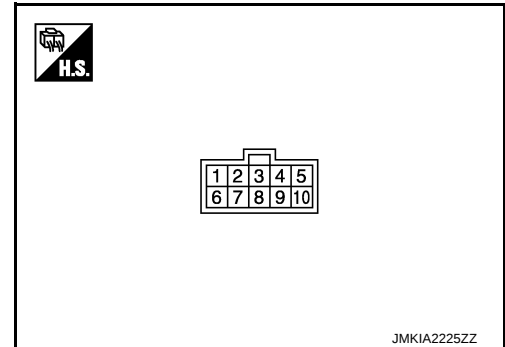
A
B
C
D
E
F
G
H
I
J
RF
L
M
N
O
P

SUNROOF SYSTEM

Reference Value

INFOID:000000009602087

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Voltage (V)
+	—	Signal name	Input/ Output		
1 (B)	Ground	Ground	—	—	0
3 (Y)	Ground	IGN ON signal	Input	Ignition switch ON	9 – 16
				Within 45 seconds after ignition switch is turned to OFF (retained power operation)	
				Ignition switch is OFF and 45 seconds are passed or when driver side or passenger side door is opened during retained power operation	0
5 (P)	Ground	Sunroof switch (Tilt down/slide open signal)	Input	Sunroof switch in following position • TILT DOWN • SLIDE OPEN	0 – 2.1
				Other than the above	9 – 16
6 (W)	Ground	Sunroof power supply	Input	—	9 – 16
8 (GR)	Ground	Vehicle speed signal (8-pulse)	Input	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	NOTE: The maximum voltage varies depending on the specification (destination unit). JSNIA0012GB
9 (V)	Ground	Sunroof open signal (Intelligent Key)	Input/ Output	Ignition switch ON Within 45 second after ignition switch is turned to OFF	PKIA7023E

SUNROOF SYSTEM

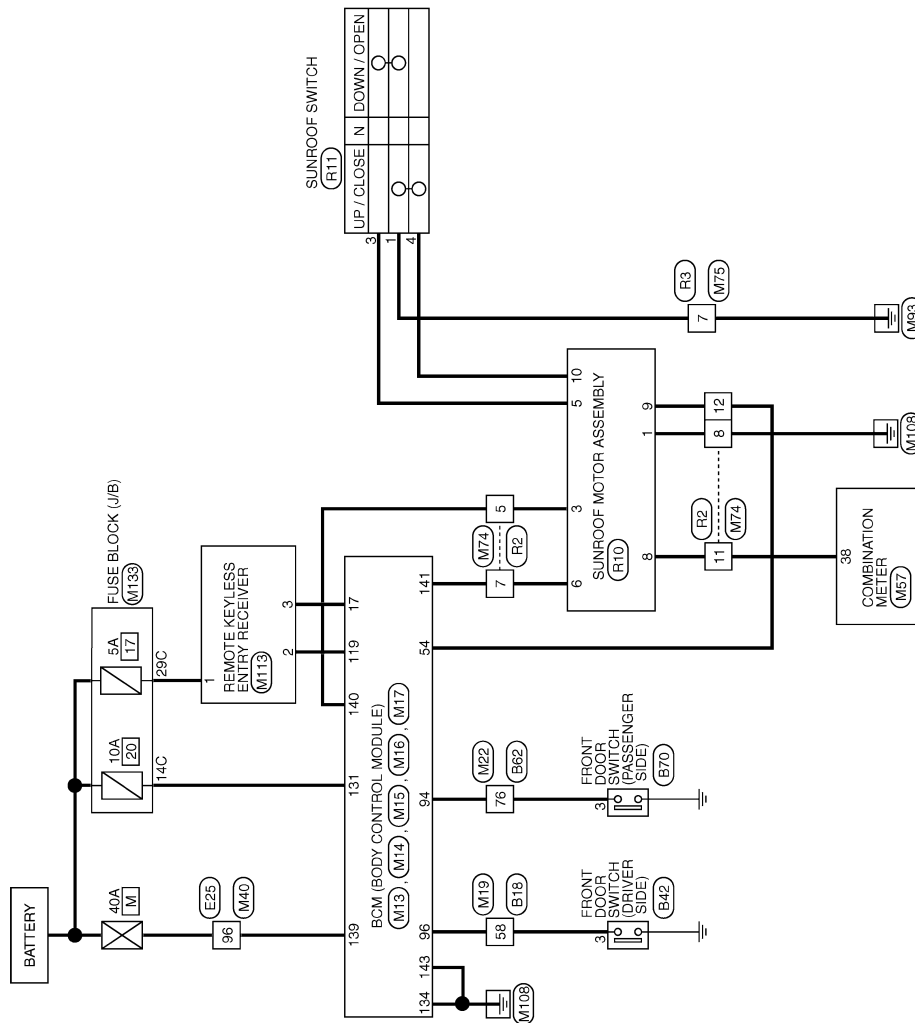
< ECU DIAGNOSIS INFORMATION >

[SUNROOF]

Terminal No. (Wire color)		Description		Condition	Voltage (V)
+	–	Signal name	Input/ Output		
10 (SB)	Ground	Sunroof switch (Tilt up/slide close signal)	Input	Sunroof switch in following position • TILT UP • SLIDE CLOSE	0 – 2.1
				Other than the above	9 – 16

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

RF



SUNROOF

2013/05/17

JRKWC4344GB

SUNROOF MOTOR ASSEMBLY

< WIRING DIAGRAM >

[SUNROOF]

SUNROOF

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	TH8DFW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	L	-
4	LG	-
5	R	-
6	V	-
7	LG	-
8	BR	-
9	P	-
10	BG	-
11	GR	-
12	Y	-
13	W	-
14	B	-
15	SB	-
16	R	-
17	W	-
18	LG	-
19	P	-
20	SB	-
21	P	-
22	BR	-
23	BG	-
24	Y	-
25	W	-
26	R	-
27	SB	-
28	Y	-
29	R	-
30	W	-
31	V	-
32	LG	-
33	BR	-
34	P	-
35	W	-
36	SB	-
37	LG	-
38	P	-
39	SB	-
40	BR	-
41	BG	-
42	Y	-
43	W	-
44	R	-
45	SB	-
46	Y	-
47	R	-
48	W	-
49	LG	-
50	BR	-
51	P	-
52	BG	-
53	GR	-
54	Y	-
55	W	-
56	R	-
57	V	-
58	LG	-
59	BR	-

62	BG	-
63	Y	-
64	W	-
65	R	-
66	LG	-
67	BR	-
68	P	-
69	BG	-
70	GR	-
71	Y	-
72	B	-
73	L	-
74	V	-
75	W	-
76	BR	-
77	B	-
78	Y	-
79	W	-
80	LG	-
81	BR	-
82	P	-
83	BG	-
84	L	-
85	V	-
86	G	-
87	GR	-
88	Y	-
89	W	-
90	BR	-
91	P	-
92	BG	-
93	GR	-
94	Y	-
95	W	-
96	BR	-
97	V	-
98	LG	-
99	BR	-

Connector No.	B42
Connector Name	FRONT DOOR SWITCH (DRIVER SIDE)
Connector Type	TH4DFW-H4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	L	-
4	LG	-

Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH8DFW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	L	-
3	P	-
4	W	-
5	SHIELD	-
6	G	-
7	W	-
8	BR	-
9	Y	-
10	SHIELD	-
11	V	-
12	GR	-
13	R	-
14	BG	-
15	GR	-
16	V	-
17	P	-
18	L	-
19	R	-
20	GR	-
21	R	-
22	P	-
23	W	-
24	V	-
25	SH	-
26	G	-
27	Y	-
28	LG	-
29	R	-
30	W	-
31	BR	-
32	P	-
33	BG	-
34	GR	-
35	Y	-
36	W	-
37	R	-
38	V	-
39	W	-

45	G	-
46	SHIELD	-
47	W	-
48	BR	-
49	BG	-
50	G	-
51	Y	-
52	R	-
53	GR	-
54	R	-
55	P	-
56	LG	-
57	P	-
58	LG	-
59	P	-
60	L	-
61	W	-
62	LG	-
63	L	-
64	W	-
65	LG	-
66	P	-
67	R	-
68	G	-
69	SHIELD	-
70	GR	-
71	BR	-
72	G	-
73	SHIELD	-
74	GR	-
75	BR	-
76	BR	-
77	BG	-
78	W	-
79	W	-
80	LG	-
81	LG	-
82	V	-
83	W	-
84	R	-
85	Y	-
86	W	-
87	LG	-
88	LG	-
89	V	-
90	W	-
91	W	-
92	R	-
93	Y	-
94	W	-
95	W	-
96	L	-
97	L	-
98	BR	-
99	BR	-
100	BR	-

A
B
C
D
E
F
G
H
I
J
RF
L
M
N
O
P

SUNROOF MOTOR ASSEMBLY

< WIRING DIAGRAM >

[SUNROOF]

SUNROOF

Connector No.	B70
Connector Name	FRONT DOOR SWITCH (PASSENGER SIDE)
Connector Type	TH4DFW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
3	GR	-

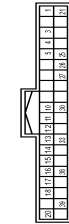
Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	TH88FW-CST16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	-
3	LG	-
4	BR	-
6	V	-
7	L	-
10	BR	-
11	L	-
12	GR	-
13	W	-
14	B	-
15	SB	-
16	SP	-
17	BR	-
18	P	-
31	Y	-
32	GR	-
35	GR	-
36	R	-
37	V	-

38	L	-
39	Y	-
40	SB	-
41	LG	-
44	Y	-
45	W	-
46	B	-
47	G	-
48	SHIELD	-
49	R	-
50	BR	-
51	L	-
52	W	-
53	P	-
54	W	-
55	SB	-
57	BG	-
58	B	-
59	W	-
61	R	-
64	Y	-
65	SB	-
66	GR	-
67	LG	-
68	BG	-
71	LG	-
72	G	-
74	BR	-
75	V	-
76	P	-
78	SB	-
83	R	-
86	BG	-
91	G	-
92	Y	-
94	GR	-
95	BG	-
96	W	-
97	LG	-
98	L	-
99	B	-
100	SHIELD	-

Connector No.	M13
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH4DFG-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	PUSH SW
3	Y	SENSOR SW
4	BG	OPTICAL SENSOR
5	LG	-
10	W	COMBI SW OUTPUT 5
11	SB	COMBI SW OUTPUT 4
12	L	COMBI SW OUTPUT 3
13	G	COMBI SW OUTPUT 2
14	P	COMBI SW OUTPUT 1
15	G	ONE TOUCH UNLK SENS (DR)
16	G	ONE TOUCH UNLK SENS (PASS)
17	P	RECEIVER/SENSOR GND
18	L	SECURITY AND LAMP CONT
20	R	DETENT SW
21	GR	STOP LAMP SW1
24	R	STOP LAMP SW2
26	R	EXTENDED STORAGE FUSE SW
27	P	STOP LAMP SW
30	W	DR DOOR UNLK SENS
33	V	TR LID OP CANDEL SW
36	G	HAZARD SW
39	BR	P/N POSITION

Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH4DFE-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
52	R	PUSH/RTN IGN SW (L PWR)
53	G	CONGL LNK
54	V	COMB LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	I-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT
67	W/B	IGN RLYAY (7/8) CONT
68	R	DIMMER
69	GR	A/T SHFT SELECT PWR SPLY
70	B	IGN RELAY (7/8) CONT
71	G	DR DOOR REG SW
72	SB	PASS DOOR REG SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LID OPNE SW

