

SECTION

FL

FUEL SYSTEM

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# PREPARATION

## PREPARATION

PFP:00002

### Precautions for Battery Service

ABS003MH

This vehicle is equipped with the automatic window adjusting function. When a door is opened, the window automatically lowers slightly to avoid contact between the window and the side roof panel. After the door is closed, the window will automatically raise slightly.

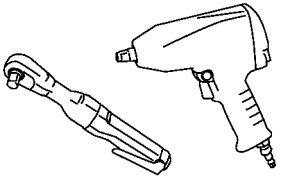
On vehicles equipped with the automatic window adjusting function, lower both the driver and front passenger side windows before disconnecting the battery cables. This will prevent interference between the side window and the roof panel when either door is opened/closed.

#### **CAUTION:**

**After the battery cables are disconnected, do not open/close the driver and/or front passenger door with the window in the full up position. The automatic window adjusting function will not work and the side roof panel may be damaged.**

### Commercial Service Tool

ABS002BD

Tool name	Description
Power tool  PBIC0190E	Loosening bolts and nuts

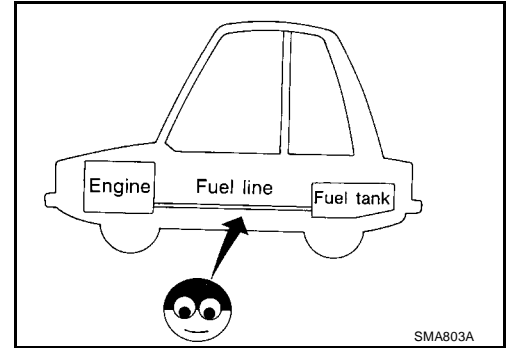
## FUEL SYSTEM

PFP:17503

### Checking Fuel Lines

ABS002BE

Inspect fuel lines, filler cap and tank for improper attachment, leaks, cracks, damage, loose connections, chafing or deterioration. If necessary, repair or replace damaged parts.



### General Precautions

ABS002BF

#### **WARNING:**

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

- Put a "CAUTION: INFLAMMABLE" sign in the workshop.
- Be sure to work in a well ventilated area and furnish workshop with a CO<sub>2</sub> fire extinguisher.
- Do not smoke while servicing fuel system. Keep open flames and sparks away from the work area.

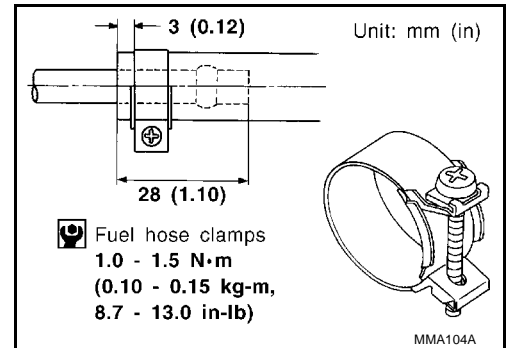
#### **CAUTION:**

- Before removing fuel line parts, carry out the following procedures:
  - a) Put drained fuel in an explosion-proof container and put the lid on securely. Keep the container in safe area.
  - b) Release fuel pressure from the fuel lines. Refer to [EC-53, "FUEL PRESSURE RELEASE"](#).
  - c) Disconnect the battery ground cable.
- Always replace O-rings and clamps with new ones.
- Do not kink or twist tubes when they are being installed.
- Do not tighten hose clamps excessively to avoid damaging hoses.

Tighten high-pressure rubber hose clamp so that clamp end is 3 mm (0.12 in) from hose end.

