

SECTION **FL**
FUEL SYSTEM

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PRECAUTIONS

PRECAUTIONS

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Precautions for Battery Service

ABS00B4A

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

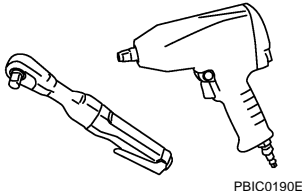
PREPARATION

PREPARATION

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Commercial Service Tools

ABS004WO

Tool name	Description
<p data-bbox="140 310 255 338">Power tool</p>  <p data-bbox="837 512 909 532">PBIC0190E</p>	<p data-bbox="997 310 1252 338">Loosening bolts and nuts</p>

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FUEL SYSTEM

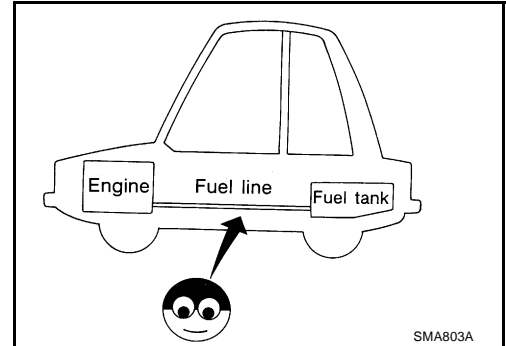
FUEL SYSTEM

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Checking Fuel Lines

ABS002Y6

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

ABS002Y7

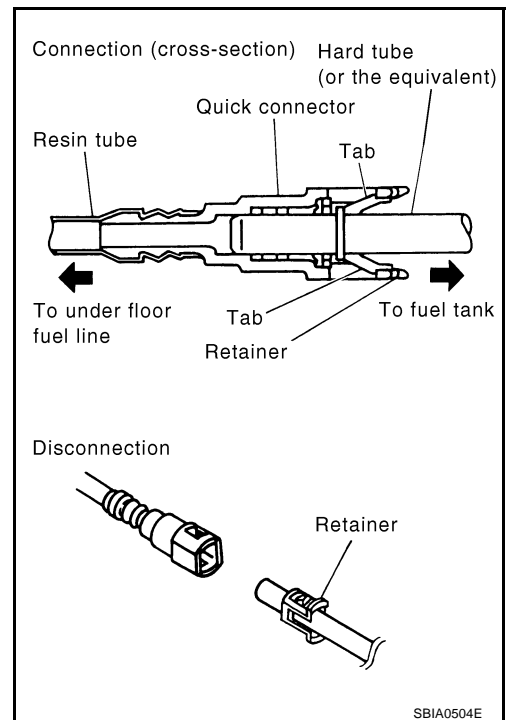
WARNING:

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 CO₂ 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-48, "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.
- 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-630, "EVAPORATIVE EMISSION SYSTEM"](#).
- For servicing "On Board Refueling Vapor Recovery (ORVR)" parts, refer to [EC-637, "ON BOARD REFUELING VAPOR RECOVERY \(ORVR\)"](#).