JRKWC4346GB

SUNROOF MOTOR ASSEMBLY

< WIRING DIAGRAM >

[SUNROOF]

SUNROOF

Connector No.	M15
Connector Name	BDM (BODY CONTROL MODULE)
Connector Type	TH24FCV-NH4

Signal Name [Specification]	REAR LH DOOR SW
Signal Name [Specification]	TRUNK LAMP CONT
Signal Name [Specification]	TRUNK LID OPEN
Signal Name [Specification]	TURN SIG RH OUTPUT (SIDE REAR)
Signal Name [Specification]	REAR RH DOOR SW
Signal Name [Specification]	PASSENGER DOOR SW
Signal Name [Specification]	DRIVER DOOR SW
Signal Name [Specification]	TR ROOM LAMP SW
Signal Name [Specification]	INSIDE KEY ANT. (TRUNK) +
Signal Name [Specification]	REAR BMR ANT +
Signal Name [Specification]	REAR BMR ANT -
Signal Name [Specification]	TURN SIG LH OUTPUT (SIDE REAR)

Terminal No.	Color Of Wire	Signal Name [Specification]
82	W	REAR LH DOOR SW
83	W	TRUNK LAMP CONT
84	P	TRUNK LID OPEN
85	G	TURN SIG RH OUTPUT (SIDE REAR)
86	G	REAR RH DOOR SW
87	GR	PASSENGER DOOR SW
88	V	DRIVER DOOR SW
89	R	TR ROOM LAMP SW
90	GR	INSIDE KEY ANT. (TRUNK) +
91	W	REAR BMR ANT +
92	W	REAR BMR ANT -
93	Y	TURN SIG LH OUTPUT (SIDE REAR)

Connector No.	M16
Connector Name	BDM (BODY CONTROL MODULE)
Connector Type	TH24FCV-NH4

Signal Name [Specification]	TURN SIG RH OUTPUT (FRONT)
Signal Name [Specification]	PUSH-BTN IGN SW L GND
Signal Name [Specification]	ACC ON IND
Signal Name [Specification]	ACC RELAY CONT
Signal Name [Specification]	PASSENGER DOOR ANT +
Signal Name [Specification]	PASSENGER DOOR ANT -

Terminal No.	Color Of Wire	Signal Name [Specification]
105	Y	TURN SIG RH OUTPUT (FRONT)
107	P	PUSH-BTN IGN SW L GND
111	Y	ACC ON IND
113	SB	ACC RELAY CONT
114	LG	PASSENGER DOOR ANT +
115	V	PASSENGER DOOR ANT -

Terminal No.	Color Of Wire	Signal Name [Specification]
116	BR	INSIDE KEY ANT. (CONSOLE) +
117	WB	TURN SIG LH OUTPUT (FRONT)
118	W	REAR BMR ANT +
119	W	REAR BMR ANT -
120	SB	DRIVER DOOR ANT +
121	SB	DRIVER DOOR ANT -
122	R	INSIDE KEY ANT. (INSTRUMENT LOWER) +
123	G	INSIDE KEY ANT. (INSTRUMENT LOWER) -
124	G	INSIDE KEY ANT. (INSTRUMENT LOWER) +
125	B	NATS. ANT. AMP.
126	W	NATS. ANT. AMP.
127	W	INSIDE KEY ANT. (CONSOLE) -
128	GR	INSIDE KEY ANT. (CONSOLE) -

Connector No.	M17
Connector Name	BGM (BODY CONTROL MODULE)
Connector Type	FE40BPH-FH4M-SA

Signal Name [Specification]	137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139 1140 1141 1142 1143 1144 1145 1146 1147 1148 1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165 1166 1167 1168 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182 1183 1184 1185 1186 1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210 1211 1212 1213 1214 1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 1280 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290 1291 1292 1293 1294 1295 1296 1297 1298 1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333
-----------------------------	---

SUNROOF MOTOR ASSEMBLY

< WIRING DIAGRAM >

[SUNROOF]

SUNROOF		M57		M57	
14	LG	-	-	50	BR
15	SB	-	-	51	L
16	SB	-	-	52	W
17	V	-	-	53	G
18	L	-	-	54	Y
19	G	-	-	55	P
20	GR	-	-	56	BG
21	R	-	-	57	GR
22	W	-	-	58	B
23	L	-	-	59	SB
24	V	-	-	60	W/B
25	LG	-	-	61	Y
26	GR	-	-	62	R
27	SB	-	-	63	L
28	LG	-	-	64	V
29	SB	-	-	65	GR
30	LG	-	-	66	L
31	R	-	-	67	BG
32	R	-	-	68	W
33	W	-	-	69	LG
34	V	-	-	70	BR
35	LG	-	-	71	V
36	W	-	-	72	LG
37	R	-	-	73	R
38	W	-	-	74	BR
39	V	-	-	75	B
40	LG	-	-	76	G
41	L	-	-	77	R
42	BR	-	-	78	G
43	LG	-	-	79	R
44	BR	-	-	80	R
45	W	-	-	81	V
46	G	-	-	82	R
47	R	-	-	83	W
48	R	-	-	84	GR
49	R	-	-	85	W
50	R	-	-	86	W
51	R	-	-	87	GR
52	R	-	-	88	BR
53	R	-	-	89	BR
54	R	-	-	90	SHIELD
55	R	-	-	91	SHIELD
56	R	-	-	92	SHIELD
57	R	-	-	93	SHIELD
58	R	-	-	94	SHIELD
59	R	-	-	95	SHIELD
60	R	-	-	96	SHIELD
61	R	-	-	97	SHIELD
62	R	-	-	98	SHIELD
63	R	-	-	99	SHIELD
64	R	-	-	100	SHIELD

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	G	SECURITY SIGNAL
3	B	-
4	B	ALTERNATOR SIGNAL
5	W	LED HEADLAMP (RH) WARNING SIGNAL
6	G	LED HEADLAMP (LH) WARNING SIGNAL
7	V	ACC POWER SUPPLY
8	V	AIR BAG SIGNAL
9	BR	METER CONTROL SWITCH GROUND
10	SB	TRIP RESET SIGNAL
11	B	STEERING SWITCH SIGNAL A
12	P	STEERING SWITCH SIGNAL B
13	W/B	STEERING SWITCH SIGNAL C
14	L	WASHER LEVEL SWITCH SIGNAL A
15	LG	WASHER LEVEL SWITCH SIGNAL B
16	V	WASHER LEVEL SWITCH SIGNAL C
17	G	PARKING BRAKE SWITCH SIGNAL
18	W	PASSENGER SEAT BELT WARNING SIGNAL
19	Y	SEAT BELT BUCKLE SWITCH SIGNAL (OVER SEAT)
20	SB	MANUAL MODE SIGNAL
21	G	NON-MANUAL MODE SIGNAL
22	BG	MANUAL MODE SHIFT UP SIGNAL
23	GR	MANUAL MODE SHIFT DOWN SIGNAL
24	BG	PADDLE SHIFTER UP SIGNAL
25	G	PADDLE SHIFTER DOWN SIGNAL
26	V	ILLUMINATION CONTROL SWITCH SIGNAL (1)
27	GR	ILLUMINATION CONTROL SWITCH SIGNAL (2)
28	R	VEHICLE SPEED SIGNAL (0-PULSE)
29	L	VEHICLE SPEED SIGNAL (2-PULSE)

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	L	-
3	V	-
4	W/B	-
5	V	-
6	W	-
7	W	-
8	W	-
9	GR	-
10	BR	-
11	SB	-
12	LG	-
13	B	-
14	B	-
15	B	-
16	B	-
17	B	-
18	W	-
19	V	-
20	BG	-
21	G	-
22	B	-
23	L	-
24	GR	-
25	BR	-
26	BR	-
27	BR	-
28	BR	-
29	BR	-
30	BR	-
31	BR	-
32	BR	-
33	BR	-
34	BR	-
35	BR	-
36	BR	-
37	BR	-
38	BR	-
39	BR	-
40	BR	-
41	BR	-
42	BR	-
43	BR	-
44	BR	-
45	BR	-
46	BR	-
47	BR	-
48	BR	-
49	BR	-
50	BR	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	L	-
3	V	-
4	W/B	-
5	V	-
6	W	-
7	W	-
8	GR	-
9	BR	-
10	SB	-
11	LG	-
12	B	-
13	B	-
14	B	-
15	B	-
16	B	-
17	B	-
18	W	-
19	V	-
20	BG	-
21	G	-
22	B	-
23	L	-
24	GR	-
25	BR	-
26	BR	-
27	BR	-
28	BR	-
29	BR	-
30	BR	-
31	BR	-
32	BR	-
33	BR	-
34	BR	-
35	BR	-
36	BR	-
37	BR	-
38	BR	-
39	BR	-
40	BR	-
41	BR	-
42	BR	-
43	BR	-
44	BR	-
45	BR	-
46	BR	-
47	BR	-
48	BR	-
49	BR	-
50	BR	-

JRKWC4348GB

SUNROOF MOTOR ASSEMBLY

< WIRING DIAGRAM >

[SUNROOF]

SUNROOF

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Type	NS12MM-CS

1	2	3	4
5	6	7	8
9	10	11	12



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	B	-
3	B	-
4	LG	-
5	BR	-
6	BR	-
7	R	-
8	B	-
9	P	-
10	L	-
11	R	-
12	V	-

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Type	TH132MM-NH

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	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	W	-
4	BR	-
5	R	-
6	G	-
7	B	-
10	V	-

11	LG	-
12	W	-
13	G	-
14	B	-
16	R	-
17	SHIELD	-
18	G	-
19	L	-
21	B	-
22	R	-
23	V	-
25	W	-
26	B	-
27	R	-
28	GR	-
29	W	-
31	W	-
32	L	-

Connector No.	M113
Connector Name	REMOTE KEYLESS ENTRY RECEIVER
Connector Type	JAA04MF

1	2	3
---	---	---



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	+12V
2	L	SIGNAL
3	P	GND

Connector No.	M133
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH148FW-NH

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	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Terminal No.	Color Of Wire	Signal Name [Specification]
100	V	-
101	Y	-
102	Y	-
140	Y	-
150	R	-
160	R	-
170	L	-
180	BG	- [Without DRPO]
180	P	- [With DRPO]
190	B	-
200	W	-
210	L	-
220	L	-
230	L	-
240	LG	-
250	BR	-
260	P	-
280	W	-
290	R	-
300	R	-
310	W	-
320	R	-
330	B	-
340	W/B	-
350	SB	-
360	R	-
370	W	-
380	SB	-
390	P	-
400	G	-
460	P	-
50	P	-
60	G	-
70	G	-

9C	V	-
----	---	---

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Type	NS12MM-CS

1	2	3	4	5
6	7	8	9	10
11	12			



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	BG	-
3	SB	-
4	R	-
5	Y	-
6	BR	-
7	W	-
8	B	-
9	GR	-
10	BR	-
11	GR	-
12	V	-

Connector No.	R3
Connector Name	WIRE TO WIRE
Connector Type	TH132MM-NH

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	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	GR	-
3	W	-
4	BR	-
5	R	-

A
B
C
D
E
F
G
H
I
J
RF
L
M
N
O
P

SUNROOF MOTOR ASSEMBLY

< WIRING DIAGRAM >

[SUNROOF]

SUNROOF

6	G	-
7	B	-
10	BR	-
11	SB	-
12	GR	-
14	B	-
16	V	-
17	SHIELD	-
18	R	-
19	L	-
21	LG	-
22	V	-
23	GR	-
25	W	-
26	B	-
27	BR	-
28	BG	-
29	BG	-
31	W	-
32	L	-