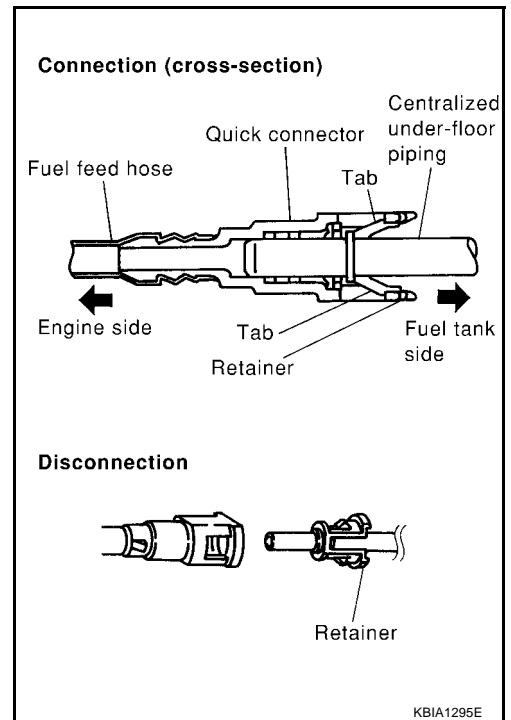
Tightening torque specifications are the same for all rubber hose clamps.

Ensure that screw does not contact adjacent parts.



## FUEL SYSTEM

- After connecting the fuel tube quick connectors, make sure the quick connectors are secure. Ensure that the connector and resin tube do not contact any adjacent parts.
- After installing tubes, make sure there is no fuel leakage at connections in the following steps.
  - a) Apply fuel pressure to fuel lines with turning ignition switch ON (with engine stopped). Then check for fuel leaks at connections.
  - b) Start the engine and rev it up and check for fuel leaks at connections.
- Use only a genuine NISSAN fuel filler cap as a replacement. If an incorrect fuel filler cap is used, the MIL may come on.
- For servicing “Evaporative Emission System” parts, refer to [EC-621, "EVAPORATIVE EMISSION SYSTEM"](#) .
- For servicing “On Board Refueling Vapor Recovery (ORVR)” parts, refer to [EC-628, "ON BOARD REFUELING VAPOR RECOVERY \(ORVR\)"](#) .

