SECTION RF
ROOF

CONTENTS

PRECAUTION 3

PRECAUTIONS 3
Precautions for Removing Battery Terminal 3

PREPARATION 4

PREPARATION 4
Commercial Service Tool 4

SYSTEM DESCRIPTION 5

COMPONENT PARTS 5

SUNSHADE SYSTEM 5
SUNSHADE SYSTEM : Component Description.....5
SUNSHADE SYSTEM : Sunshade Switch 6
SUNSHADE SYSTEM : Sunshade Motor Assembly 6

SYSTEM 7
System Description 7
Circuit Diagram 8

ECU DIAGNOSIS INFORMATION 9

SUNSHADE MOTOR ASSEMBLY 9
Reference Value 9

WIRING DIAGRAM 10

SUNSHADE SYSTEM 10
Wiring Diagram 10

BASIC INSPECTION 12

DIAGNOSIS AND REPAIR WORK FLOW 12
Work Flow 12

SYSTEM INITIALIZATION 15
Description 15
Work Procedure 15

ANTI-PINCH INSPECTION 16
Description 16
Work Procedure 16

DTC/CIRCUIT DIAGNOSIS 17

POWER SUPPLY AND GROUND CIRCUIT 17

SUNSHADE MOTOR ASSEMBLY 17
SUNSHADE MOTOR ASSEMBLY : Diagnosis Procedure 17

SUNSHADE SWITCH 18
Component Function Check 18
Diagnosis Procedure 18
Component Inspection 19

SYMPTOM DIAGNOSIS 20

SUNSHADE DOES NOT OPERATE PROPERLY 20
Description 20
Diagnosis Procedure 20

AUTO OPERATION DOES NOT OPERATE 21
Description 21
Diagnosis Procedure 21

SUNSHADE DOES NOT OPERATE ANTI-PINCH FUNCTION 22
Diagnosis Procedure 22

SQUEAK AND RATTLE TROUBLE DIAGNOSES 23
Work Flow 23
Inspection Procedure 25
Diagnostic Worksheet 27

REMOVAL AND INSTALLATION 29

SUNSHADE UNIT ASSEMBLY 29
Exploded View 29
Removal and Installation 29

SUNSHADE SWITCH ..... 31 Removal and Installation 31

PRECAUTION

PRECAUTIONS

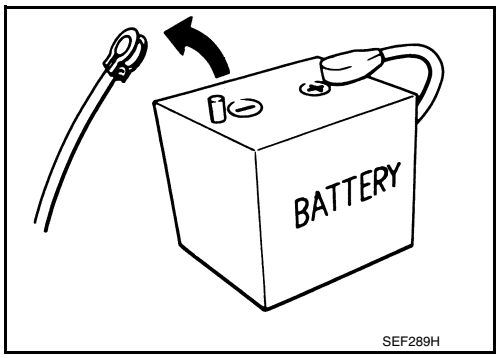
Precautions for Removing Battery Terminal

INFOID:0000000013502313

When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

D4D engine	: 20 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		
V9X engine	: 4 minutes		
YD25DDTi	: 2 minutes		



NOTE:
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:
- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
  - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
  - Driving for 30 minutes or more on a steep slope.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

NOTE:
If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

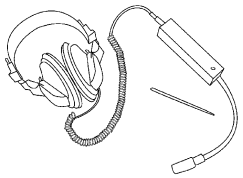
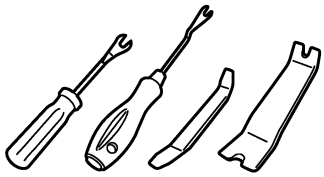
NOTE:
The removal of 12V battery may cause a DTC detection error.

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:0000000013502314

Tool name	Description
Engine ear  SIIA0995E	Locates the noise
Remover tool  JMKIA3050ZZ	Removes the clips, pawls and metal clips