Connector No.	R10
Connector Name	SUNROOF MOTOR ASSEMBLY
Connector Type	YEAD0GY

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	GND
3	P	IGN ON
5	P	TILT DOWN/SLIDE OPEN
6	W	PWR SPLY (BAT)
8	GR	VEHICLE SPEED
9	V	SUNROOF SLIDE OPEN (INTELLIGENT KEY)
10	SB	TILT UP/SLIDE CLOSE

Connector No.	R11
Connector Name	SUNROOF SWITCH
Connector Type	TH12FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
3	P	DOWN/OPEN
4	SB	UP/CLOSE

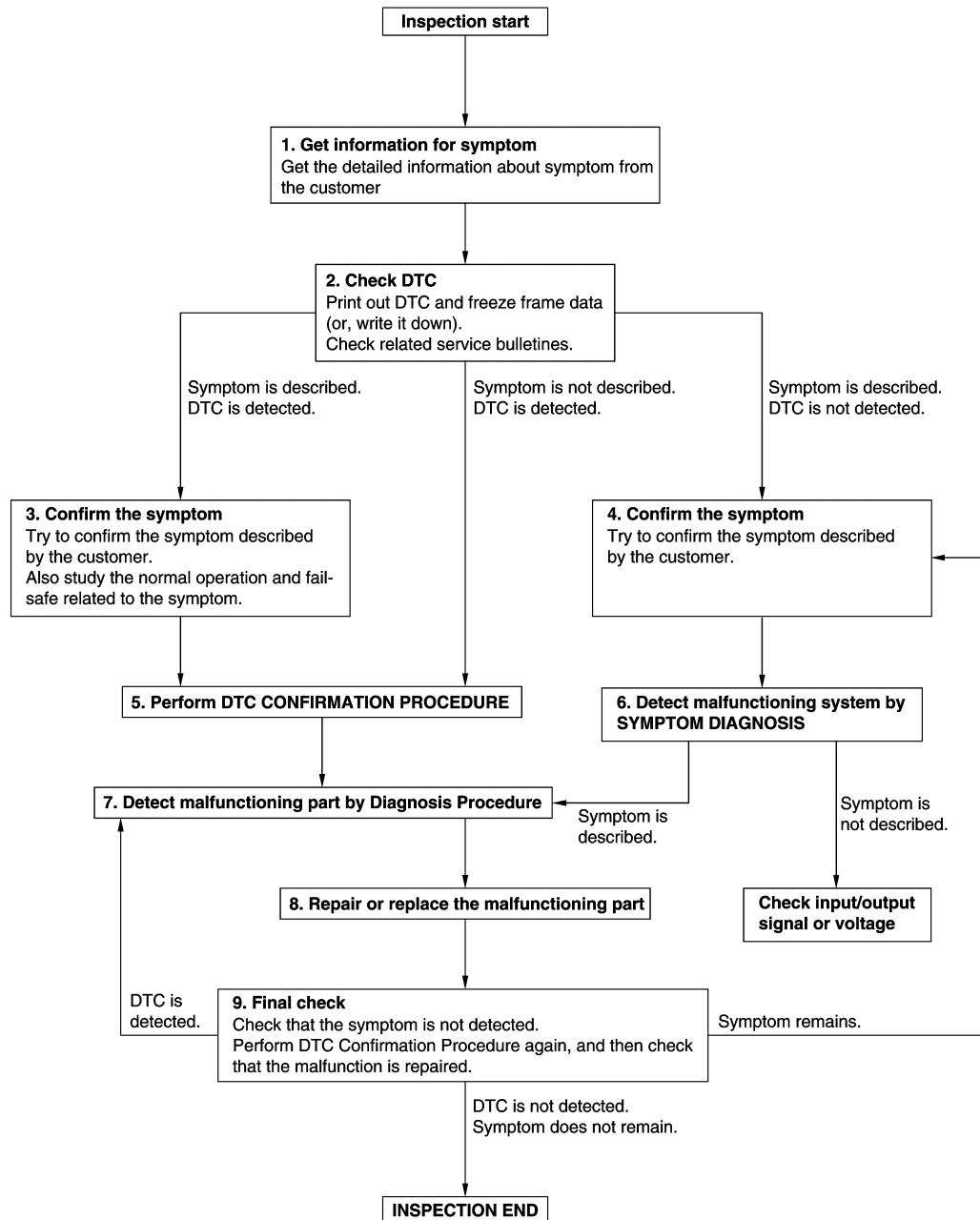
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000009602089

OVERALL SEQUENCE



DETAILED FLOW

JMKIA8652GB

DIAGNOSIS AND REPAIR WORK FLOW

[SUNROOF]

< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

1. Check DTC.
2. Perform the following procedure if DTC is detected.
 - Record DTC and freeze frame data (Print them out using CONSULT.)
 - Erase DTC.
 - Study the relationship between the cause detected by DTC and the symptom described by the customer.
3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.

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

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

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

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

If two or more DTCs are detected, refer to [BCS-61. "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 on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIRMATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.

NO >> Check according to [GI-43. "Intermittent Incident"](#).

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

YES >> GO TO 7.

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

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

[SUNROOF]

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-43. "Intermittent Incident"](#).

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.

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

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.

YES-2 >> Symptom remains: GO TO 4.

NO >> Before returning the vehicle to the customer, always erase DTC.

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

RF

ADDITIONAL SERVICE WHEN REPLACING SUNROOF MOTOR ASSEMBLY

< BASIC INSPECTION >

[SUNROOF]

ADDITIONAL SERVICE WHEN REPLACING SUNROOF MOTOR ASSEMBLY

Description

INFOID:000000009602090

Initialization of system should be conducted after the following conditions.

- When the sunroof motor is changed.
- When the sunroof does not operate normally (Incomplete initialization conditions).

Work Procedure

INFOID:000000009602091

1.STEP 1

1. Operate sunroof switch and set glass lid to the tilt up position.
2. Press and hold the sunroof switch to the close side (▼).
3. Release the sunroof switch when the glass lid is tilted up slightly.
4. Within 4 seconds, press and hold the sunroof switch to the close side (▼).
5. After 4 seconds, the glass lid is automatically operated in sequence of tilt-up → tilt-down → slide-open → slide-close. Release the switch.

>> GO TO 2.

2.STEP 2

1. Operate sunroof switch and check that glass lid automatically operates normally.
2. Perform anti-pinch function check. Refer to [RF-31. "Description"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Perform glass lid adjustment. Refer to [RF-50. "Adjustment"](#).

ANTI-PINCH INSPECTION

Description

INFOID:0000000009602092

Check anti-pinch function when the initialization of sunroof system is performed.

Work Procedure

INFOID:0000000009602093

1.CHECK ANTI-PINCH FUNCTION

1. Full open the sunroof.
2. Place a wooden piece (wooden hammer handle, etc.) at near fully-closed position (more than 3 mm from fully-closed position).
3. Close the sunroof completely with auto-slide close.
4. Check that sunroof reverses for approximately 130 mm – 160 mm (5.12 in – 6.30 in)* without pinching a wooden piece and stops.

*: When the distance between pinching position and fully-open position is less than 150 mm, sunroof reverses to fully-open position

CAUTION:

- **To prevent injury, never check with hands and other part of body because they may be pinched. Never get pinched.**

Is the inspection result normal?

YES >> INSPECTION END

NO >> Perform initialization procedure. Refer to [RF-30, "Description"](#).

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

RF

DTC/CIRCUIT DIAGNOSIS**POWER SUPPLY AND GROUND CIRCUIT
SUNROOF MOTOR ASSEMBLY****SUNROOF MOTOR ASSEMBLY : Diagnosis Procedure**

INFOID:000000009602094

1.CHECK POWER SUPPLY

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

(+)		(-)	Condition	Voltage (V)
Sunroof motor assembly				
Connector	Terminal			
R10	3	Ground	Ignition switch is OFF and 45 seconds are passed	0
			When driver side or passenger side door is opened during retained power operation	
			Ignition switch ON	9 – 16
	Within 45 seconds after ignition switch is turned to OFF			
	6		Ignition switch ON	9 – 16

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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

BCM		Sunroof motor assembly		Continuity
Connector	Terminal	Connector	Terminal	
M17	140	R10	3	Existed
	141		6	

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

Sunroof motor assembly		Ground	Continuity
Connector	Terminal		
R10	3		Not existed
	6		

Is the inspection result normal?YES >> Check BCM power supply and ground circuit. Refer to [BCS-91. "Diagnosis Procedure"](#).

NO >> Repair or replace harness.

3.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		
R10	1		Existed

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[SUNROOF]

Is the inspection result normal?

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

A
B
C
D
E
F
G
H
I
J
RF
L
M
N
O
P

VEHICLE SPEED SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[SUNROOF]

VEHICLE SPEED SIGNAL CIRCUIT

Component Function Check

INFOID:000000009602095

1.CHECK SUNROOF MOTOR ASSEMBLY FUNCTION

1. Start engine.
2. Drive the vehicle at more than 40 km/h (25 MPH).

CAUTION:

Always drive vehicle at a safe speed.

NOTE:

This procedure may be conducted with the drive wheels lifted in the shop or by driving the vehicle.

If a road test is expected to be easier, it is unnecessary to lift the vehicle.

3. Check tilt up/down and slide open/close operations with sunroof switch.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [RF-34, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000009602096

1.CHECK VEHICLE SPEED SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sunroof motor assembly harness connector and combination meter harness connector.
3. Check continuity between sunroof motor assembly harness connector and combination meter harness connector.

Sunroof motor assembly		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
R10	8	M57	38	Existed

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

Sunroof motor assembly		Ground	Continuity
Connector	Terminal		
R10	8		Not existed

Is the inspection result normal?

YES >> Check combination meter. Refer to [MWI-101, "DTC Description"](#).

NO >> Repair or replace harness.

SUNROOF SERIAL LINK

Component Function Check

INFOID:000000009602097

1.CHECK "" SETTING IN "WORK SUPPORT"

1. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
2. Select "KEYFOB P/W TEST" in "ACTIVE TEST" mode.
3. Check "KEYFOB P/W TEST" in "ACTIVE TEST".
Refer to [DLK-51, "INTELLIGENT KEY : CONSULT Function \(BCM - INTELLIGENT KEY\)"](#).

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Refer to [RF-35, "Diagnosis Procedure"](#).

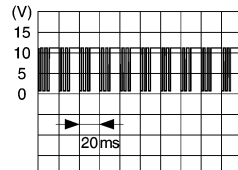
Diagnosis Procedure

INFOID:000000009602098

SUNROOF SWITCH

1.CHECK SUNROOF MOTOR ASSEMBLY INPUT SIGNAL

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

(+)		(-)	Signal (Reference value)
Sunroof motor assembly			
Connector	Terminal		
R10	9	Ground	 PKIA7023E

Is the inspection result normal?

- YES >> Replace sunroof motor assembly. Refer to [RF-52, "Removal and Installation"](#).
NO >> GO TO 2.

2.CHECK SUNROOF MOTOR ASSEMBLY INPUT SIGNAL CIRCUIT FOR OPEN AND SHORT

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

BCM		Sunroof motor assembly		Continuity
Connector	Terminal	Connector	Terminal	
M14	54	R10	9	Exists

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

Sunroof motor assembly		Ground	Continuity
Connector	Terminal		
R10	9		Not existed

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-98, "Removal and Installation"](#).
NO >> Repair or replace harness or connector.

