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# SECTION **FL**

## FUEL SYSTEM

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< PRECAUTION >

# PRECAUTION

## PRECAUTIONS

### General Precautions

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**WARNING:**

When replacing fuel line parts, be sure to observe the following.

- Put a “CAUTION: FLAMMABLE” sign in the workshop.
- Be sure to work in a well ventilated area and furnish workshop with a CO2 fire extinguisher.
- Never smoke while servicing fuel system. Keep open flames and sparks away from the work area.

**CAUTION:**

- Use gasoline required by the regulations for octane number. Refer to [GI-35, "Fuel"](#).
- Before removing fuel line parts, perform out the following procedures:
  - Put drained fuel in an explosion-proof container and put the lid on securely. Keep the container in safe area.
  - Release fuel pressure from the fuel lines. Refer to [EC-551, "Work Procedure"](#).
  - Disconnect the battery cable from the negative terminal.
- Always replace O-ring and clamps with new ones.
- Never kink or twist tubes when they are being installed.
- Never tighten hose clamps excessively to avoid damaging hoses.
- After installing tubes, check there is no fuel leakage at connections in the following steps.
  - Apply fuel pressure to fuel lines with turning ignition switch “ON” (with engine stopped). Then check for fuel leakage at connections.
  - Start engine and rev it up and check for fuel leakage at connections.
- Use only a genuine NISSAN fuel filler cap as a replacement. If an incorrect fuel filler cap is used, the “MI” may come on.
- For servicing “EVAPORATIVE EMISSION SYSTEM” parts, refer to [EC-480, "EVAPORATIVE EMISSION SYSTEM : System Diagram"](#).

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# PREPARATION

< PREPARATION >

[MR16DDT ]

## PREPARATION

### PREPARATION

#### Special Service Tool

INFOID:000000006356435

Tool number Tool name	Description
KV991J0090 Lock ring wrench	Removing and Installing lock ring

LBIA0353E

#### Commercial Service Tools

INFOID:000000006356436

Tool name	Description
Power tool	Loosening bolts and nuts

PBIC0190E

## PERIODIC MAINTENANCE

### FUEL SYSTEM

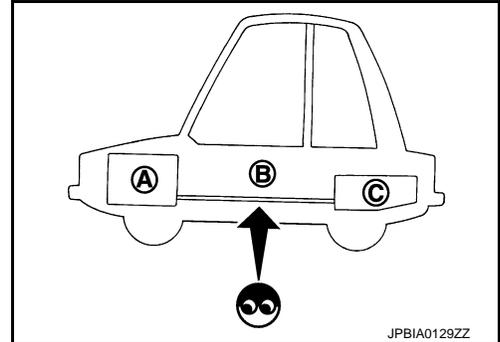
#### Inspection

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Inspect fuel lines, fuel filler cap, and fuel tank for improper attachment, leakage, cracks, damage, loose connections, chafing or deterioration.

- A : Engine
- B : Fuel line
- C : Fuel tank

If necessary, repair or replace damaged parts.



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#### Quick Connector

##### **CAUTION:**

- After connecting fuel tube quick connectors, check quick connectors are secure.
- Ensure that connector and resin tube never contact any adjacent parts.

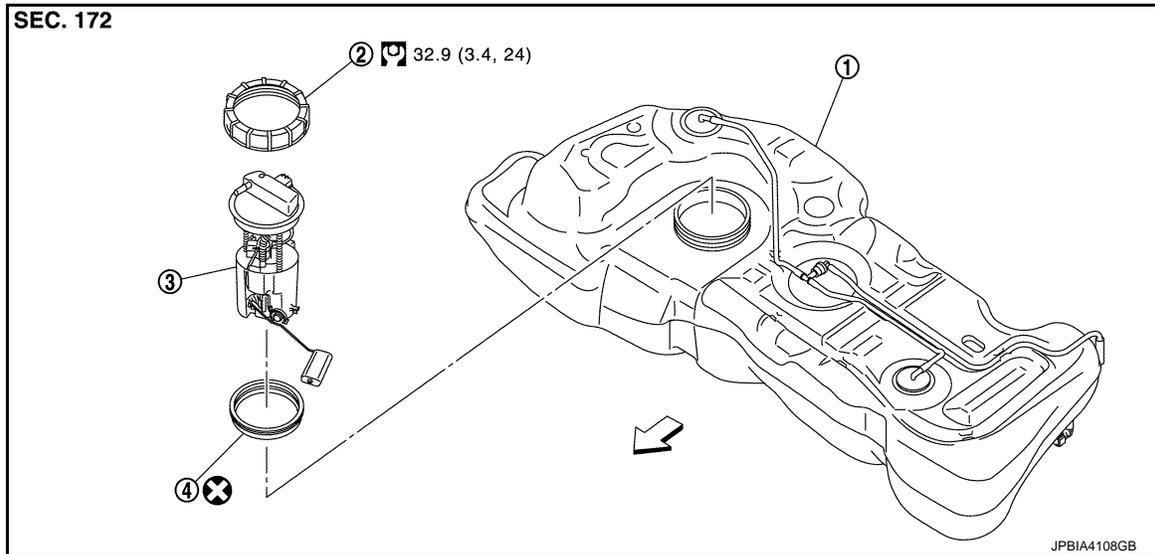
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# REMOVAL AND INSTALLATION

## FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY 2WD

2WD : Exploded View

INFOID:000000006356439



- 1. Fuel tank
- 2. Lock ring
- 3. Fuel level sensor unit, fuel filter and fuel pump assembly

- 4. Rock ring
- ↔ Vehicle front

: N·m (kg·m, ft·lb)

: Always replace after every disassembly.

2WD : Removal and Installation

INFOID:000000006356440

**WARNING:**

Read “General Precautions” when working on the fuel system. Refer to [FL-3, "General Precautions"](#).

REMOVAL

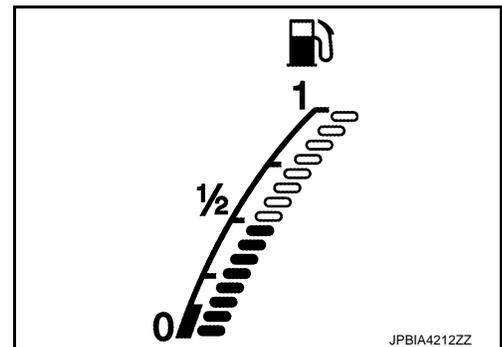
1. Release the fuel pressure from the fuel lines. Refer to [EC-551, "Work Procedure"](#).

2. Check fuel level on fuel gauge. If fuel gauge indicates more than the level as shown in the figure (full or almost full), drain fuel from fuel tank until fuel gauge indicates level as shown in the figure or below.

**NOTE:**

Because fuel will be spilled when removing fuel level sensor units for the top of the fuel is above the fuel level sensor units installation surface.

- As a guide, fuel level becomes the position as shown in the figure or below when approximately 25 ℓ (6-5/8 US gal, 5-1/4 Imp gal) of fuel are drained from fuel tank.
- In a case that fuel pump does not operate, perform the following procedure.



- a. Insert hose of less than 25 mm (0.98 in) in diameter into fuel filler tube through fuel filler opening to draw fuel from fuel filler tube.
- b. Disconnect fuel filler hose from fuel filler tube. Refer to [FL-18, "2WD : Exploded View"](#).

# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

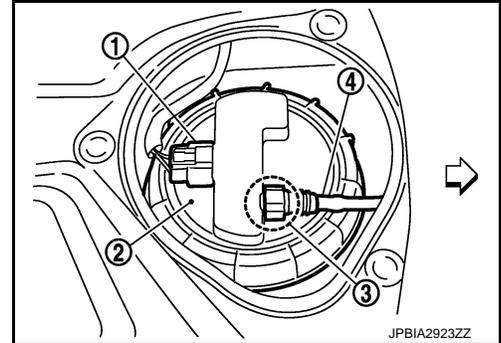
## < REMOVAL AND INSTALLATION >

[MR16DDT ]

- c. Insert hose into fuel tank through fuel filler hose to draw fuel from fuel tank.
3. Open fuel filler lid.
4. Open filler cap and release the pressure inside fuel tank.
5. Remove rear seat. Refer to [SE-32, "Exploded View"](#).
6. Remove inspection hole cover.
  - Using a screwdriver, remove it by turning clips clockwise by 90 degrees.
7. Disconnect harness connector (1), fuel feed hose (4) and quick connector (3).

2 : Fuel level sensor unit, fuel filter and fuel pump assembly

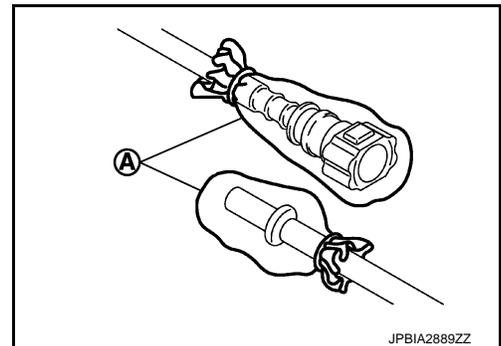
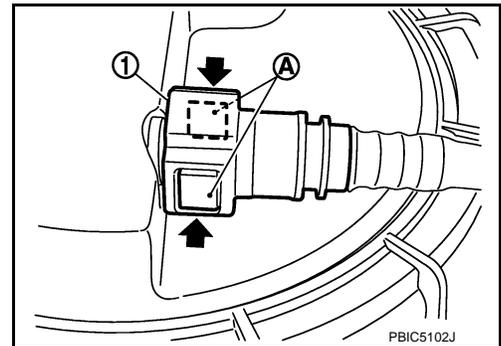
↔ : Vehicle front



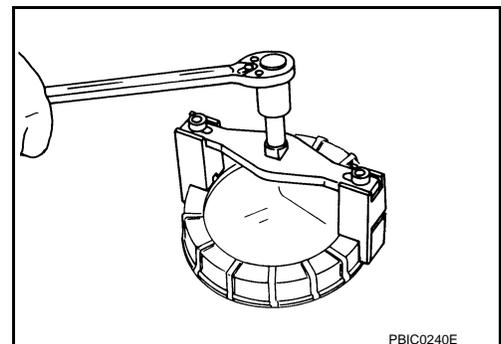
- Remove quick connector in the following procedures.
- Pinch quick connector square-part (A) with your fingers, and pull out the quick connector (1) by hand.
- If quick connector and tube on sender unit are stuck, push and pull several times until they move, and pull out.

### CAUTION:

- **Quick connector can be removed when the tabs are completely depressed. Never twist it more than necessary.**
- **Never use any tools to disconnected quick connector.**
- **Keep resin tube away from heat. Be especially careful when welding near the resin tube.**
- **Prevent acid liquid such as battery electrolyte, etc. from getting on resin tube.**
- **Never bend or twist resin tube during installation and disconnection.**
- **To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.**
- **Never insert plug, preventing damage on O-ring in quick connector.**



8. Remove lock ring for fuel level sensor unit, fuel filter and fuel pump assembly with fuel tank lock ring wrench [SST: KV99104700] (A) by turning counterclockwise.



# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

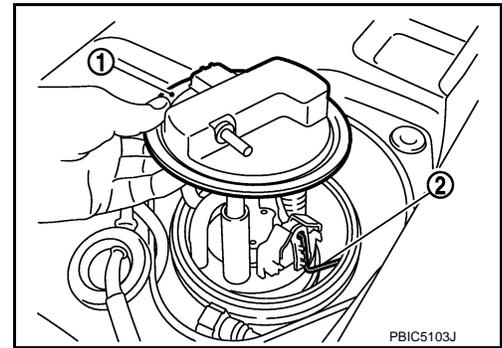
< REMOVAL AND INSTALLATION >

[MR16DDT ]

9. Remove fuel level sensor unit, fuel filter and fuel pump assembly (1).

**CAUTION:**

- Never bend float arm (2) during removal.
- Never pollute the inside by residue fuel. Draw out avoiding inclination by supporting with a cloth.
- Never cause impacts such by dropping when handling components.

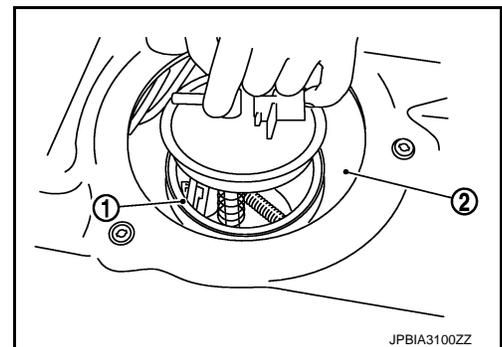


## INSTALLATION

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

### Fuel Level Sensor Unit

1. Temporarily install the O-ring to the fuel level sensor unit.
2. Insert the fuel level sensor unit to the fuel tank, and then install the temporarily installed O-ring (Step 1) to the opening of the fuel tank.

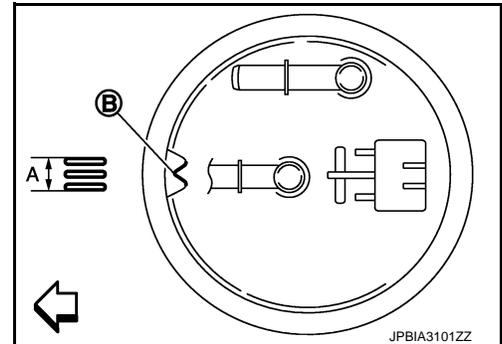


3. Install fuel level sensor unit to fuel tank with alignment mark (B) on the upper surface facing the tree inscribed lines (A) on the tank side.

← : Vehicle front

**CAUTION:**

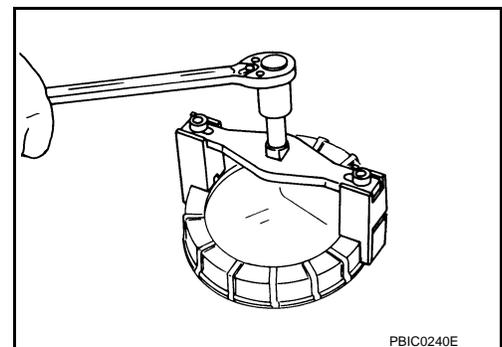
- Never allow O-ring to drop.
- Never bend float arm during installing.



4. Install lock ring for fuel level sensor unit, fuel filter and fuel pump assembly with lock ring wrench [SST: KV993G0010 or KV99104700] by turning clockwise.

**CAUTION:**

**Install lock ring horizontally.**



### Quick Connector

Connect quick connector as follows:

1. Check the connection for damage or any foreign materials.
2. Align the connector with the tube, then insert the connector straight into the tube until a click sound is heard.
3. After connecting, check that the connection is secure by following method.

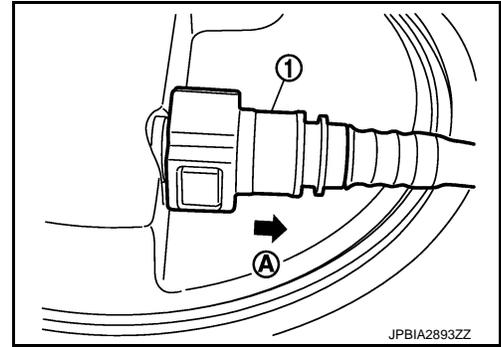
# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

## < REMOVAL AND INSTALLATION >

[MR16DDT ]

- Visually confirm that the two tabs are connected to the connector.
- Pull (A) the tube and the connector to check they are securely connected.

1 : Quick connector

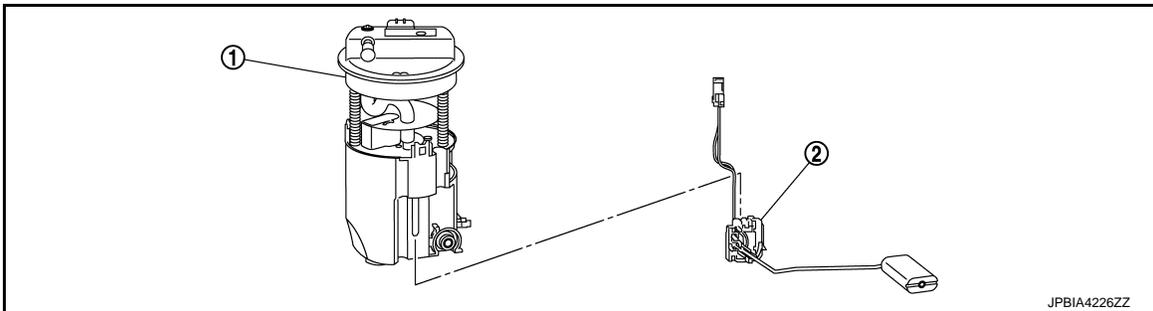


## 2WD : Disassembly and Assembly

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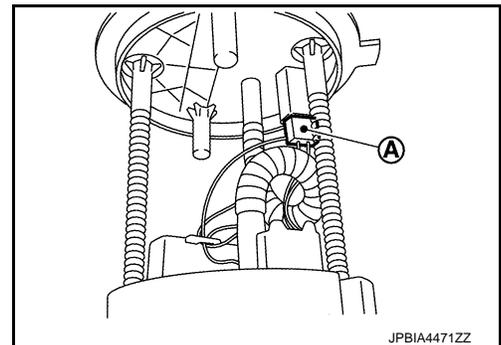
### Unit Disassembly and Assembly

#### Disassembly

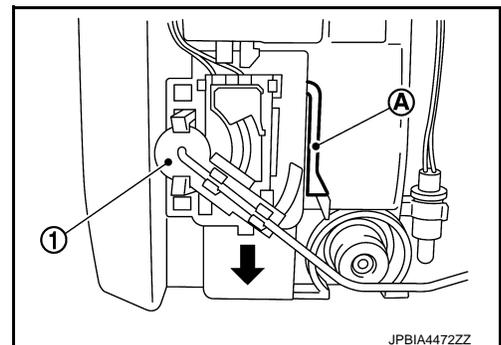


1. Fuel level sensor unit, fuel filter and fuel pump assembly
2. Fuel gauge

1. Disconnect harness connector(A).



2. Press (A) with a flat-blade screwdriver or an equivalent to release lock and push out the fuel gauge(1).

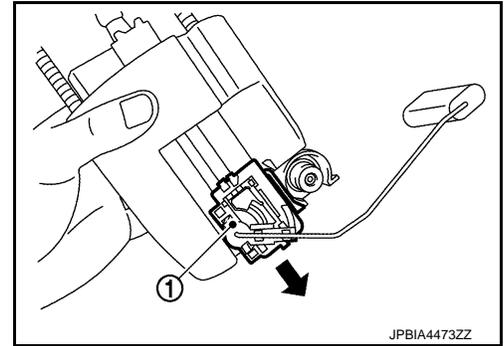


# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[MR16DDT ]

3. To remove the fuel gauge(1), slide it in the direction (A) of the arrow with the lock release.



Assembly

## CAUTION:

**Sub fuel level sensor unit cannot be disassembled and should be replaced as a unit.**

1. Check for damage of fuel level sensor unit installation position on the side of fuel filter and pump assembly.
2. Slide fuel level sensor unit until it aligns to installation groove, then insert it until stops.
  - After inserting, apply force in reverse direction (removal direction) to ensure it cannot be pulled out.
3. Connect harness connector.