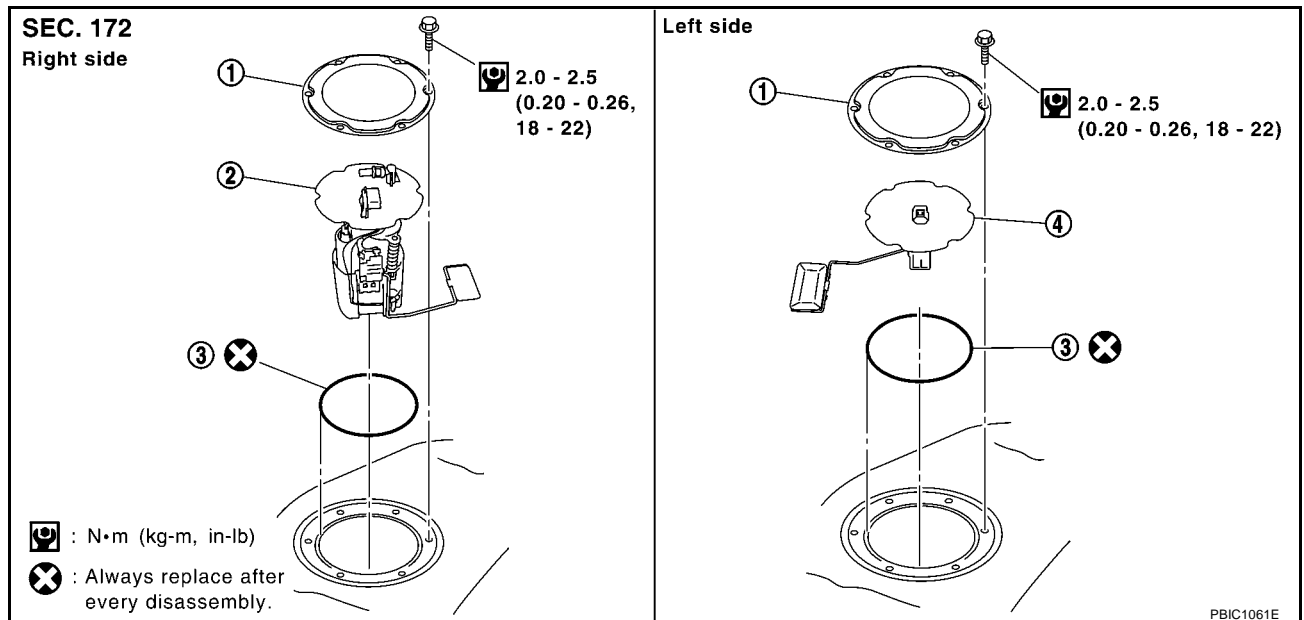


# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

## FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY PFP:17042

### Removal and Installation

ABS002BG



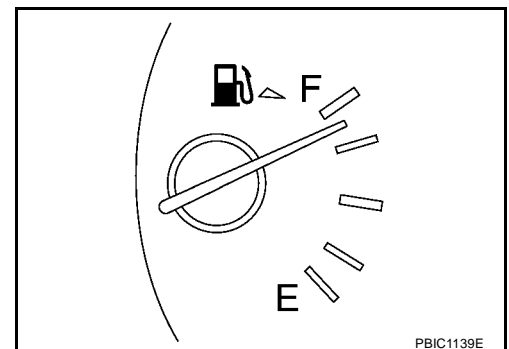
1. Retainer
2. Main fuel level sensor unit, fuel filter - and fuel pump assembly
3. O - ring
4. Sub fuel level sensor unit

### REMOVAL

#### **WARNING:**

Read "General Precautions" before working on the fuel system. Refer to [GI-4, "General Precautions"](#).

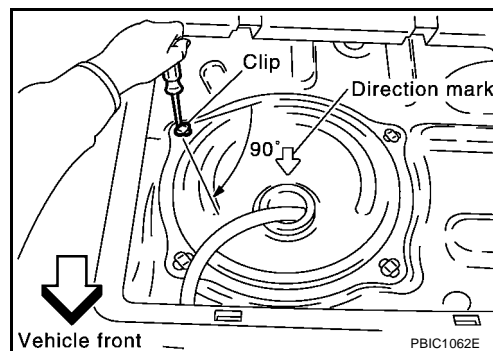
1. Check fuel level on level place. If gauge indicates more than the level shown in figure (full or almost full), drain fuel from fuel tank until gauge indicates level shown in figure or below.
  - In case fuel pump does not operate, take following procedure.
    - a. Insert fuel tube of less than 25 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.
    - c. Insert fuel tube into fuel tank through fuel filler hose to draw fuel from fuel tank.
      - As a guide, fuel level becomes the position shown in figure or below when approximately 10 liter (2-5/8 US gal, 2-1/4 Imp gal) of fuel are drained from fuel tank.



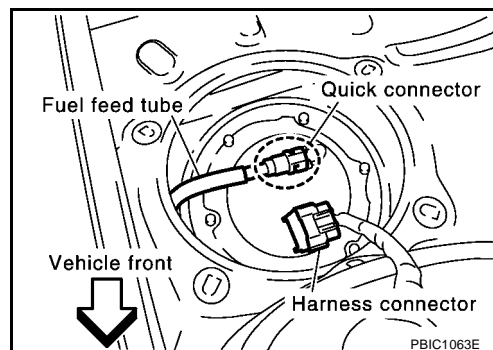
2. Release the fuel pressure from the fuel lines. Refer to [EC-53, "FUEL PRESSURE RELEASE"](#).
3. Open fuel filler lid.
4. Open the filler cap and release the pressure inside the fuel tank.
5. Remove woofer rear speaker or tray of rear floor box. Refer to [AV-5, "AUDIO"](#) or [EI-32, "LUGGAGE FLOOR TRIM"](#).