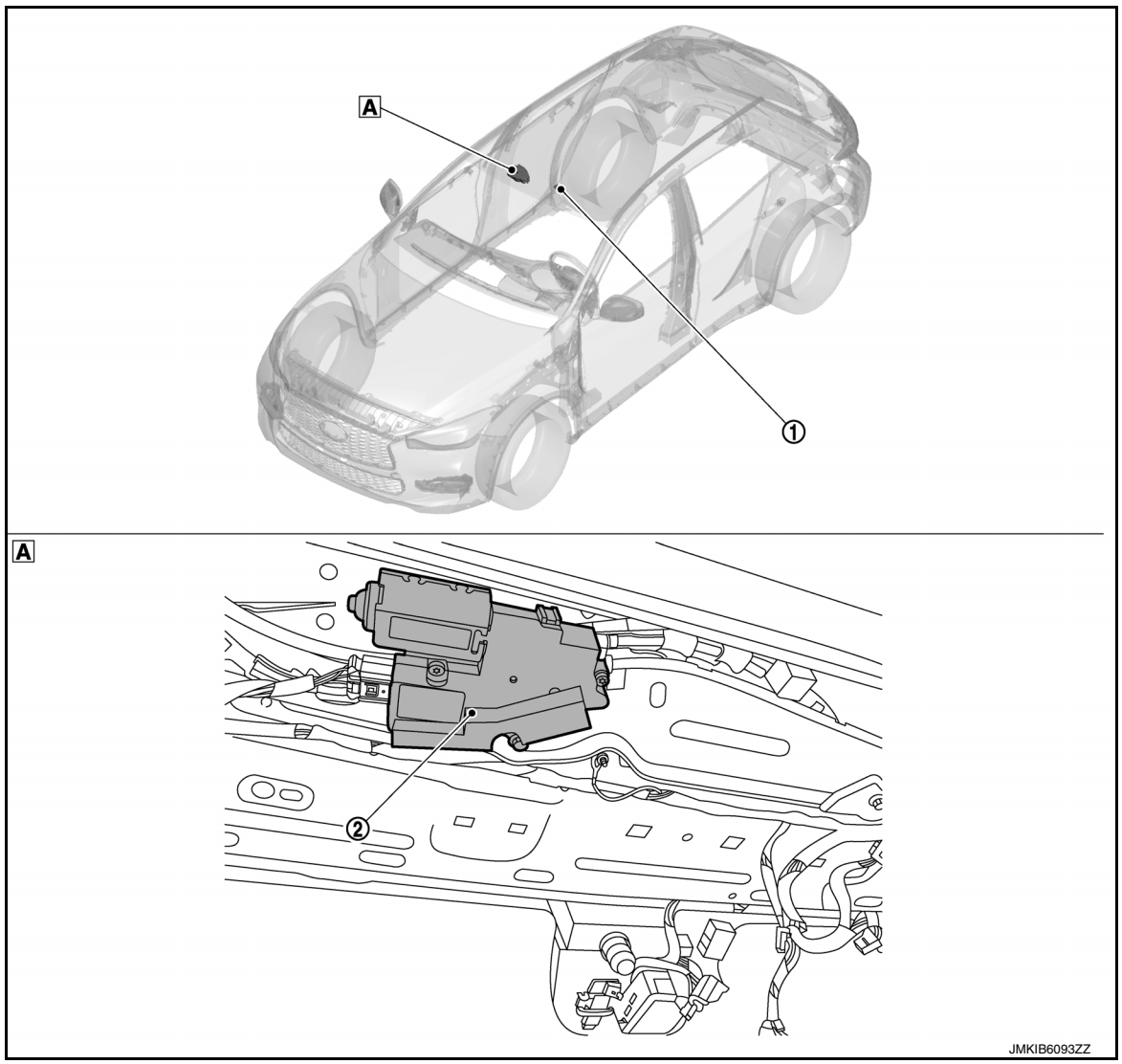
SYSTEM DESCRIPTION

COMPONENT PARTS

SUNSHADE SYSTEM

SUNSHADE SYSTEM : Component Description

INFOID:0000000013502315



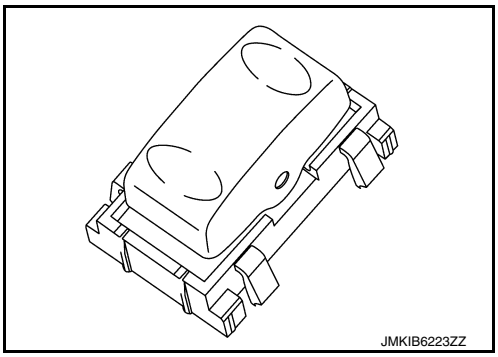
A View with headlining removed

No.	Component	Function
①	Sunshade switch	Refer to RF-6, "SUNSHADE SYSTEM : Sunshade Switch".
②	Sunshade motor assembly	Refer to RF-6, "SUNSHADE SYSTEM : Sunshade Motor Assembly".

SUNSHADE SYSTEM : Sunshade Switch

INFOID:0000000013502316

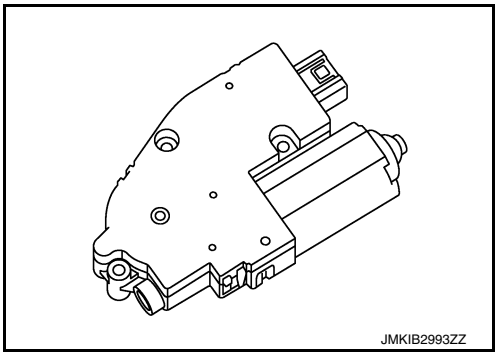
Transmits open and close signal to sunshade motor assembly.



SUNSHADE SYSTEM : Sunshade Motor Assembly

INFOID:0000000013502317

- Sunshade motor and CPU are integrated in sunshade motor assembly.
- Sunshade motor assembly operates sunshade to open or close by sunshade switch operation.

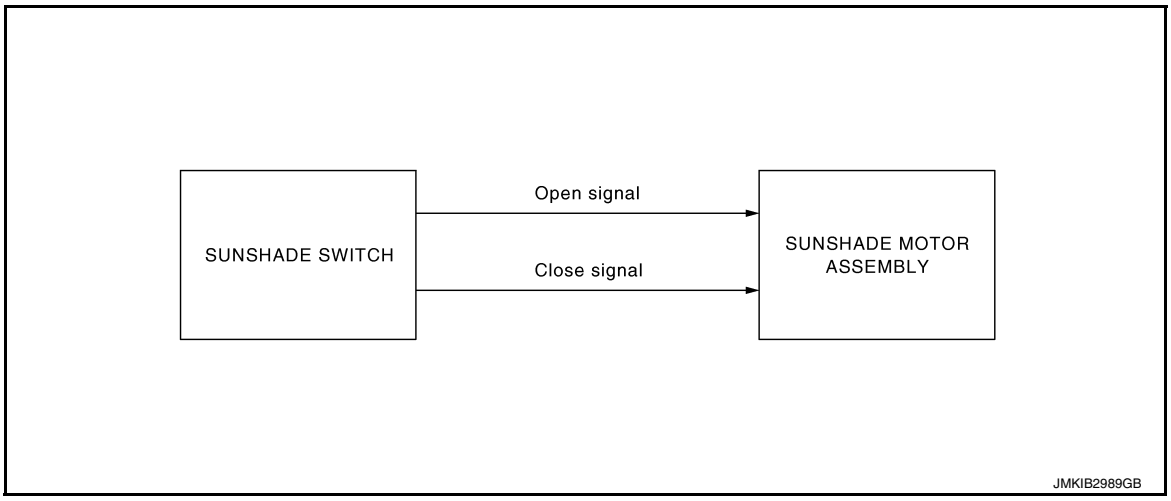


SYSTEM

System Description

INFOID:0000000013502318

SYSTEM DIAGRAM



SUNSHADE SYSTEM

- The sunshade system operates using ignition power source.
- Open and close signals from sunshade switch enables to operate sunshade motor.