2WD : Inspection

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## INSPECTION AFTER INSTALLATION

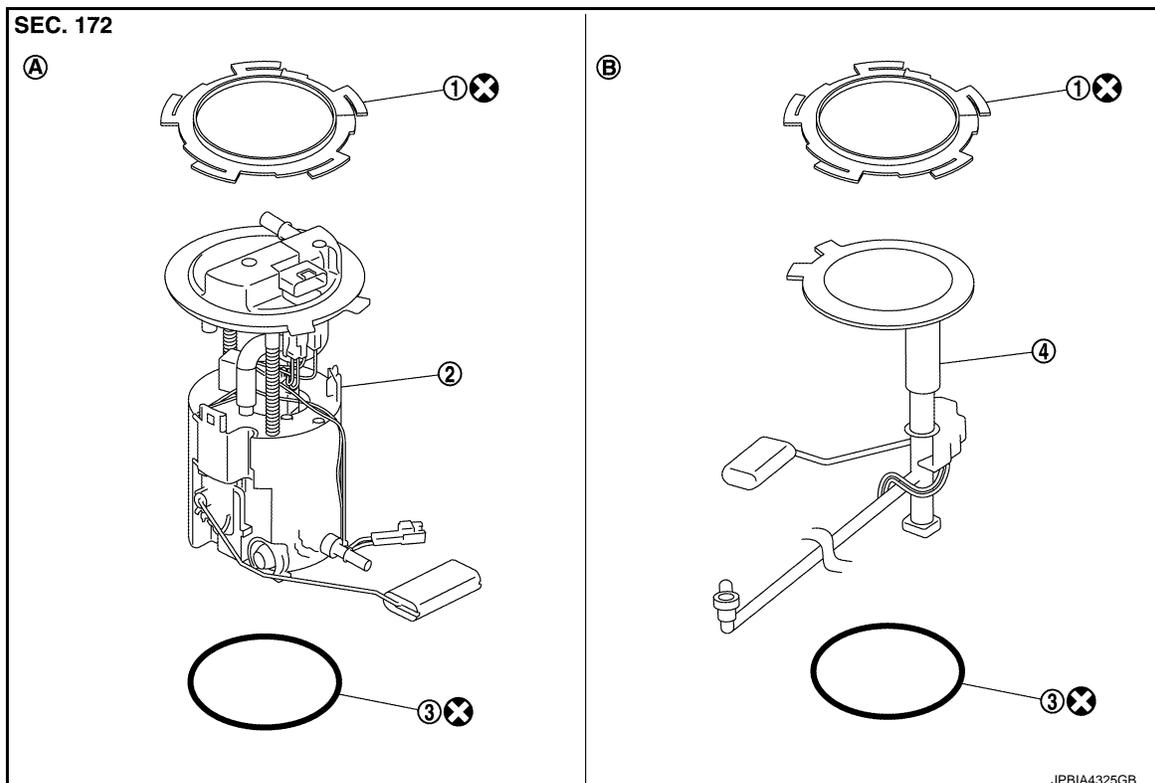
Use the following procedure to check for fuel leakage.

1. Turn ignition switch "ON" (with engine stopped), then check connections for leakage by applying fuel pressure to fuel piping.
2. Start engine and let it idle and check there are no fuel leakage at the fuel system connections.

4WD

4WD : Exploded View

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# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[MR16DDT ]

- |                                   |   |           |
|-----------------------------------|---|-----------|
| 1. Lock ring                      | 2. Fuel level sensor unit, fuel filter and fuel pump assembly | 3. O-ring |
| 4. Sub fuel level sensor assembly |   |           |
| A. Right side                     | B. Left side  |           |

⊗ : Always replace after every disassembly.

**CAUTION:**

Never remove or disassemble parts unless instructed as shown in the figure.

4WD : Removal and Installation

INFOID:000000006356562

REMOVAL

Fuel Level Sensor Unit, Fuel Filter and Fuel Pump Assembly

**WARNING:**

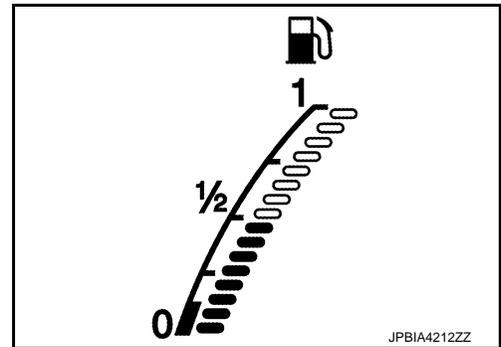
Be sure to read "General Precautions" before working on the fuel system. Refer to [FL-3. "General Precautions"](#).

1. Release the fuel pressure from the fuel lines. Refer to XX-XX, "\*\*\*\*\*".
2. Check fuel level on fuel gauge. If fuel gauge indicates more than the level as shown in the figure (full or almost full), drain fuel from fuel tank until fuel gauge indicates level as shown in the figure or below.

**NOTE:**

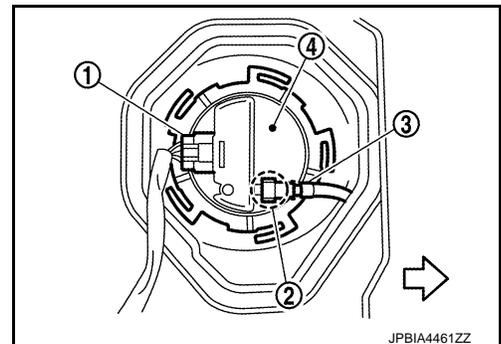
Because fuel will be spilled when removing fuel level sensor units for the top of the fuel is above the fuel level sensor units installation surface.

- As a guide, fuel level becomes the position as shown in the figure or below when approximately 25 ℓ (6-5/8 US gal, 5-1/4 Imp gal) of fuel are drained from fuel tank.
- In a case that fuel pump does not operate, perform the following procedure.



- a. Insert hose of less than 25 mm (0.98 in) in diameter into fuel filler tube through fuel filler opening to draw fuel from fuel filler tube.
  - b. Disconnect fuel filler hose from fuel filler tube. Refer to XX-XX, "\*\*\*\*\*".
  - c. Insert hose into fuel tank through fuel filler hose to draw fuel from fuel tank.
3. Open fuel filler lid.
  4. Open filler cap and release the pressure inside fuel tank.
  5. Remove rear seat cushion. Refer to [SE-41. "Exploded View"](#).
  6. Remove inspection hole cover.
  7. Disconnect harness connector (1) and quick connector (2).

- 3 : Fuel feed hose
- 4 : Fuel level sensor unit, fuel filter and fuel pump.
- ↔ : Vehicle front



- Remove quick connector in the following procedures.

# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

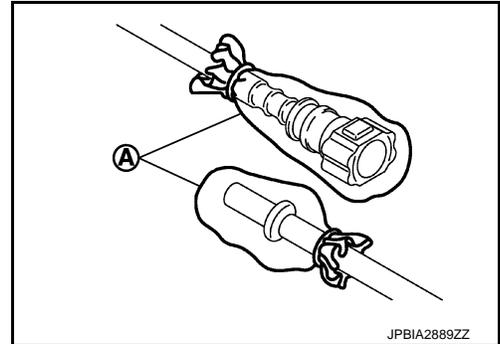
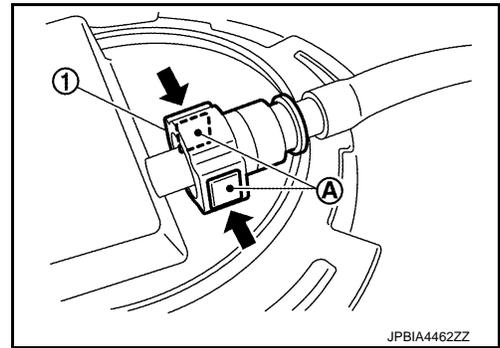
## < REMOVAL AND INSTALLATION >

[MR16DDT ]

- Pinch quick connector square-part (A) with your fingers, and pull out the quick connector (1) by hand.
- If quick connector and tube on sender unit are stuck, push and pull several times until they move, and pull out.

### CAUTION:

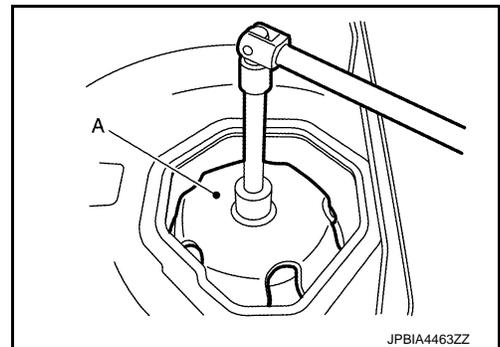
- Quick connector can be removed when the tabs are completely depressed. Never twist it more than necessary.
- Never use any tools to disconnected quick connector.
- Keep resin tube away from heat. Be especially careful when welding near the resin tube.
- Prevent acid liquid such as battery electrolyte, etc. from getting on resin tube.
- Never bend or twist resin tube during installation and disconnection.
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.
- Never insert plug, preventing damage on O-ring in quick connector.



8. Using lock ring wrench (A) (commercial service tool), remove lock ring.

### NOTE:

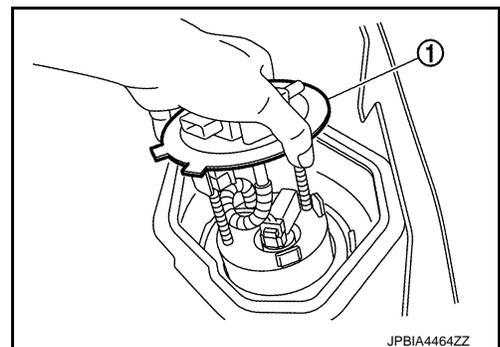
For reference when installing, put a matching mark on lock ring, fuel pump assembly and fuel tank.



9. Raise fuel level sensor unit, fuel filter and fuel pump assembly (1).

### CAUTION:

- Never bend float arm during removal.
- Never pollute the inside by residue fuel. Draw out avoiding inclination by supporting with a cloth.
- Never cause impacts such as by dropping when handling components.



10. Separate fuel tube as per the following steps to remove fuel level sensor unit, fuel filter and fuel pump assembly.

# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

## < REMOVAL AND INSTALLATION >

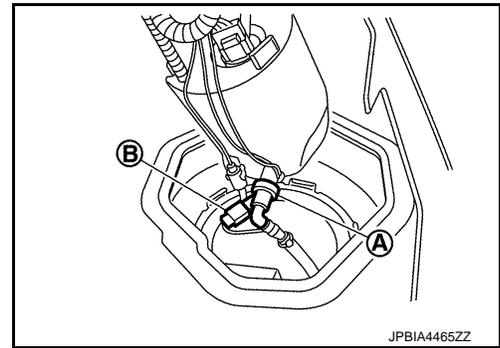
[MR16DDT ]

- Pinch quick connector (A) square-part with your fingers, and pull out the quick connector by hand.
- If quick connector and tube on sender unit are stuck, push several times until they move, and pull out.

### NOTE:

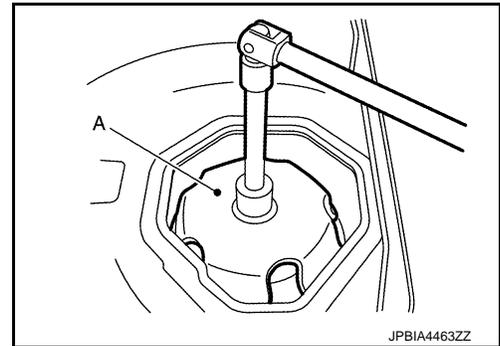
When separating the fuel tube, tie a gasoline-resistance rope to the tip of the fuel tube and leave the rope on the fuel tank side to easily pull the fuel tube for installation.

- Disconnect harness connector (B).



### Sub Fuel Level Sensor Assembly

1. Remove fuel level sensor unit, fuel filter and fuel pump assembly.
2. Use lock ring wrench (A) (commercial service tool) to remove lock ring.



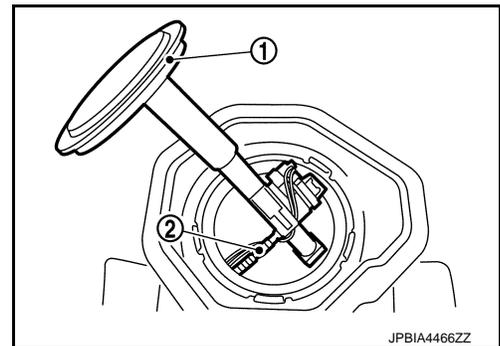
3. Remove sub fuel level sensor assembly (1).

### CAUTION:

- **Never disassemble a fuel tube (2) from sub fuel sensor assembly.**
- **Never bend float arm during removal.**
- **Never pollute the inside by residue fuel. Draw out avoiding inclination by supporting with a cloth.**
- **Never cause impacts such by dropping when handling components.**

### NOTE:

Tie a gasoline-resistance rope to a tip of the tube. Draw and leave the rope to the fuel tank side so that the rope can be the guide for installation.



## INSTALLATION

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

### Sub Fuel Level Sensor Assembly

1. Install O-ring to fuel tank without any twist.
2. Using the rope left on the fuel tank side at removal, run the fuel tube inside the fuel tank to install the sub fuel level sensor assembly to the fuel tank.

### CAUTION:

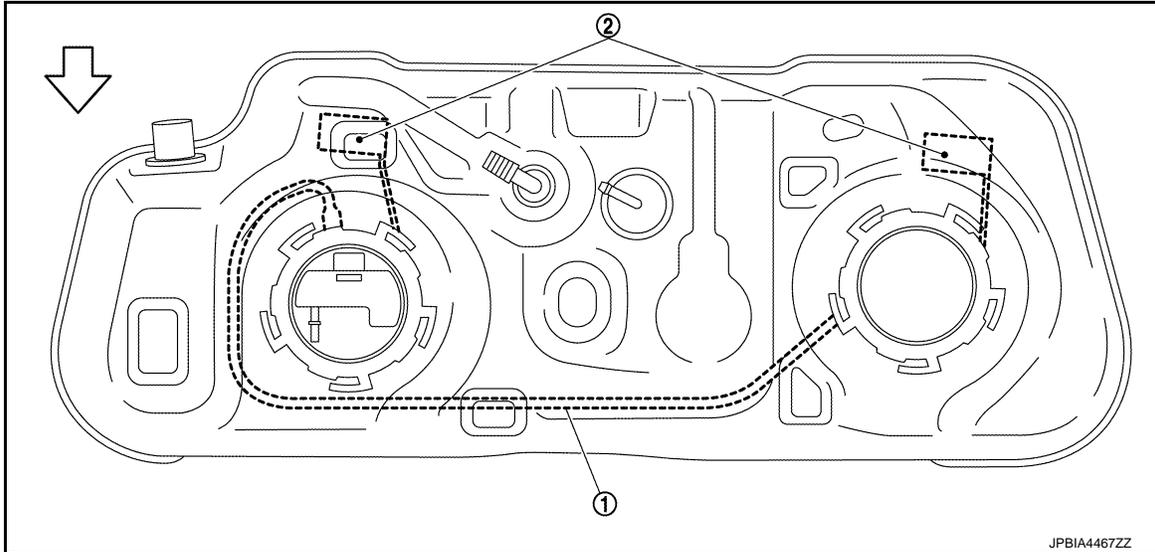
- **Never bend float arm during installation.**

# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[MR16DDT]

- To install, fuel tube (1) must run to the front (↔) of the vehicle to avoid the interference with the float arm (2), as shown in the figure.

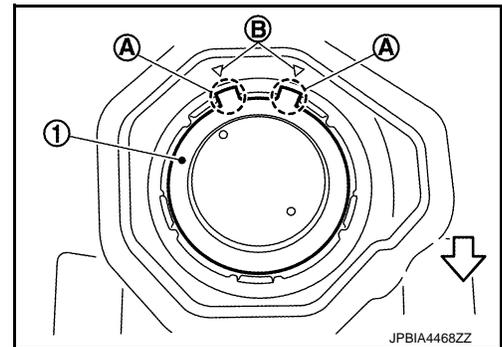


3. Install sub fuel level sensor assembly (1) with its matching mark (A) aligned with fuel tank matching mark (B) as shown in the figure.

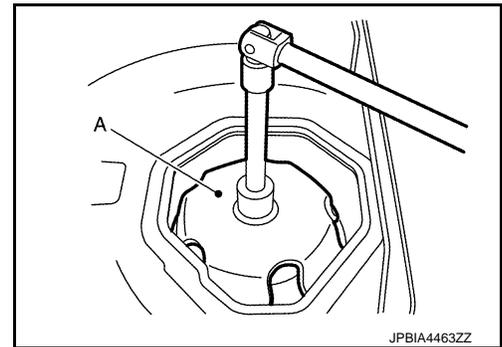
↔ : Vehicle front

### NOTE:

- Figure shows fuel level sensor unit, fuel filter and fuel pump assembly side of fuel tank.
- For sub fuel level sensor assembly matching mark is located on the fuel tank of the vehicle front side.

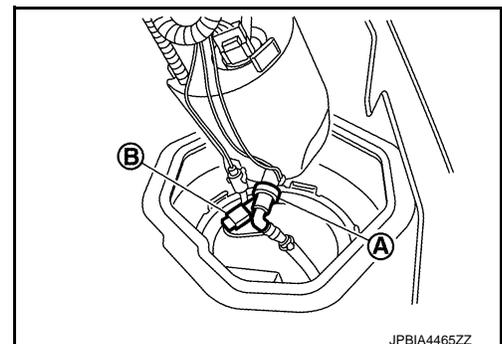


4. Use lock ring wrench (A) (commercial service tool) to remove lock ring as per the following steps.



### Fuel Level Sensor Unit, Fuel Filter and Fuel Pump Assembly

1. Temporarily install the O-ring to the fuel level sensor unit, fuel filter and fuel pump assembly.
2. Connect the fuel tube as per the following steps.
  - Insert the quick connector (A) straight to the fuel level sensor unit, fuel filter and fuel pump assembly.
  - Judge a good fit from connecting sound and tactile feedback.
  - Pull the fuel tube by hand to check a secure fit.
3. Connect harness connector (B).



# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

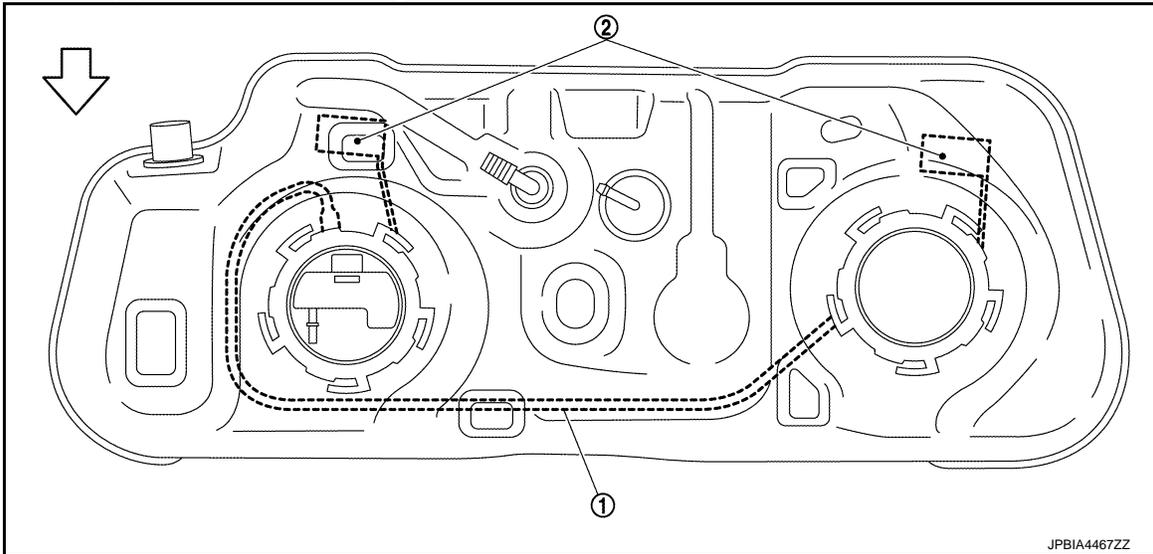
< REMOVAL AND INSTALLATION >

[MR16DDT ]

4. Insert the fuel level sensor unit, fuel filter and fuel pump assembly to the fuel tank.

**CAUTION:**

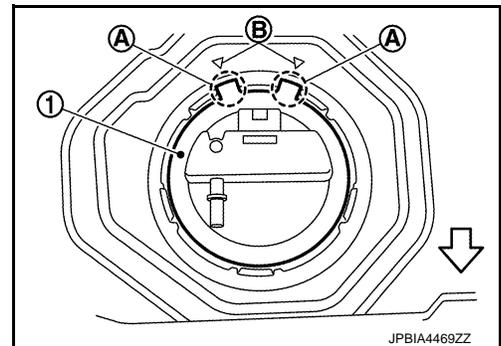
- Never bend float arm during installation.
- To install, fuel tube (1) must run to the front (↔) of the vehicle to avoid the interference with the float arm (2), as shown in the figure.



