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## **PRECAUTION**

## **PRECAUTIONS**

Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER"

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.

Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000004476256

#### NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both 12-volt battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both 12volt battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work.
   If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the 12-volt battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the 12-volt battery disconnected or discharged, follow the procedure below before starting the repair operation.

#### **OPERATION PROCEDURE**

Connect both 12-volt battery cables.

#### NOTE:

Supply power using jumper cables if 12-volt battery is discharged.

- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both 12-volt battery cables. The steering lock will remain released with both 12-volt battery cables disconnected and the steering wheel can be turned.
- 4. Perform the necessary repair operation.
- When the repair work is completed, re-connect both 12-volt battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT-III.

Precaution INFOID:000000004215439

- Disconnect both 12-volt battery cables in advance.
- Disconnect air bag system line in advance.
- Never tamper with or force air bag lid open, as this may adversely affect air bag performance.
- Be careful not to scratch pad and other parts.

#### **PRECAUTIONS**

## < PRECAUTION >

- When removing or disassembling any part, be careful not to damage or deform it. Protect parts, which may get in the way with cloth.
- When removing parts with a screwdriver or other tool, protect parts by wrapping them with vinyl or tape.
- Keep removed parts protected with cloth.
- If a clip is deformed or damaged, replace it.
- If an unreusable part is removed, replace it with a new one.
- Tighten bolts and nuts firmly to the specified torque.
- After re-assembly has been completed, make sure each part functions correctly.
- · Remove stains in the following way.

Water-soluble stains:

Dip a soft cloth in warm water, and then squeeze it tightly. After wiping the stain, wipe with a soft dry cloth. Oil stain:

Dissolve a synthetic detergent in warm water (density of 2 to 3% or less), dip the cloth, then clean off the stain with the cloth. Next, dip the cloth in fresh water and squeeze it tightly. Then clean off the detergent completely. Then wipe the area with a soft dry cloth.

• Do not use any organic solvent, such as thinner or benzine.

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# **PREPARATION**

## **PREPARATION**

# Special Service Tools

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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	SIIAO993E	Locating the noise
(J-43980) NISSAN Squeak and Rattle Kit	SIIA0994E	Repairing the cause of noise

## Commercial Service Tools

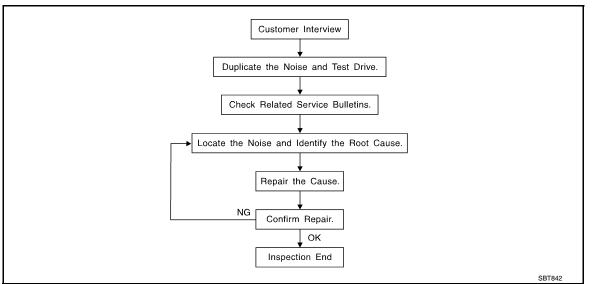
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Tool name		Description
Engine ear	SIIA0995E	Locating the noise
Power tool	PIIB1407E	

## SYMPTOM DIAGNOSIS

## SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow



#### **CUSTOMER INTERVIEW**

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

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

#### DUPLICATE THE NOISE AND TEST DRIVE

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### < SYMPTOM DIAGNOSIS >

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

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

- 1) Close a door.
- 2) Tap or push/pull around the area where the noise appears to be coming from.
- 3) Rev the engine.
- Use a floor jack to recreate vehicle "twist".
- 5) At idle, apply engine load (electrical load, control device selector in drive position).
- 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

#### CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.

If a TSB relates to the symptom, follow the procedure to repair the noise.

#### LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

- 1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear and 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 the noise is coming from.
   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 is causing the noise.
   Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
- Feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
- Placing a piece of paper between components that you suspect are causing the noise.
- · Looking for loose components and contact marks.

#### REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
- separate components by repositioning or loosening and retightening the component, if possible.
- insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A Nissan Squeak and Rattle Kit (J-43980) is available through your authorized Nissan Parts Department.

#### **CAUTION:**

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

Always check with the Parts Department for the latest parts information.