AUTO OPERATION

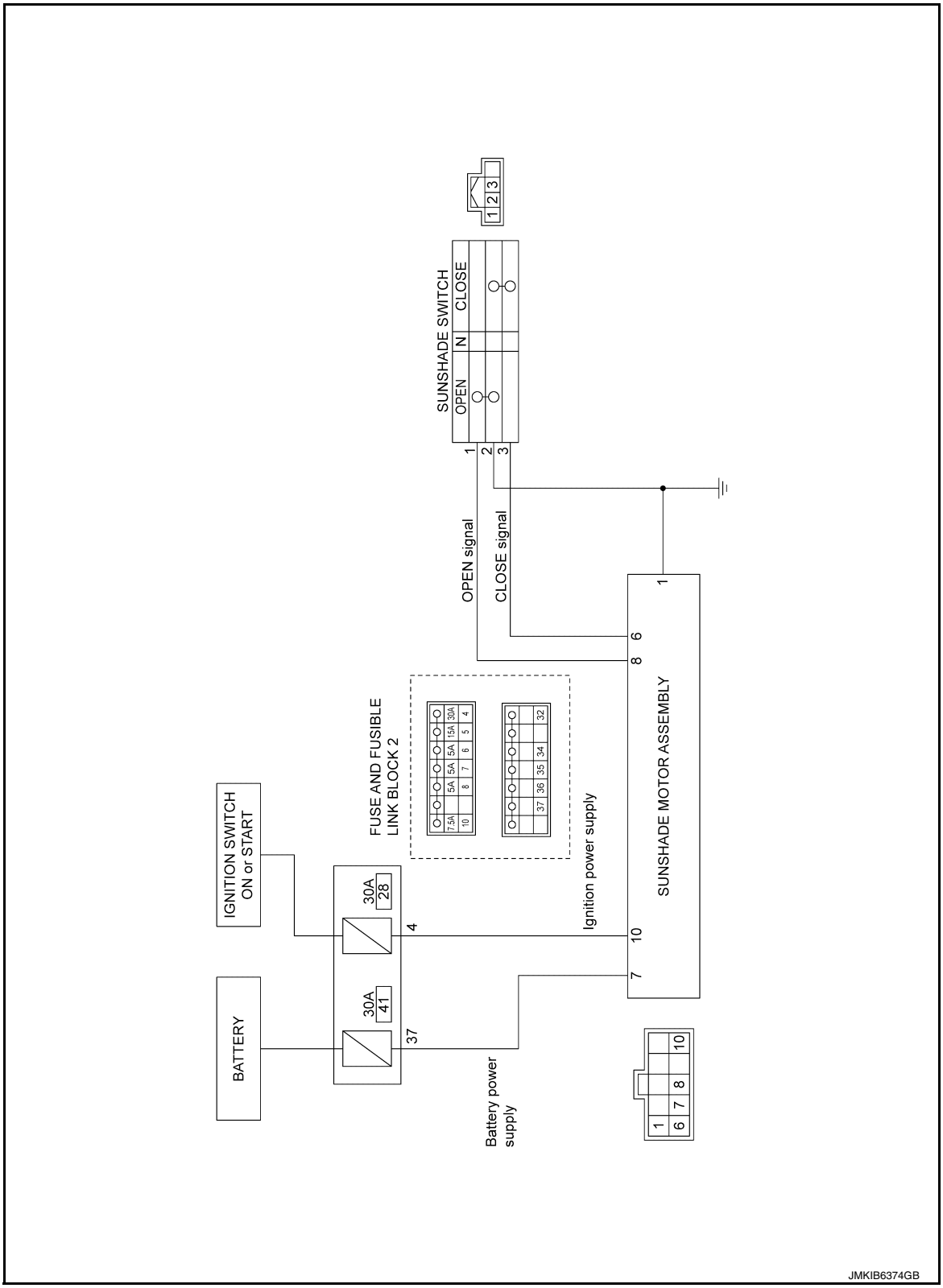
- Sunshade AUTO feature makes it possible to slide open and slide close the sunshade without holding the sunshade switch at the slide open or slide close position.
- Auto operation is activated by a short press. (Less than 0.7 second)

ANTI-PINCH FUNCTION

- The CPU of sunshade motor assembly monitors the sunshade motor operation and the shade position (fully-closed or other) by the signals from sunshade motor assembly.
- When sunshade motor detects an interruption during the slide close operation, sunshade will auto open to the full-open position.

Circuit Diagram

INFOID:0000000013502319



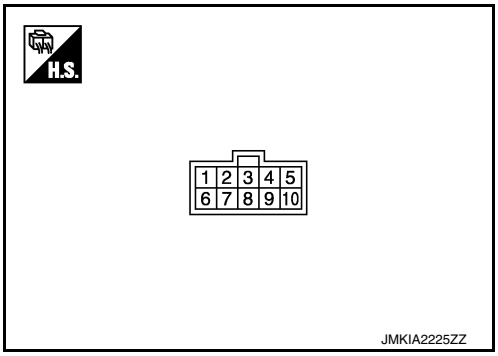
ECU DIAGNOSIS INFORMATION

SUNSHADE MOTOR ASSEMBLY

Reference Value

INFOID:0000000013502320

TERMINAL LAYOUT



PHYSICAL VALUES

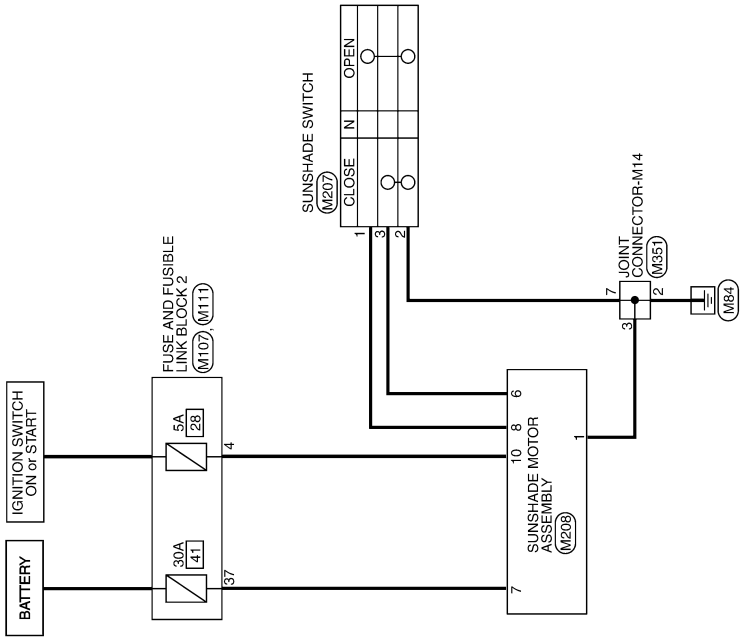
Terminal No.		Description		Condition	Voltage
+	–	Signal name	Input/ Output		
1 (B)	Ground	Ground	—	—	0 - 1 V
6 (O)	Ground	Close signal	Input	Sunshade switch in close position	0 - 1 V
				Other than the above	9 - 16 V
7 (R)	Ground	Battery power supply	Input	—	9 - 16 V
8 (Y)	Ground	Open signal	Input	Sunshade switch in open position	0 - 1 V
				Other than the above	9 - 16 V
10 (O)	Ground	Ignition power supply	Input	Ignition switch is ON	9 - 16 V
				Other than the above	0 - 1 V