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

6. Remove inspection hole cover for main and sub fuel level sensor unit.

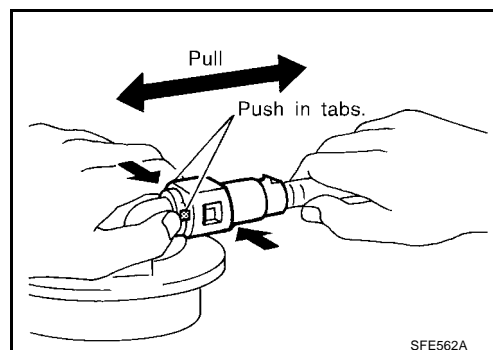


7. Disconnect the harness connector and fuel feed tube.



Remove the quick connector as follows:

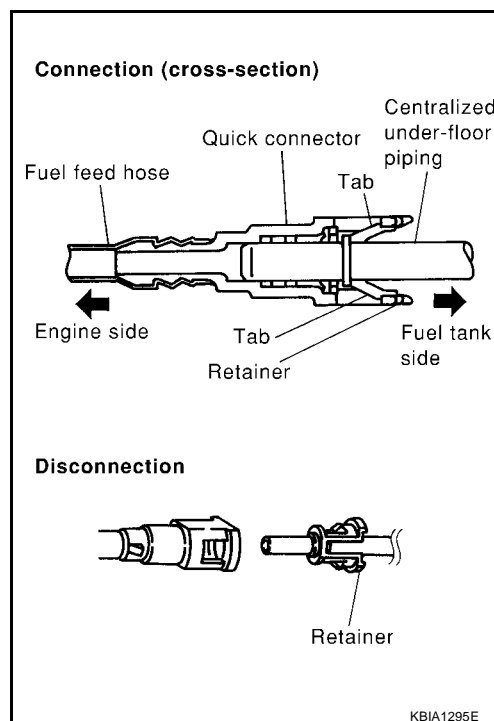
- Hold the sides of the connector, push in tabs and pull out the tube.
- If the connector and the tube are stuck together, push and pull several times until they start to move. Then disconnect them by pulling.



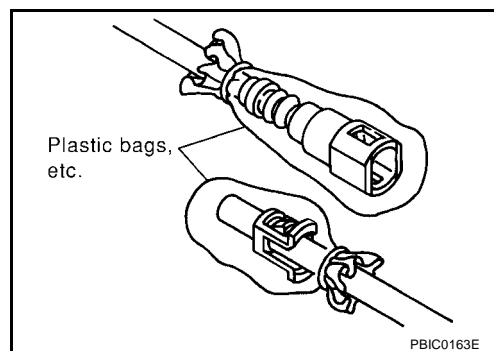
# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

## CAUTION:

- The quick connector can be removed when the tabs are completely depressed. Do not twist it more than necessary.
- Do not use any tools to remove the 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.
- Do not bend or twist the tube during installation and removal.
- Only when the tube is replaced, remove the remaining retainer on the tube or fuel pump assembly.
- When the tube or fuel level sensor unit is replaced, also replace the retainer with a new one (White colored retainer).



- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags or something similar.



8. Remove main fuel level sensor unit, fuel filter, fuel pump assembly, and sub fuel level sensor unit.

## CAUTION:

- Do not bend the float arm during removal.
- Avoid impacts such as falling when handling components.

Removal of main fuel level sensor unit, fuel filter, fuel pump assembly:

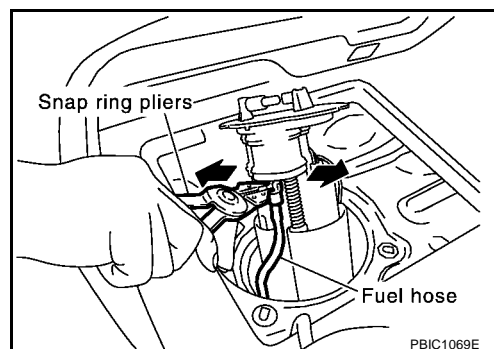
- Raise the sender unit, and using a snap ring pliers, remove the fuel hose connector.

