SECTION RF
ROOF

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010427859

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. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

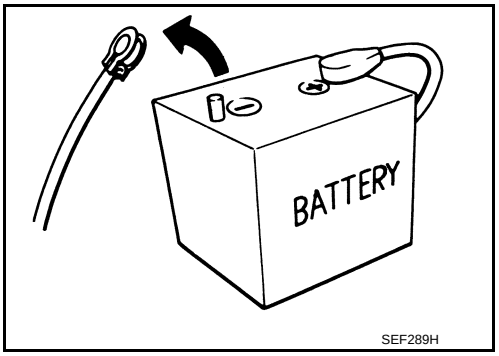
Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precautions for Removing Battery Terminal

INFOID:0000000010503269

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing “How to disconnect 12V battery terminal” described below.
  NOTE:
  Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.
- 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.



SEF289H

HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to instruction described below.

1. Open the hood.
2. Turn ignition switch to the ON position.
3. Turn ignition switch to the OFF position with the driver side door opened.
4. Get out of the vehicle and close the driver side door.

5. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

6. Remove 12V battery terminal.

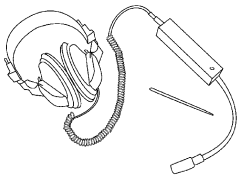
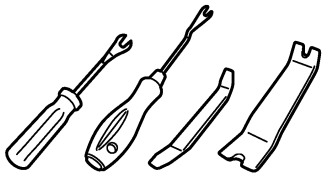
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:0000000010286620

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

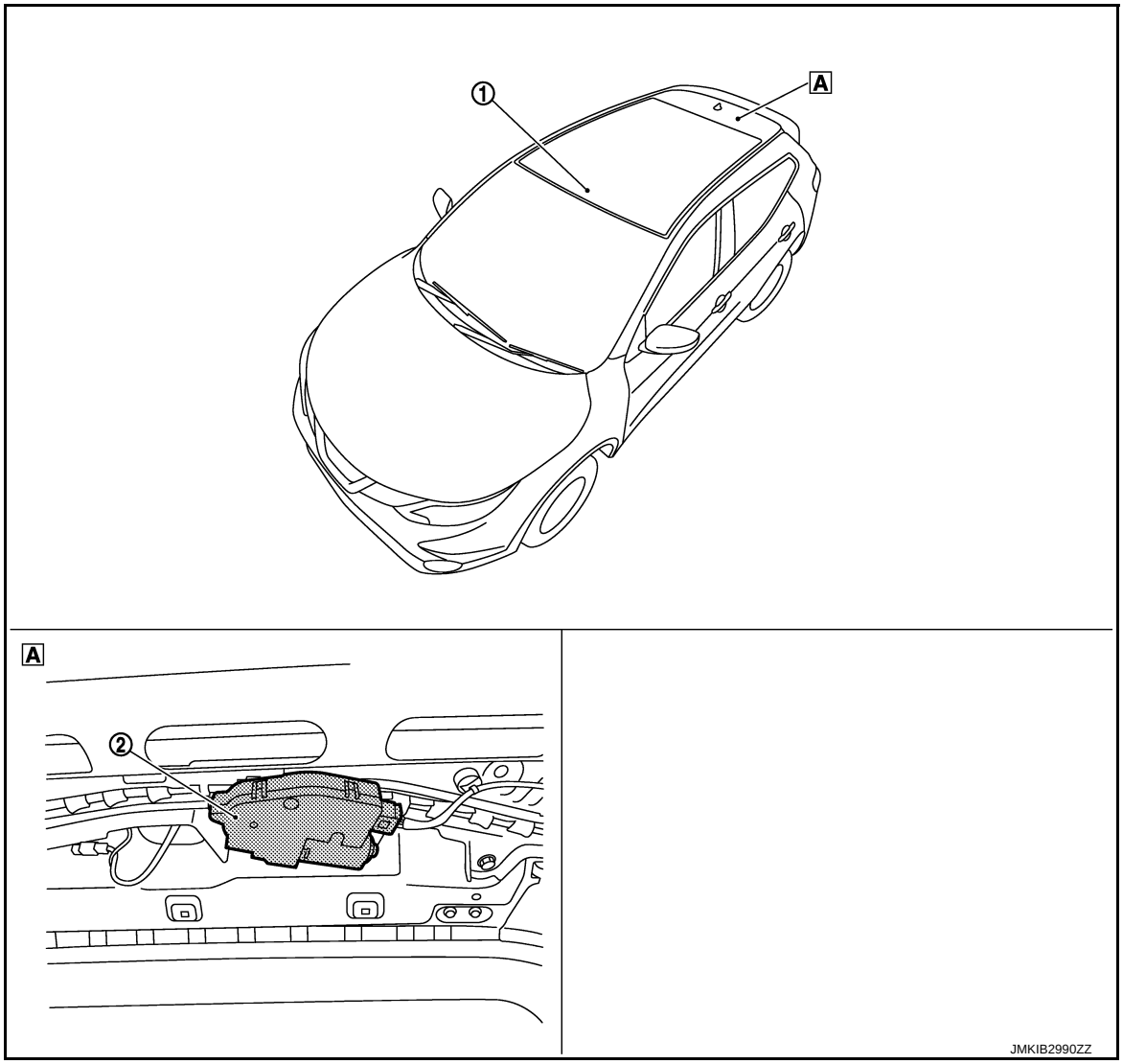
SYSTEM DESCRIPTION

COMPONENT PARTS

SUNSHADE SYSTEM

SUNSHADE SYSTEM : Component Description

INFOID:0000000010286621



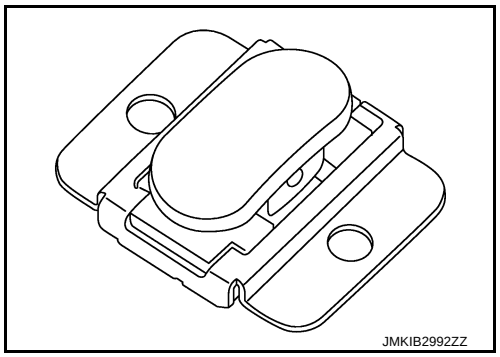
A View with headlining removed

No.	Component	Function
①	Sunshade switch	Refer to RF-7, "SUNSHADE SYSTEM : Sunshade Switch".
②	Sunshade motor assembly	Refer to RF-7, "SUNSHADE SYSTEM : Sunshade Motor Assembly".