WIRING DIAGRAM

SUNSHADE SYSTEM

Wiring Diagram

INFOID:0000000013502321



SUNSHADE

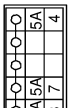
2016/02/08

JRKWF8960GB

SUNSHADE

Connector No.	M107
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0055459701

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	O	-
7	L	-
8	R	-
10	O	-

Connector No.	M111
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0065450101

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
32	R	-
34	G	-
35	O	-
37	R	-

Connector No.	M207
Connector Name	SUNSHADE SWITCH
Connector Type	TH04FW-NH

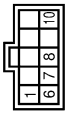
H.S.



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

Connector No.	M208
Connector Name	SUNSHADE MOTOR ASSEMBLY
Connector Type	MOLEX_0988161011

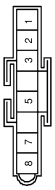
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
6	O	CLOSE SIGNAL
7	R	BATTERY POWER SUPPLY
8	Y	OPEN SIGNAL
10	O	IGNITION POWER SUPPLY

Connector No.	M351
Connector Name	JOINT CONNECTOR-M14
Connector Type	FEA08JB

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
5	BR	-
7	G	-
8	B	-

JRKWF8961GB

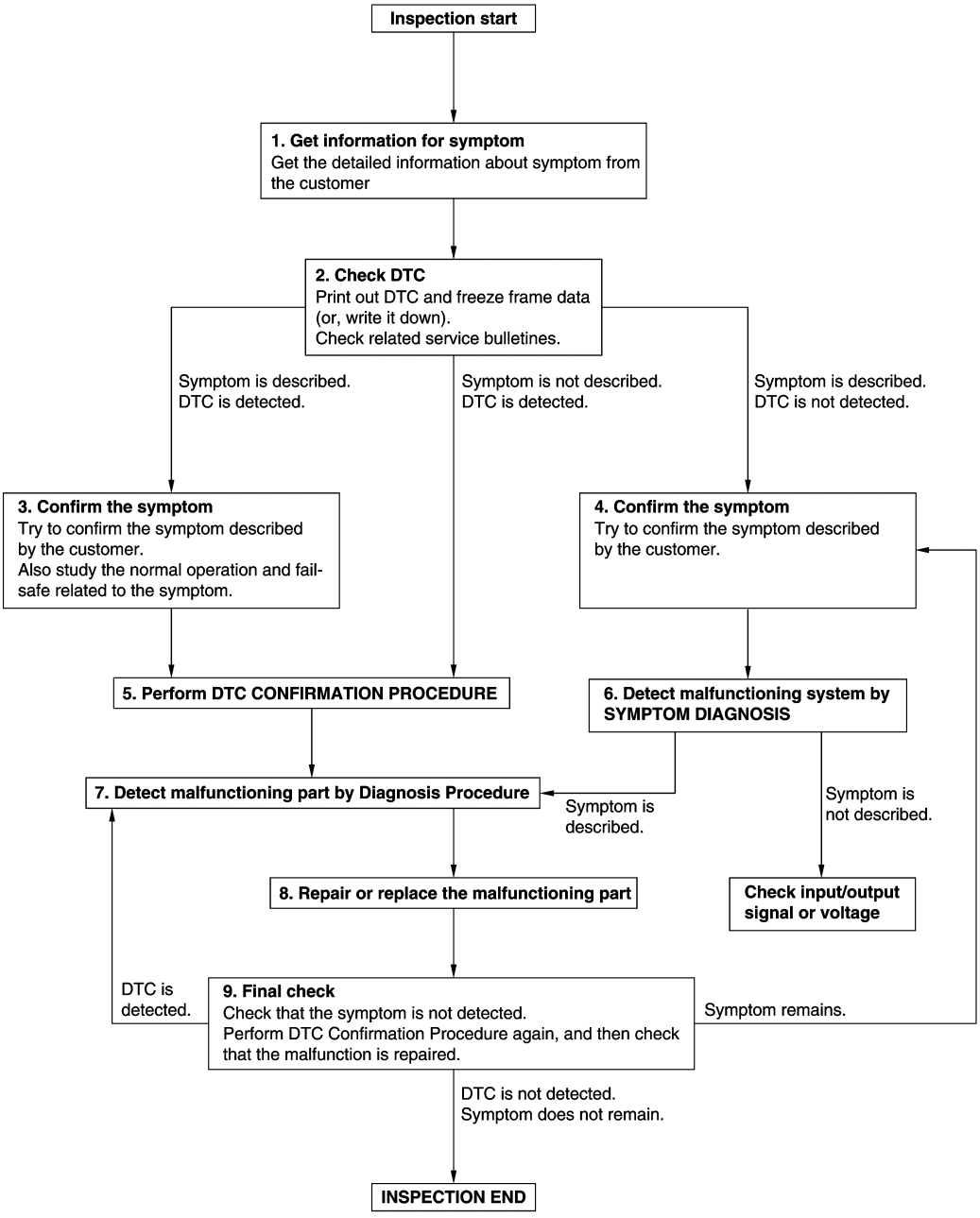
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000013502322

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

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

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

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.
If two or more DTCs are detected, refer to 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-56, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

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

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-56, "Intermittent Incident".

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

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

Is DTC detected and does symptom remain?