The following materials are contained in the Nissan Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.

URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

76268-9E005:  $100 \times 135$  mm (3.94  $\times$  5.31 in)/76884-71L01:  $60 \times 85$  mm (2.36  $\times$  3.35 in)/76884-

 $71L02:15 \times 25 \text{ mm } (0.59 \times 0.98 \text{ in})$ 

INSULATOR (Foam blocks)

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

73982-9E000: 45 mm (1.77 in) thick,  $50 \times 50$  mm (1.97  $\times$  1.97 in)/73982-

50Y00: 10 mm (0.39 in) thick,  $50 \times 50$  mm (1.97  $\times$  1.97 in)

INSULATOR (Light foam block)

80845-71L00: 30 mm (1.18 in) thick, 30  $\times$  50 mm (1.18  $\times$  1.97in)

FELT CLOTHTAPE

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

68370-4B000:  $15 \times 25 \text{ mm}$  (0.59  $\times$  0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll

< SYMPTOM DIAGNOSIS > The following materials, not found in the kit, can also be used to repair squeaks and rattles. **UHMW (TEFLON) TAPE** Α Insulates where slight movement is present. Ideal for instrument panel applications. SILICONE GREASE Used in place of UHMW tape that will be visible or not fit. Will only last a few months. В SILICONE SPRAY Use when grease cannot be applied. **DUCT TAPE** Use to eliminate movement. CONFIRM THE REPAIR Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same D conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet. Generic Squeak and Rattle Troubleshooting INFOID:0000000004215436 Е Refer to Table of Contents for specific component removal and installation information. INSTRUMENT PANEL Most incidents are caused by contact and movement between: F Acrylic lens and combination meter housing 2. Instrument panel to front pillar finishers Instrument panel to windshield Instrument panel mounting pins Wiring harnesses behind the combination meter Н 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:** Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you IΡ will not be able to recheck the repair. CENTER CONSOLE Components to pay attention to include: Shifter assembly cover to finisher 2. A/C control unit and cluster lid C Wiring harnesses behind audio and A/C control unit The instrument panel repair and isolation procedures also apply to the center console. DOORS Pay attention to the: 1. Finisher and inner panel making a slapping noise Inside handle escutcheon to door finisher N Wiring harnesses tapping 4. Door striker out of alignment causing a popping noise on starts and stops Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks from the Nissan Squeak and Rattle Kit (J-43980) to repair the noise. Р TRUNK

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

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

### < SYMPTOM DIAGNOSIS >

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:

- 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.

## OVERHEAD CONSOLE (FRONT AND REAR)

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

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

#### **SEATS**

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

Cause of seat noise include:

- Headrest rods and holder
- A squeak between the seat pad cushion and frame
- 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
- Engine wall mounts and connectors
- 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.

## < SYMPTOM DIAGNOSIS >

# **Diagnostic Worksheet**

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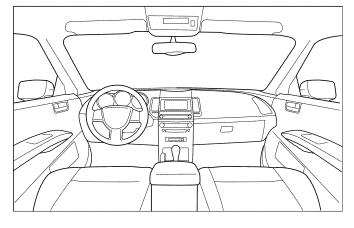
#### Dear Customer:

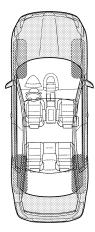
We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked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

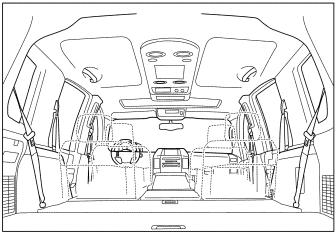
#### **SQUEAK & RATTLE DIAGNOSTIC WORKSHEET**

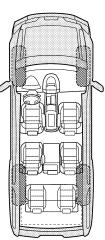
## I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)

The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.