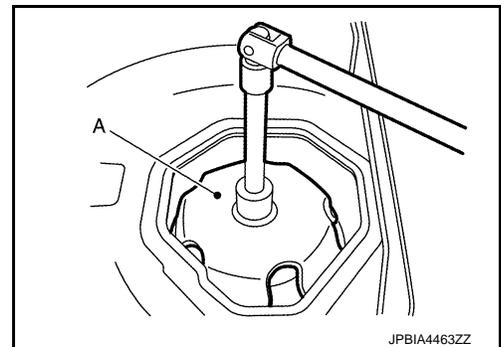
5. Install fuel level sensor unit, fuel filter and fuel pump assembly (1) with its matching mark (A) aligned with fuel tank matching mark (B) as shown in the figure.

**NOTE:**

↔ : Vehicle front



6. Use lock ring wrench (A) (commercial service tool) to remove lock ring as per the following steps.



7. Connect quick connector of fuel feed tube as per following procedures.
- a. Check the connection for damage or any foreign materials.
  - b. Align the connector with the tube, then insert the connector straight into the tube until a “click” sound is heard.
  - c. After connecting, check that the connection is secured with following procedures.
    - Visually confirm that the two tabs are connected to the connector.

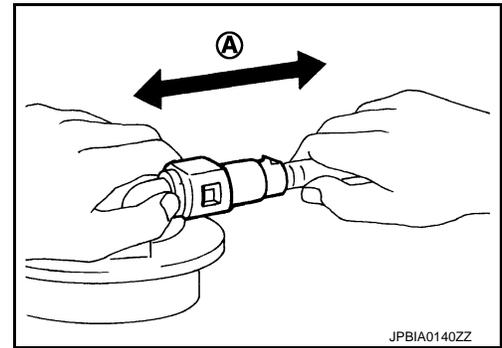
# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

## < REMOVAL AND INSTALLATION >

[MR16DDT ]

- Pull (A) the tube and the connector to check that they are securely connected.

8. Connect harness connector.



### Inspection Hole Cover

- Before installing inspection hole cover, check that the connecting part has no fuel leakage. Refer to [FL-10](#), "[2WD : Inspection](#)".

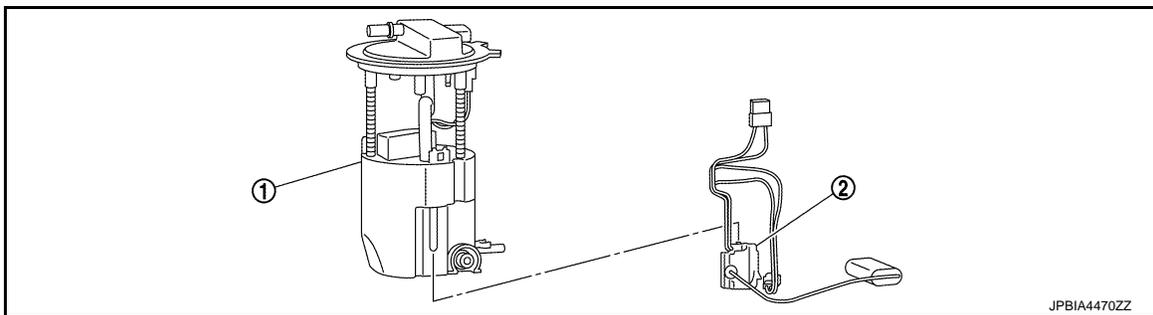
1. Install inspection hole covers with the front mark (arrow) facing front of vehicle.

## 4WD : Disassembly and Assembly

INFOID:000000006707467

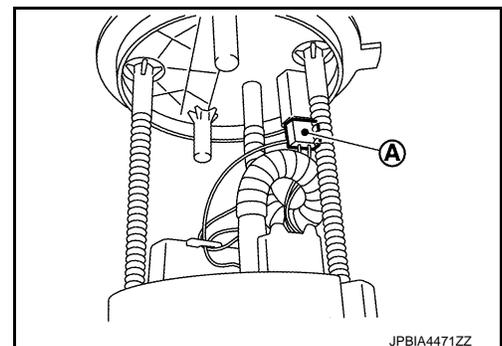
### Unit Disassembly and Assembly

#### Disassembly

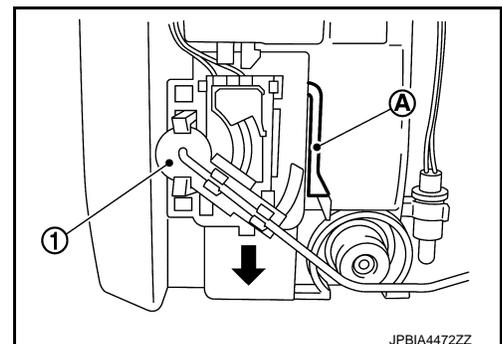


1. Fuel level sensor unit, fuel filter and fuel pump assembly
2. Fuel gauge

1. Disconnect harness connector(A).



2. Press (A) with a flat-blade screwdriver or an equivalent to release lock and push out the fuel gauge(1).

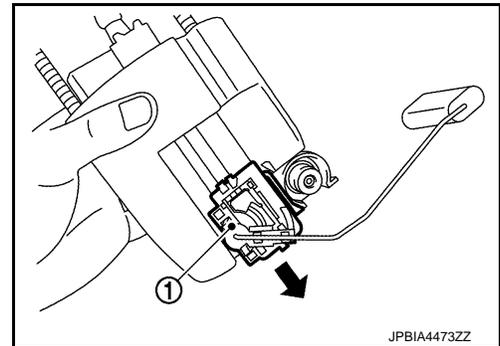


# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[MR16DDT ]

3. To remove the fuel gauge(1), slide it in the direction (A) of the arrow with the lock release.



Assembly

## CAUTION:

**Sub fuel level sensor unit cannot be disassembled and should be replaced as a unit.**

1. Check for damage of fuel level sensor unit installation position on the side of fuel filter and pump assembly.
2. Slide fuel level sensor unit until it aligns to installation groove, then insert it until stops.
  - After inserting, apply force in reverse direction (removal direction) to ensure it cannot be pulled out.
3. Connect harness connector.

4WD : Inspection

INFOID:000000006356448

## INSPECTION AFTER INSTALLATION

Use the following procedure to check for fuel leakage.

1. Turn ignition switch "ON" (with engine stopped), then check connections for leakage by applying fuel pressure to fuel piping.
2. Start engine and let it idle and check there are no fuel leakage at the fuel system connections.

# FUEL TANK

< REMOVAL AND INSTALLATION >

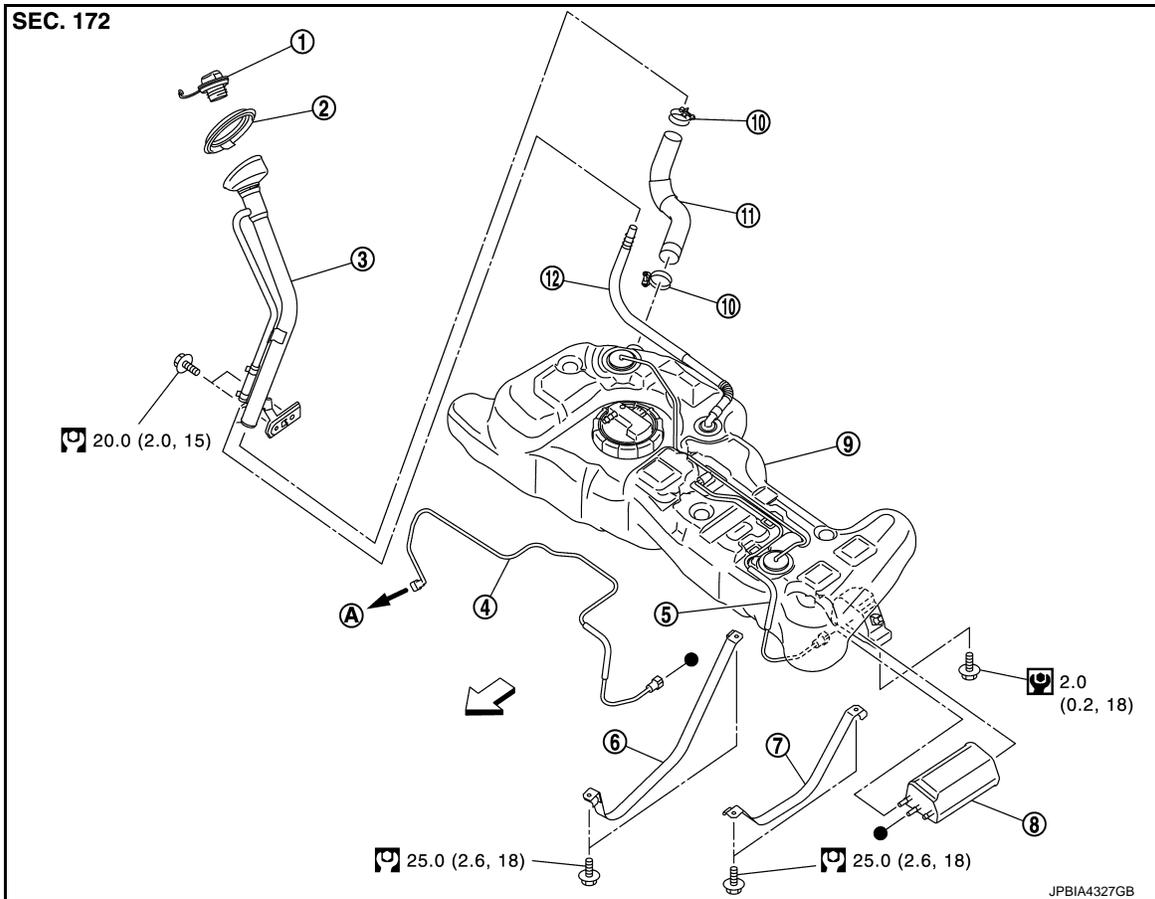
[MR16DDT]

## FUEL TANK

2WD

2WD : Exploded View

INFOID:000000006356442



- |                       |                                 |                                 |
|-----------------------|---------------------------------|---------------------------------|
| 1. Fuel filler cap    | 2. Grommet                      | 3. Fuel filler tube             |
| 4. EVAP canister hose | 5. Fuel tank mounting band (RH) | 6. Fuel tank mounting band (LH) |
| 7. Fuel tank          | 8. Clamp                        | 9. Fuel filler hose             |
| 10. Vent hose         |                                 |                                 |
- ⇐ Vehicle front

: N·m (kg·m, ft·lb)

2WD : Removal and Installation

INFOID:000000006356443

### WARNING:

Be sure to read "General Precautions" when working on the fuel system. Refer to [FL-3, "General Precautions"](#).

### REMOVAL

1. Drain fuel from fuel tank if necessary. Refer to [FL-6, "2WD : Removal and Installation"](#).

### CAUTION:

- Because fuel tank forwardly inclines and becomes unstable when installing/removing, fuel should be drained if found the remaining quantity.
- Situate vehicle on a flat and solid surface.

2. Remove RH rear wheel.

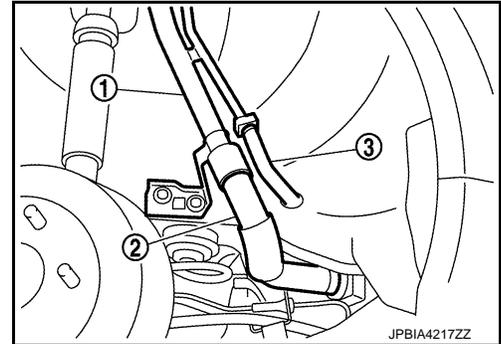
# FUEL TANK

[MR16DDT ]

## < REMOVAL AND INSTALLATION >

3. Perform steps 2 to 7 of "REMOVAL" in "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY" on fuel level sensor unit, fuel filter and fuel pump assembly. Refer to [FL-6, "2WD : Removal and Installation"](#).
4. Remove center muffler. Refer to [DLN-121, "Exploded View"](#).
5. Remove insulator on vehicle side located above center and main mufflers.
6. Move parking brake cable from the lower face of fuel tank. Then remove clips for parking brake cable.
7. Remove brake tube protector.
8. Disconnect fuel filler hose at fuel tank side.

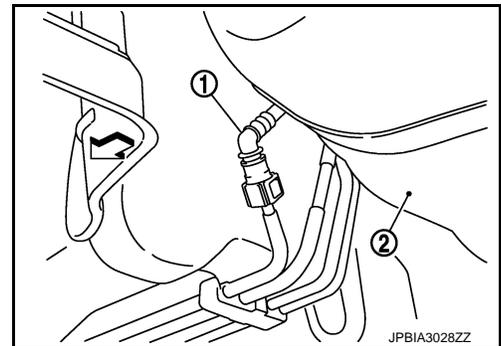
- 1 : Filler tube
- 2 : Vent hose
- 3 : Filler hose



9. Remove vent hose at RH rear wheel well side

10. Remove EVAP hose (1) at front side of fuel tank (2).

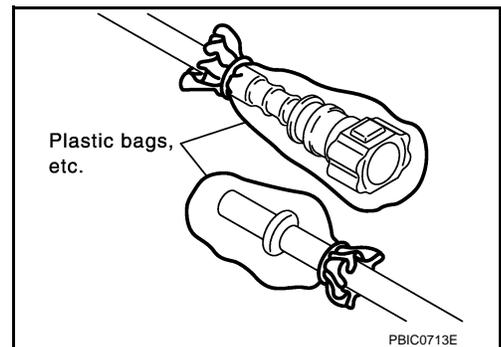
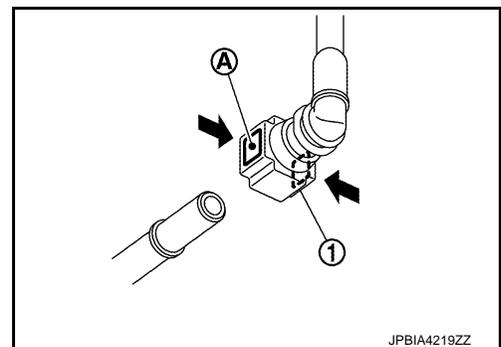
↔ : Vehicle front



- Remove quick connector in the following procedures.
- Pinch quick connector square-part (A) with your fingers, and pull out the quick connector (1) by hand.
- If quick connector and tube on vehicle are stuck, push and pull several times until they move, and pull out.

### CAUTION:

- The tube can be removed when the tabs are completely depressed. Never twist it more than necessary.
- Never use any tools to disconnect quick connector.
- Keep the resin tube away from heat. Be especially careful when welding near the tube.
- Prevent acid liquid such as battery electrolyte, etc. from getting on the resin tube.
- Never bend or twist resin tube during installation and disconnection.
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags or something similar.
- Never insert plug, preventing damage on O-ring in quick connector.



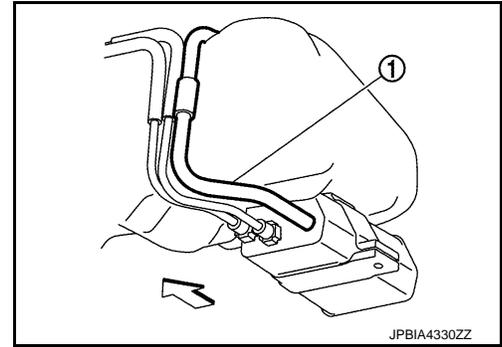
# FUEL TANK

## < REMOVAL AND INSTALLATION >

[MR16DDT ]

11. Remove EVAP hose (1) in the back for fuel tank side.

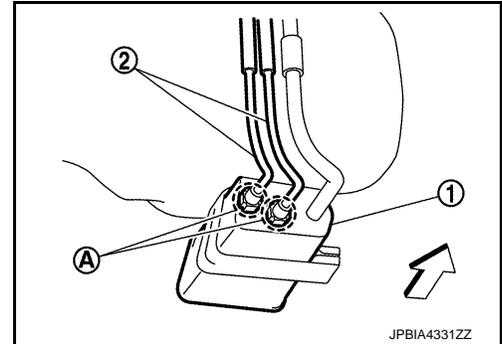
↔ : Vehicle front



12. If necessary, remove mounting screw and quick connectors and slide the EVAP canister rearward to remove it from the fuel tank.

13. Disconnect EVAP hose and vent tube at the position shown in the figure.

- Instruction for quick connector of EVAP hose and vent tube, refer to the following:

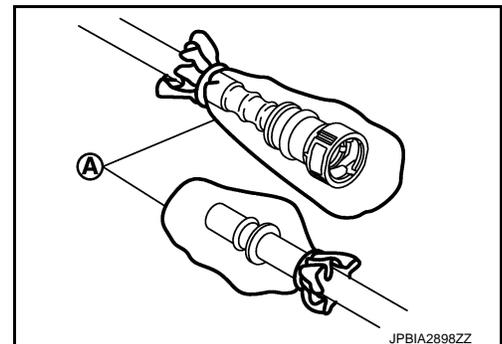
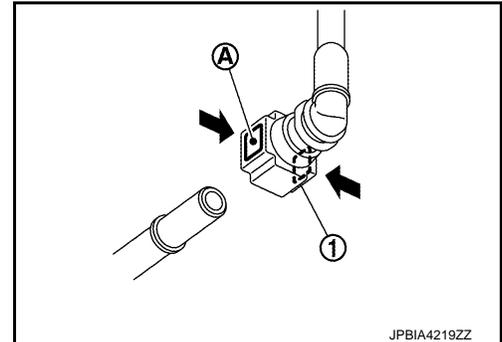


### Vent tube

- Remove quick connector in the following procedures.
- Pinch quick connector square-part (A) with your fingers, and pull out the quick connector (1) by hand.
- If quick connector and tube on vehicle are stuck, push and pull several times until they move, and pull out.

### CAUTION:

- The tube can be removed when the tabs are completely depressed. Never twist it more than necessary.
- Never use any tools to disconnect quick connector.
- Keep the resin tube away from heat. Be especially careful when welding near the tube.
- Prevent acid liquid such as battery electrolyte, etc. from getting on the resin tube.
- Never bend or twist resin tube during installation and disconnection.
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.
- Never insert plug, preventing damage on O-ring in quick connector.