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

SYSTEM INITIALIZATION

Description

INFOID:0000000013502323

Initialization of system should be conducted after the following conditions. Refer to RF-15, "Work Procedure".
- When the sunshade unit assembly is changed.
- When the sunshade does not operate normally. (Incomplete initialization conditions)

Work Procedure

INFOID:0000000013502324

1.STEP 1

1. Press and hold the close switch (about 5 seconds) to start initialization movement.
2. Release the switch at the end of the movement.
3. Within 5 seconds after operation 2, press and hold the close switch to perform the learning movement. This will consist of a complete opening movement followed by a complete closing movement.
4. Release the switch at the end of the movement.

* A learning movement consists of a complete, continuous opening movement followed by a complete, continuous closing movement.

>> GO TO 2.

2.STEP 2

1. Operate sunshade switch and check that sunshade automatically operates normally.
2. Perform anti-pinch function check. Refer to RF-16, "Description".

>> INSPECTION END

ANTI-PINCH INSPECTION

Description

INFOID:0000000013502325

Check anti-pinch function when the initialization of sunshade system is performed. Refer to RF-16, "Work Procedure".

Work Procedure

INFOID:0000000013502326

1.CHECK ANTI-PINCH FUNCTION

1. Fully open the sunshade.
2. Place a piece of wood near fully closed position.
3. Close the sunshade completely with auto-slide close.
4. Check that sunshade opens fully and stops.

CAUTION:

- **Perform initialization procedure setting when auto-slide operation or anti-pinch function does not operate normally.**
- **Check that auto-slide operates before inspection when system initialization is performed.**
- **Never check with hands and other part of body because they may be pinched. Never get pinched.**
- **Depending on environment and driving conditions, if a similar impact or load is applied to the sunshade it may open.**
- **Thermal cut out may occur if open/close operation is performed continuously. In this situation allow system to cool before re-use.**

Is the inspection result normal?

YES >> INSPECTION END
NO >> Perform initialization procedure. Refer to RF-15, "Description".

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

SUNSHADE MOTOR ASSEMBLY

SUNSHADE MOTOR ASSEMBLY : Diagnosis Procedure

INFOID:0000000013502327

1.CHECK FUSE

1. Turn ignition switch OFF.
2. Check that any of the following fuses are not blown (open).

Fuse No.	Signal name
28 (30A)	Ignition power supply
41 (30A)	Battery power supply

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the applicable circuit. And then replace the fuse.

2.CHECK SUNSHADE MOTOR ASSEMBLY POWER SUPPLY 1

1. Disconnect sunshade motor assembly connector.
2. Check voltage between sunshade motor assembly harness connector and ground.

(+)		(–)	Voltage
Sunshade motor assembly			
Connector	Terminal		
M208	7	Ground	9 - 16 V

Is the inspection result normal?

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

3.CHECK SUNSHADE MOTOR ASSEMBLY POWER SUPPLY 2

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

(+)		(–)	Voltage
Sunshade motor assembly			
Connector	Terminal		
M208	10	Ground	9 - 16 V

Is the inspection result normal?

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

4.CHECK SUNSHADE MOTOR ASSEMBLY GROUND CIRCUIT

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

Sunshade motor assembly		Ground	Continuity
Connector	Terminal		
M208	1		Existed

Is the inspection result normal?

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

SUNSHADE SWITCH

Component Function Check

INFOID:0000000013502328

1.CHECK FUNCTION

Check sunshade open and close operations with sunshade switch.

Is the inspection result normal?

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

Diagnosis Procedure

INFOID:0000000013502329

1.CHECK SUNSHADE SWITCH INPUT SIGNAL

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

(+)		(–)	Voltage
Sunshade switch			
Connector	Terminal		
M207	1	Ground	9 - 16 V
	3		

Is the inspection result normal?

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

2.CHECK SUNSHADE SWITCH CIRCUIT

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

Sunshade switch		Sunshade motor assembly		Continuity
Connector	Terminal	Connector	Terminal	
M207	1	M208	8	Existed
	3		6	

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

Sunshade switch		Ground	Continuity
Connector	Terminal		
M207	1		Not existed
	3		

Is the inspection result normal?

YES >> Replace sunshade unit assembly. Refer to RF-29, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK SUNSHADE SWITCH GROUND CIRCUIT

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

Sunshade switch		Ground	Continuity
Connector	Terminal		
M207	2		Existed

Is the inspection result normal?

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

4.CHECK SUNSHADE SWITCH

Check sunshade switch.
Refer to RF-19, "Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> Replace sunshade switch. Refer to RF-31, "Removal and Installation".

Component Inspection

INFOID:0000000013502330

1.CHECK SUNSHADE SWITCH

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

Terminal		Condition		Continuity
1	2	Sunshade switch	Open position	Existed
			Other than the above	Not existed
3			Close position	Existed
			Other than the above	Not existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace sunshade switch. Refer to RF-31, "Removal and Installation".

SYMPTOM DIAGNOSIS

SUNSHADE DOES NOT OPERATE PROPERLY

Description

INFOID:0000000013502331

Sunshade does not operate normally.
- Sunshade does not slide.
- Judder occurs during sliding operation of sunshade.
- Sliding operation of sunshade is slow.

Refer to RF-20, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013502332

1.CHECK SUNSHADE MECHANISM

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

Is the inspection result normal?

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

2.CHECK SUNSHADE MOTOR ASSEMBLY POWER SUPPLY AND GROUND CIRCUIT

Check sunshade motor assembly power supply and ground circuit.
Refer to RF-17, "SUNSHADE MOTOR ASSEMBLY : Diagnosis Procedure".

Is the inspection result normal?

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

3.CHECK SUNSHADE SWITCH

Check sunshade switch.
Refer to RF-18, "Component Function Check".

Is the inspection result normal?

YES >> Replace sunshade unit assembly. Refer to RF-29, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

AUTO OPERATION DOES NOT OPERATE

Description

INFOID:0000000013502333

Auto operation does not operate
- Auto operation of sunshade does not operate.
- Sunshade stops halfway.
- Anti-pinch function operates.

Refer to RF-21, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013502334

1.CHECK SUNSHADE MECHANISM

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

Is the inspection result normal?

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

2.PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to RF-15, "Description".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> Replace sunshade unit assembly. Refer to RF-29, "Removal and Installation".

SUNSHADE DOES NOT OPERATE ANTI-PINCH FUNCTION

Diagnosis Procedure

INFOID:0000000013502335

1.PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to RF-15, "Description".