SUNSHADE SYSTEM : Sunshade Switch

INFOID:0000000010286622

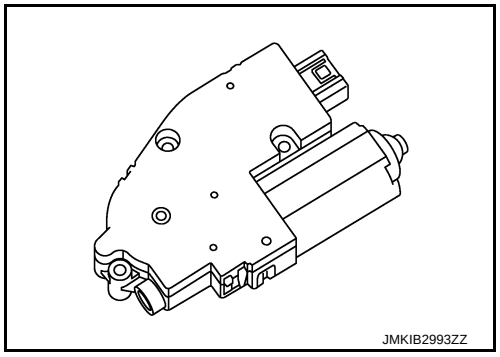
- Transmits open and close signal to sunshade motor assembly.



SUNSHADE SYSTEM : Sunshade Motor Assembly

INFOID:0000000010286623

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

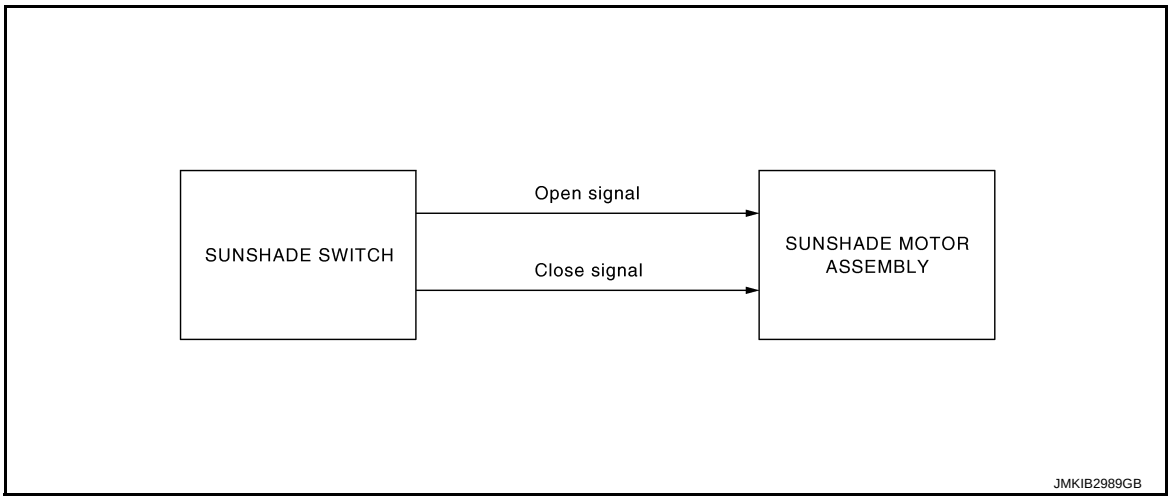


SYSTEM

System Description

INFOID:0000000010286624

SYSTEM DIAGRAM



SUNSHADE SYSTEM

- The sunshade system operates using ignition power source and accessory 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.

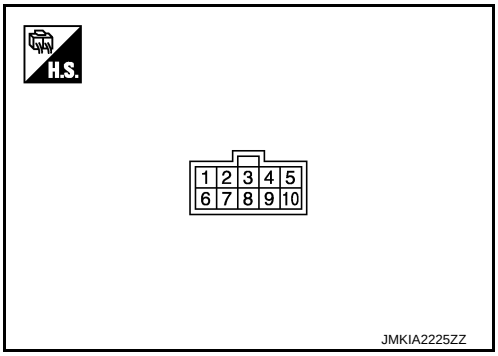
ECU DIAGNOSIS INFORMATION

SUNSHADE MOTOR ASSEMBLY

Reference Value

INFOID:0000000010286629

TERMINAL LAYOUT



PHYSICAL VALUES

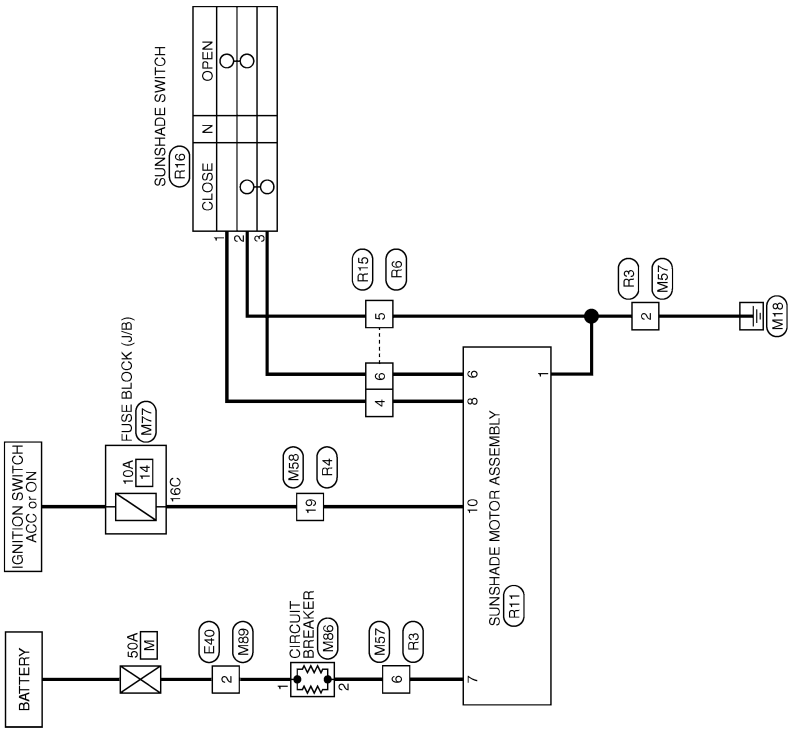
Terminal No.		Description		Condition	Voltage
+	–	Signal name	Input/ Output		
1 (B)	Ground	Ground	—	—	0 - 1 V
6 (G)	Ground	Close signal	Input	Sunshade switch in close position	0 - 1 V
				Other than the above	9 - 16 V
7 (P)	Ground	Battery power supply	Input	—	9 - 16 V
8 (Y)	Ground	Open signal	Input	Sunshade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