SUNROOF SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[SUNROOF]

SUNROOF SWITCH

Component Function Check

INFOID:000000009602099

1.CHECK FUNCTION

Check tilt up/down and slide open/close operations with sunroof switch.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [RF-36, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000009602100

1.CHECK SUNROOF SWITCH INPUT SIGNAL

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

(+)		(-)	Voltage (V)
Sunroof switch			
Connector	Terminal		
R11	3	Ground	9 – 16
	4		

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK SUNROOF SWITCH CIRCUIT

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

Sunroof switch		Sunroof motor assembly		Continuity
Connector	Terminal	Connector	Terminal	
R11	3	R10	5	Existed
	4		10	

4. Check continuity between sunroof switch harness connector and ground.

Sunroof switch		Ground	Continuity
Connector	Terminal		
R11	3		Not existed
	4		

Is the inspection result normal?

YES >> Replace sunroof motor assembly. Refer to [RF-52, "Removal and Installation"](#).

NO >> Repair or replace harness.

3.CHECK GROUND CIRCUIT

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

SUNROOF SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[SUNROOF]

Sunroof switch		Ground	Continuity
Connector	Terminal		
R11	1		Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connector.

4.CHECK SUNROOF SWITCH

Check sunroof switch. Refer to [RF-37, "Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-43, "Intermittent Incident"](#).

NO >> Replace sunroof switch. Refer to [RF-61, "Removal and Installation"](#).

Component Inspection

INFOID:000000009602101

1.CHECK SUNROOF SWITCH

1. Turn ignition switch OFF.
2. Disconnect sunroof switch harness connector.
3. Check continuity between sunroof switch terminals under the following conditions.

Terminal		Condition		Continuity
3	1	Sunroof switch	Tilt down/slide open position	Existed
			Other than the above	Not existed
4			Tilt up/slide close position	Existed
			Other than the above	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace sunroof switch. Refer to [RF-61, "Removal and Installation"](#).

RF

SYMPTOM DIAGNOSIS

SUNROOF DOES NOT OPERATE PROPERLY

Description

INFOID:000000009602102

Sunroof does not operate normally.

- Glass lid does not slide or tilt.
- Judder occurs during sliding operation of glass lid.
- Sliding or tilting operation of glass lid is slow.

Diagnosis Procedure

INFOID:000000009602103

1.CHECK GLASS LID

Check the following items.

- Cracks, damage, or deformation of weather-strip.
- Sticking of weather-strip.
- Loose or missing glass lid mounting blot.
- Misalignment of glass lid.

Refer to [RF-49, "Exploded View"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK SUNROOF FRAME ASSEMBLY

Check the following items.

- Damage, deformation or trapped foreign material of slide rail.
- Insufficient application of grease to sliding section of slide rail.

Refer to [RF-52, "Exploded View"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK SUNSHADE

Check sunshade for damage, deformation, of interference with other parts. Refer to [RF-58, "Exploded View"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to [BCS-91, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

5.CHECK SUNROOF MOTOR ASSEMBLY POWER SUPPLY AND GROUND CIRCUIT

Check sunroof motor assembly power supply and ground circuit. Refer to [RF-32, "SUNROOF MOTOR ASSEMBLY : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace the malfunctioning parts.

6.CHECK SUNROOF SWITCH

Check sunroof switch. Refer to [RF-36, "Component Function Check"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-43, "Intermittent Incident"](#).

NO >> Repair or replace the malfunctioning parts.

SUNROOF DOES NOT OPERATE PROPERLY (INTELLIGENT KEY CONTROL)

< SYMPTOM DIAGNOSIS >

[SUNROOF]

SUNROOF DOES NOT OPERATE PROPERLY (INTELLIGENT KEY CONTROL)

Diagnosis Procedure

INFOID:000000009602104

1.CHECK INTELLIGENT KEY

Check Intelligent Key. Refer to [DLK-117, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK REMOTE KEYLESS ENTRY RECEIVER

Check remote keyless entry receiver. Refer to [DLK-122, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK SUNROOF SERIAL LINK

Check sunroof serial link. Refer to [RF-35, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4.CHECK POWER WINDOW SERIAL LINK

Check power window serial link. Refer to following.

- Power window main switch: Refer to [PWC-61, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure"](#).
- Front power window switch (passenger side): Refer to [PWC-62, "FRONT POWER WINDOW SWITCH \(PASSENGER SIDE\) : Diagnosis Procedure"](#).
- Rear power window switch LH: Refer to [PWC-63, "REAR POWER WINDOW SWITCH LH : Diagnosis Procedure"](#).
- Rear power window switch RH: Refer to [PWC-64, "REAR POWER WINDOW SWITCH RH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-43, "Intermittent Incident"](#).

NO >> Repair or replace the malfunctioning parts.

AUTO OPERATION DOES NOT OPERATE

[SUNROOF]

< SYMPTOM DIAGNOSIS >

AUTO OPERATION DOES NOT OPERATE

Description

INFOID:000000009602105

Auto operation does not operate

- Auto operation of glass lid does not operate.
- Glass lid stops halfway.
- Anti-pinch function operates.

Diagnosis Procedure

INFOID:000000009602106

1.CHECK GLASS LID

Check the following items.

- Cracks, damage, or deformation of weather-strip.
- Sticking of weather-strip.
- Loose or missing glass lid mounting blot.
- Misalignment of glass lid.

Refer to [RF-49, "Exploded View"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK WIND DEFLECTOR

Check wind deflector for deformation and interference.

Refer to [RF-60, "Exploded View"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK SUNROOF FRAME ASSEMBLY

Check the following items.

- Damage, deformation or trapped foreign material of slide rail.
- Insufficient application of grease to sliding section of slide rail.

Refer to [RF-54, "Exploded View"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4.CHECK VEHICLE SPEED SIGNAL CIRCUIT

Check vehicle speed signal circuit. Refer to [RF-34, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

5.PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to [RF-30, "Description"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace sunroof motor assembly. Refer to [RF-52, "Removal and Installation"](#).

SUNROOF DOES NOT OPERATE ANTI-PINCH FUNCTION

< SYMPTOM DIAGNOSIS >

[SUNROOF]

SUNROOF DOES NOT OPERATE ANTI-PINCH FUNCTION

Diagnosis Procedure

INFOID:0000000009602107

1.PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to [RF-30, "Description"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace sunroof motor assembly. Refer to [RF-52, "Removal and Installation"](#).

A
B
C
D
E
F
G
H
I
J
RF
L
M
N
O
P

RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

[SUNROOF]

RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:000000009602108

1.CHECK DOOR SWITCH

Check door switch.

Refer to [DLK-111, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK BCM POWER SUPPLY AND GROUND

Check BCM power supply and ground circuit.

Refer to [BCS-91, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK SUNROOF MOTOR ASSEMBLY POWER SUPPLY AND GROUND

Check sunroof motor assembly power supply and ground circuit.

Refer to [RF-32, "SUNROOF MOTOR ASSEMBLY : Diagnosis Procedure"](#).

Is the inspection result normal?

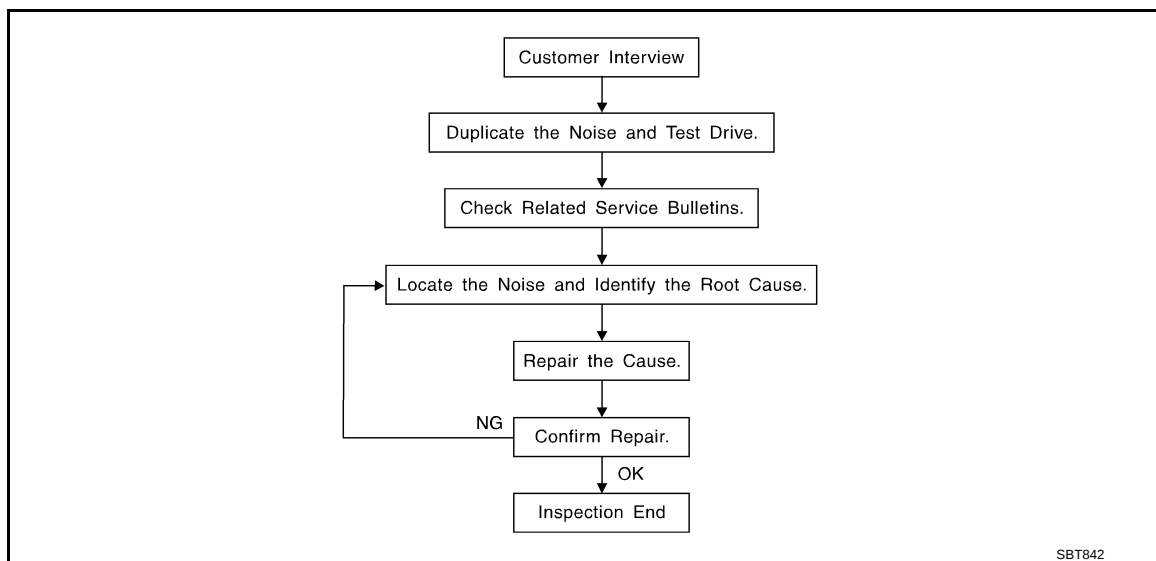
YES >> Check intermittent incident. Refer to [GI-43, "Intermittent Incident"](#).

NO >> Repair or replace the malfunctioning parts.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:000000009602109



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 comments. Refer to [RF-47, "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, perform a diagnosis and repair the noise that the customer is concerned about. This can be accomplished by performing a test drive with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so that the customer, service adviser, and technician use the same language when describing 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 = high-pitched noise / softer surfaces = low-pitched 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 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 sounds / 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 / dull sounds often brought on by activity.
- Buzz – (Like a bumblebee)
Buzz characteristics include high frequency rattle / firm contact.
- Often the degree of acceptable noise level varies depending upon the person. A noise that a technician may judge as acceptable may be very irritating to a 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 the repair is reconfirmed.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

[SUNROOF]

< SYMPTOM DIAGNOSIS >

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 items:

- 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 models, drive position on 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 the 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, and mechanics stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
 - Removing the component(s) in the area that is / are suspected to be the cause of the noise.
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(s) that is / are suspected to be the cause of the noise.
Do not tap or push/pull the component(s) with excessive force, otherwise the noise is eliminated only temporarily.
 - Feeling for a vibration by hand by touching the component(s) that is / are suspected to be the cause of the noise.
 - Placing a piece of paper between components that are suspected to be the cause of the noise.
 - Looking for loose components and contact marks.
Refer to [RF-45, "Inspection Procedure"](#).

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 components, 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 the authorized NISSAN Parts Department.

CAUTION:

Never 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 following materials are contained in the NISSAN Squeak and Rattle Kit (J-50397). Each item can be ordered separately as needed.

URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

- 76268-9E005: 100 × 135 mm (3.937 × 5.315 in)
- 76884-71L01: 60 × 85 mm (2.362 × 3.346 in)
- 76884-71L02: 15 × 25 mm (0.591 × 0.984 in)

INSULATOR (Foam blocks)

Insulates components from contact. Can be used to fill space behind a panel.

- 73982-9E000: 45 mm (1.772 in) thick, 50 × 50 mm (1.969 × 1.969 in)
- 73982-50Y00: 10 mm (0.394 in) thick, 50 × 50 mm (1.969 × 1.969 in)

INSULATOR (Light foam block)

80845-71L00: 30 mm (1.181 in) thick, 30 × 50 mm (1.181 × 1.969 in)

FELT CLOTH TAPE

Used to insulate where movement does not occur. Ideal for instrument panel applications.