## CAUTION:

- Be careful not to damage fuel hose connector by expanding them excessively.

Removal of sub fuel level sensor unit:

- Raise and release the sub fuel level sensor unit to remove.



## INSPECTION AFTER REMOVAL

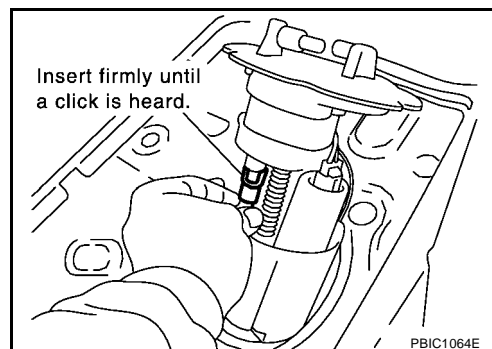
Make sure the fuel pump strainer is free from foreign materials. If any are found, remove them.

## INSTALLATION

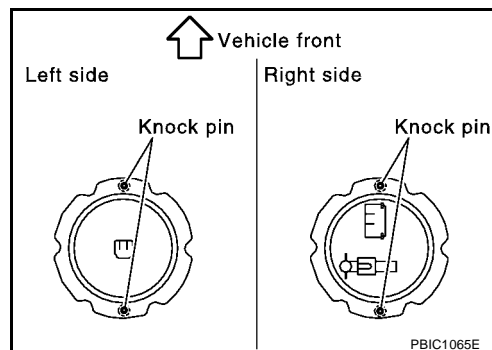
Install in the reverse order of removal paying attention to the following.

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

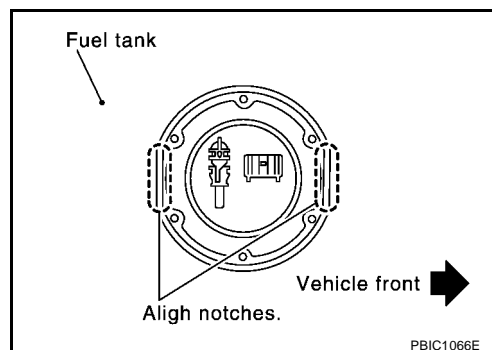
- When installing fuel hose connector insert them fully until a click sound of full stopper engagement is heard.



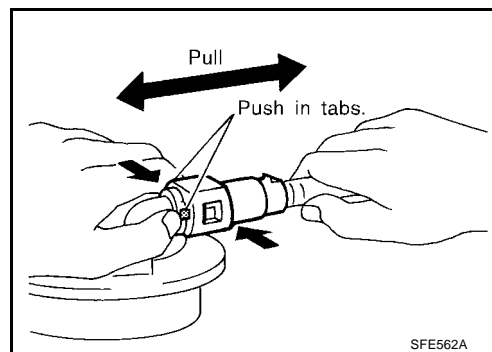
- Face fuel gauge as shown in figure, and install it with knock pin on back aligned with pinhole on fuel tank.



- Install retainer so that its notch becomes parallel with notch on fuel tank.



- Tighten retainer mounting bolts evenly.
- Connect the 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 is heard.
  3. After connecting, make sure that the connection is secure by following method.
  4. Pull the tube and the connector to make sure they are securely connected.
- Visually confirm that the two retainer tabs are connected to the connector.



## INSPECTION AFTER INSTALLATION

- Use the following procedure to check for fuel leaks.
  1. Turn ignition key ON (do not start engine), then check connections for leaks by applying fuel pressure to fuel piping.
  2. Start the engine and let it idle and make sure there are no fuel leaks at the fuel system connections.