WIRING DIAGRAM

SUNSHADE SYSTEM

Wiring Diagram

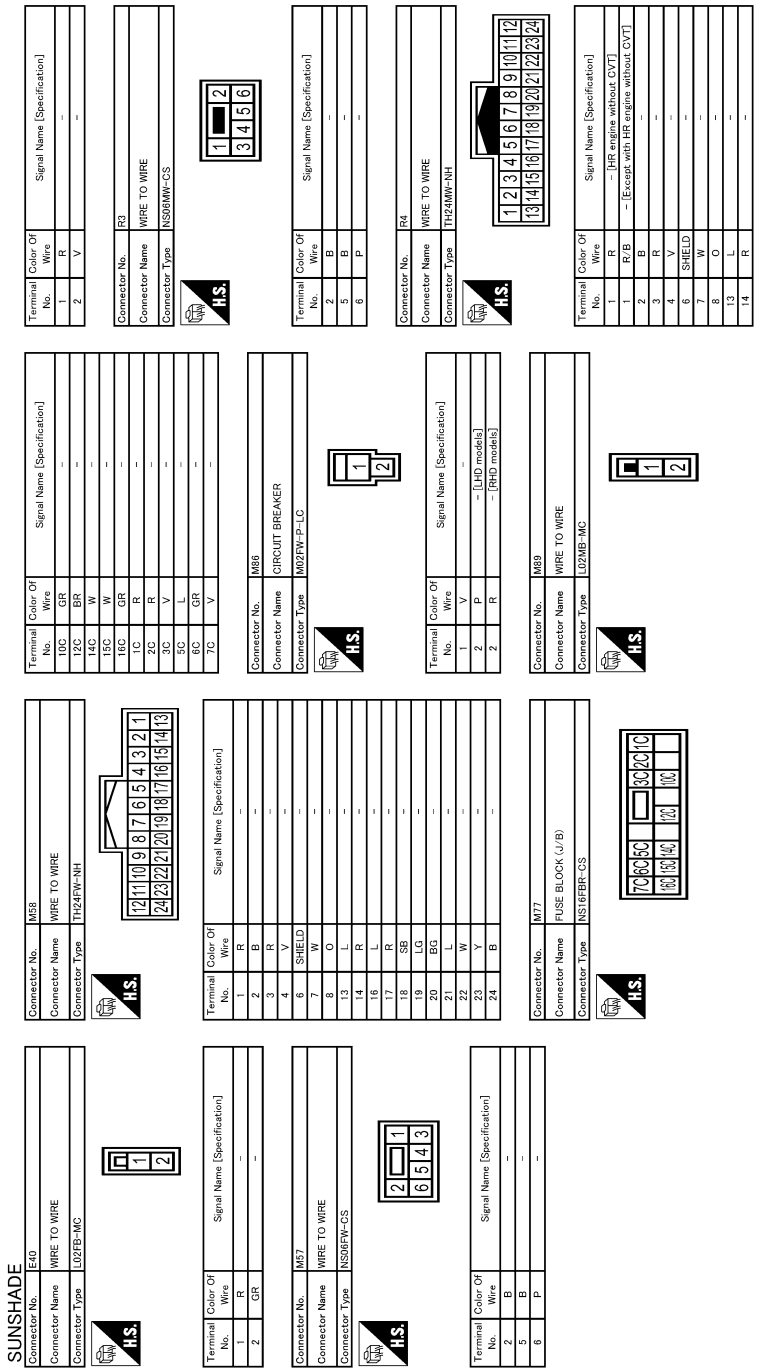
INFOID:0000000010286630



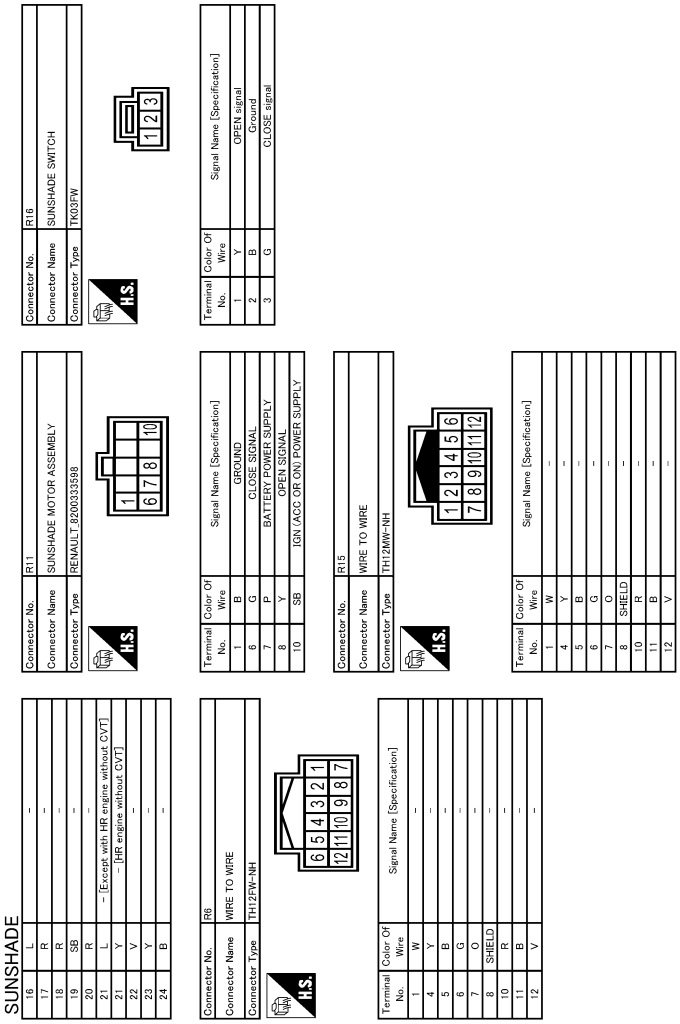
SUNSHADE

2013/11/20

JRKWD0769GB



JRKWE4043GB



JRKWE4044GB

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000010427877

DETAILED FLOW

1.OBTAIN INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

2.REPRODUCE THE MALFUNCTION INFORMATION

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

>> GO TO 3.

3.IDENTIFY THE MALFUNCTIONING SYSTEM WITH “SYMPTOM DIAGNOSIS”

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

>> GO TO 4.

4.IDENTIFY THE MALFUNCTIONING PARTS WITH “COMPONENT DIAGNOSIS”

Perform the diagnosis with “Component diagnosis” of the applicable system.

>> GO TO 5.

5.REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6.

6.FINAL CHECK

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

Are the malfunctions corrected?

YES >> INSPECTION END
NO >> GO TO 3.

SYSTEM INITIALIZATION

Description

INFOID:0000000010286632

Initialization of system should be conducted after the following conditions. Refer to RF-14, "Work Procedure".
- When the sunshade motor assembly is changed.
- When the sunshade does not operate normally. (Incomplete initialization conditions)

Work Procedure

INFOID:0000000010286633

1.STEP 1

1. Return sunshade to closed position.
2. Release the close switch once, press the close switch again, press and hold the switch until shade is fully closed. (About 30 seconds)
3. Release the switch again, and press the close switch within the first 10 seconds. (keep pressing the switch)
4. After 3 or 4 seconds, the shade will be automatically operated in sequence of slide open and slide close. After the shade stops, release the switch 0.5 second later.

>> 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-15, "Description".

>> INSPECTION END

ANTI-PINCH INSPECTION

Description

INFOID:0000000010286634

Check anti-pinch function when the initialization of sunshade system is performed. Refer to RF-15, "Work Procedure".

Work Procedure

INFOID:0000000010286635

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.**
- **Do not check with hands and other part of body because they may be pinched. Do not get pinched.**
- **Depending on environment and driving conditions, if a similar impact or load is applied to the 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-14, "Description".

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

SUNSHADE MOTOR ASSEMBLY

SUNSHADE MOTOR ASSEMBLY : Diagnosis Procedure

INFOID:0000000010286636

1.CHECK FUSE AND FUSIBLE LINK

1. Turn ignition switch OFF.
2. Check that any of the following fuse and fusible link is fusing.

Fuse No.	Signal name
14 (10A)	Ignition (ACC or ON) power supply

Fusible link No.	Signal name
M (50A)	Battery power supply

Is the inspection result normal?

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