- 68370-4B000: 15 × 25 mm (0.591 × 0.984 in) pad
- 68239-13E00: 5 mm (0.197 in) wide tape roll

SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

[SUNROOF]

The following materials, not found in the kit, can also be used to repair squeaks and rattles.

UHMW (TEFLON) TAPE

Insulates where slight movement is present. Ideal for instrument panel applications.

SILICONE GREASE

Used in place of UHMW tape that is visible or does not fit. Only lasts a few months.

SILICONE SPRAY

Used when grease cannot be applied.

DUCT TAPE

Used to eliminate movement.

CONFIRM THE REPAIR

After repair is complete, test drive the vehicle to confirm that the cause of 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.

Inspection Procedure

INFOID:000000009602110

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. The cluster lid A and instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar garnish
4. Instrument panel to windshield
5. Instrument panel mounting 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 silicon spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

CAUTION:

Never use silicone spray to isolate a squeak or rattle. If the area is saturated with silicone, the recheck of repair becomes impossible.

CENTER CONSOLE

Components to check include:

1. Shifter 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

Check the following items:

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

Tapping, moving the components, or pressing on them while driving to duplicate the conditions can isolate many of these incidents. The areas can usually be insulated 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 customer.

In addition check for the following items:

1. Trunk lid dumpers out of adjustment
2. Trunk lid striker out of adjustment

SQUEAK AND RATTLE TROUBLE DIAGNOSES

[SUNROOF]

< SYMPTOM DIAGNOSIS >

3. 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 items:

1. Sunroof lid, rail, linkage, or seals making a rattle or light knocking noise
2. Sunvisor 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.

SEATS

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

Causes 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 mounted to the engine wall
2. Components that pass through the engine wall
3. Engine wall mounts and connectors
4. Loose radiator mounting 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.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

[SUNROOF]

Diagnostic Worksheet

INFOID:000000009602111



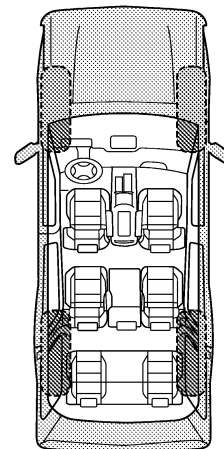
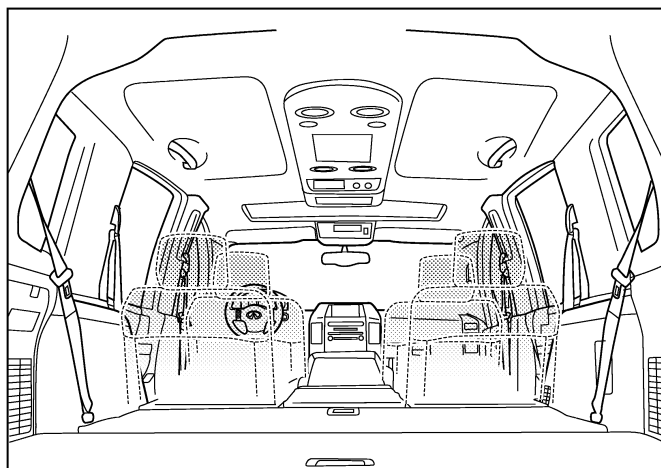
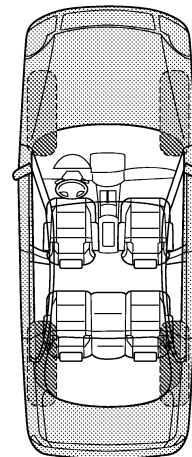
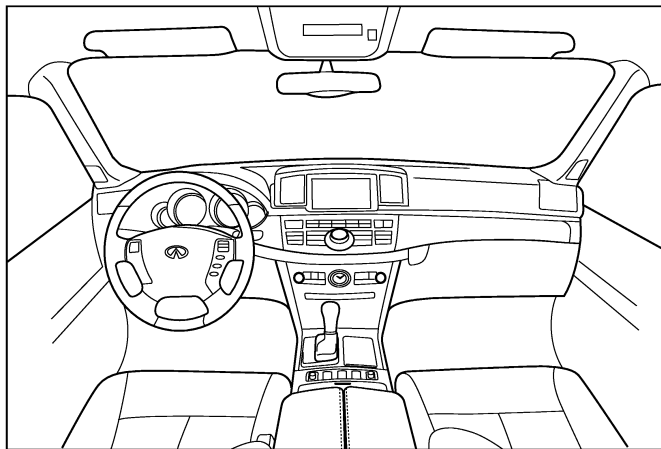
SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

Dear Infiniti Customer:

We are concerned about your satisfaction with your Infiniti vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Infiniti 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 consultant or technician to ensure we confirm the noise you are hearing.

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.

PIIB8741E

SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

[SUNROOF]

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 | ☐ after sitting out in the rain |
| ☐ 1st time in the morning | ☐ when it is raining or wet |
| ☐ only when it is cold outside | ☐ dry or dusty conditions |
| ☐ only when it is hot outside | ☐ 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

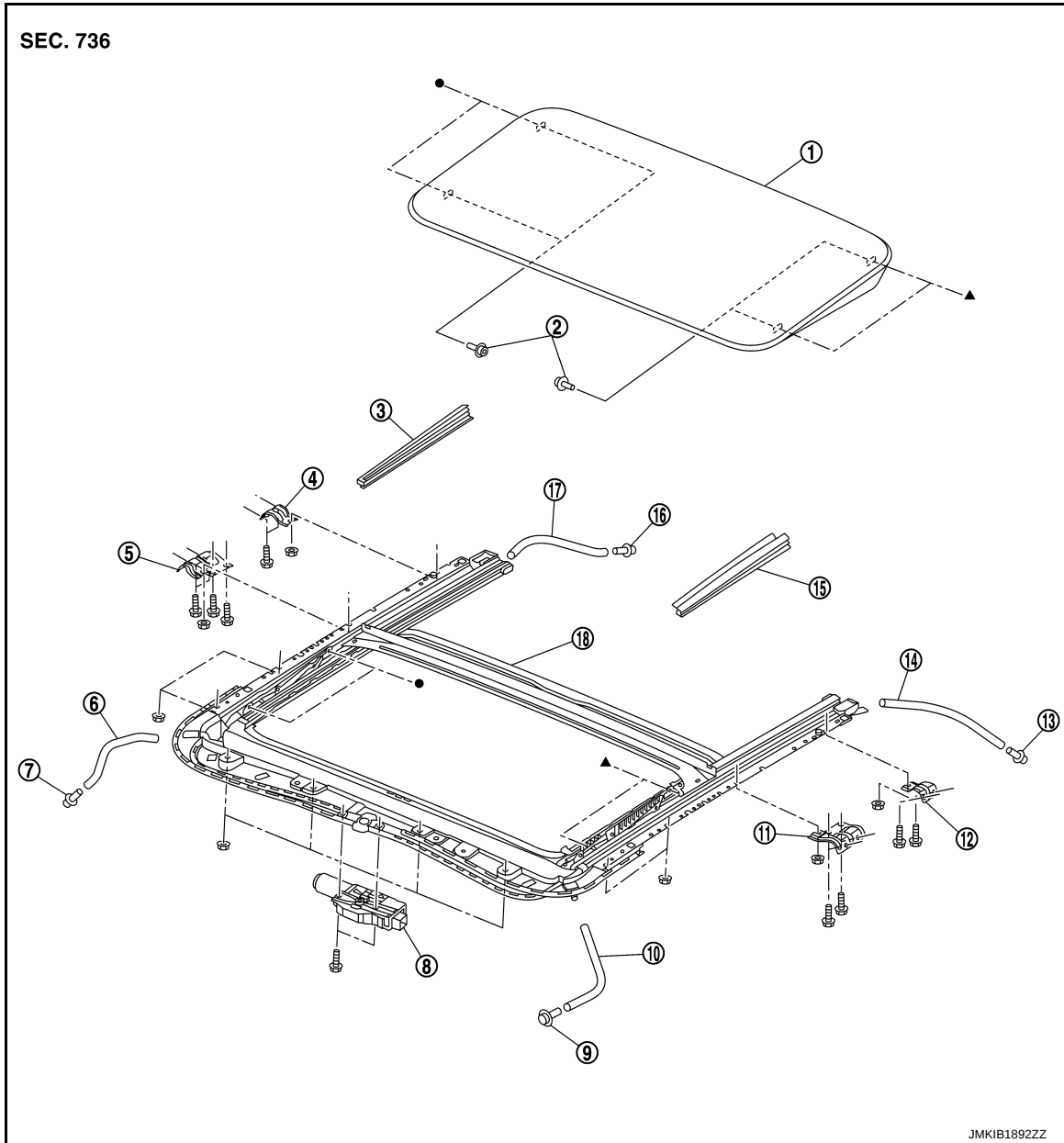
PIIB8742E

REMOVAL AND INSTALLATION

GLASS LID

Exploded View

INFOID:000000009602112



- | | | |
|----------------------------|----------------------------|----------------------------|
| ① Glass lid | ② TORX bolt | ③ Side trim RH |
| ④ Sunroof bracket rear RH | ⑤ Sunroof bracket front RH | ⑥ Drain hose front RH |
| ⑦ Drain connector front RH | ⑧ Sunroof motor assembly | ⑨ Drain connector front LH |
| ⑩ Drain hose front LH | ⑪ Sunroof bracket front LH | ⑫ Sunroof bracket rear LH |
| ⑬ Drain connector rear LH | ⑭ Drain hose rear LH | ⑮ Side trim LH |
| ⑯ Drain connector rear RH | ⑰ Drain hose rear RH | ⑱ Sunroof unit assembly |

●,▲: Indicates that the part is connected at points with same symbol in actual vehicle.

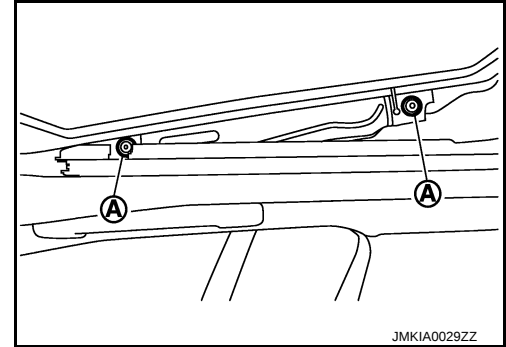
Removal and Installation

INFOID:000000009602113

REMOVAL

CAUTION:**Always work with a helper.**

1. Remove the side trim (LH and RH).
2. Tilt up glass lid.
3. Remove glass lid mounting TORX bolts (A).



4. Remove glass lid from vehicle.

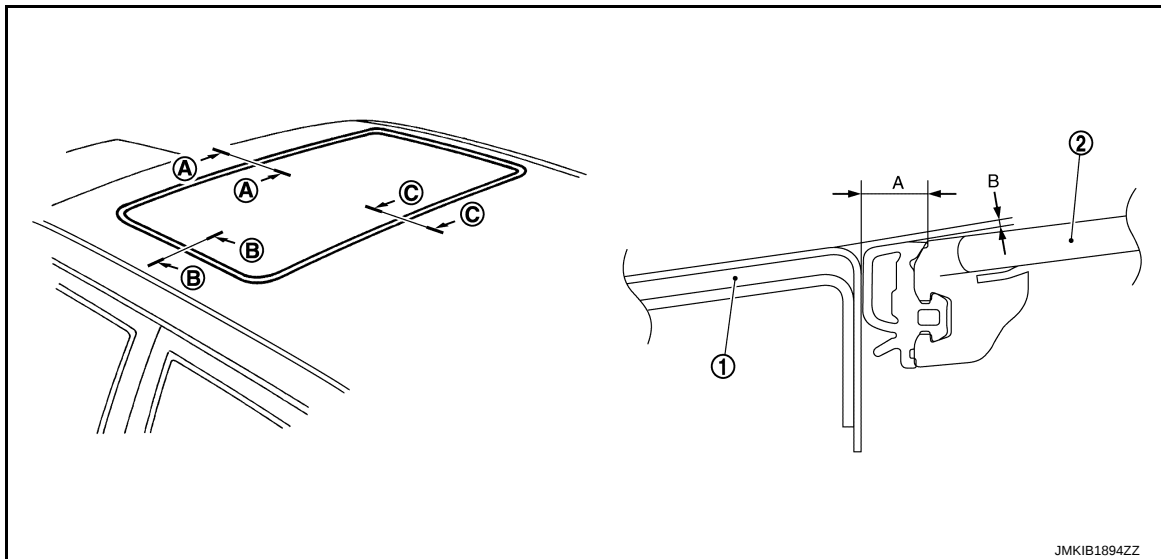
INSTALLATION

Note the following items, and then install in the reverse order of removal.