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

## Disassembly and Assembly

ABS002BH

A

FL

C

D

E

F

G

H

I

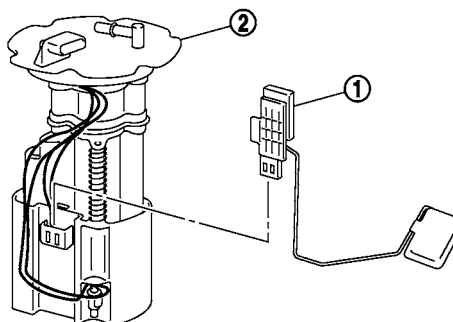
J

K

L

M

SEC. 172



PBIC1081E

1. Fuel level sensor unit

2. Main fuel filter and fuel pump assembly

### NOTE:

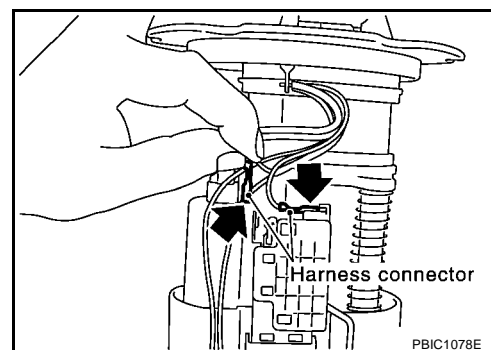
- Sub fuel level sensor unit cannot be disassembled and should be replaced as a unit.

### DISASSEMBLY

Remove fuel level sensor unit with the following procedure.

1. Disconnect harness connector.

- Hold connector by fingers and pull it out, because there is no stopper release tab.

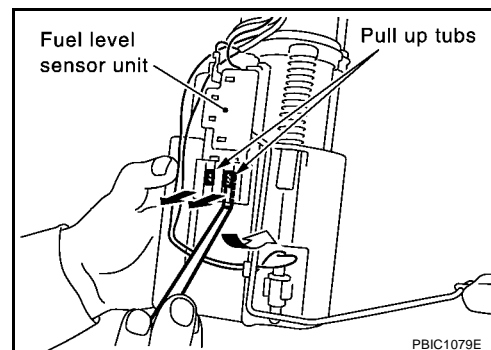


PBIC1078E

2. Using a suitable tool, pull up tubs points shown in the figure (2 points) to release the tabs, and disconnect them.

### CAUTION:

- Be careful not to damage it.

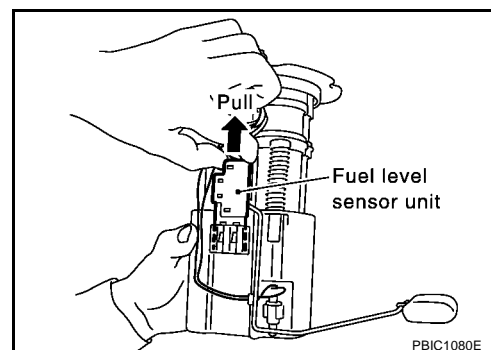


PBIC1079E

3. After fixing tab is disengaged, slide fuel level sensor unit out in direction shown by the arrow.

### CAUTION:

- Do not disassemble fuel filter and fuel pump assembly.



PBIC1080E

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

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### ASSEMBLY

Install in the reverse order of removal paying attention to the following.