# FUEL TANK

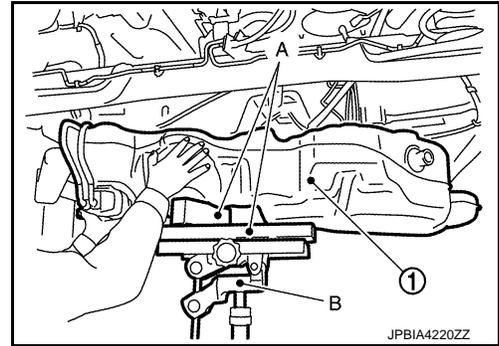
## < REMOVAL AND INSTALLATION >

[MR16DDT ]

- Support the center part of fuel tank (1) with transmission jack (B).

**CAUTION:**

Securely support the fuel tank with a piece of wood (A).



- Remove fuel tank mounting bands (RH and LH).
- Lower transmission jack carefully to remove fuel tank while holding it by hand.

**CAUTION:**

Fuel tank may be in an unstable condition because of the shape of fuel tank bottom. Never rely on jack too much. Be sure to hold tank securely.

## INSTALLATION

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

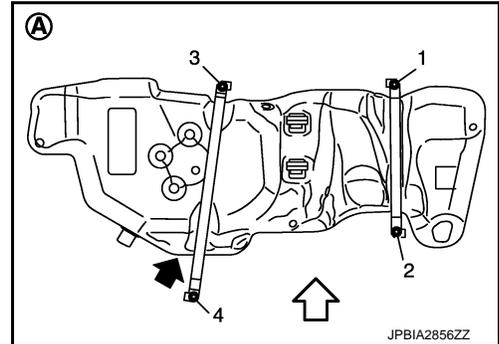
### Fuel Tank

- Temporarily tighten bolts [except (2)] in numerical order as shown in the figure.

A : Under view

↔ : Vehicle front

- Tighten bolt (2) to specified torque, pressing fuel tank in the direction (↔) shown in the figure.
- Tighten bolts [except (2)] to specified torque in the reverse order as shown in the figure.



### Fuel Filler Hose

- Surely clamp fuel hose insert fuel filler hose to the length below.

**Fuel filler hose : 35 mm (1.38 in)**

**The other hose : 25 mm (0.98 in)**

- Be sure hose clamp is not placed on swelled area of fuel filler tube.
- Install fuel filler hose to fuel tank, paying attention to install mark. Marking faces downward.
- Tighten fuel filler hose clamp so that the remaining length of screw thread becomes to the following.

**Fuel filler tube side : 8 - 12 mm (0.28 - 0.43 in)**

**Fuel tank side : 5 - 9 mm (0.25 - 0.35 in)**

### EVAP Hose and Vent Tube

- Check connections for damage or foreign material.
- Align the matching side connection part with the center of shaft, and insert connector straight until it clicks.

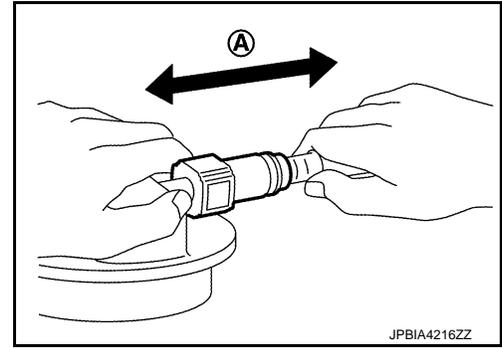
# FUEL TANK

## < REMOVAL AND INSTALLATION >

[MR16DDT ]

- After connecting, pull out quick connector and centralized under floor piping by hand. Check connections are secure.

A : Pull



## 2WD : Inspection

INFOID:000000006356444

### INSPECTION AFTER INSTALLATION

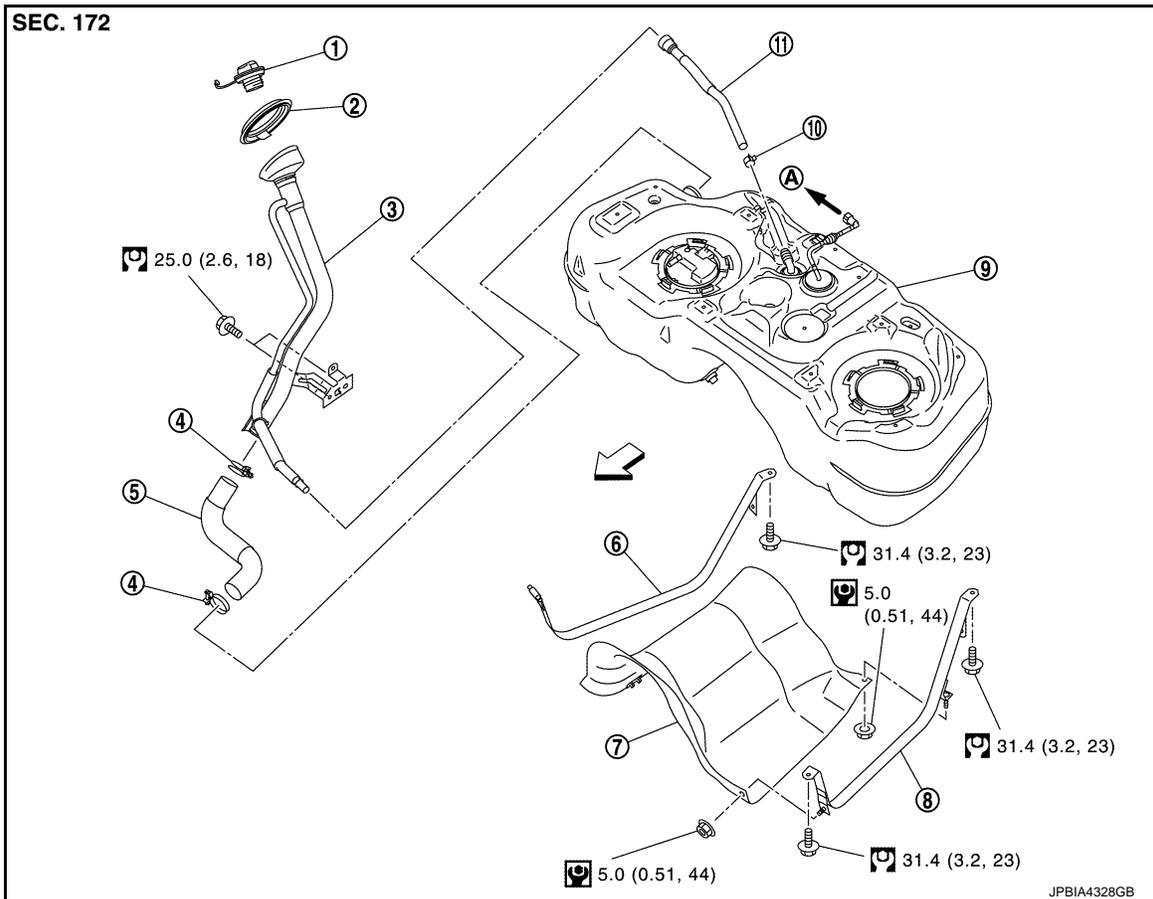
Use the following procedure to check for fuel leakage.

- Turn ignition switch "ON" (with engine stopped), and check connections for leakage by applying fuel pressure to fuel piping.
- Start engine and rev it up and check there are no fuel leakage at the fuel system tube and hose connections.

## 4WD

## 4WD : Exploded View

INFOID:000000006356559



- |                    |                        |                        |
|--------------------|------------------------|------------------------|
| 1. Fuel filler cap | 2. Grommet             | 3. Fuel filler tube    |
| 4. Clamp           | 5. Fuel filler hose    | 6. Fuel tank band (RH) |
| 7. Protector       | 8. Fuel tank band (LH) | 9. Fuel tank           |

# FUEL TANK

[MR16DDT ]

## < REMOVAL AND INSTALLATION >

- 10. Clamp
- 11. Vent hose
- A. To EVAP canister
- ↶ Vehicle front
- : N·m (kg-m, ft-lb)
- : N·m (kg-m, in-lb)

### 4WD : Removal and Installation

INFOID:000000006356560

#### REMOVAL

##### **WARNING:**

Be sure to read “General Precautions” when working on the fuel system. Refer to [FL-3, "General Precautions"](#).

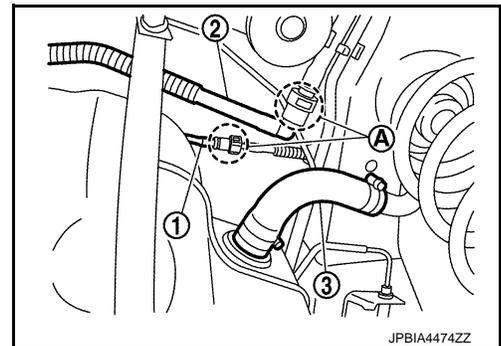
##### **CAUTION:**

- Because fuel tank forwardly inclines and becomes unstable when installing/removing, fuel should be drained if found the remaining quantity.
- Situate vehicle on a flat and solid surface.

1. Drain fuel from fuel tank if necessary.
2. Perform the steps 2 to 7 of “REMOVAL” in “ FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY”. Refer to [FL-11, "4WD : Removal and Installation"](#).
3. Remove center muffler.
4. Remove propeller shaft. Refer to [DLN-121, "Exploded View"](#).
5. Remove protector from fuel tank.
6. Remove fuel filler hose (3) at fuel tank side.

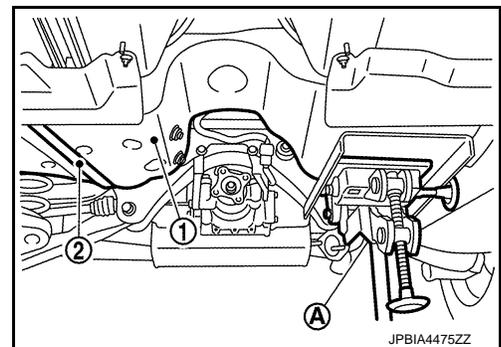
- 1 : Vent tube
- 2 : EVAP hose
- ↶: Vehicle front

7. Disconnect vent hose connector (1).
8. Disconnect vent tube and EVAP hose at rear side of fuel tank.
  - Instruction for quick connector (A) of EVAP tube and vent hose. Refer to [FL-11, "4WD : Removal and Installation"](#).



9. Remove parking brake cable mounting bolts. Refer to [PB-4, "Exploded View"](#).
10. Disconnect ABS harness connector from fuel tank mounting band.

11. Support left of fuel tank (1) with transmission jack (A), and then remove fuel tank band (RH) (2).

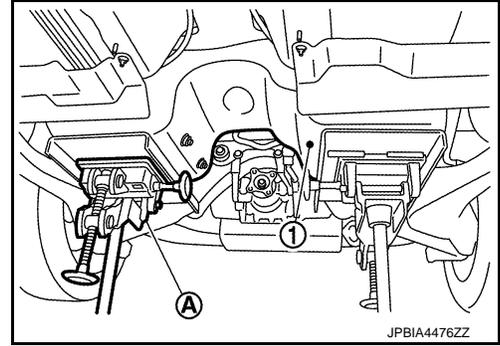


# FUEL TANK

[MR16DDT ]

## < REMOVAL AND INSTALLATION >

12. Support right of fuel tank(1) with transmission jack (A), and them remove fuel tank band mounting bolts (LH).



13. Supporting with hands, descend transmission jack carefully, and remove fuel tank.

**CAUTION:**

**Fuel tank may be in an unstable condition because of the shape of fuel tank bottom. Never rely on jack too much. Be sure to hold tank securely.**

## INSTALLATION

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

Fuel Filler Hose

- Insert fuel filler hose to the length below.

**: 35 mm (1.38 in)**

- Be sure hose clamp is not placed on swelled area of fuel filler tube.
- Tighten fuel filler hose clamp so that the remaining length of screw thread becomes to the following.

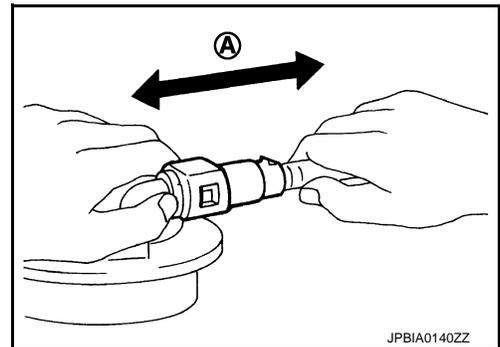
**Fuel filler tube side : 7 - 11 mm (0.28 - 0.43 in)**

**Fuel tank side : 5 - 9 mm (0.20 - 0.35 in)**

EVAP Hose

1. Check connections for damage or foreign material.
2. Align the matching side connection part with the center of shaft, and insert connector straight until it clicks.
3. After connecting, pull out quick connector and centralized under-floor piping by hand. Make sure connections are secure.

A : Pull



## 4WD : Inspection

INFOID:000000006356451

## INSPECTION AFTER INSTALLATION

Use the following procedure to check for fuel leakage.

1. Turn ignition switch "ON" (with engine stopped), and check connections for leakage by applying fuel pressure to fuel piping.
2. Start engine and rev it up and check there are no fuel leakage at the fuel system tube and hose connections.

# EVAP CANISTER

< REMOVAL AND INSTALLATION >

[MR16DDT ]

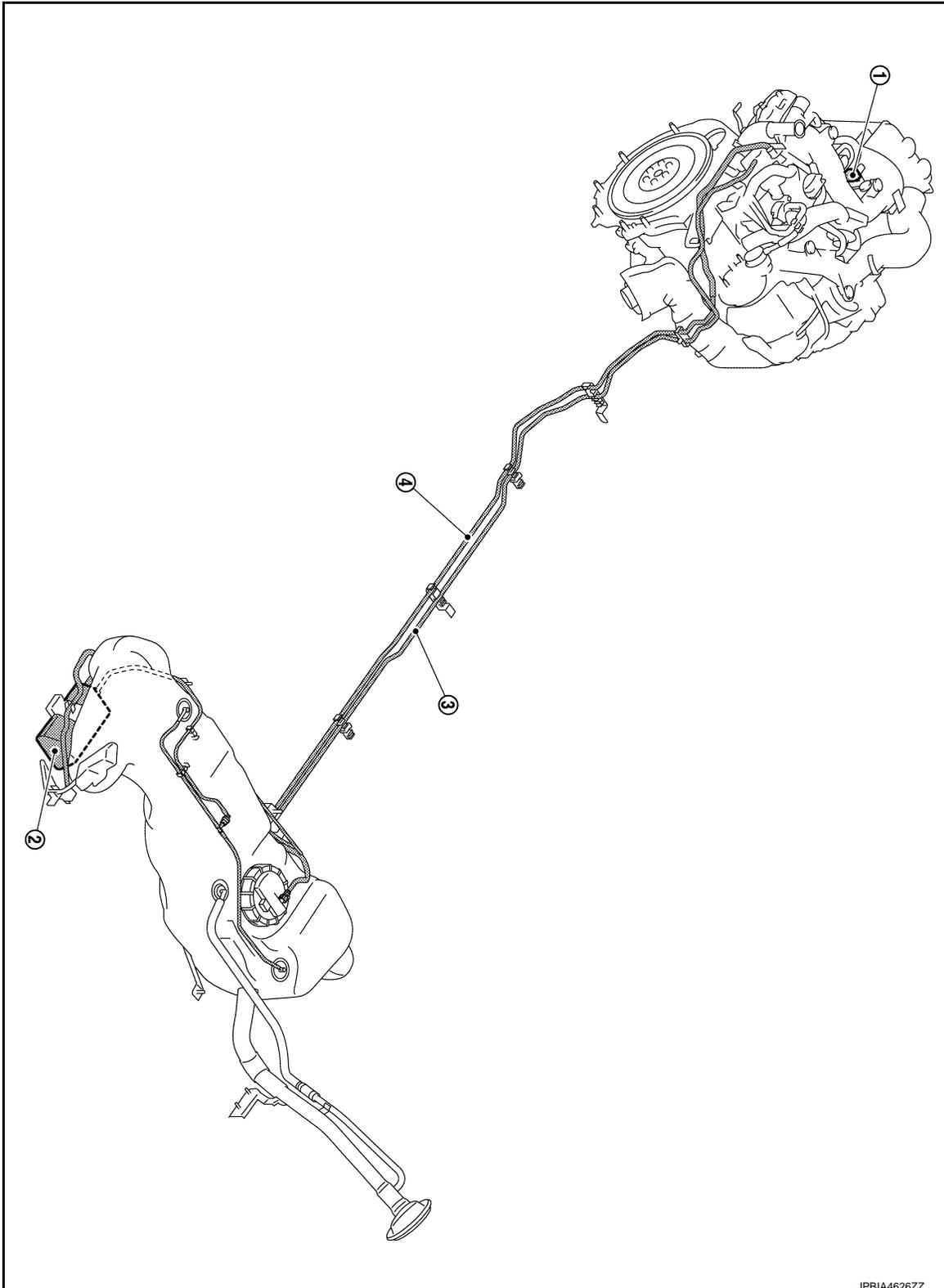
## EVAP CANISTER

2WD

2WD : Hydraulic Layout

INFOID:000000006357348

EVAPORATIVE EMISSION LINE DRAWING



JPBIA4626ZZ

A

FL

C

D

E

F

G

H

I

J

K

L

M

N

O

P

# EVAP CANISTER

< REMOVAL AND INSTALLATION >

[MR16DDT ]

1. EVAP canister purge volume control solenoid valve
2. EVAP canister
3. EAVP line
4. Fuel line

## NOTE:

Do not use soapy water or any type of solvent while installing vacuum hose or purge hoses.

## 2WD : Removal and Installation

INFOID:000000006357349

### REMOVAL

1. Disconnect EVAP canister hoses.
2. Remove EVAP canister fixing bolt.
3. Remove EVAP canister.

### INSTALLATION

Install in the reverse order of removal.

## NOTE:

Tighten EVAP canister fixing bolt to the specified torque.