CAUTION:**After installing the glass lid, perform the leak test and check there is no malfunction.****NOTE:**After installation carry out fitting adjustment. Refer to [RF-50, "Adjustment"](#).

Adjustment

INFOID:000000009602114



① Roof panel

② Glass lid

If the clearance and the surface height are out of specification, adjust them according to the procedures shown below.

NOTE:

Dimension (B) is given assuming that the glass upper side status is (+), and the glass lower side status is (-) relative to the roof panel.

GLASS LID

< REMOVAL AND INSTALLATION >

[SUNROOF]

Portion	A	B
Ⓐ – Ⓐ	6.5 – 8.1 mm (0.256 – 0.319 in)	(–2.3) – (+0.7) mm [(–0.091) – (+0.028) in]
Ⓑ – Ⓑ	6.5 – 8.1 mm (0.256 – 0.319 in)	(–2.3) – (+0.7) mm [(–0.091) – (+0.028) in]
Ⓒ – Ⓒ	6.5 – 8.1 mm (0.256 – 0.319 in)	(–2.3) – (+0.7) mm [(–0.091) – (+0.028) in]

1. Loosen glass lid mounting TORX bolts.
2. Adjust the clearance of glass lid and roof panel according to the fitting standard dimension.
3. To prevent glass lid from moving after adjustment, first tighten the TORX bolts of front left, and then tighten the TORX bolts of rear right.
4. Tilt glass lid up and down several times to check that it moves smoothly.

NOTE:

After adjustment the sunroof unit assembly, perform additional service. Refer to [RF-30, "Work Procedure"](#).

A
B
C
D
E
F
G
H
I
J
RF
L
M
N
O
P

SUNROOF MOTOR ASSEMBLY

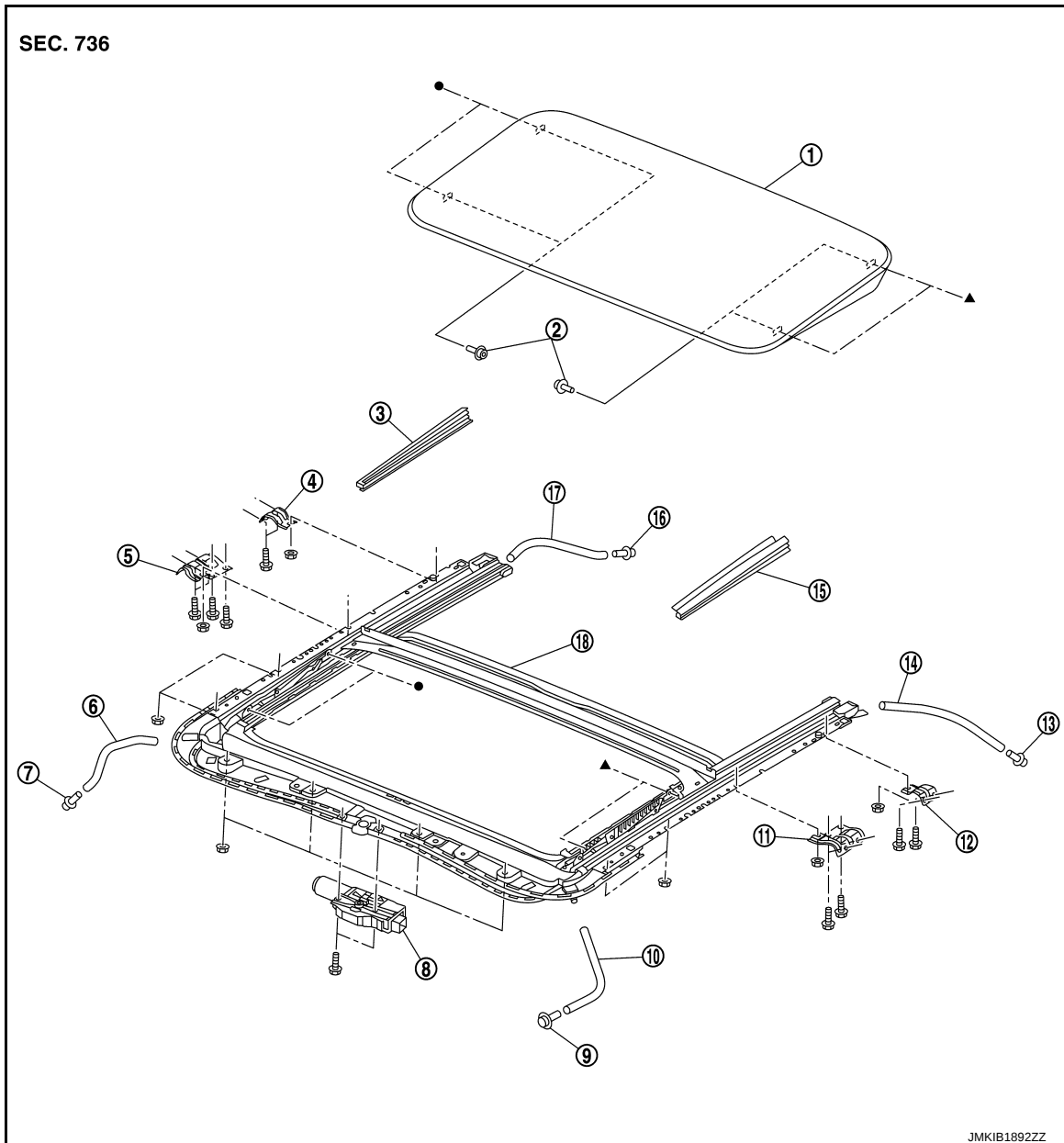
< REMOVAL AND INSTALLATION >

[SUNROOF]

SUNROOF MOTOR ASSEMBLY

Exploded View

INFOID:000000009602115



- | | | |
|----------------------------|----------------------------|----------------------------|
| ① Glass lid | ② TORX bolt | ③ Side trim RH |
| ④ Sunroof bracket rear RH | ⑤ Sunroof bracket front RH | ⑥ Drain hose front RH |
| ⑦ Drain connector front RH | ⑧ Sunroof motor assembly | ⑨ Drain connector front LH |
| ⑩ Drain hose front LH | ⑪ Sunroof bracket front LH | ⑫ Sunroof bracket rear LH |
| ⑬ Drain connector rear LH | ⑭ Drain hose rear LH | ⑮ Side trim LH |
| ⑯ Drain connector rear RH | ⑰ Drain hose rear RH | ⑱ Sunroof unit assembly |

●,▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Removal and Installation

INFOID:000000009602116

REMOVAL

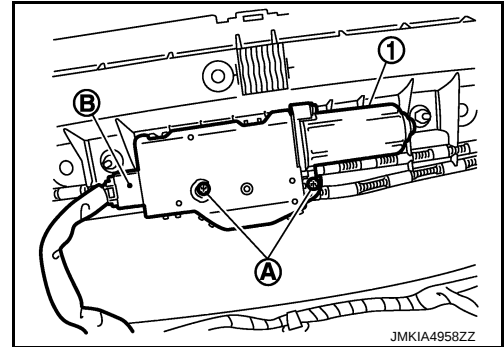
CAUTION:

SUNROOF MOTOR ASSEMBLY

[SUNROOF]

< REMOVAL AND INSTALLATION >

- Before removing sunroof motor, check that glass lid is fully closed.
 - After removing sunroof motor, never attempt to rotate sunroof motor assembly as a single unit.
1. Fully close glass lid.
 2. Remove map lamp assembly. Refer to [INL-63. "MAP LAMP : Removal and Installation"](#).
 3. Remove sunroof motor assembly ①.
 - a. Disconnect harness connector ② from sunroof motor assembly.
 - b. Remove sunroof motor assembly fixing screws ③, and then remove sunroof motor assembly ①.



INSTALLATION

CAUTION:

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

1. Move the sunroof motor assembly laterally by little so that the gear is completely engaged into the wire on the sunroof unit assembly and mounting surface becomes parallel. Then secure the sunroof motor assembly with screws.
2. Install map lamp assembly.

NOTE:

After installation sunroof motor, perform additional service. Refer to [RF-30, "Description"](#).

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

RF

SUNROOF UNIT ASSEMBLY

< REMOVAL AND INSTALLATION >

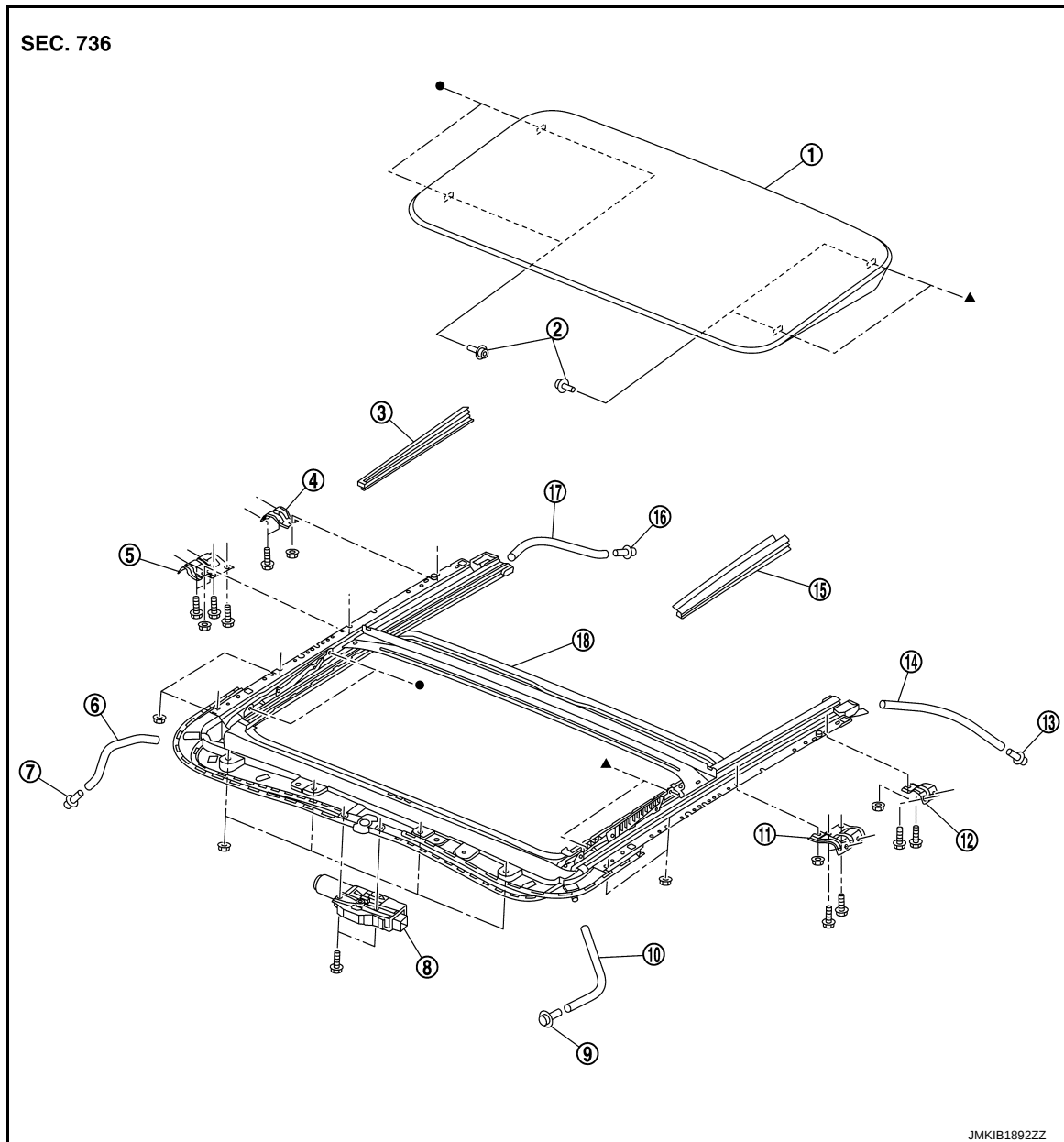
[SUNROOF]