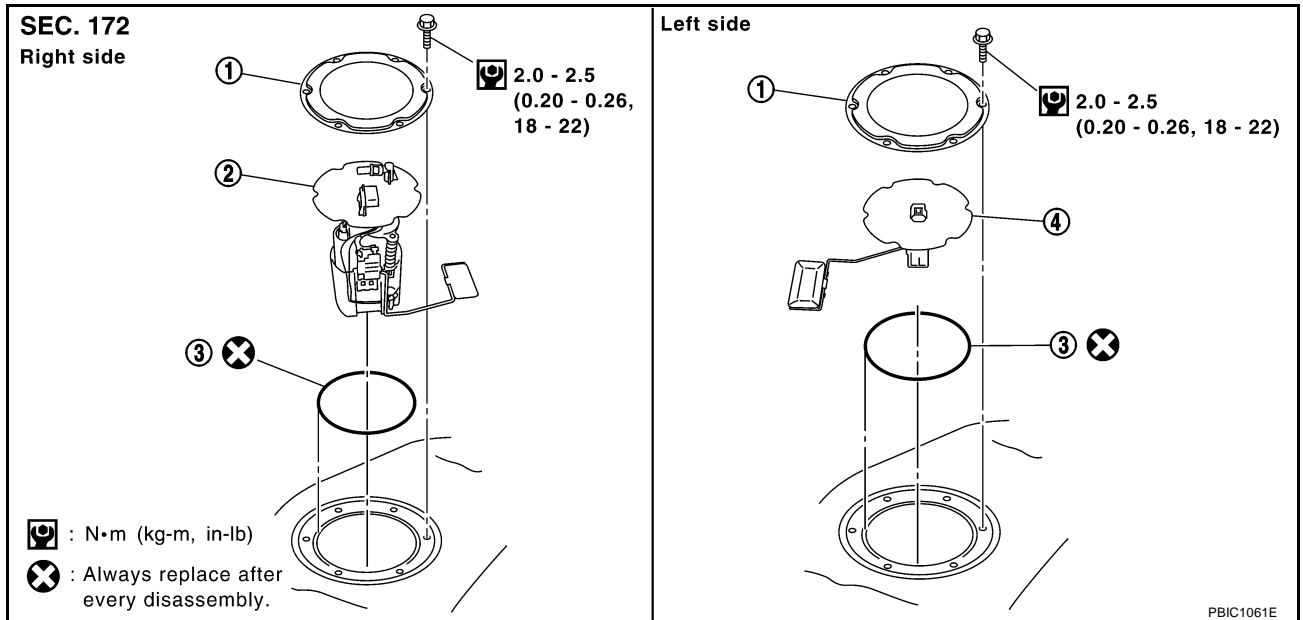


FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

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

Removal and Installation

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REMOVAL

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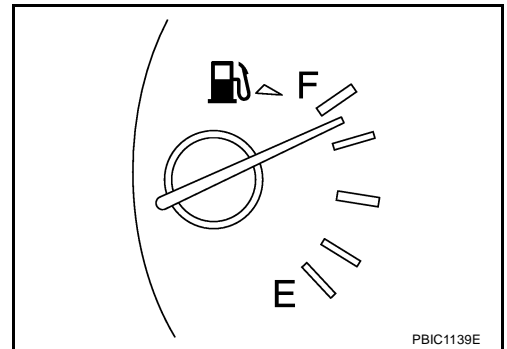
Read "General Precautions" before working on the fuel system. Refer to [FL-4, "General Precautions"](#).

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

NOTE:

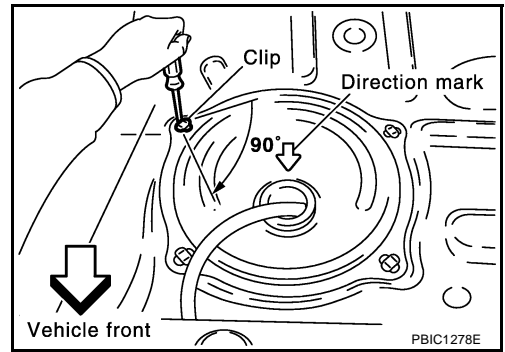
Because fuel will be spilled when removing main and sub fuel level sensor units for the top of the fuel is above the main and sub fuel level sensor units installation surface.

- As a guide, fuel level becomes the position as shown in the figure or below when approximately 20 ℓ (4-3/8 Imp gal) of fuel are drained from fuel tank.
 - In a case that fuel pump does not operate, perform the following procedure.
 - a. Insert 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. Refer to [FL-11, "FUEL TANK"](#).
 - c. Insert fuel tube into fuel tank through fuel filler hose to draw fuel from fuel tank.
2. Release the fuel pressure from the fuel lines. Refer to [EC-48, "FUEL PRESSURE RELEASE"](#).
 3. Open fuel filler lid.
 4. Open the filler cap and release the pressure inside the fuel tank.
 5. Remove the rear seat cushion, Refer to [SE-64, "Removal and Installation"](#).