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		
R11	7	Ground	9 - 16 V

Is the inspection result normal?

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

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		
R11	10	Ground	9 - 16 V

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

4.CHECK SUNSHADE MOTOR ASSEMBLY POWER SUPPLY CIRCUIT 1

1. Disconnect circuit breaker connector.
2. Check voltage between circuit breaker harness connector and ground.

(+)		(–)	Voltage
Circuit breaker			
Connector	Terminal		
M86	1	Ground	9 - 16 V

Is the inspection result normal?

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

5. CHECK SUNSHADE MOTOR ASSEMBLY POWER SUPPLY CIRCUIT 2

Check continuity between circuit breaker harness connector and sunshade motor assembly harness connector.

Circuit breaker		Sunshade motor assembly		Continuity
Connector	Terminal	Connector	Terminal	
M86	2	R11	7	Existed

Is the inspection result normal?

YES >> Replace circuit breaker.
NO >> Repair or replace harness.

6. 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		
R11	1		Existed

Is the inspection result normal?

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

SUNSHADE SWITCH

Component Function Check

INFOID:0000000010286639

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:0000000010286640

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		
R16	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	
R16	1	R11	8	Existed
	3		6	

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

Sunshade switch		Ground	Continuity
Connector	Terminal		
R16	1		Not existed
	3		

Is the inspection result normal?

YES >> Replace sunshade motor assembly. Refer to RF-30, "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		
R16	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-44, "Intermittent Incident".
NO >> Replace sunshade switch. Refer to RF-35, "Removal and Installation".

Component Inspection

INFOID:0000000010286641

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-35, "Removal and Installation".

SYMPTOM DIAGNOSIS

SUNSHADE DOES NOT OPERATE PROPERLY

Description

INFOID:0000000010286642

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

Diagnosis Procedure

INFOID:0000000010286643

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-16, "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 >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

AUTO OPERATION DOES NOT OPERATE

Description

INFOID:0000000010286644

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

Diagnosis Procedure

INFOID:0000000010286645

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-14, "Description".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace sunshade motor assembly. Refer to RF-30, "Removal and Installation".

SUNSHADE DOES NOT OPERATE ANTI-PINCH FUNCTION

Diagnosis Procedure

INFOID:0000000010286646

1.PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to RF-14, "Description".