SUNROOF UNIT ASSEMBLY

Exploded View

INFOID:000000009602117

REMOVAL



- | | | |
|----------------------------|----------------------------|----------------------------|
| ① Glass lid | ② TORX bolt | ③ Side trim RH |
| ④ Sunroof bracket rear RH | ⑤ Sunroof bracket front RH | ⑥ Drain hose front RH |
| ⑦ Drain connector front RH | ⑧ Sunroof motor assembly | ⑨ Drain connector front LH |
| ⑩ Drain hose front LH | ⑪ Sunroof bracket front LH | ⑫ Sunroof bracket rear LH |
| ⑬ Drain connector rear LH | ⑭ Drain hose rear LH | ⑮ Side trim LH |
| ⑯ Drain connector rear RH | ⑰ Drain hose rear RH | ⑱ Sunroof unit assembly |

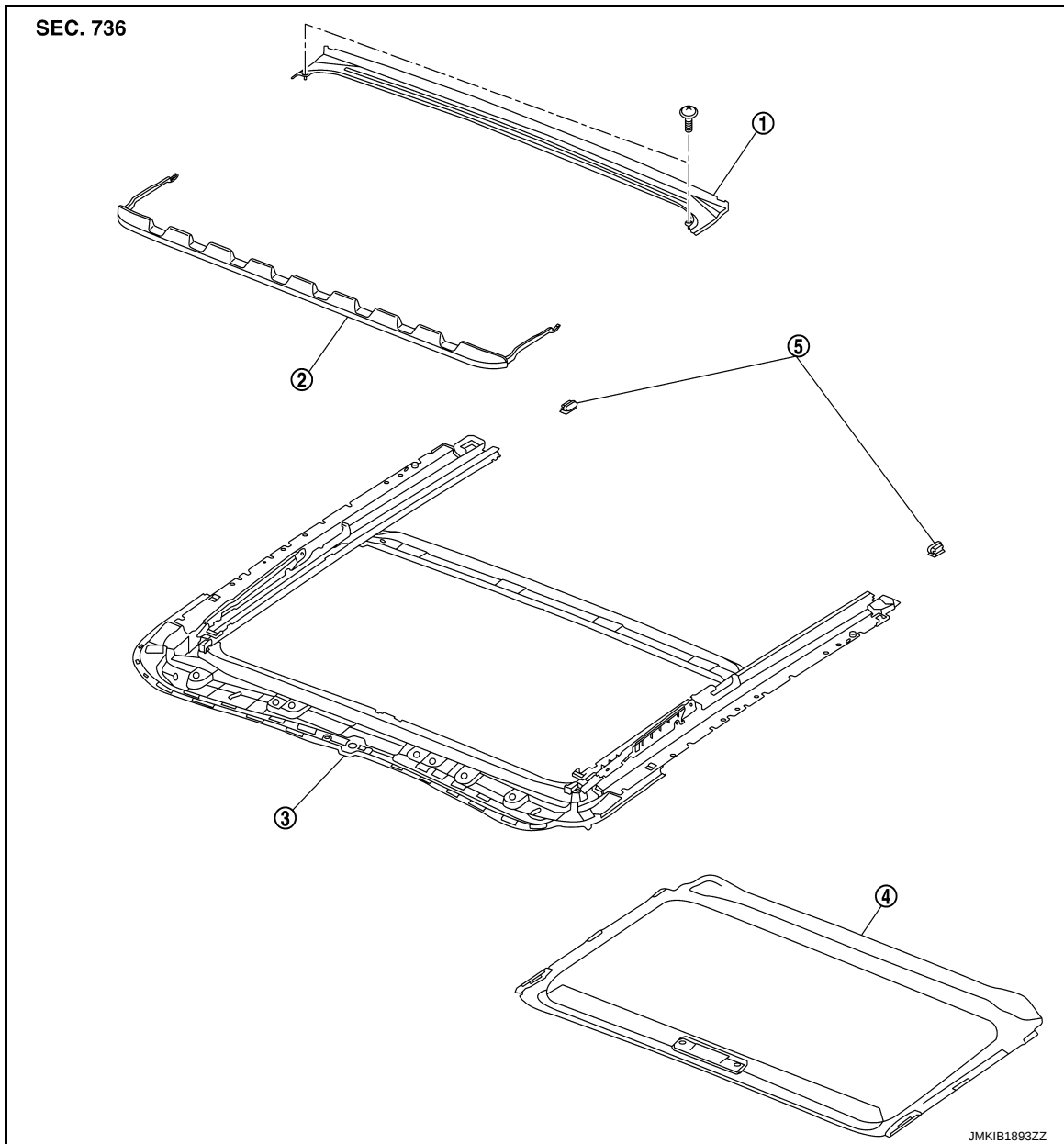
●,▲: Indicates that the part is connected at points with same symbol in actual vehicle.

DISASSEMBLY

SUNROOF UNIT ASSEMBLY

< REMOVAL AND INSTALLATION >

[SUNROOF]



- | | | |
|-----------------------|--------------------|--------------------------|
| ① Rear drain assembly | ② Wind deflector | ③ Sunroof frame assembly |
| ④ Sunshade | ⑤ Sunshade stopper | |

Removal and Installation

INFOID:0000000009602118

REMOVAL

CAUTION:

- Always work with a helper.
- Fully close the glass lid assembly, before removal, then never operate sunroof motor assembly after removal.
- After removing sunroof motor, never attempt to rotate sunroof motor assembly as a single unit.
- When removing/installing sunroof unit, use cloths to protect the seats and trim from damage.
- After installing the sunroof unit and glass lid, perform the leak test and check that there is no malfunction.

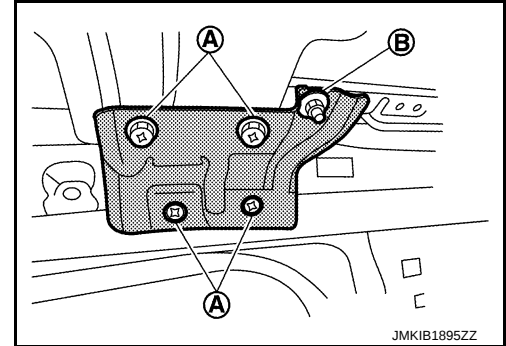
1. Remove glass lid. Refer to [RF-50, "Removal and Installation"](#).
2. Remove headlining. Refer to [INT-42, "Removal and Installation"](#).
3. Disconnect harness connector from sunroof motor assembly.

SUNROOF UNIT ASSEMBLY

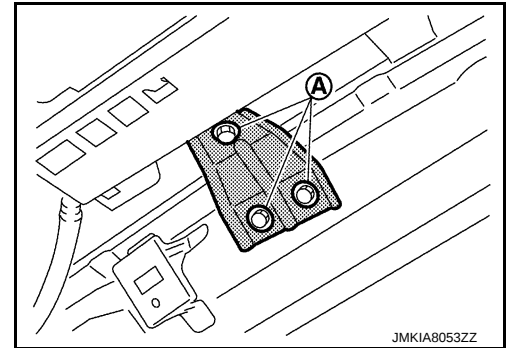
[SUNROOF]

< REMOVAL AND INSTALLATION >

4. Disconnect drain hose front (LH and RH).
5. Disconnect drain hose rear (LH and RH).
6. Remove rear portion of curtain air bag module (LH and RH). Refer to [SR-26, "Removal and Installation"](#).
7. Remove sunroof bracket front mounting bolts (A) and nuts (B), and then remove sunroof bracket (LH and RH).



8. Remove sunroof bracket rear mounting bolts (A), and then remove sunroof bracket (LH and RH).



9. Remove nuts from the front end and side rail, and then remove sunroof unit assembly from roof panel.
10. Remove sunroof unit assembly through the passenger compartment while being careful not to damage the seats and trim.

INSTALLATION

1. Temporarily tighten the mounting nuts to the side rail of sunroof unit assembly.
2. Temporarily tighten the mounting nuts to the front end of sunroof unit assembly.
3. Temporarily tighten the mounting bolts and nuts to the sunroof bracket front (LH and RH).
4. Temporarily tighten the mounting bolts to the sunroof bracket rear (LH and RH).
5. Tighten the installation points diagonally excluding the installation points of the sunroof brackets around the roof opening.
6. Tighten the sunroof bracket bolts of the vehicle side, and then tighten the bolts and nuts of the sunroof unit assembly side.
7. Tighten the mounting nuts to the front end and side rail of sunroof unit assembly.
8. Install curtain air bag module (LH and RH). Refer to [SR-26, "Removal and Installation"](#).
9. Connect drain hose front (LH and RH) and drain hose rear (LH and RH).
10. Connect harness connector from sunroof motor assembly.
11. Install headlining. Refer to [INT-42, "Removal and Installation"](#).
12. Install glass lid. Refer to [RF-50, "Removal and Installation"](#).

NOTE:

- After installation, perform fitting adjustment. Refer to [RF-50, "Adjustment"](#).
- After installation of sunroof unit assembly, perform additional service. Refer to [RF-30, "Description"](#).

Disassembly and Assembly

INFOID:000000009602119

DISASSEMBLY

1. Remove sunshade. Refer to [RF-58, "Removal and Installation"](#).
2. Remove wind deflector. Refer to [RF-60, "Removal and Installation"](#).