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

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## < SYMPTOM DIAGNOSIS >

Briefly describe the location where the noise occurs:						
II WHEN DOES IT OCCUPS (places ob	ook tho k	acyce that can	I.A			
<ul> <li>II. WHEN DOES IT OCCUR? (please cheese ch</li></ul>		the boxes that apply)  After sitting out in the rain  When it is raining or wet  Dry or dusty conditions  Other:				
IV. WHAT TYPE OF NOISE  Through driveways Over rough roads Over speed bumps Only about mph 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)  Description  Buzz (like a bumble bee)  Description  Buzz (like a bumble bee)						
		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 confin	m repair					
VIN: W.O.#						

This form must be attached to Work Order

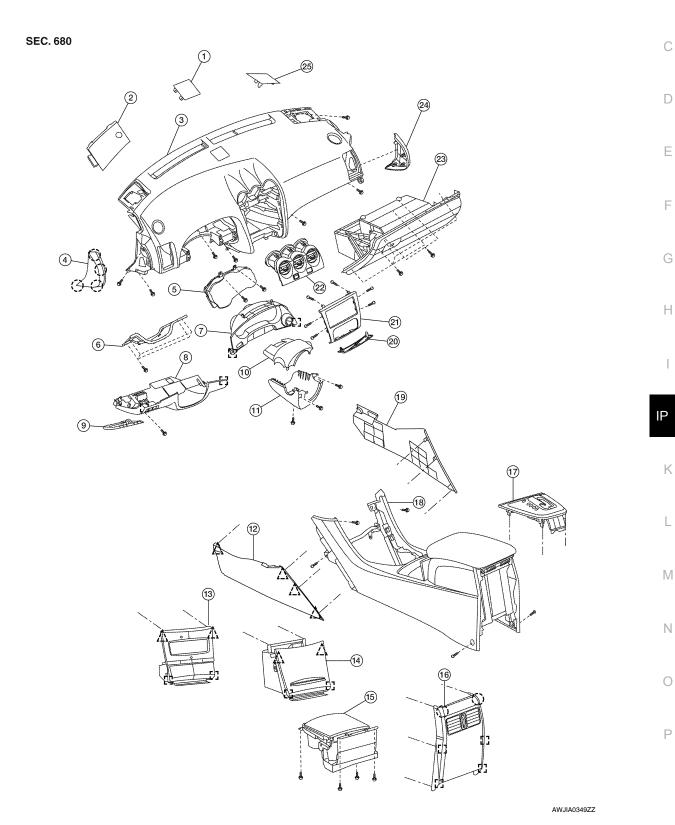
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# **ON-VEHICLE REPAIR**

# **INSTRUMENT PANEL ASSEMBLY**

Exploded View

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## < ON-VEHICLE REPAIR >

- 1. Center speaker grille
- Instrument side mask (LH) 4.
- Cluster lid A 7.
- 10. Steering column cover upper
- 13. CD changer finisher (if equipped)
- 16. Console rear finisher (with ventilator grille) 17. CVT finisher
- 19. Console side finisher (RH)
- 22. Center ventilator grilles
- 25. Tweeter speaker grille (RH)

- 2. Tweeter speaker grille (LH)
- 5. Combination meter
- Instrument lower cover (LH)
- 11. Steering column cover lower
- 14. Storage bin
- 20. Cluster lid D
- 23. Glove box assembly

- 3. Instrument panel
- 6. Lower knee protector (LH)
- Fuse block cover
- 12. Console side finisher (LH)
- 15. Cup holder
- 18. Console
- 21. Cluster lid C
- 24. Instrument side mask (RH)
- Metal clip

## Removal and Installation

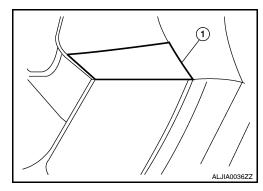
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#### **CAUTION:**

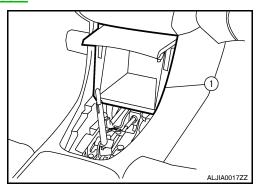
- Disconnect both the negative and positive 12 volt battery terminals, then wait at least three minutes.
- Never tamper with or force air bag lid open, as this may adversely affect air bag performance.
- Be careful not to scratch instrument panel pad and other parts.