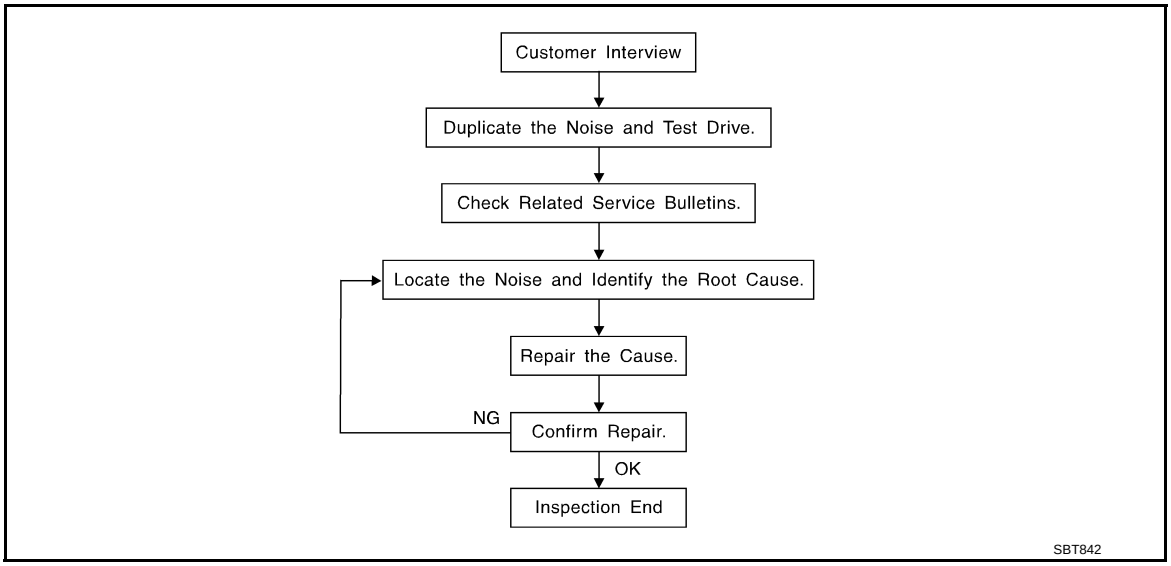
Is the inspection result normal?

YES >> INSPECTION END
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow

INFOID:0000000010286648



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 is are suspected 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 is are suspected 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 are suspected 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:0000000010286649

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. You can usually insulate the areas 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 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. 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.

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.

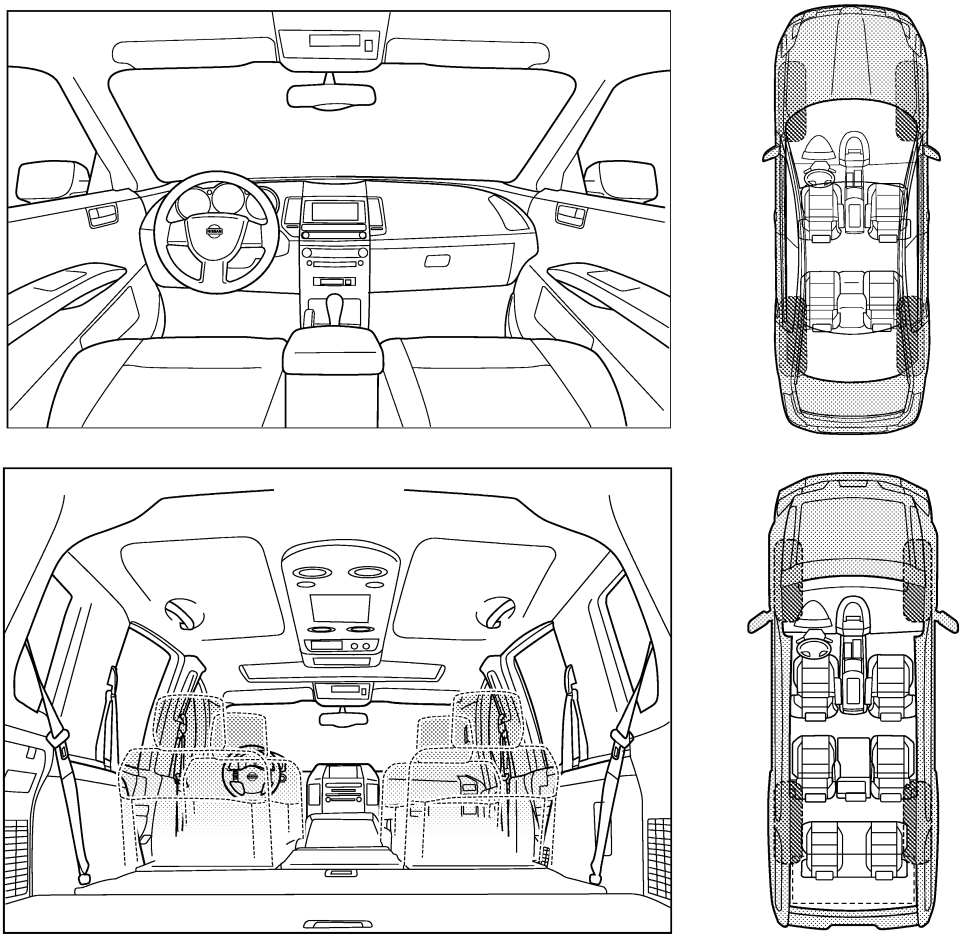
Diagnostic Worksheet

INFOID:0000000010286650

SQUEAK & RATTLE
DIAGNOSTIC WORKSHEET

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

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.