## 4WD

## 4WD : Hydraulic Layout

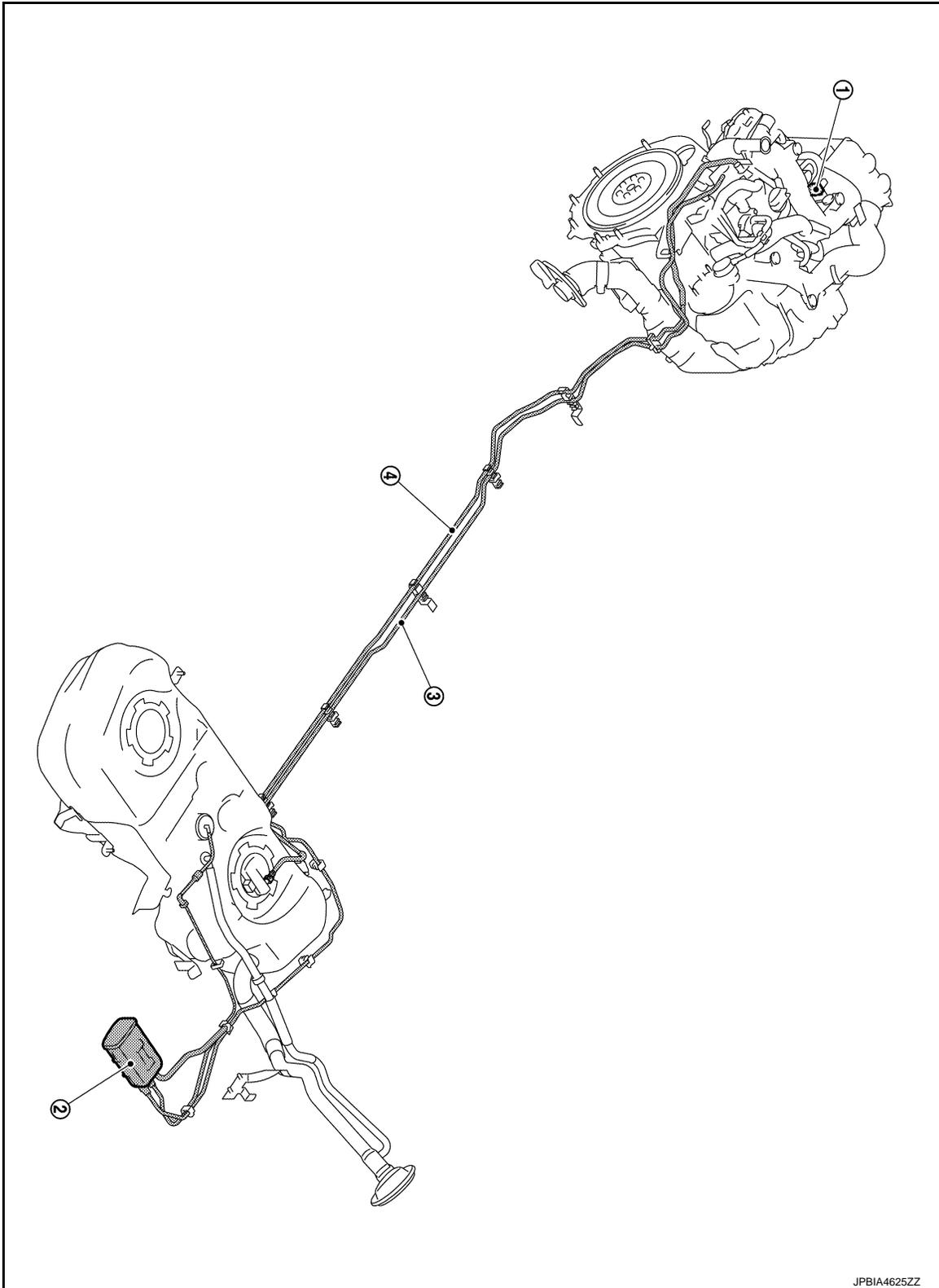
INFOID:000000006357343

## EVAPORATIVE EMISSION LINE DRAWING

# EVAP CANISTER

< REMOVAL AND INSTALLATION >

[MR16DDT ]



- 1. EVAP service port
- 4. Fuel line

- 2. EVAP canister

- 3. EVAP line

**NOTE:**

Do not use soapy water or any type of solvent while installing vacuum hose or purge hoses.

A  
FL  
C  
D  
E  
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# EVAP CANISTER

< REMOVAL AND INSTALLATION >

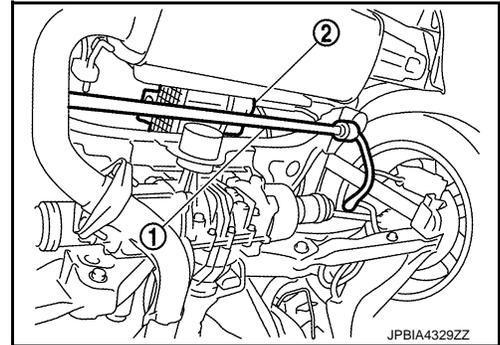
[MR16DDT ]

4WD : Removal and Installation

INFOID:000000006357344

## REMOVAL

1. Remove rear stabilizer (1). Refer to [RSU-34. "Exploded View"](#).
2. Disconnect EVAP canister hoses.
3. Remove EVAP canister fixing bolt.
4. Remove EVAP canister (2).



## INSTALLATION

Install in the reverse order of removal.

### NOTE:

Tighten EVAP canister fixing bolt to the specified torque.

# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[MR16DDT ]

## SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Fuel Tank

INFOID:000000006356445

A

FL

Standard and Limit

Fuel tank capacity	Approx. 52.0 ℓ (11-1/2 Imp gal)
Fuel recommendation	Refer to <a href="#">GI-35</a>

C

D

E

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## PRECAUTION

### PRECAUTIONS

#### General Precautions

INFOID:000000006500707

#### **WARNING:**

When replacing fuel line parts, be sure to observe the following.

- Put a “CAUTION: FLAMMABLE” sign in the workshop.
- Be sure to work in a well ventilated area and furnish workshop with a CO2 fire extinguisher.
- Never smoke while servicing fuel system. Keep open flames and sparks away from the work area.

#### **CAUTION:**

- Use gasoline required by the regulations for octane number. Refer to [GI-35, "Fuel"](#).
- Before removing fuel line parts, perform out the following procedures:
  - Put drained fuel in an explosion-proof container and put the lid on securely. Keep the container in safe area.
  - Release fuel pressure from the fuel lines. Refer to [EC-551, "Work Procedure"](#).
  - Disconnect the battery cable from the negative terminal.
- Always replace O-ring and clamps with new ones.
- Never kink or twist tubes when they are being installed.
- Never tighten hose clamps excessively to avoid damaging hoses.
- After installing tubes, check there is no fuel leakage at connections in the following steps.
  - Apply fuel pressure to fuel lines with turning ignition switch “ON” (with engine stopped). Then check for fuel leakage at connections.
  - Start engine and rev it up and check for fuel leakage at connections.
- Use only a genuine NISSAN fuel filler cap as a replacement. If an incorrect fuel filler cap is used, the “MI” may come on.
- For servicing “EVAPORATIVE EMISSION SYSTEM” parts, refer to [EC-480, "EVAPORATIVE EMISSION SYSTEM : System Diagram"](#).

# PREPARATION

< PREPARATION >

[HR16DE]

## PREPARATION

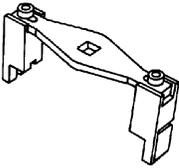
### PREPARATION

#### Special Service Tool

INFOID:000000006500708

A

FL

Tool number Tool name	Description
KV99104700 Lock ring wrench  ZZA0122D	Removing and Installing lock ring

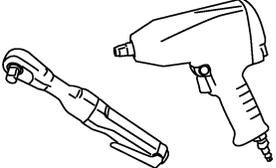
C

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E

#### Commercial Service Tools

INFOID:000000006500709

Tool name	Description
Power tool  PBIC0190E	Loosening bolts and nuts

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## PERIODIC MAINTENANCE

### FUEL SYSTEM

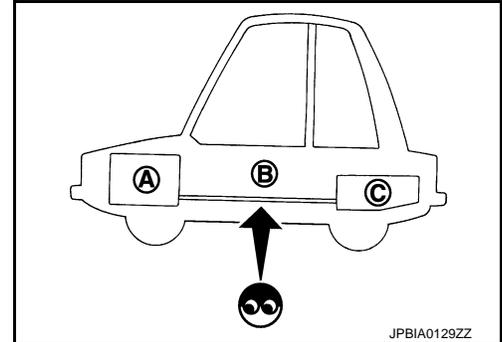
#### Inspection

INFOID:000000006500710

Inspect fuel lines, fuel filler cap, and fuel tank for improper attachment, leakage, cracks, damage, loose connections, chafing or deterioration.

- A : Engine
- B : Fuel line
- C : Fuel tank

If necessary, repair or replace damaged parts.



JPBIA0129ZZ

#### Quick Connector

INFOID:000000006500711

#### **CAUTION:**

- After connecting fuel tube quick connectors, check quick connectors are secure.
- Ensure that connector and resin tube never contact any adjacent parts.

# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

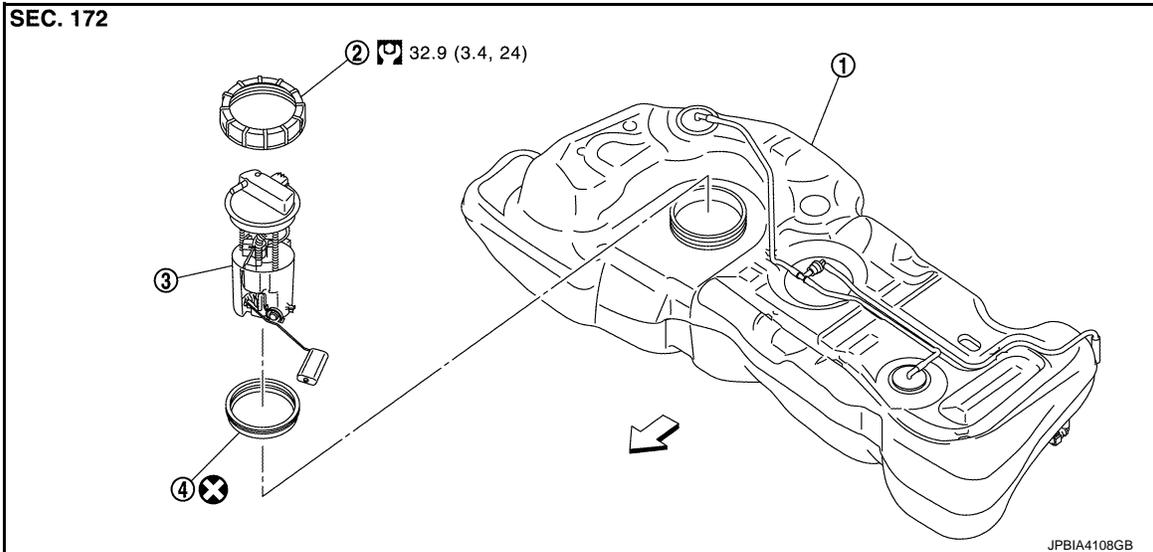
[HR16DE]

## REMOVAL AND INSTALLATION

### FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

Exploded View

INFOID:000000006500712



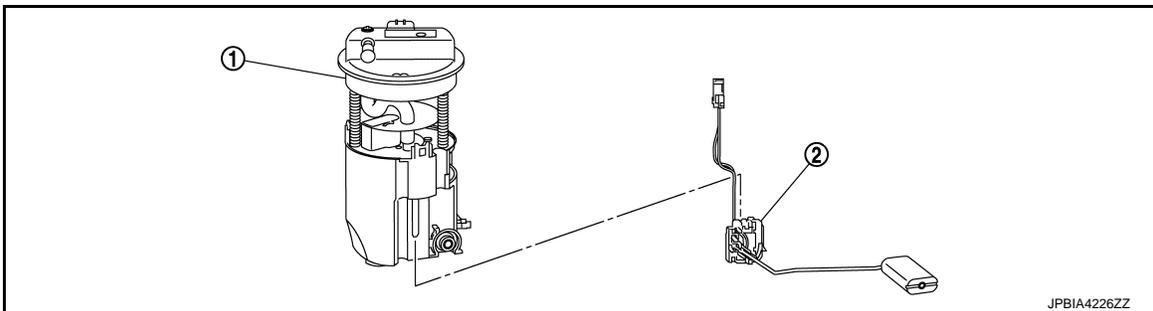
- 1. Fuel tank
- 2. Rock ring
- 3. Fuel level sensor unit, fuel filter and fuel pump assembly

4. O-ring

↔ : Vehicle front

⊗ : Always replace after every disassembly.

Ⓜ : N·m (kg-m, ft-lb)



- 1. Fuel filter and fuel pump assembly
- 2. Fuel gauge

### Removal and Installation

INFOID:000000006500713

#### WARNING:

Read "General Precautions" when working on the fuel system. Refer to [FL-30, "General Precautions"](#).

#### REMOVAL

- 1. Release the fuel pressure from the fuel lines. Refer to [EC-551, "Work Procedure"](#).

# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

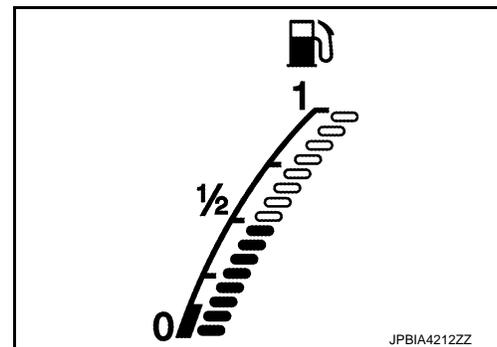
[HR16DE]

2. Check fuel level on fuel gauge. If fuel gauge indicates more than the level as shown in the figure (full or almost full), drain fuel from fuel tank until fuel gauge indicates level as shown in the figure or below.

**NOTE:**

Because fuel will be spilled when removing fuel level sensor units for the top of the fuel is above the fuel level sensor units installation surface.

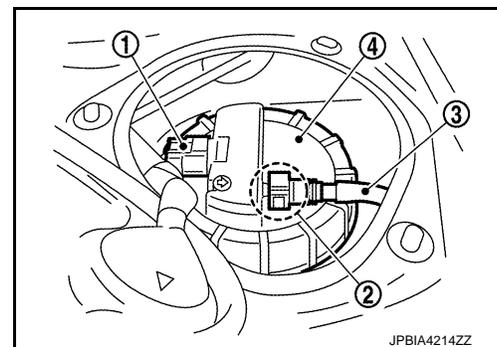
- As a guide, fuel level becomes the position as shown in the figure or below when approximately 25 ℓ (6-5/8 US gal, 5-4/8 Imp gal) of fuel are drained from fuel tank.
- In a case that fuel pump does not operate, perform the following procedure.



- a. Insert hose of less than 25 mm (0.98 in) in diameter into fuel filler tube through fuel filler opening to draw fuel from fuel filler tube.
- b. Disconnect fuel filler hose from fuel filler tube. Refer to [FL-38, "Exploded View"](#).
- c. Insert hose into fuel tank through fuel filler hose to draw fuel from fuel tank.
3. Open fuel filler lid.
4. Open filler cap and release the pressure inside fuel tank.
5. Remove rear seat. Refer to [SE-32, "Exploded View"](#).
6. Remove inspection hole cover.
  - Using a screwdriver, remove it by turning clips clockwise by 90 degrees.
7. Disconnect harness connector (1), fuel feed hose (4) and quick connector (3).

2 : Fuel level sensor unit, fuel filter and fuel pump assembly

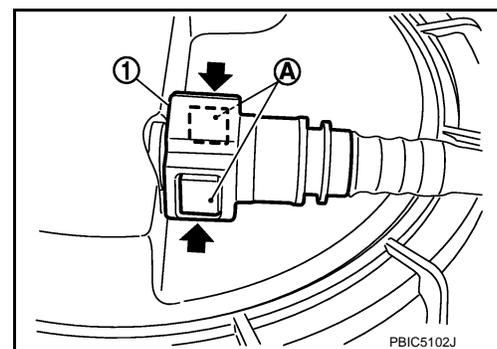
↔ : Vehicle front



- Remove quick connector in the following procedures.
- Pinch quick connector square-part (A) with your fingers, and pull out the quick connector (1) by hand.
- If quick connector and tube on sender unit are stuck, push and pull several times until they move, and pull out.

**CAUTION:**

- Quick connector can be removed when the tabs are completely depressed. Never twist it more than necessary.
- Never use any tools to disconnected quick connector.
- Keep resin tube away from heat. Be especially careful when welding near the resin tube.
- Prevent acid liquid such as battery electrolyte, etc. from getting on resin tube.
- Never bend or twist resin tube during installation and disconnection.

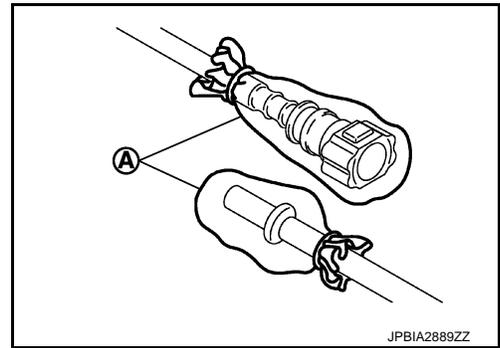


# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

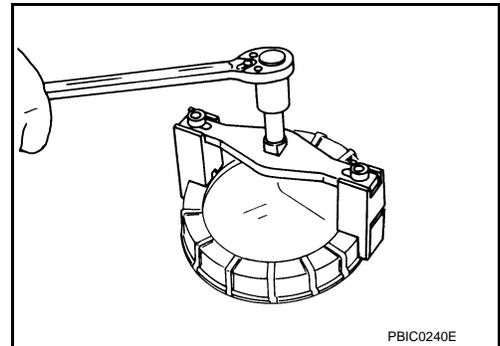
< REMOVAL AND INSTALLATION >

[HR16DE]

- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.
- Never insert plug, preventing damage on O-ring in quick connector.



8. Remove lock ring for fuel level sensor unit, fuel filter and fuel pump assembly with fuel tank lock ring wrench [SST: KV99104700] (A) by turning counterclockwise.



## INSTALLATION

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

### Fuel Level Sensor Unit

1. Temporarily install seal packing to the fuel gauge fuel filter fuel pump assembly.
2. Insert the fuel gauge fuel filter fuel pump assembly into fuel tank and install the above temporarily installed seal packing to the opening of fuel tank.

#### CAUTION:

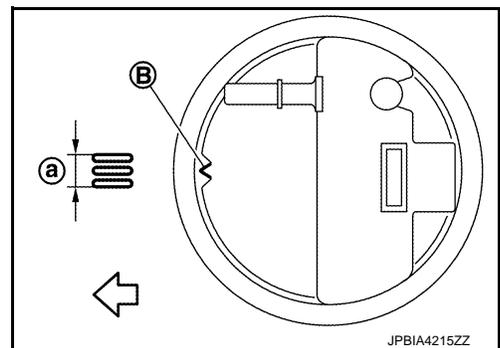
**Never bend float arm during removal.**

3. Install fuel level sensor unit to fuel tank with alignment mark (B) on the upper surface facing the tree inscribed lines (A) on the tank side.

← : Vehicle front

#### CAUTION:

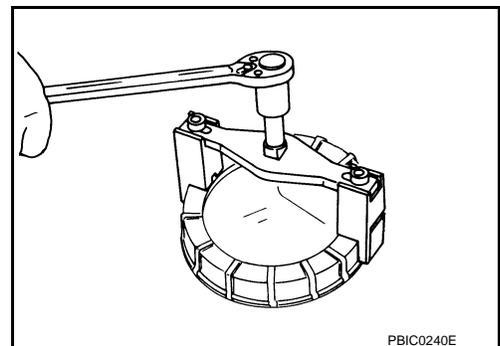
- Never allow O-ring to drop.
- Never bend float arm during installing.



4. Install lock ring for fuel level sensor unit, fuel filter and fuel pump assembly with lock ring wrench [SST: KV993G0010 or KV99104700] by turning clockwise.

#### CAUTION:

**Install lock ring horizontally.**



### Quick Connector

Connect quick connector as follows:

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

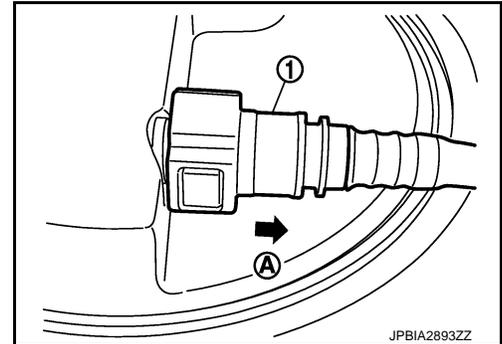
# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[HR16DE]

1. Check the connection for damage or any foreign materials.
2. Align the connector with the tube, then insert the connector straight into the tube until a click sound is heard.
3. After connecting, check that the connection is secure by following method.
  - Visually confirm that the two tabs are connected to the connector.
  - Pull (A) the tube and the connector to check they are securely connected.