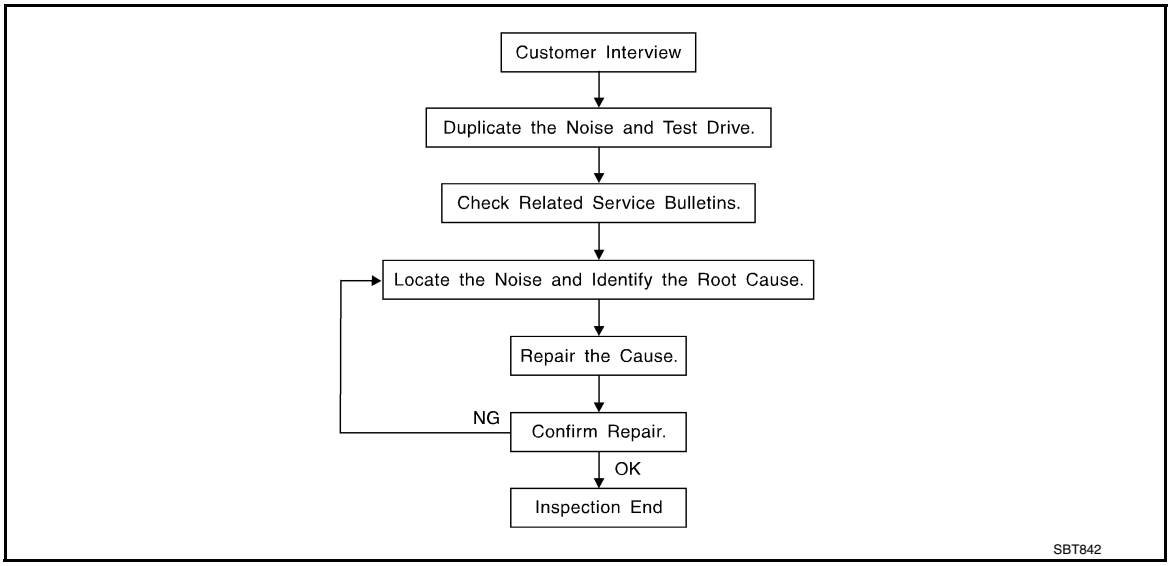
Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace sunshade unit assembly. Refer to RF-29, "Removal and Installation".

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:0000000013502336



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 of the customer's comments; refer to RF-27, "Diagnostic Worksheet". This information is necessary to duplicate the conditions that exist when the noise occurs.

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

DUPLICATE THE NOISE AND TEST DRIVE

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

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

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

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 (Engine Ear or mechanics stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:

- Removing the components in the area that you suspect to be the cause of the noise.
  Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
- Tapping or pushing/pulling the component that you suspect to be the cause of the noise.
  Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
- Feeling for a vibration 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 you suspect to be the cause of the noise.
- Looking for loose components and contact marks.
  Refer to RF-25, "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 component, if possible.
- Insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. These insulators are available through the authorized Nissan Parts Department.

CAUTION:

Never use excessive force as many components are constructed of plastic and may be damaged.

NOTE:

- URETHANE PADS
  Insulates connectors, harness, etc.
- INSULATOR (Foam blocks)
  Insulates components from contact. Can be used to fill space behind a panel.
- INSULATOR (Light foam block)
- FELT CLOTHTAPE
  Used to insulate where movement does not occur. Ideal for instrument panel applications.
  The following materials, not available through NISSAN Parts Department, 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 be visible or does not fit.
  Note: Will only last a few months.
- SILICONE SPRAY
  Used when grease cannot be applied.
- DUCT TAPE
  Used to eliminate movement.

CONFIRM THE REPAIR

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

Inspection Procedure

INFOID:0000000013502337

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. Cluster lid A and 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 pay attention to 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

Pay attention to the following:

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

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. The areas can usually be insulated with felt cloth tape or insulator foam blocks 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 look for the following:

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

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

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

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.

Cause of seat noise include:

1. Headrest rods and holder
2. A squeak between the seat pad cushion and frame
3. 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.

Diagnostic Worksheet

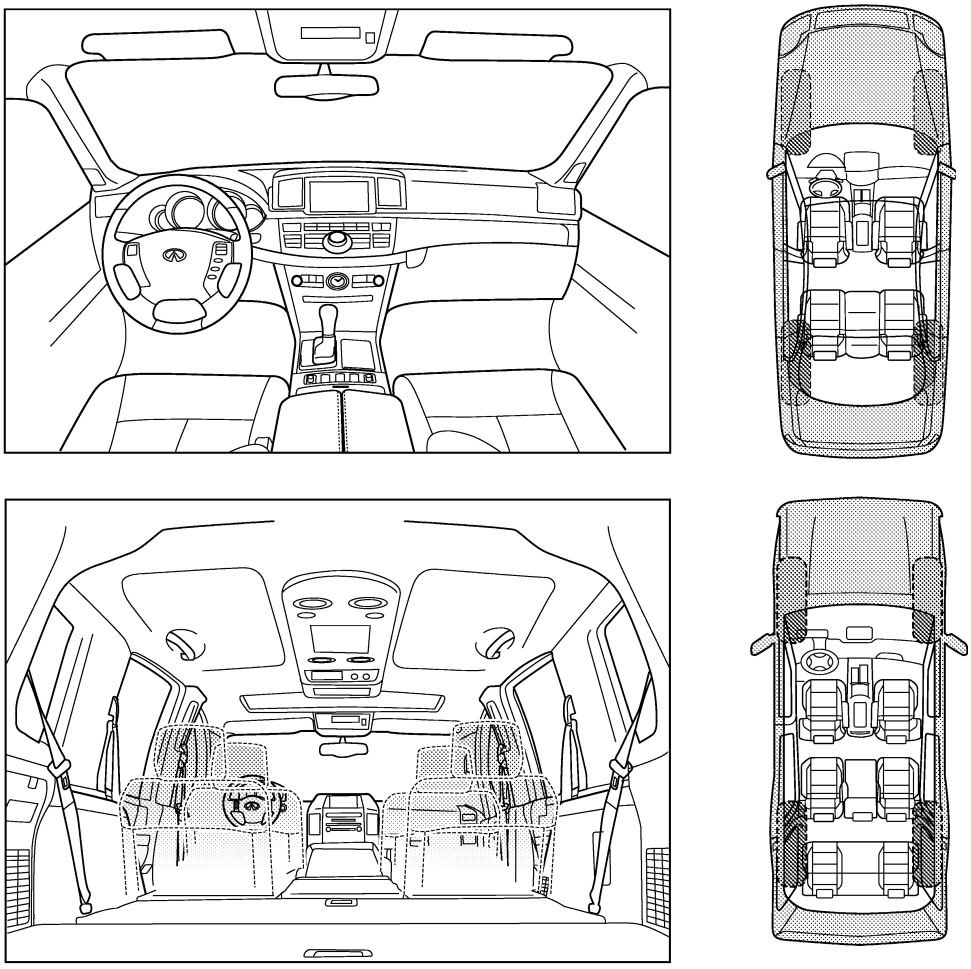
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INFINITI

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.