PIIB8740E

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

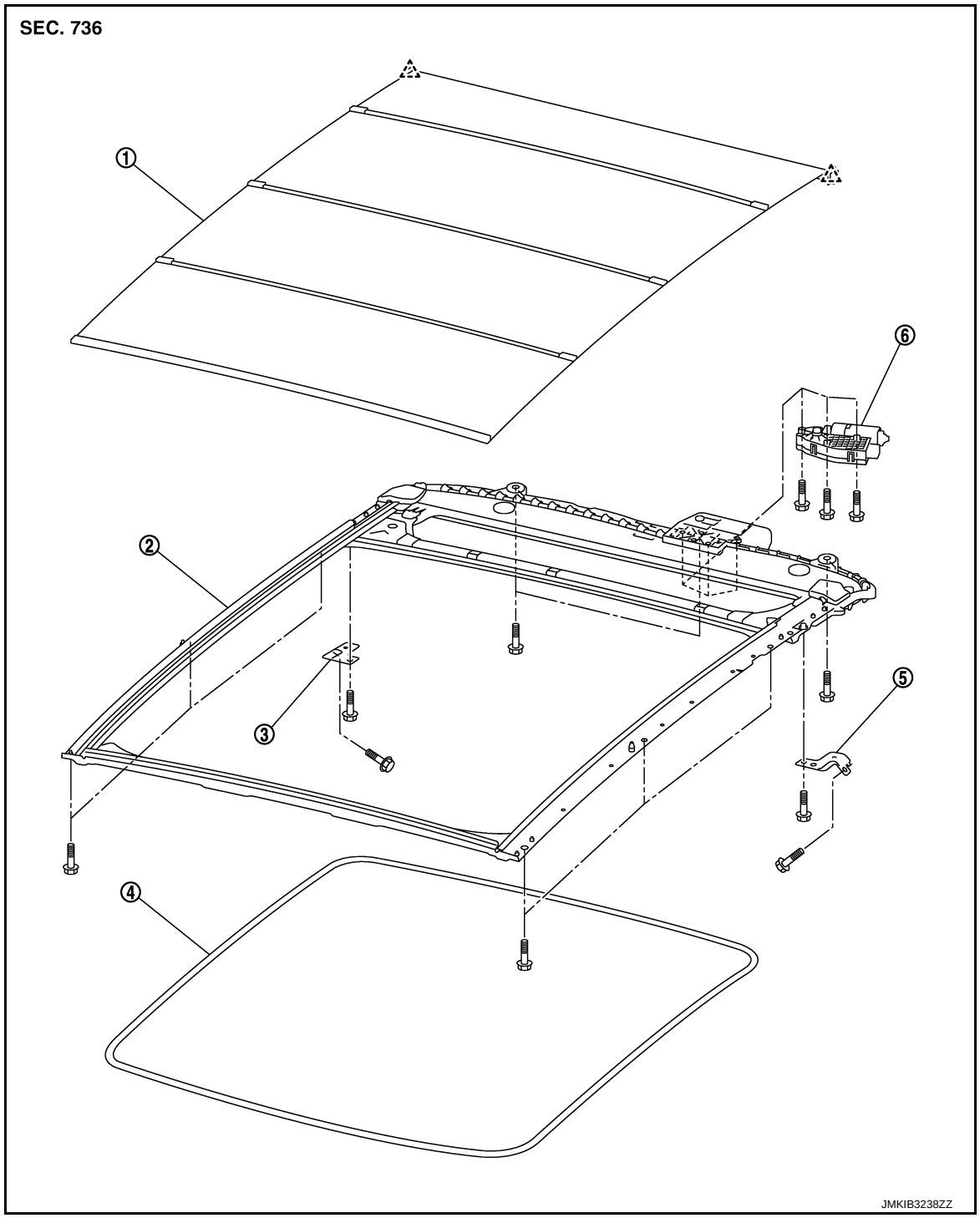
PIIB8742E

REMOVAL AND INSTALLATION

SUNSHADE MOTOR ASSEMBLY

Exploded View

INFOID:0000000010286668



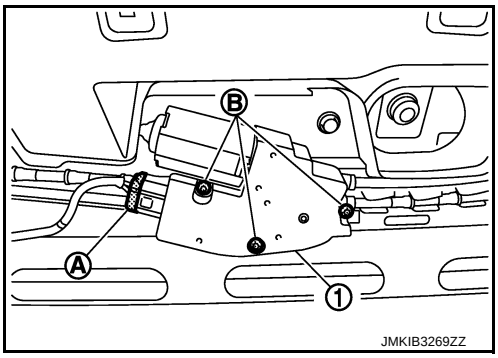
1. Sunshade assembry
2. Sunshade unit assembly
3. Rear sunshade bracket RH
4. Welt
5. Rear sunshade bracket LH
6. Sunshade motoer

Removal and Installation

INFOID:0000000010286669

REMOVAL

1. Remove the headlining. Refer to INT-25, "Removal and Installation".
2. Disconnect harness connectoer Ⓐ.
3. Remove the sunshade motor mounting TORX bolts Ⓑ, and then remove sunshade motor assembly ①.