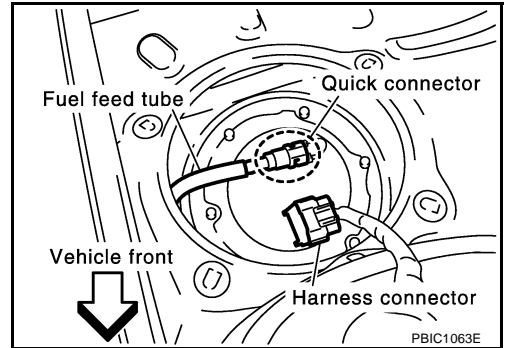


FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

6. Peel off floor carpet, then remove inspection hole cover for main and sub fuel level sensor unit.

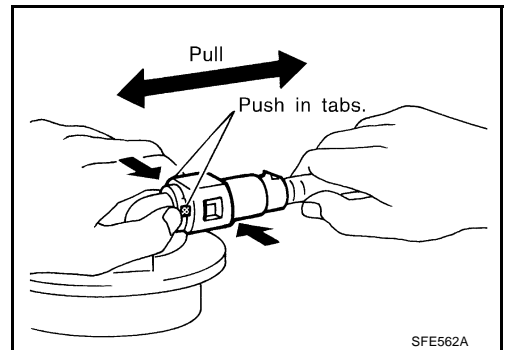


7. Disconnect the harness connector and fuel feed tube.



Disconnect the quick connector as follows:

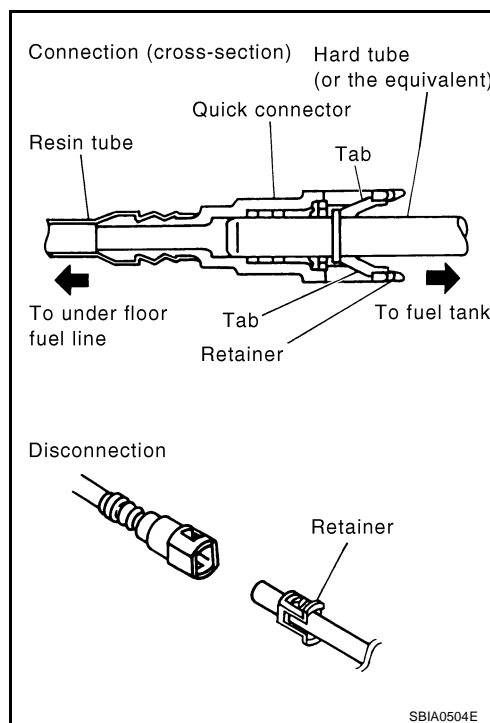
- Hold the sides of the connector, push in tabs and pull out the tube.
- If the connector and the tubes are stuck together, push and pull several times until they start to move. Then disconnect them by pulling.



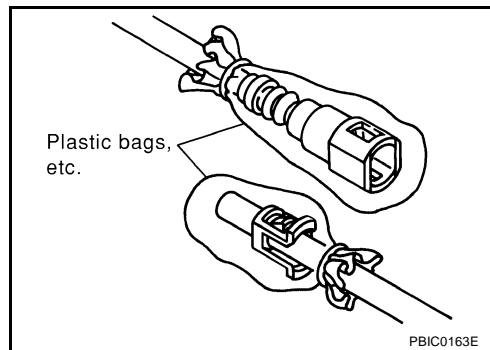
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

CAUTION:

- The quick connector can be disconnected when the tabs are completely depressed. Do not twist it more than necessary.
- Do not use any tools to disconnect 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 resin tube during installation and disconnection.
- Do not remove the remaining retainer on the hard tube (or the equivalent) except when the resin tube or the retainer is replaced.
- When the resin tube or hard tube (or the equivalent) 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:

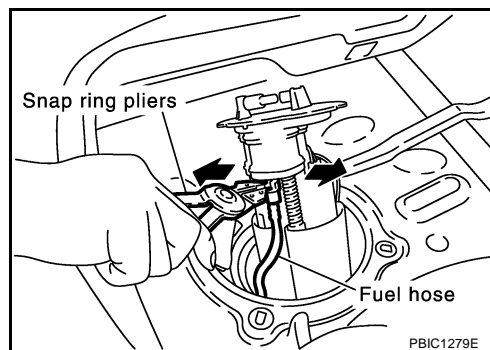
- Raise the sender unit, and using a snap ring pliers, remove the fuel hose connector.

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

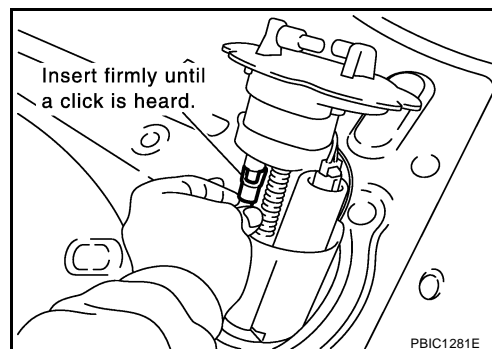
Make sure the fuel pump strainer is free from foreign materials. If any are found, remove them.