SUNROOF UNIT ASSEMBLY

< REMOVAL AND INSTALLATION >

[SUNROOF]

3. Remove rear drain assembly from sunroof frame assembly.

ASSEMBLY

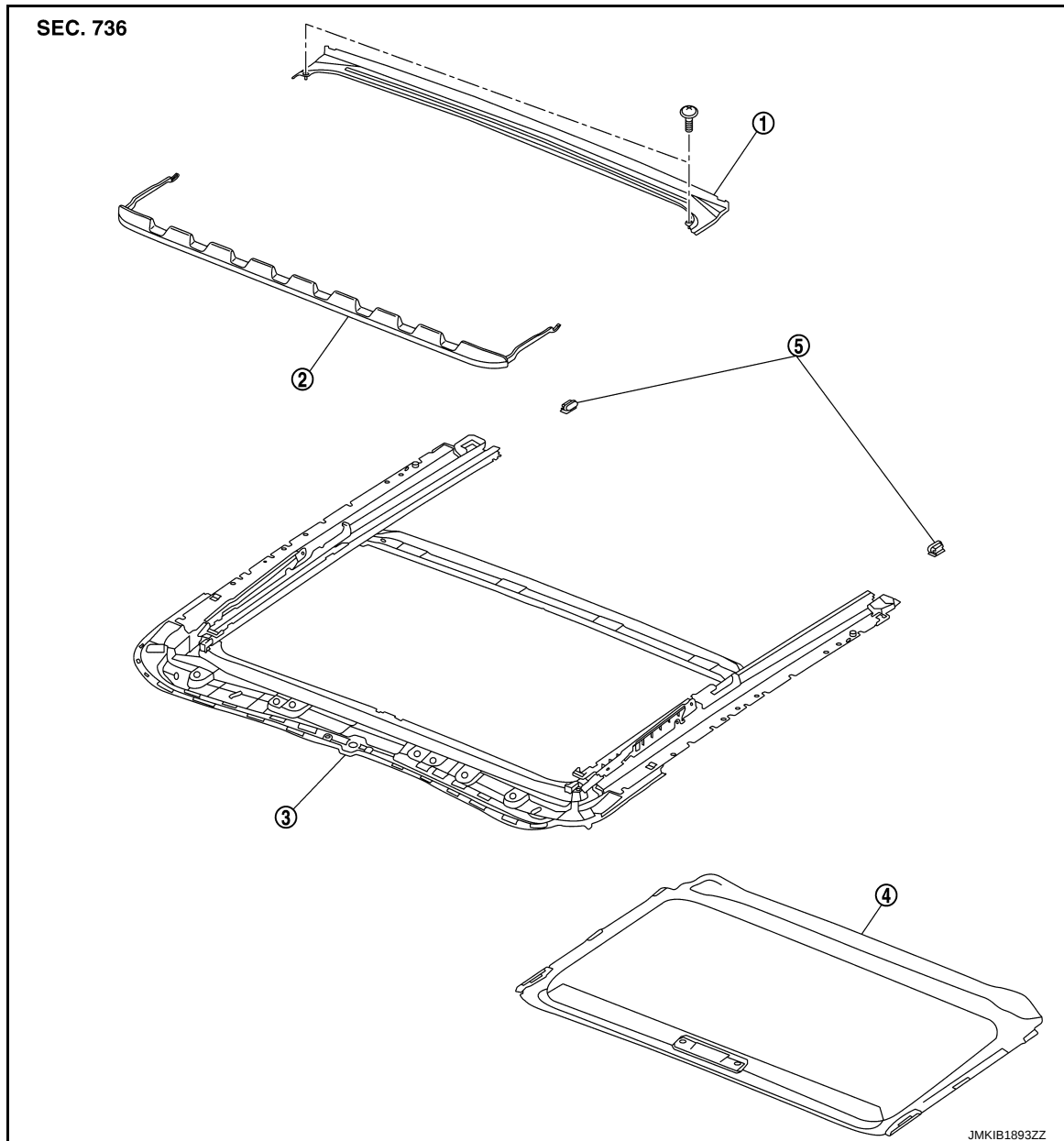
Assemble in the reverse order of disassembly.

A
B
C
D
E
F
G
H
I
J
RF
L
M
N
O
P

SUNSHADE

Exploded View

INFOID:000000009602120



① Rear drain assembly

② Wind deflector

③ Sunroof frame assembly

④ Sunshade

⑤ Sunshade stopper

Removal and Installation

INFOID:000000009602121

REMOVAL

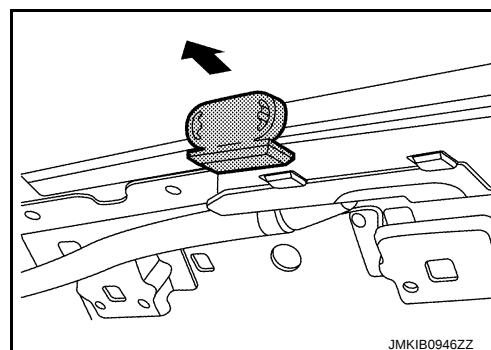
1. Remove headlining. Refer to [INT-42. "Removal and Installation"](#).

SUNSHADE

< REMOVAL AND INSTALLATION >

[SUNROOF]

2. Remove the sunshade stopper (LH and RH) from the rear end of sunroof frame assembly.



3. Remove rear drain assembly fixing screws, and then remove rear drain assembly.
4. Remove the sunshade from the rear end of sunroof frame assembly.

INSTALLATION

Install in the reverse order of removal.

A
B
C
D
E
F
G
H
I
J
RF
L
M
N
O
P

WIND DEFLECTOR

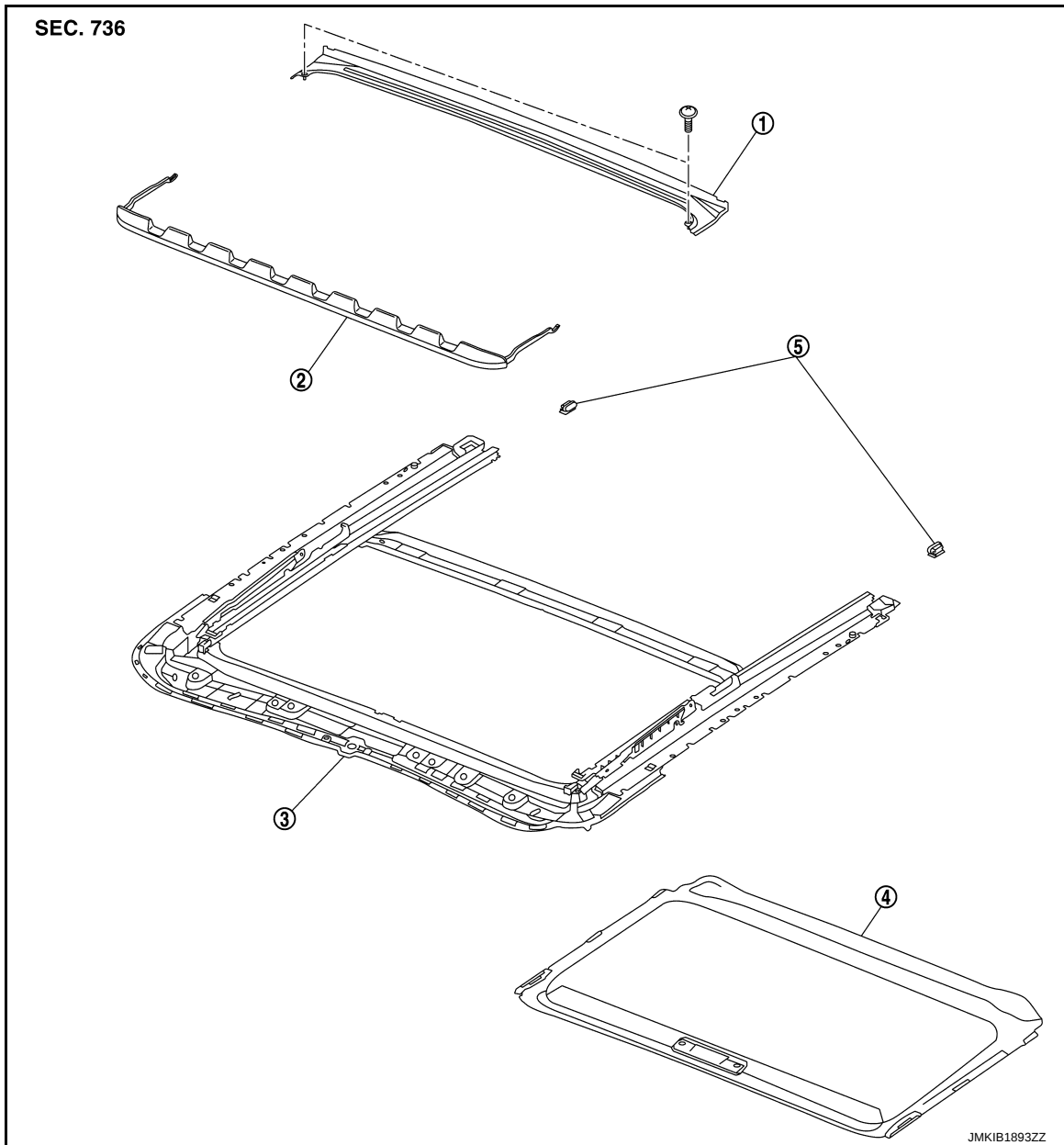
< REMOVAL AND INSTALLATION >

[SUNROOF]

WIND DEFLECTOR

Exploded View

INFOID:000000009602122



① Rear drain assembly

② Wind deflector

③ Sunroof frame assembly

④ Sunshade

⑤ Sunshade stopper

Removal and Installation

INFOID:000000009602123

REMOVAL

1. Open the glass lid to see the wind deflector installation point on the sun roof slide rail.
2. Remove the spring from sunroof frame groove.
3. Turn the wind deflector and remove it from sunroof frame.

INSTALLATION

Install in the reverse order of removal.

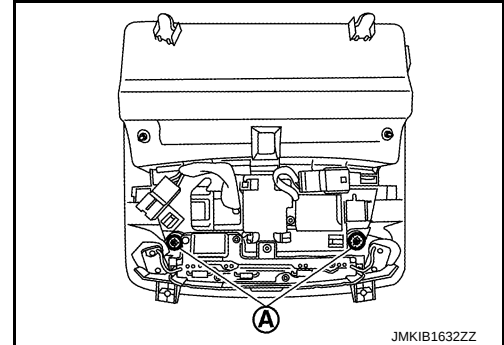
SUNROOF SWITCH

Removal and Installation

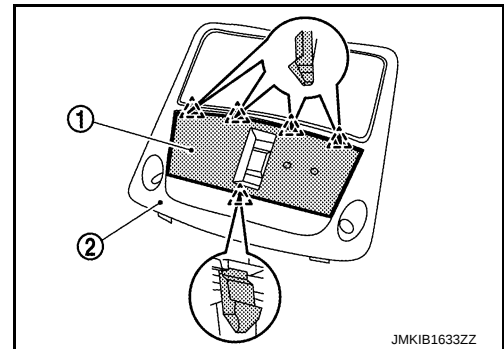
INFOID:000000009676853

Removal

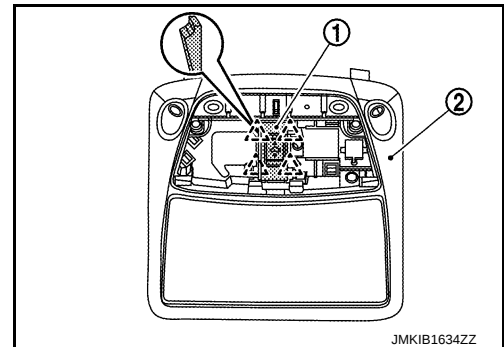
1. Remove map lamp assembly. Refer to [INL-63, "MAP LAMP : Removal and Installation"](#).
2. Remove the screws **A** from front map lamp assembly.



3. Release the pawls and remove the map lamp finisher **①** from the map lamp assembly **②**.



4. Release the pawls and remove the sunroof switch **①** from the map lamp assembly **②**.



Installation

Install in the reverse order of removal.

A
B
C
D
E
F
G
H
I
J
RF
L
M
N
O
P