INSTALLATION

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

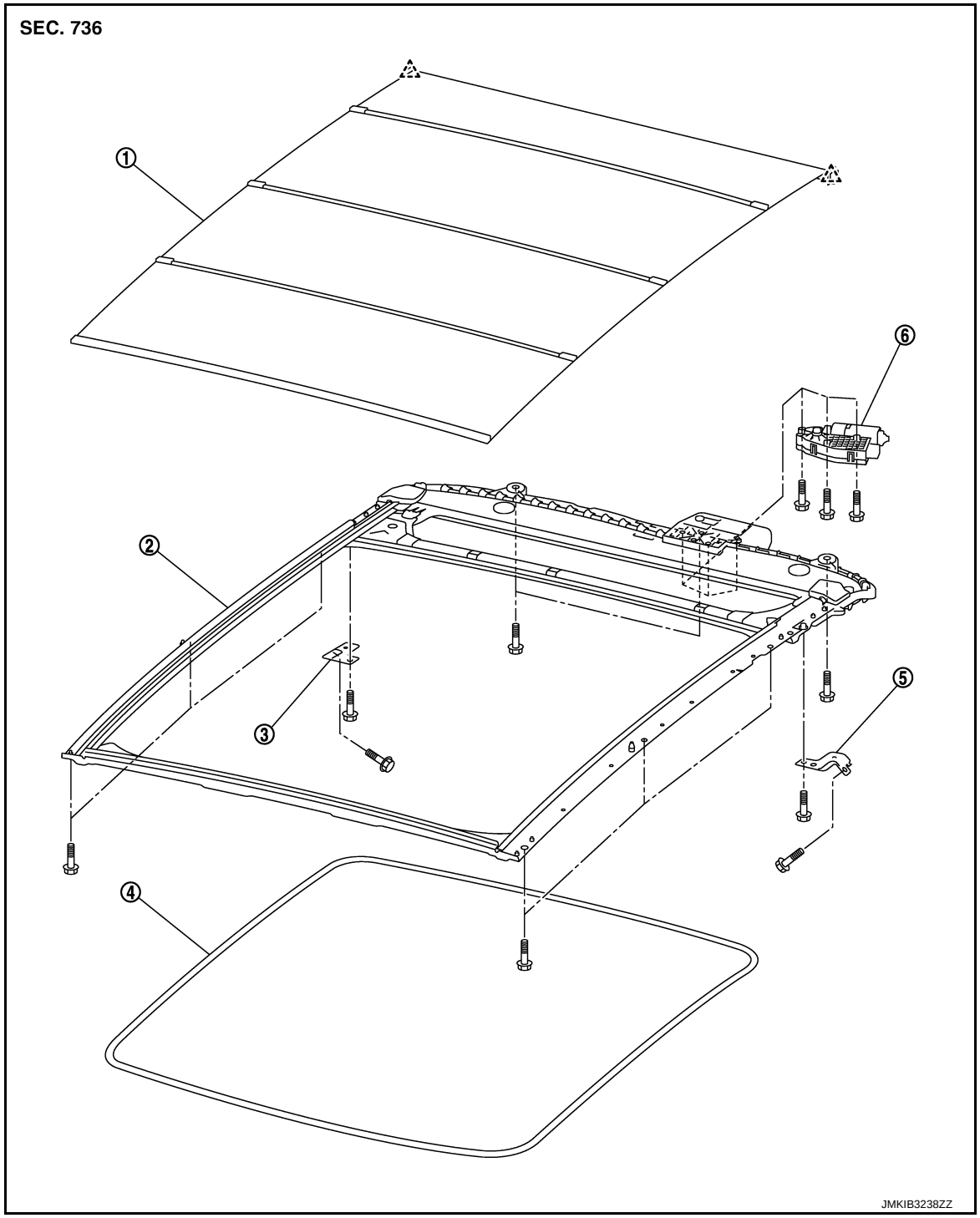
NOTE:

After install the sunshade motor, perform additional service. Refer to RF-14, "Description".

SUNSHADE UNIT ASSEMBLY

Exploded View

INFOID:0000000010438449



1. Sunshade assembry
2. Sunshade unit assembly
3. Rear sunshade bracket RH
4. Welt
5. Rear sunshade bracket LH
6. Sunshade motoer

Removal and Installation

INFOID:0000000010286671

REMOVAL

CAUTION:

- **Always work with a helper.**
- **Fully open the sunshade before removal.**
- **Never operate sunshade motor assembly after removal.**
- **When taking sunshade unit assembly out, use cloths to protect the seats and trim from damage.**

1. Fully open the sunshade.
2. Remove the headlining. Refer to INT-25, "Removal and Installation".
3. Remove the sunshade motor assembly. Refer to RF-30, "Removal and Installation".
4. Remove the harness clamp.
5. Remove the TORX bolt.
6. Remove the rear sunshade bracket.
7. Remove the mounting bolt from the side rail.
8. Remove the unit side bolts of the sunshade front bracket and loosen the body side bolts.
9. Remove the bolt from the rear end, and then remove sunshade unit assembly.
10. Remove the sunshade from vehicle.

INSTALLATION

1. Temporarily tighten the mounting bolts to the sunshade front bracket.
2. Place the front end of the rail onto the sunshade front bracket.
3. Temporarily tighten the mounting bolts to the rear end of sunshade unit assembly.
4. Temporarily tighten the mounting bolts to the rear sunshade bracket.
5. Tighten the installation points diagonally excluding the installation point of the sunshade bracket around the roof.
6. Tighten the sunshade front and rear bracket bolts, of the vehicle side, and then tighten the bolt of the rail side.
7. Tighten the mounting bolt to the rear end.
8. Install the sunshade motor assembly. Refer to RF-30, "Removal and Installation".
9. Install the headlining. Refer to INT-25, "Removal and Installation".

Disassembly and Assembly

INFOID:0000000010286672

DISASSEMBLY

1. Remove sunshade motor assembly. Refer to RF-30, "Removal and Installation"
2. Remove sunshade assembly. Refer to RF-33, "Removal and Installation"

ASSEMBLY

Assemble in the reverse order of disassembly.