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SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

_____

_____

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

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

III. WHEN DRIVING:

- ☐ through driveways
- ☐ over rough roads
- ☐ over speed bumps
- ☐ only about ____ mph
- ☐ on acceleration
- ☐ coming to a stop
- ☐ on turns: left, right or either (circle)
- ☐ with passengers or cargo
- ☐ other: _____
- ☐ after driving _____ miles or _____ minutes

IV. WHAT TYPE OF NOISE

- ☐ squeak (like tennis shoes on a clean floor)
- ☐ creak (like walking on an old wooden floor)
- ☐ rattle (like shaking a baby rattle)
- ☐ knock (like a knock at the door)
- ☐ tick (like a clock second hand)
- ☐ thump (heavy, muffled knock noise)
- ☐ buzz (like a bumble bee)

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

_____

_____

_____

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

VIN: _____ Customer Name: _____

W.O.# _____ Date: _____

This form must be attached to Work Order

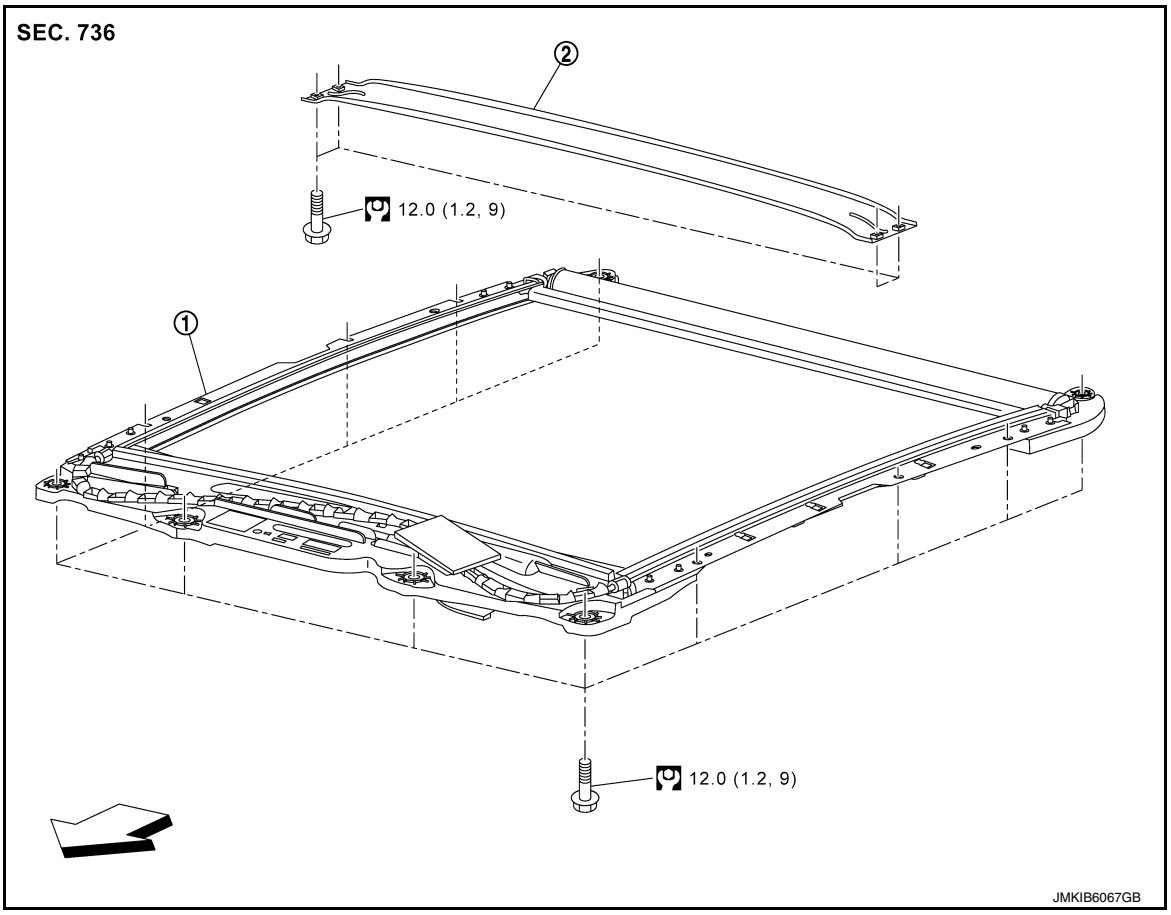
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REMOVAL AND INSTALLATION

SUNSHADE UNIT ASSEMBLY

Exploded View

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① Sunshade unit assembly
② Roof bow 2nd assembly
: N·m (kg-m, ft-lb)
: Vehicle front

Removal and Installation

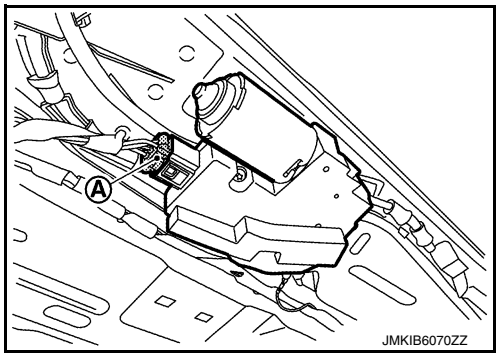
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REMOVAL