#### **REMOVAL**

- Disconnect the negative and positive 12-volt battery terminals, then wait at least three minutes.
- Remove the front pillar finishers. Refer to <a href="INT-16">INT-16</a>, "Removal and Installation".
- Put selector lever in the drive (D) position, then remove selector lever knob. Refer to TM-27, "Removal and Installation".
- Remove the cluster lid D (1).

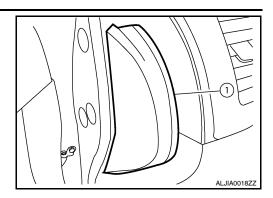


- Remove console finisher. Refer to TM-27, "Removal and Installation". 5.
- Remove the storage bin (1) or CD changer finisher (if equipped).

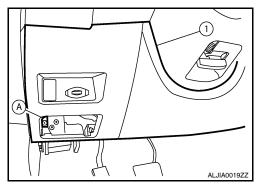


## < ON-VEHICLE REPAIR >

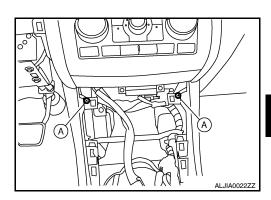
7. Remove both instrument side masks (1).



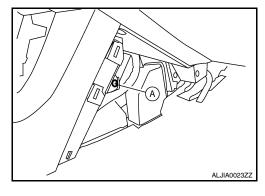
- 8. Open the fuse block cover, remove the instrument lower cover screw (A), then remove the instrument lower cover (1).
  - Disconnect the harness connectors.
  - Disconnect the aspirator tube.



- 9. Remove both the console side finishers.
- 10. Remove the console upper screws (A).



11. Remove the console side screws (A).



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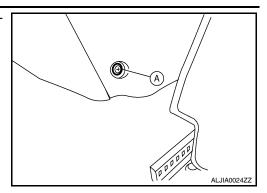
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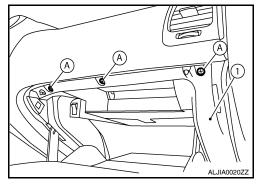
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## < ON-VEHICLE REPAIR >

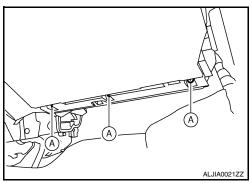
12. Remove the console rear screws (A), then disconnect the console harness connector and remove the console assembly.



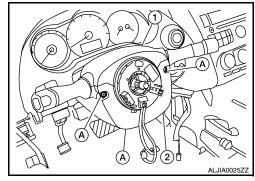
- 13. Open the glove box door, remove the glove box assembly screws (A).
  - Glove box assembly (1)



14. Remove the glove box assembly lower screws (A), then remove the glove box assembly.

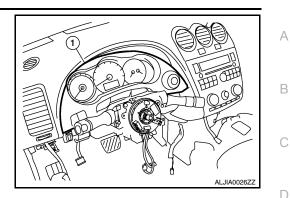


- 15. Remove the steering wheel. Refer to ST-8, "Removal and Installation".
- 16. Remove the steering column cover screws (A), then remove both the steering column cover upper (1) and steering column cover lower (2).

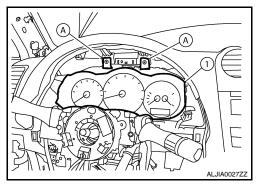


## < ON-VEHICLE REPAIR >

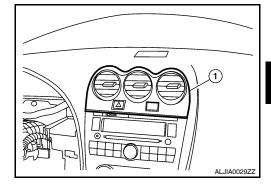
17. Remove the cluster lid A (1).



- 18. Remove the combination meter screws (A), then remove the combination meter (1).
  - Disconnect the harness connector.



- 19. Remove the spiral cable. Refer to SRS-8, "Removal and Installation".
- 20. Disconnect the combination switch connector and remove the combination switch assembly.
- 21. Remove the center ventilator grilles (1).