1 : Quick connector



## Disassembly and Assembly

INFOID:000000006710582

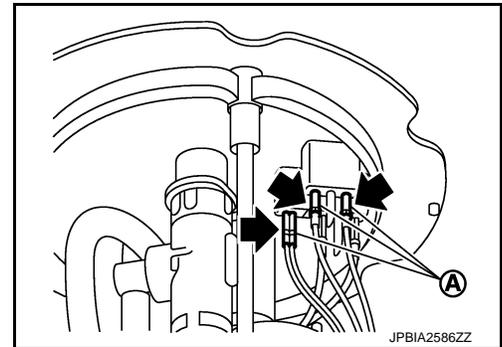
### DISASSEMBLY

#### CAUTION:

**Sub fuel level sensor unit cannot be disassembled and should be replaced as a unit.**

Remove main fuel level sensor unit as follows:

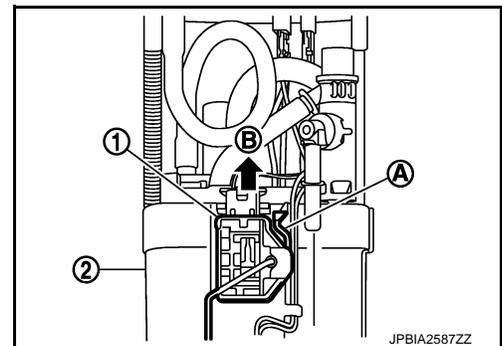
1. Disconnect harness connector (A).
  - a. Hold connector by fingers and push stopper release tab.
  - b. Pull it out connector.



2. Remove main fuel level sensor unit (1) from fuel filter and fuel pump assembly (2) as follows:
  - a. Push in tab (A) to release the lock.
  - b. After fixing tabs are disengaged, slide main fuel level sensor unit out in direction shown by the arrow (B).

#### CAUTION:

- Be careful not to damage the main fuel level sensor unit.
- Never disassemble fuel filter and fuel pump assembly.



### ASSEMBLY

#### CAUTION:

**Sub fuel level sensor unit cannot be disassembled and should be replaced as a unit.**

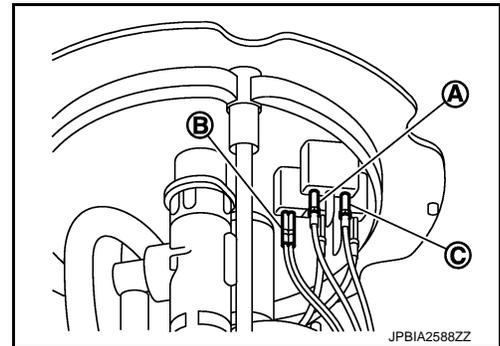
1. Check for damage of main fuel level sensor unit installation position on the side of fuel filter and fuel pump assembly.
2. Slide main fuel level sensor unit until it aligns to installation groove, then insert it until it stops.
  - After inserting, apply force in reverse direction (removal direction) to ensure it cannot be pulled out.

# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[HR16DE]

3. Connect the white (A), black (B), and red (C) harnesses so that they are in the positions shown in the figure.
  - Securely insert harness connector until it stops.



INFOID:000000006500714

## Inspection

### INSPECTION AFTER INSTALLATION

Use the following procedure to check for fuel leakage.

1. Turn ignition switch "ON" (with engine stopped), then check connections for leakage by applying fuel pressure to fuel piping.
2. Start engine and let it idle and check there are no fuel leakage at the fuel system connections.

# FUEL TANK

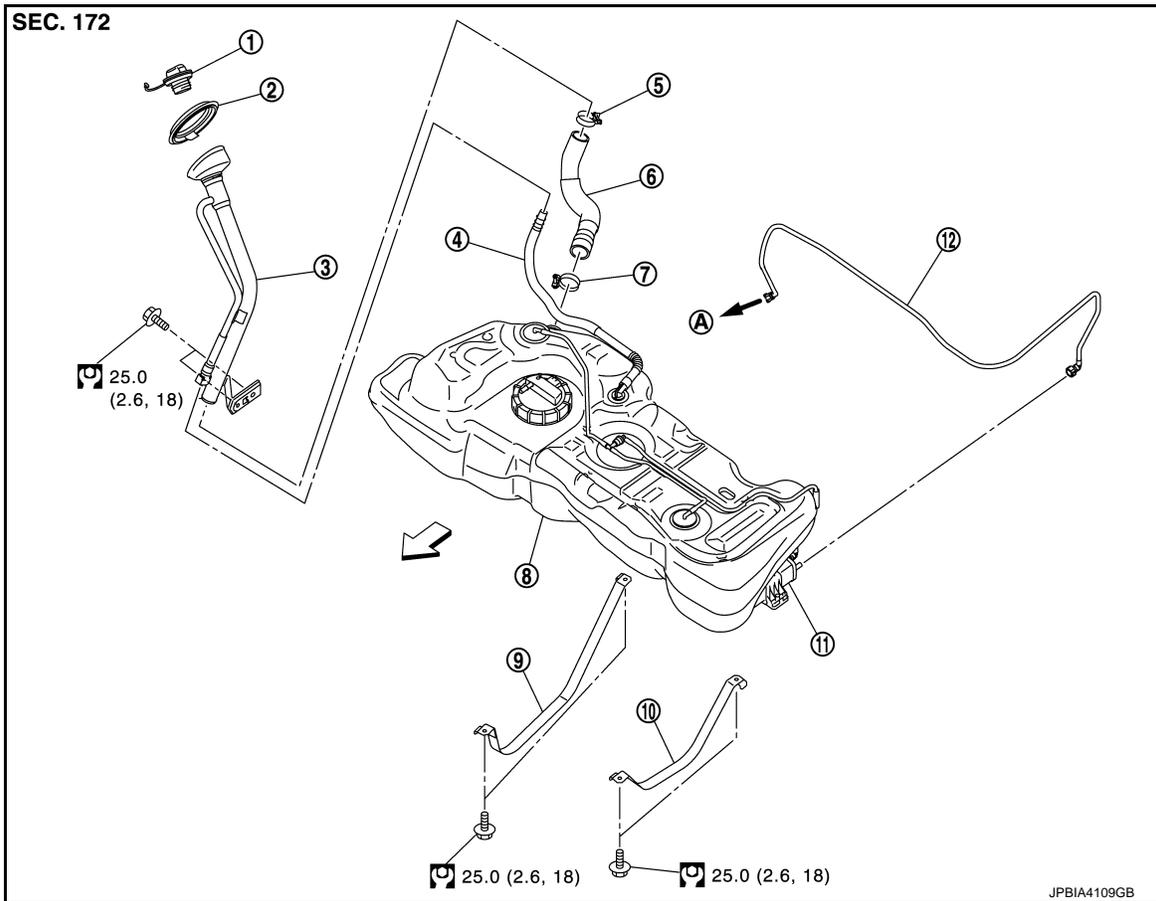
< REMOVAL AND INSTALLATION >

[HR16DE]

## FUEL TANK

Exploded View

INFOID:000000006500715



- |                                  |                   |                                 |
|----------------------------------|-------------------|---------------------------------|
| 1. Fuel filler cap               | 2. Grommet        | 3. Fuel filler tube             |
| 4. Vent hose                     | 5. Clamp          | 6. Fuel filler hose             |
| 7. Clamp                         | 8. Fuel tank      | 9. Fuel tank mounting band (RH) |
| 10. Fuel tank mounting band (LH) | 11. EVAP canister | 12. EVAP canister hose          |

A. To fuel tube

↔ : Vehicle front

⊙ : N-m (kg-m, ft-lb)

## Removal and Installation

INFOID:000000006500716

### WARNING:

Be sure to read "General Precautions" when working on the fuel system. Refer to [FL-30, "General Precautions"](#).

### REMOVAL

- Drain fuel from fuel tank if necessary. Refer to [FL-33, "Removal and Installation"](#).
  - Perform work on level place.
1. Remove RH rear wheel.
  2. Perform steps 2 to 7 of "REMOVAL" in "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY" on fuel level sensor unit, fuel filter and fuel pump assembly. Refer to [FL-33, "Removal and Installation"](#).
  3. Remove sub muffler. Refer to [EM-166, "Removal and Installation"](#).
  4. Remove insulator on vehicle side located above center and sub muffler.

# FUEL TANK

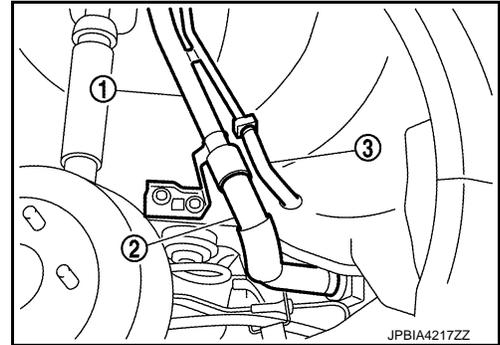
[HR16DE]

## < REMOVAL AND INSTALLATION >

5. Remove floor under covers (RH, LH) Refer to [EXT-25. "Exploded View"](#).
6. Move parking brake cable (1) from the lower face of fuel tank. Then remove clips for parking brake cable.
7. Disconnect fuel filler hose at fuel tank side.

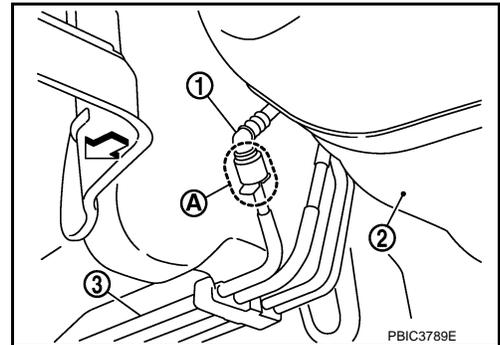
- 1 : Filler tube
- 2 : Filler hose

8. Remove vent hose at RH rear wheel well side



9. Remove EVAP canister hose (1) at front side of fuel tank (2).

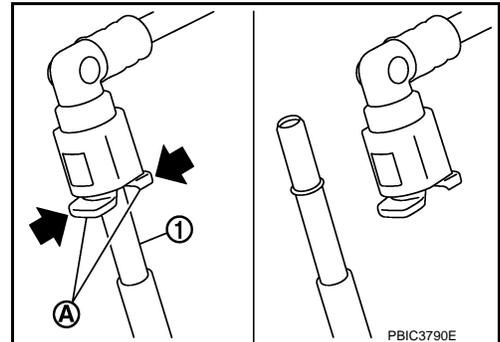
- 3 : Centralized under-floor piping
- A : quick connector
- ↔ : Vehicle front



- Remove quick connector in the following procedures.
- Pinch quick connector square-part (A) with your fingers, and pull out the quick connector (1) by hand.
- If quick connector and tube on vehicle are stuck, push and pull several times until they move, and pull out.

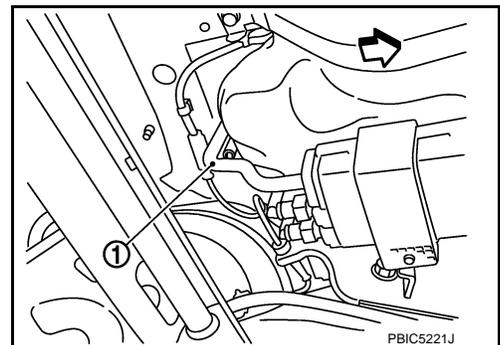
### CAUTION:

- The tube can be removed when the tabs are completely depressed. Never twist it more than necessary.
- Never use any tools to disconnect quick connector.
- Keep the resin tube away from heat. Be especially careful when welding near the tube.
- Prevent acid liquid such as battery electrolyte, etc. from getting on the resin tube.
- Never bend or twist resin tube during installation and disconnection.
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags or something similar.
- Never insert plug, preventing damage on O-ring in quick connector.



10. Remove EVAP hose (1) in the back for fuel tank side.

- ↔ : Vehicle front



# FUEL TANK

[HR16DE]

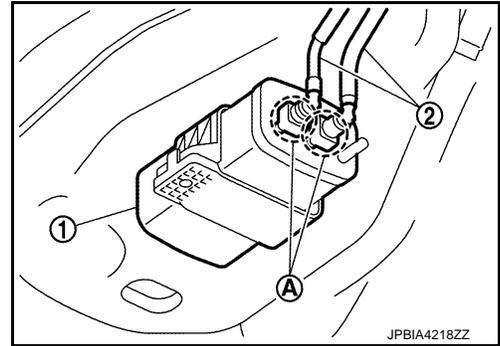
## < REMOVAL AND INSTALLATION >

11. Remove quick connectors (A) from the EVAP canister (1).

2. : EVAP canister hose

12. Disconnect EVAP hose and vent tube at the position shown in the figure.

- Instruction for quick connector of EVAP hose and vent tube, refer to the following:

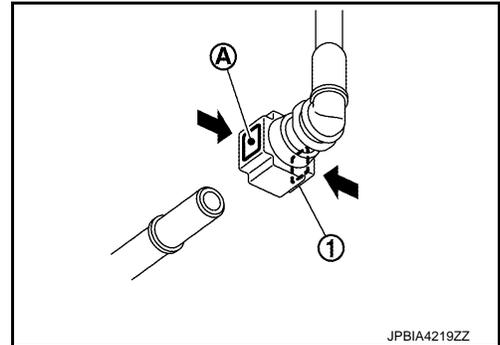


### Vent hose

- Remove quick connector in the following procedures.
- Pinch quick connector square-part (A) with your fingers, and pull out the quick connector (1) by hand.
- If quick connector and tube on vehicle are stuck, push and pull several times until they move, and pull out.

### CAUTION:

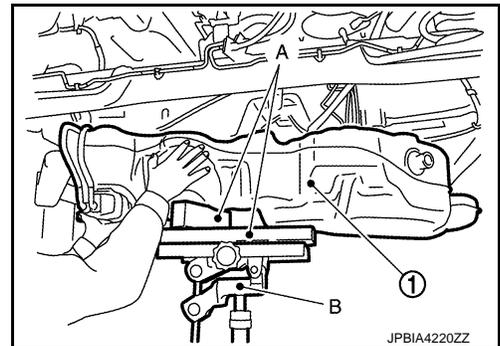
- The tube can be removed when the tabs are completely depressed. Never twist it more than necessary.
- Never use any tools to disconnect quick connector.
- Keep the resin tube away from heat. Be especially careful when welding near the tube.
- Prevent acid liquid such as battery electrolyte, etc. from getting on the resin tube.
- Never bend or twist resin tube during installation and disconnection.
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags or something similar.
- Never insert plug, preventing damage on O-ring in quick connector.



13. Support the center part of fuel tank (1) with transmission jack (B).

### CAUTION:

Securely support the fuel tank with a piece of wood (A).



14. Remove fuel tank mounting bands (RH and LH).

15. Lower transmission jack carefully to remove fuel tank while holding it by hand.

### CAUTION:

Fuel tank may be in an unstable condition because of the shape of fuel tank bottom. Never rely on jack too much. Be sure to hold tank securely.

## INSTALLATION

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

Fuel Tank

# FUEL TANK

[HR16DE]

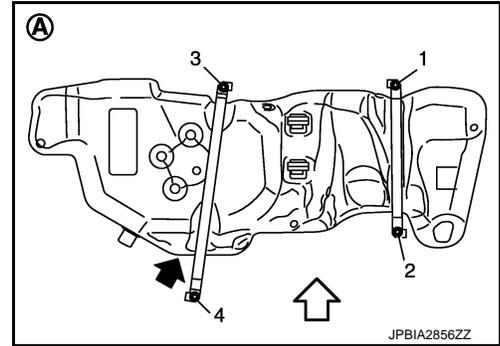
## < REMOVAL AND INSTALLATION >

1. Temporarily tighten bolts [except (4)] in numerical order as shown in the figure.

A : Under view

← : Vehicle front

2. Tighten bolt (4) to specified torque, pressing fuel tank in the direction (←) shown in the figure.
3. Tighten bolts [except (4)] to specified torque in the reverse order as shown in the figure.



### Fuel Filler Hose

- Surely clamp fuel hose insert fuel filler hose to the length below.

**Fuel filler hose : 35 mm (1.38 in)**

**The other hose : 25 mm (0.98 in)**

- Be sure hose clamp is not placed on swelled area of fuel filler tube.
- Install fuel filler hose to fuel tank, paying attention to install mark. Marking faces downward.
- Tighten fuel filler hose clamp so that the remaining length of screw thread becomes to the following.

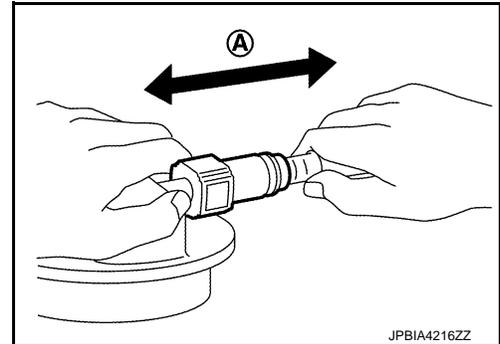
**Fuel filler tube side : 8 - 12 mm (0.28 - 0.43 in)**

**Fuel tank side : 5 - 9 mm (0.25 - 0.35 in)**

### EVAP canister hose

1. Check connections for damage or foreign material.
2. Align the matching side connection part with the center of shaft, and insert connector straight until it clicks.
3. After connecting, pull out quick connector and centralized under floor piping by hand. Check connections are secure.

A : Pull



## Inspection

INFOID:000000006500717

### INSPECTION AFTER INSTALLATION

Use the following procedure to check for fuel leakage.

1. Turn ignition switch "ON" (with engine stopped), and check connections for leakage by applying fuel pressure to fuel piping.
2. Start engine and rev it up and check there are no fuel leakage at the fuel system tube and hose connections.