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

# FUEL TANK

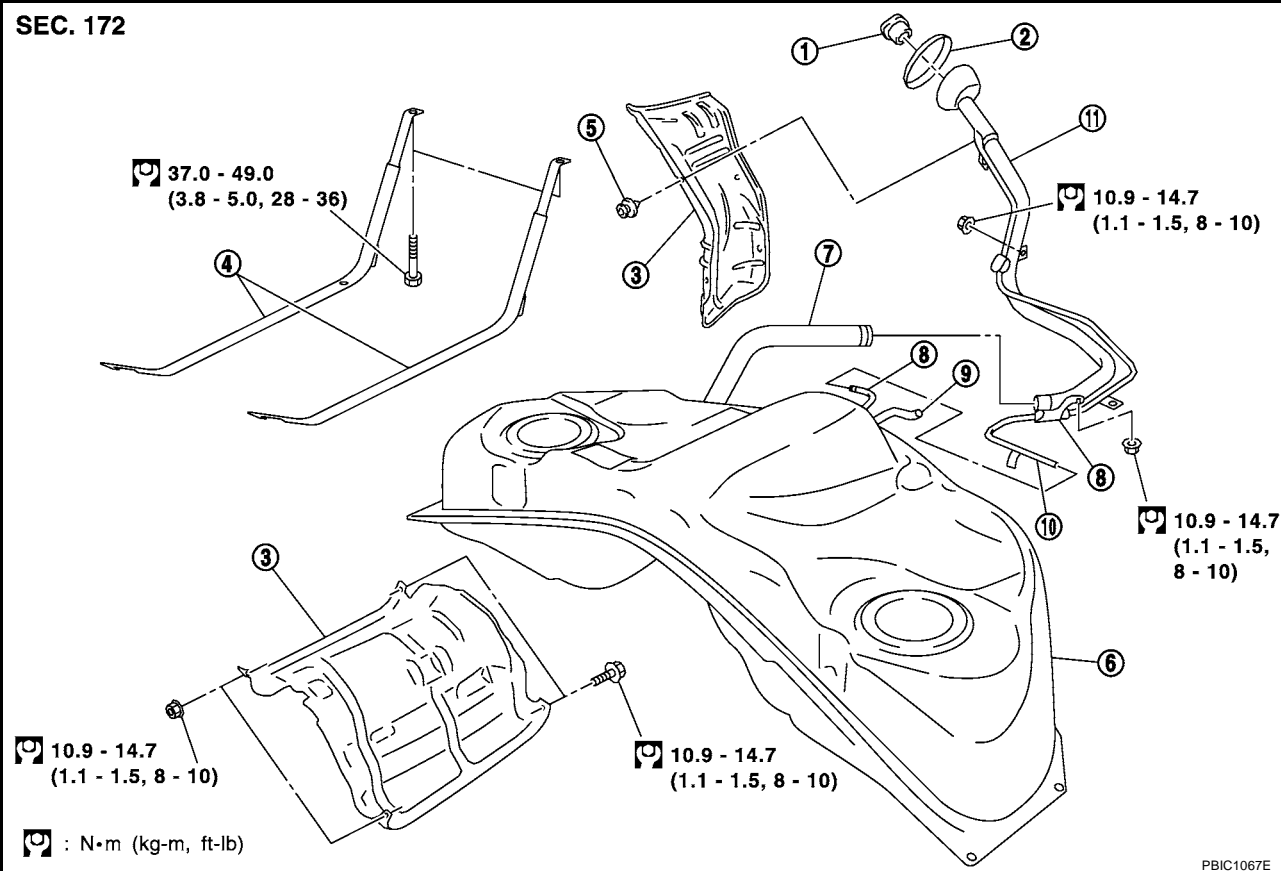
## FUEL TANK

PFP:17202

### Removal and Installation

ABS002BI

SEC. 172



- |                            |                      |                        |
|----------------------------|----------------------|------------------------|
| 1. Fuel filler cap         | 2. Grommet           | 3. Fuel tank protector |
| 4. Fuel tank mounting band | 5. Clamp             | 6. Fuel tank           |
| 7. Fuel filler hose        | 8. EVAP hose         | 9. Vent hose           |
| 10. EVAP tube              | 11. Fuel filler tube |                        |

### REMOVAL

#### **WARNING:**

Read "General Precautions" before working on the fuel system. Refer to [GI-4, "General Precautions"](#) .