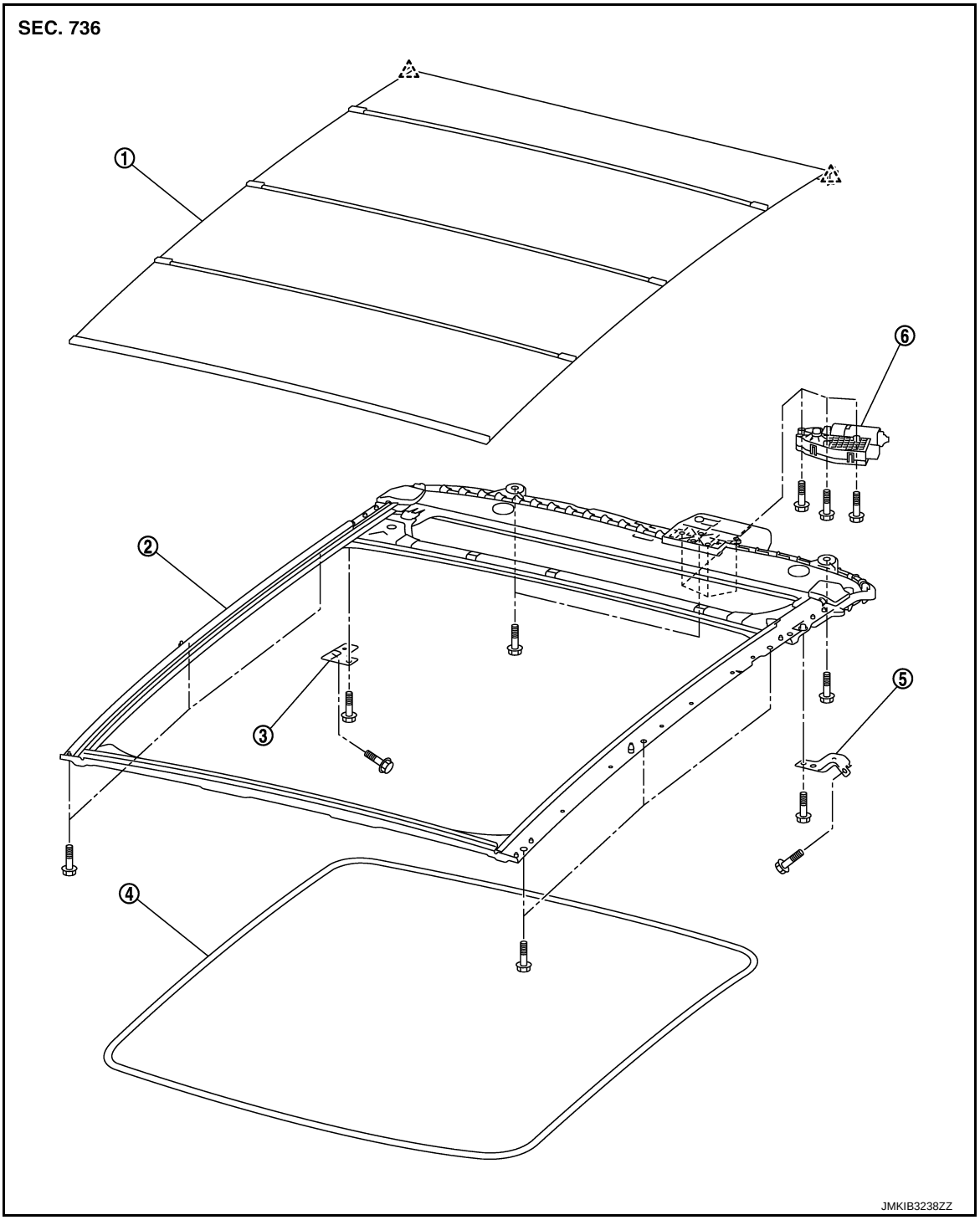
NOTE:

After installation sunshade motor, perform additional service. Refer to RF-14, "Description".

SUNSHADE

Exploded View

INFOID:0000000010438750



1. Sunshade assembry
2. Sunshade unit assembly
3. Rear sunshade bracket RH
4. Welt
5. Rear sunshade bracket LH
6. Sunshade motoer

Removal and Installation

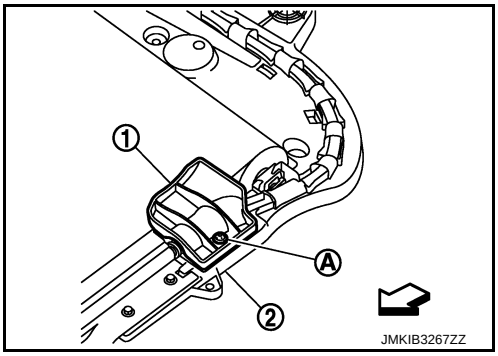
INFOID:0000000010286674

REMOVAL

1. Remove sunshade unit assembly. Refer to RF-31, "Removal and Installation".

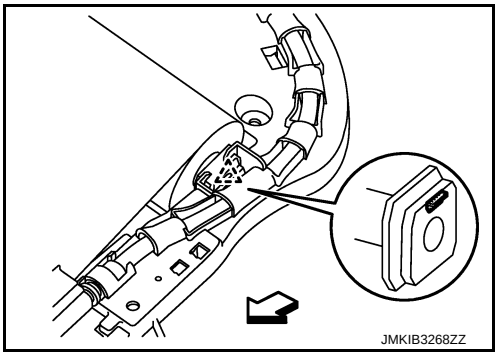
2. Remove sunshade guide bracket fixing screw Ⓐ and then remove sunshade guide bracket ① from sunshede unit ②

⇦ : Vehicle front



3. Disengage sunshade fixing pawls, and then remove sunshade from sunshade unit assembly.

⇦ : Vehicle front



INSTALLATION

Install in the reverse order of removal.

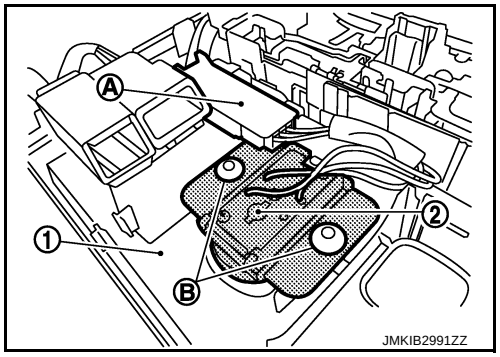
SUNSHADE SWITCH

Removal and Installation

INFOID:0000000010286663

Removal

1. Remove map lamp assembly. Refer to INL-70, "MAP LAMP : Removal and Installation".
2. Disconnect sunshade switch connector Ⓐ from map lamp assembly ①.
3. Remove sunshade switch fixing TROX screws Ⓑ, and then remove sunshade switch ② from map lamp assembly.



Installation

Install in the reverse order of removal.