# EVAP CANISTER

< REMOVAL AND INSTALLATION >

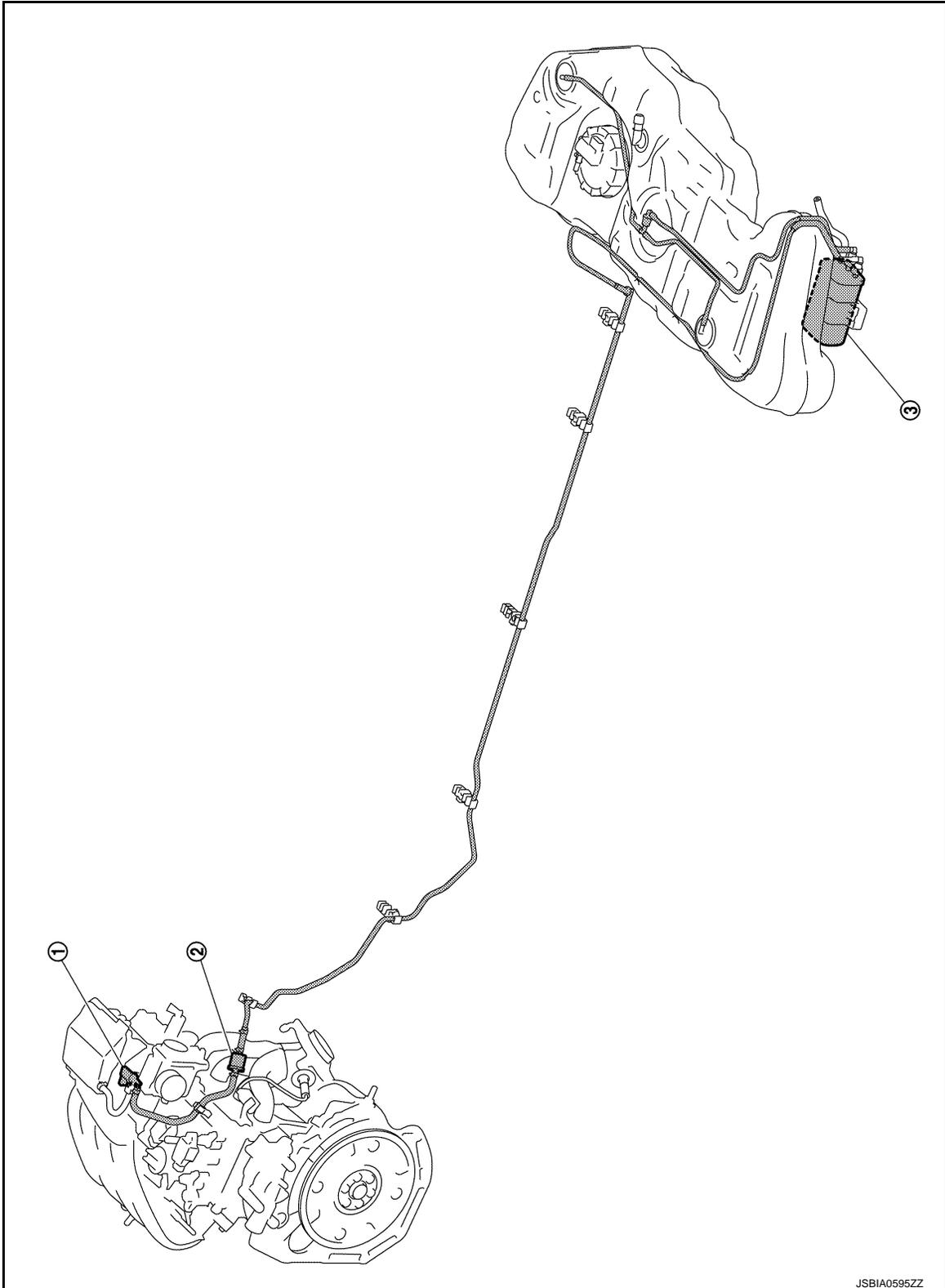
[HR16DE]

## EVAP CANISTER

Hydraulic Layout

INFOID:000000006635457

EVAPORATIVE EMISSION LINE DRAWING



JSBIA0595ZZ

1. EVAP canister purge volume control 2. Resonator solenoid valve 3. EVAP canister

# EVAP CANISTER

< REMOVAL AND INSTALLATION >

[HR16DE]

**NOTE:**

Do not use soapy water or any type of solvent while installing vacuum hose or purge hoses.

A

FL

C

D

E

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H

I

J

K

L

M

N

O

P

# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[HR16DE]

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Fuel Tank

INFOID:000000006500718

#### Standard and Limit

Fuel tank capacity	Approx. 52.0 ℓ (11-1/2 Imp gal)
Fuel recommendation	Refer to <a href="#">G1-35. "Fuel"</a>

# PRECAUTION

## PRECAUTIONS

### General Precautions

INFOID:000000006500719

A

FL

**WARNING:**

When replacing fuel line parts, be sure to observe the following.

- Put a “CAUTION: FLAMMABLE” sign in the workshop.
- Be sure to work in a well ventilated area and furnish workshop with a CO2 fire extinguisher.
- Never smoke while servicing fuel system. Keep open flames and sparks away from the work area.

**CAUTION:**

- Use diesel fuel required by the regulations for cetane number. Refer to [GI-35, "Fuel"](#).
- Before removing fuel line parts, perform the following procedures:
  - Put drained fuel in an explosion-proof container and put the lid on securely. Keep the container in safe area.
  - Disconnect the battery cable from the negative terminal.
  - Always replace O-ring and clamps with new ones.
  - Never kink or twist tubes when they are being installed.
  - Never tighten hose clamps excessively to avoid damaging hoses.
  - After installing tubes, check that there is no fuel leakage at connections in the following steps.
    - Start engine and rev it up and check for fuel leakage at connections.
  - Use only a genuine NISSAN fuel filler cap as a replacement. If an incorrect fuel filler cap is used, the “MI” may come on.

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P

# PREPARATION

< PREPARATION >

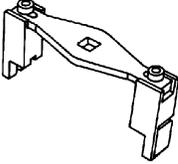
[K9K]

## PREPARATION

### PREPARATION

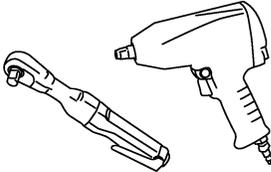
#### Special Service Tool

INFOID:000000006500720

NISSAN tool number (RENAULT tool number) Tool name	Description
KV99104700 (Mot. 1397) Lock ring wrench  ZZA0122D	Removing and Installing lock ring

#### Commercial Service Tools

INFOID:000000006500721

Tool name	Description
Power tool  PBIC0190E	Loosening bolts and nuts

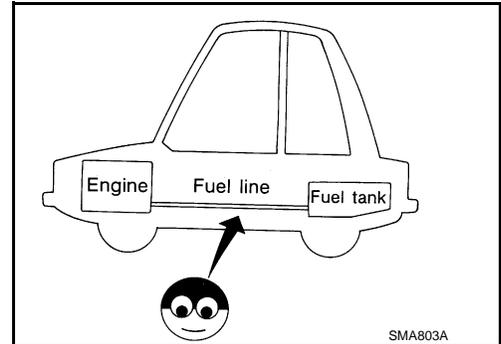
# PERIODIC MAINTENANCE

## FUEL SYSTEM

### Checking Fuel Line

INFOID:000000006500722

Inspect fuel lines and tank for improper attachment, leaks, cracks, damage, chafing and deterioration. If necessary, repair or replace.



- A
- FL
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
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- O
- P

# FUEL FILTER

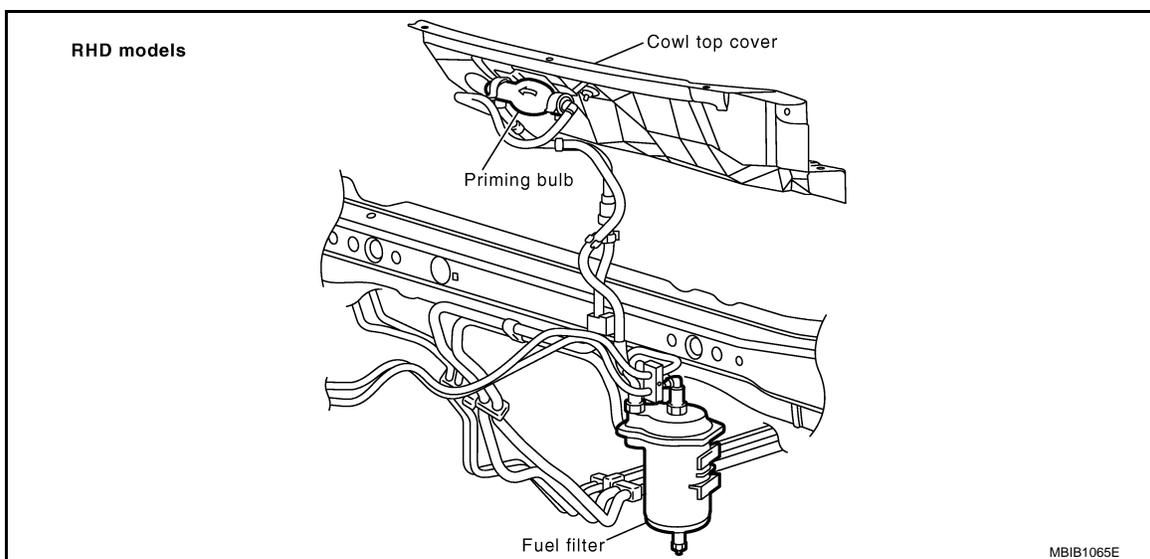
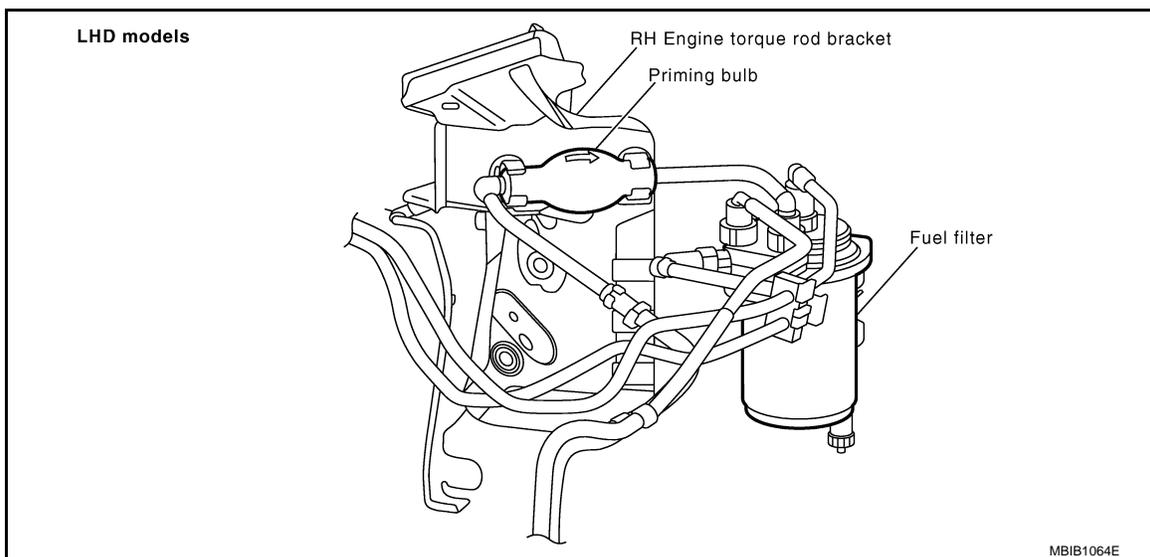
< PERIODIC MAINTENANCE >

[K9K]

## FUEL FILTER

### Exploded View

INFOID:000000006500723

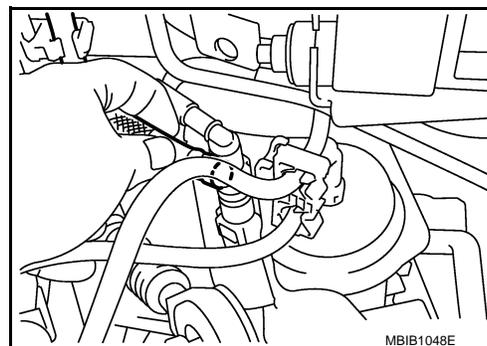


### Removal and Installation

INFOID:000000006500724

#### REMOVAL (RHD)

1. Remove quick connectors in the following procedures.
  - Pinch quick connector square-parts with your fingers, and pull out the quick connector by hand.
  - If quick connector and tube on vehicle are stuck, push and pull several times until they move, and pull out.



# FUEL FILTER

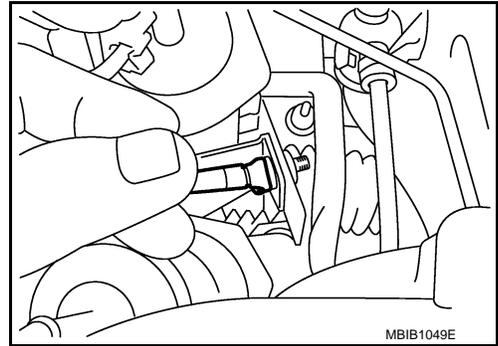
[K9K]

## < PERIODIC MAINTENANCE >

2. Remove fuel filter from fuel filter bracket.

**CAUTION:**

Never spill the fuel during removal. If the fuel is spill, immediately wipe it off. Be especially careful to prevent the fuel from adhering to the insulators of the engine mounts.



## REMOVAL (LHD)

1. Remove priming bulb from priming bulb bracket.
2. Remove fuel filter from fuel filter bracket.
3. Remove quick connectors as above.

**CAUTION:**

Put a shop cloth under the drain valve, to avoid the water and fuel spill on ABS actuator. Be especially careful to prevent any damage.

## INSTALLATION

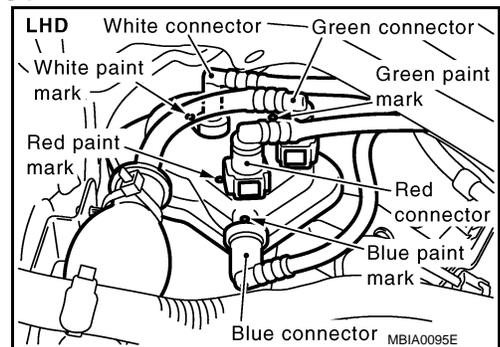
Install in the reverse order of removal, paying attention to the following points:

- To install fuel filter connectors, respect paint marks on fuel filter as shown.
- After installation, operate the priming bulb vertically, if it is possible, to perform air bleeding.

Refer to [FL-50, "Air Bleeding"](#).

**CAUTION:**

Never bend or twist the tube during installation and removal.



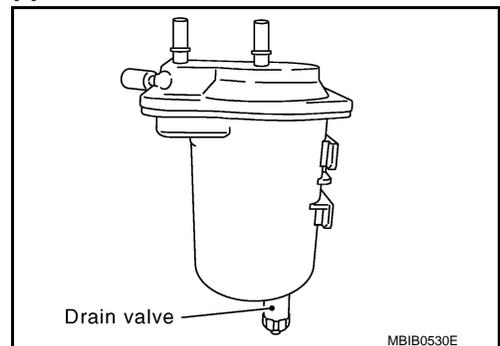
## Water Draining

### DRAINING WATER (RHD)

**CAUTION:**

Before carrying out any work, wait for the fuel temperature is dropped.

Open drain valve at the bottom of fuel filter.



### DRAINING WATER (LHD)

1. Remove fender protector RH. Refer to [EXT-22, "Exploded View"](#).
2. Remove foam insulator.
3. Open drain valve at the bottom of fuel filter.

**CAUTION:**

Put a shop cloth under the drain valve, to avoid the water and fuel spill on ABS actuator.

## FUEL FILTER CHECK

# FUEL FILTER

< PERIODIC MAINTENANCE >

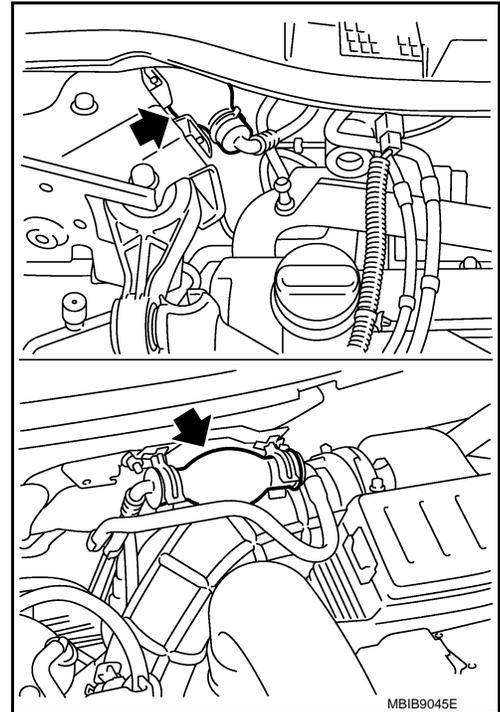
[K9K]

Check fuel filter for fuel leakage, damage and other abnormal signs.

## Air Bleeding

INFOID:000000006500726

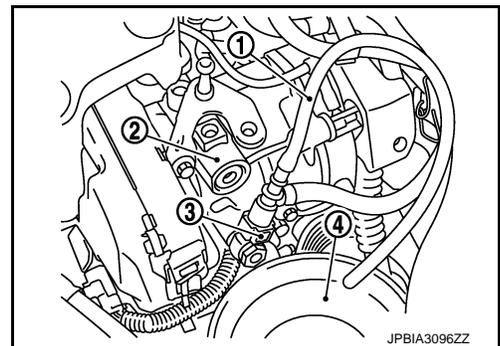
1. Prime the circuit using the priming bulb.
2. Perform engine cranking with repeating several times until engine starting.



3. If the engine does not start, perform the following procedure.

2 : High pressure supply pump

- a. Remove high pressure pump protector. Refer to [EM-298](#), "[Exploded View](#)".
  - b. Remove quick connector (black tab).
  - c. Connect drain hose (suitable hose) (1) to the end of quick connector (supply pipe side) (3).
  - d. Place a tray (4) at the drain hose open end.
  - e. Operate the priming bulb to completely bleed air from the circuit.
4. When air bleeding is completed, install quick connector, and check absence of leakage.



# FUEL LEVEL SENSOR UNIT

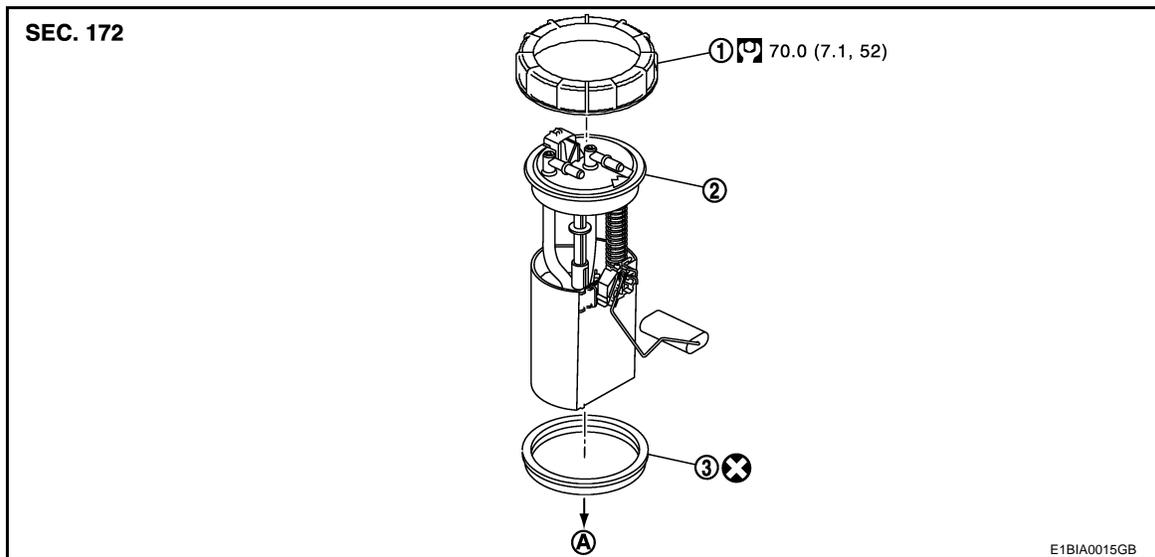
< REMOVAL AND INSTALLATION >

[K9K]

## REMOVAL AND INSTALLATION

### FUEL LEVEL SENSOR UNIT

#### Exploded View



1. Lock ring  
2. Fuel level sensor unit  
3. Seal packing  
A. To fuel tank

⊗ : Always replace after every disassembly

#### Removal and Installation

INFOID:000000006500728

#### **WARNING:**

Read "General Precautions" when working on the fuel system. Refer to [FL-45, "General Precautions"](#).

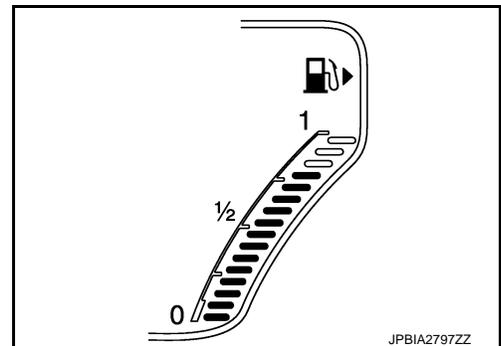
#### REMOVAL

1. Check fuel level on fuel gauge. If fuel gauge indicates more than the level as shown in the figure (full or almost full), drain fuel from fuel tank until fuel gauge indicates level as shown in the figure or below.