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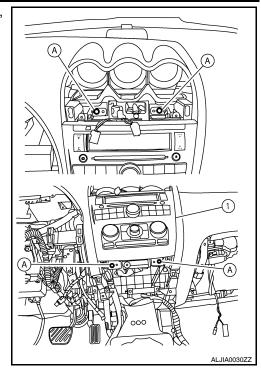
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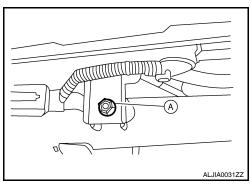
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## < ON-VEHICLE REPAIR >

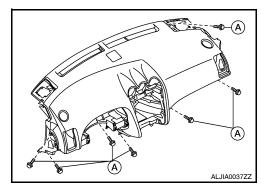
- 22. Remove the cluster lid C assembly upper and lower screws (A), then remove the cluster lid C assembly (1).
  - · Disconnect the harness connectors.



- 23. Remove both tweeter speaker grilles and disconnect the harness connectors.
- 24. Remove the passenger air bag bolt (A).



25. Remove the remaining instrument panel screws (A).



- 26. Disconnect the audio harness connector located near the RH A-pillar.
- 27. Lift the instrument panel high enough in order to disconnect all the necessary harness connectors, then remove the instrument panel.

#### INSTALLATION

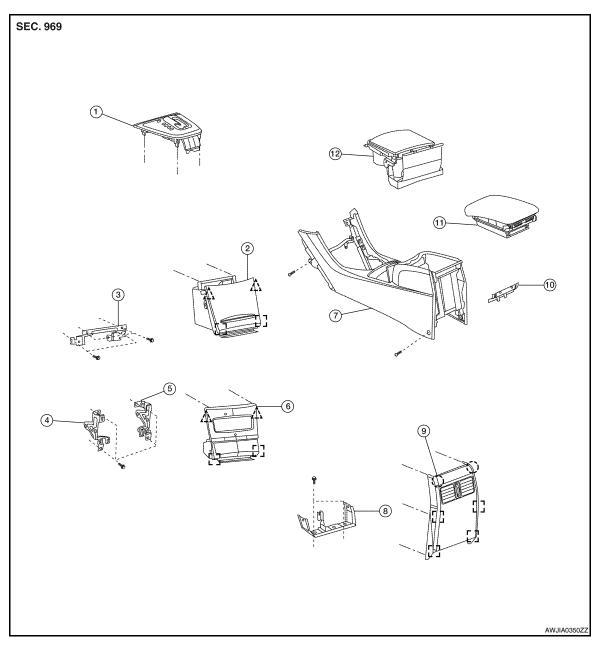
Installation is in the reverse order of removal.

• If replacing the Instrument panel transfer all the necessary parts to the new instrument panel.

# **DISASSEMBLY AND ASSEMBLY**

## **CENTER CONSOLE ASSEMBLY**

**Exploded View** INFOID:0000000004215444



- CVT finisher
- CD changer bracket (LH)
- Console lid assembly bracket 11. Console lid assembly
- Clip

- 2. Storage bin
- 5. CD changer bracket (RH)
- Console floor bracket
- - Pawl

- CD changer console bracket
- CD changer finisher
- Console rear finisher (with ventilator grille)
- 12. Cup holder
- Metal clip

# Disassembly and Assembly

## **DISASSEMBLY**

- Remove the console assembly. Refer to IP-12, "Removal and Installation".
- Remove the cup holder screws and then remove the cup holder assembly.

**IP-17** 

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## **CENTER CONSOLE ASSEMBLY**

## < DISASSEMBLY AND ASSEMBLY >

- 3. Remove the console lid screws and remove the console lid.
- 4. Remove the console rear finisher.
- 5. Remove the console lid assembly bracket.
- 6. Remove the power socket from the console. Refer to <a href="PWO-5">PWO-5</a>, "Removal and Installation".
- 7. Remove the heated seat switches (if equipped) from the console.

## **ASSEMBLY**

Assembly is in the reverse order of disassembly.