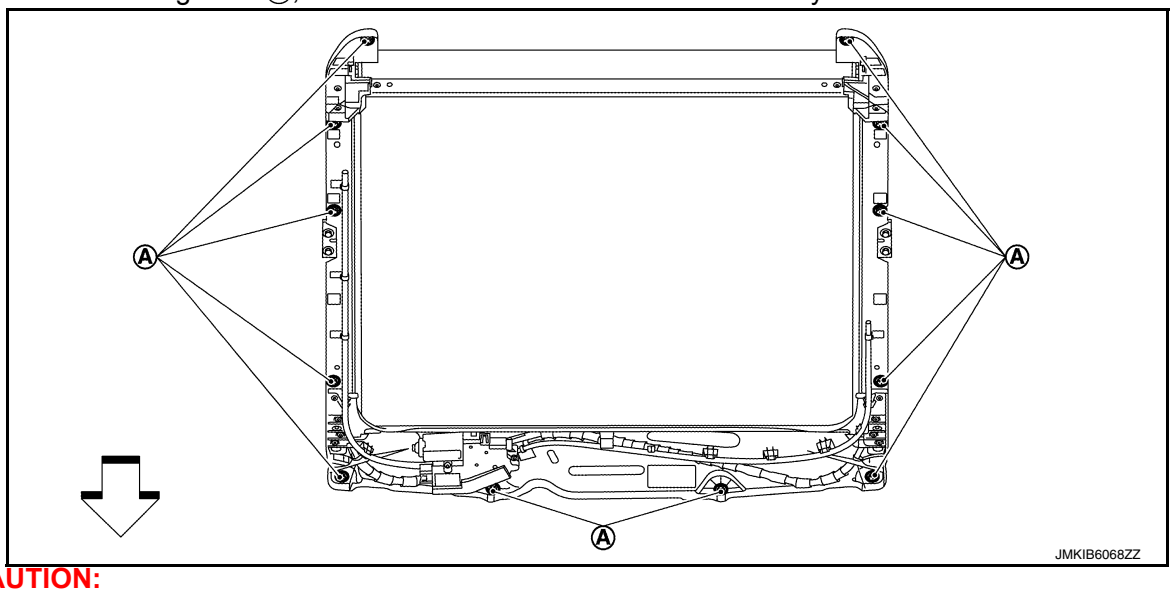
CAUTION:

Never damage glass roof and each interior parts.

1. Remove headlining assembly. Refer to INT-33, "Removal and Installation".
2. Disconnect harness connector Ⓐ.



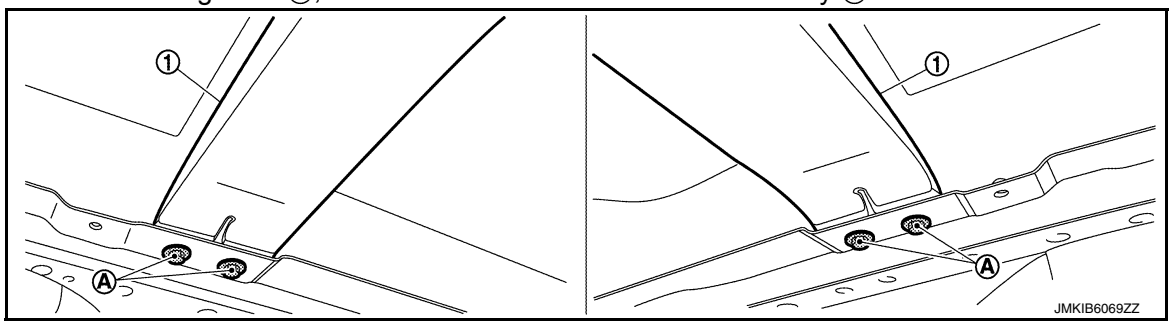
3. Remove mounting bolts Ⓐ, and then remove sunshade unit assembly.



CAUTION:
Due to weight of sunshade unit assembly, 2 workers are required by all means.

⇦ : Vehicle front

4. Remove roof bow 2nd assembly.
   - Remove mounting bolts Ⓐ, and then remove roof bow 2nd assembly ①.



INSTALLATION

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

CAUTION:
- **Tighten roof bow 2nd assembly mounting bolts the specified torque. Refer to RF-29, "Exploded View".**
- **After tightening all bolts attaching sunshade unit assembly temporarily, tighten an installation bolts with a required torque value on a diagonal. Refer to RF-29, "Exploded View".**
- **When sunshade unit assembly is replaced, it is necessary to perform the initialization procedure. Refer to RF-15, "Description".**

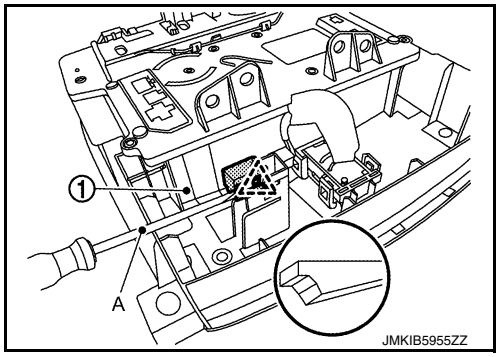
SUNSHADE SWITCH

Removal and Installation

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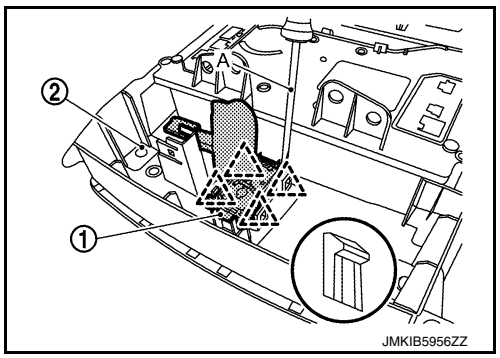
Removal

1. Remove overhead control panel control unit. Refer to INL-114, "Removal and Installation".
2. Disengage sunshade switch connector pawl using removal tool (A), and then remove sunshade switch connector from overhead control panel control unit ①.



△ :Pawl

3. Disengage sunshade switch fixing pawls using removal tool (A), and then remove sunshade switch ① from overhead control panel control unit ②.



△ :Pawl

Installation

Install in the reverse order of removal.