- Drain fuel from fuel tank if necessary.
  - Perform work on level place.
1. Carry out steps 2 to 7 of "REMOVAL" in "FUEL LEVEL SENSOR UNIT, FUEL FILTER, AND FUEL PUMP ASSEMBLY" on main and sub fuel level sensor units. Refer to [FL-5, "REMOVAL"](#) .
  2. Remove and tunnel stay. Refer to [RSU-7, "Components"](#) .
  3. Remove the exhaust front tube, center muffler. Refer to [EX-3, "Removal and Installation"](#) .
  4. Remove propeller shaft. Refer to [PR-7, "Removal and Installation"](#) .

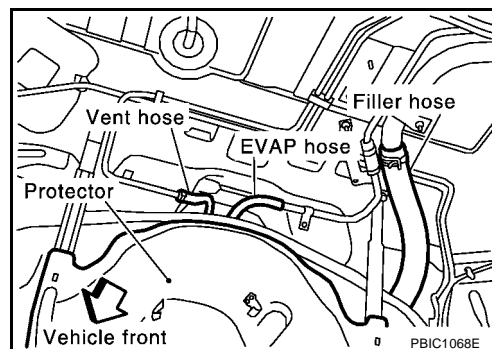
#### **CAUTION:**

**Do not impact or damage propeller shaft tube.**

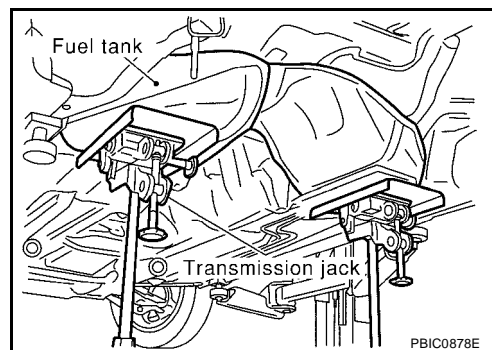
5. Remove parking brake cables. Refer to [PB-4, "Removal and Installation"](#) .
6. Remove rear suspension assembly. Refer to [RSU-7, "Components"](#) .
7. Remove fuel tank protector.

## FUEL TANK

8. Disconnect fuel filler hose, vent hose and EVAP hoses at fuel tank side.



9. Remove fuel tank mounting band bolts while supporting fuel tank.
10. Remove the fuel tank.



### INSTALLATION

Install in the reverse order of removal paying attention to the following.

- Surely clamp fuel hoses and insert hose to the length below.

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

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

- Be sure hose clamp is not placed on swelled area of fuel tube.
- Tighten each clamp (both ends) of the filler hose so that the remaining length for tightening becomes 8 to 12 mm (0.31 to 0.47 in).
- To connect the quick connector, refer to [FL-5, "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY"](#).

### INSPECTION AFTER INSTALLATION

- Use the following procedure to check for fuel leaks.
1. Turn ignition switch ON (do not start engine), and check connections for leakage by applying fuel pressure to fuel piping.
  2. Run the engine and check for fuel leaks at the fuel system tube and hose connections.

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

PFP:00030

#### Standard and Limit

ABS002BJ

Fuel tank capacity	Approx. 76 ℓ (20 US gal, 16-5/8 Imp gal)
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#### Tightening Torque

ABS002BK

Unit: N·m (kg-m, ft- lb)  
N·m (kg-m, in- lb)\*

Fuel tank mounting band	37.0 - 49.0 (3.8 - 5.0, 28 - 36)
Fuel filler tube	10.9 - 14.7 (1.1 - 1.5, 8 - 10)
Fuel tank protector	10.9 - 14.7 (1.1 - 1.5, 8 - 10)
Main fuel level sensor unit, fuel filter and fuel pump assembly	2.0 - 2.5 (0.20 - 0.26, 18 - 22)*
Sub fuel level sensor unit	2.0 - 2.5 (0.20 - 0.26, 18 - 22)*

## SERVICE DATA AND SPECIFICATIONS (SDS)

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