#### **NOTE:**

Because fuel will be spilled when removing fuel level sensor units for the top of the fuel is above the fuel level sensor units installation surface.

- As a guide, fuel level becomes the position as shown in the figure or below when approximately 10 ℓ (2-5/8 US gal, 2-1/4 Imp gal) of fuel are drained from fuel tank.
- In a case that fuel pump does not operate, perform the following procedure.



- a. Insert hose of less than 25 mm (0.98 in) in diameter into fuel filler tube through fuel filler opening to draw fuel from fuel filler tube.
  - b. Disconnect fuel filler hose from fuel filler tube. Refer to [FL-55, "Exploded View"](#).
  - c. Insert hose into fuel tank through fuel filler hose to draw fuel from fuel tank.
2. Open fuel filler lid.
  3. Open filler cap and release the pressure inside fuel tank.
  4. Remove rear seat. Refer to [SE-32, "Exploded View"](#).
  5. Remove inspection hole cover.
    - Using a screwdriver, remove it by turning clips clockwise by 90 degrees.

# FUEL LEVEL SENSOR UNIT

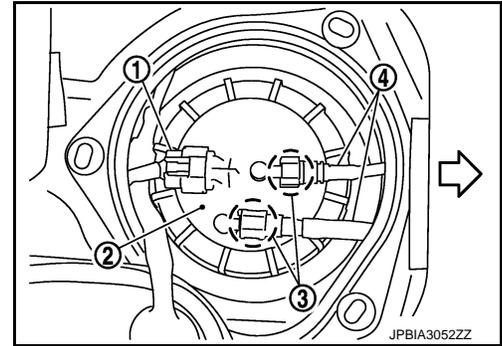
[K9K]

## < REMOVAL AND INSTALLATION >

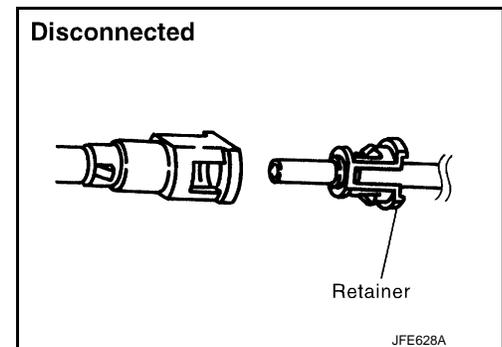
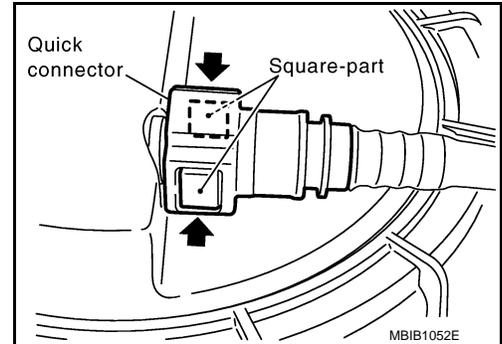
6. Disconnect harness connector (1), fuel feed tube (4) and quick connector (3).

2 : Fuel level sensor unit

↔ : Vehicle front

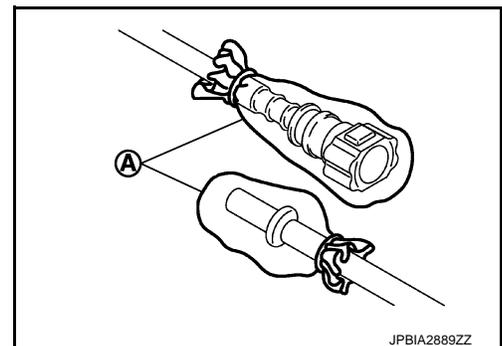


- Hold the connector while pushing in tabs, and pull out the tube.



### CAUTION:

- Quick connector can be removed when the tabs are completely depressed. Never twist it more than necessary.
- Never use any tools to disconnected quick connector.
- Keep resin tube away from heat. Be especially careful when welding near the resin tube.
- Prevent acid liquid such as battery electrolyte, etc. from getting on resin tube.
- Never bend or twist resin tube during installation and disconnection.
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.
- Never insert plug, preventing damage on O-ring in quick connector.



7. Using lock ring wrench [SST: KV99104700 (Mot.1397)], remove lock ring.

### CAUTION:

Rotate SST while pressing fuel level sensor unit as spring reaction force is applied from fuel tank inside to up ward.

# FUEL LEVEL SENSOR UNIT

[K9K]

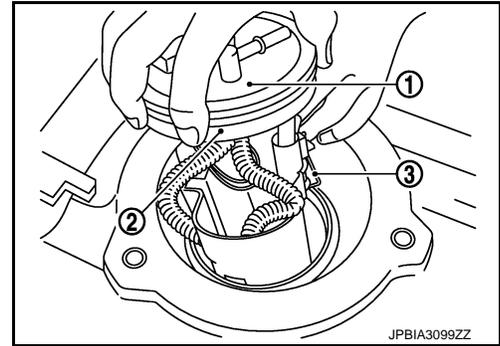
## < REMOVAL AND INSTALLATION >

8. Remove fuel level sensor unit.

2 : O-ring

### CAUTION:

- Be careful not to bend the float arm (3) when removing.
- Handle them carefully without subjecting them to impacts such as dropping.

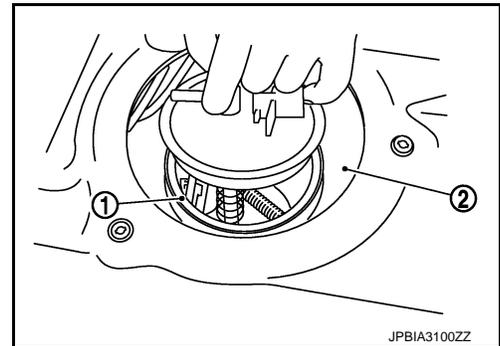


## INSTALLATION

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

### Fuel Level Sensor Unit

1. Temporarily install the O-ring to the fuel level sensor unit.
2. Insert the fuel level sensor unit to the fuel tank, and then install the temporarily installed O-ring (Step 1) to the opening of the fuel tank.

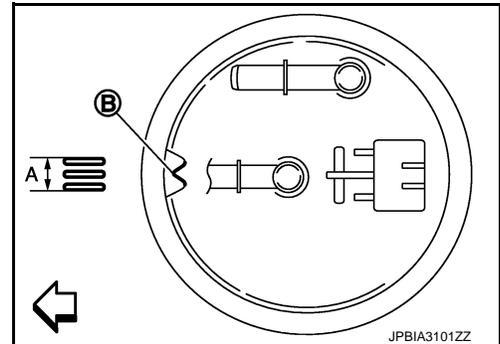


3. Install fuel level sensor unit to fuel tank with alignment mark (B) on the upper surface facing the tree inscribed lines (A) on the tank side.

← : Vehicle front

### CAUTION:

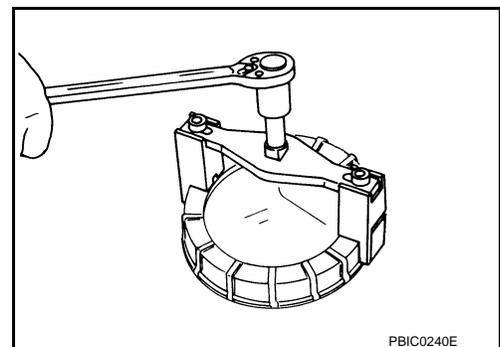
- Never allow O-ring to drop.
- Never bend float arm during installing.



4. Install lock ring for fuel level sensor unit, fuel filter and fuel pump assembly with lock ring wrench [SST: KV993G0010 (Mot. 1397)] by turning clockwise.

### CAUTION:

Install lock ring horizontally.



### Quick Connector

Connect quick connector as follows:

1. Check the connection for damage or any foreign materials.
2. Align the connector with the tube, then insert the connector straight into the tube until a click sound is heard.
3. After connecting, check that the connection is secure by following method.

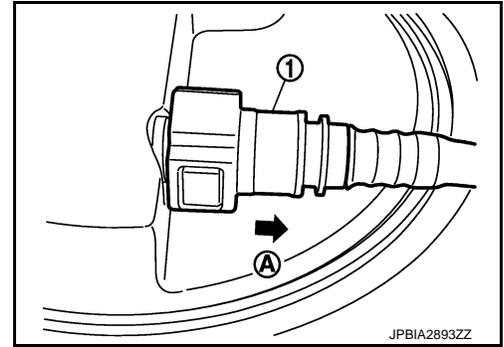
## FUEL LEVEL SENSOR UNIT

[K9K]

### < REMOVAL AND INSTALLATION >

- Visually confirm that the two tabs are connected to the connector.
- Pull (A) the tube and the connector to check they are securely connected.

1 : Quick connector



# FUEL TANK

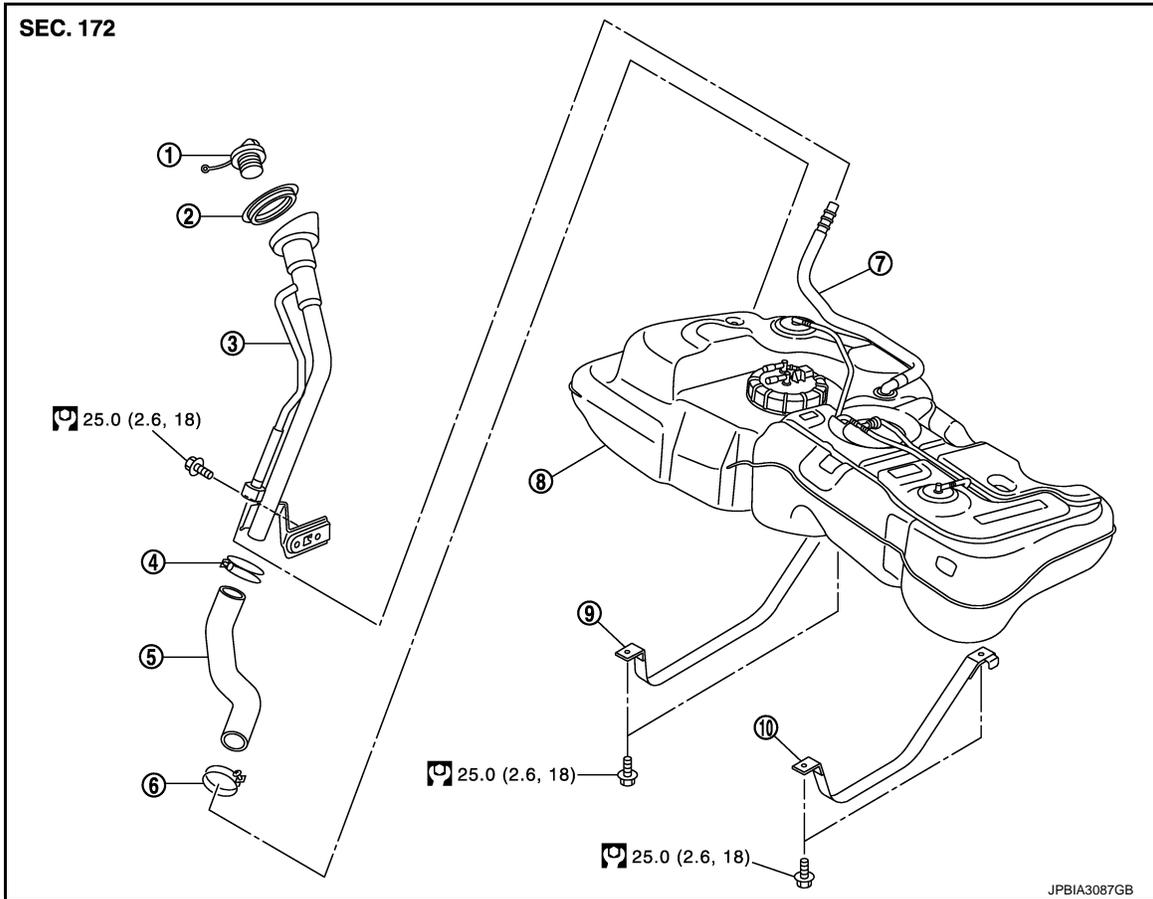
< REMOVAL AND INSTALLATION >

[K9K]

## FUEL TANK

### Exploded View

INFOID:000000006500729



- |                        |                     |                       |
|------------------------|---------------------|-----------------------|
| 1. Fuel tank cap       | 2. Grommet          | 3. Fuel filler tube   |
| 4. Clamp               | 5. Fuel filler hose | 6. Clamp              |
| 7. Vent hose           | 8. Fuel tank        | 9. Mounting band (RH) |
| 10. Mounting band (LH) |                     |                       |

 : N·m (kg·m, ft·lb)

### Removal and Installation

INFOID:000000006500730

#### **WARNING:**

Be sure to read "General Precautions" when working on the fuel system. Refer to [FL-45, "General Precautions"](#).

#### REMOVAL

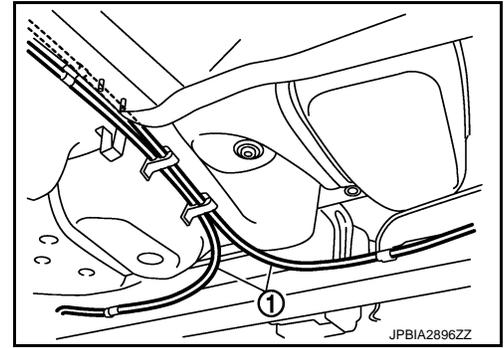
- Drain fuel from fuel tank if necessary. Refer to [FL-51, "Removal and Installation"](#).
  - Perform work on level place.
1. Remove RH rear wheel.
  2. Perform steps 1 to 7 of [FL-51, "Exploded View"](#) in "FUEL LEVEL SENSOR UNIT".
  3. Remove center muffler. Refer to [EX-17, "Exploded View"](#).
  4. Remove insulator on vehicle side located above center muffler.

# FUEL TANK

[K9K]

## < REMOVAL AND INSTALLATION >

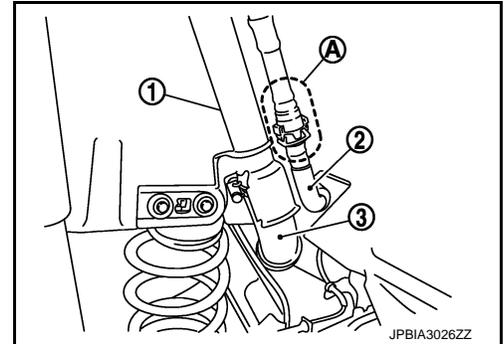
5. Move parking brake cable (1) from the lower face of fuel tank. Then remove clips for parking brake cable.



6. Disconnect fuel filler hose at fuel tank side.

- 1 : Filler tube
- 2 : Vent hose
- 3 : Filler hose
- A : Quick connector

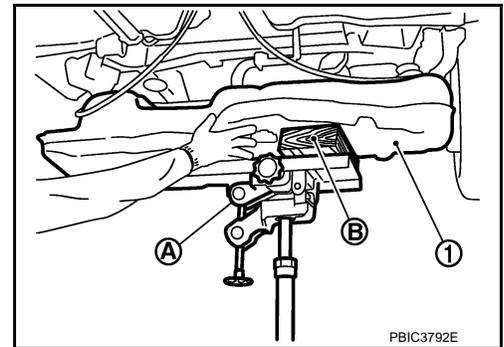
7. Remove vent hose at RH rear wheelwell side.



8. Support the center part of fuel tank (1) with transmission jack (A).

**CAUTION:**

**Securely support the fuel tank with a piece of wood (B).**



9. Remove fuel tank mounting bands (RH/LH).

10. Lower transmission jack carefully to remove fuel tank while holding it by hand.

**CAUTION:**

**Fuel tank may be in an unstable condition because of the shape of fuel tank bottom. Never rely on jack too much. Be sure to hold tank securely.**

## INSTALLATION

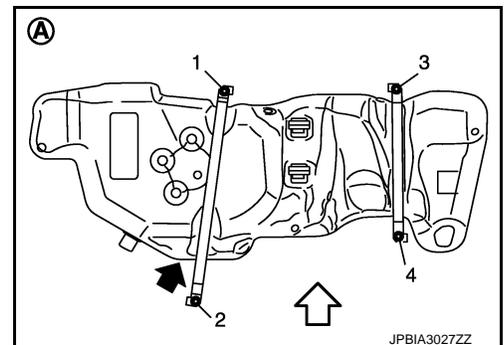
Note the following, and install in the reverse order of removal.

### Fuel Tank

1. Temporarily tighten bolts [except (2)] in numerical order as shown in the figure.

- A : Under view
- ↔ : Vehicle front

2. Tighten bolt (2) to specified torque, pressing fuel tank in the direction (↔) shown in the figure.
3. Tighten bolts [except (2)] to specified torque in the reverse order as shown in the figure.



### Fuel Filler Hose

- Surely clamp fuel hose insert fuel filler hose to the length below.

# FUEL TANK

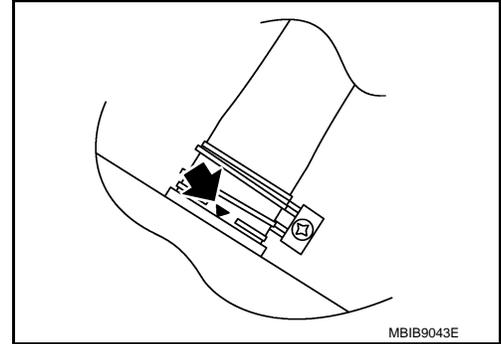
< REMOVAL AND INSTALLATION >

[K9K]

**Fuel filler hose : 35 mm (1.38 in)**

**The other hose : 25 mm (0.98 in)**

- Be sure hose clamp is not placed on swelled area of fuel filler tube.
- Install fuel filler hose to fuel tank, paying attention to install mark. Marking faces downward.



- Tighten fuel filler hose clamp so that the remaining length of screw thread becomes to the following.

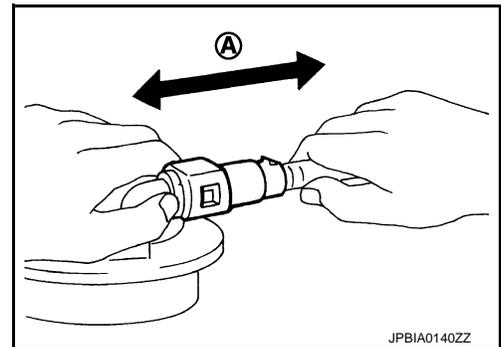
**Fuel filler tube side : 8 - 12 mm (0.28 - 0.43 in)**

**Fuel tank side : 5 - 9 mm (0.25 - 0.35 in)**

## Vent Tube

1. Check connections for damage or foreign material.
2. Align the matching side connection part with the center of shaft, and insert connector straight until it clicks.
3. After connecting, pull out quick connector and centralized under floor piping by hand. Check connections are secure.

A : Pull



## Inspection

INFOID:000000006500731

### INSPECTION AFTER INSTALLATION

- Make sure there is no fuel leakage at connections in the following procedure.
- Start engine, rev it up and make sure there is no fuel leakage at connections.

## SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[K9K]

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Fuel tank

INFOID:000000006500732

Fuel tank capacity	Approx. 52 ℓ (10-1/8 Imp gal)
Fuel recommendation	Refer to <a href="#">GI-35, "Fuel"</a> .