INSTALLATION

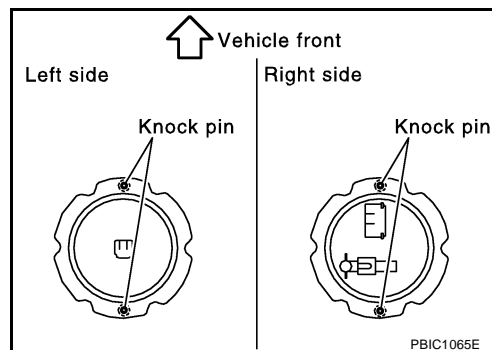
Install in the reverse order of removal paying attention to the following.

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

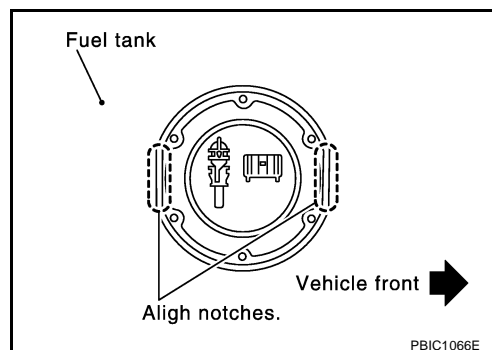
- When installing fuel hose connector, insert them fully until a click sound of full stopper engagement is heard.



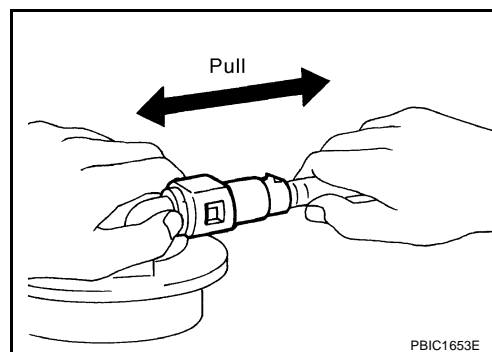
- Face fuel gauge as shown in figure, and install it with knock pin on back aligned with pinhole on fuel tank.



- 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.

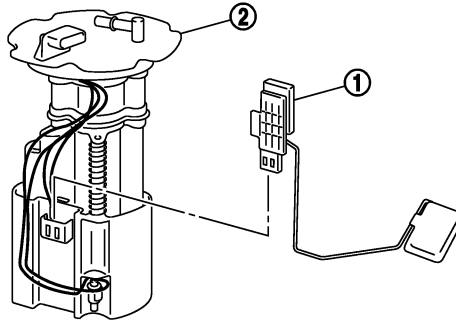
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

Disassembly and Assembly

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PBIC1081E

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

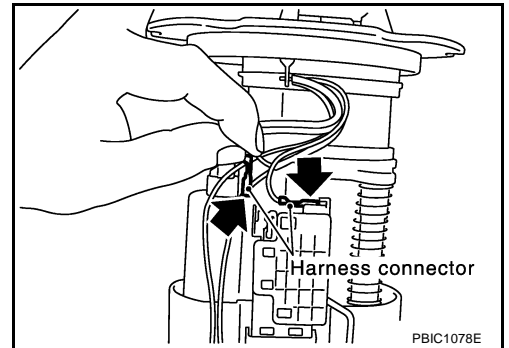
NOTE:

- 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.

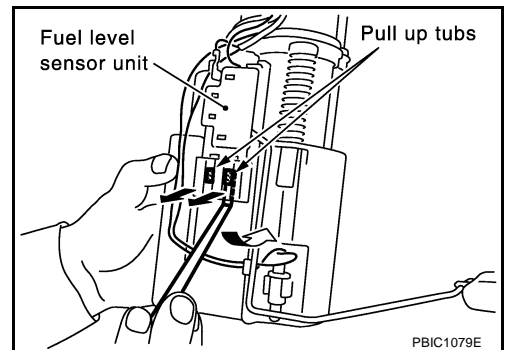


PBIC1078E

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

CAUTION:

- Be careful not to damage it.

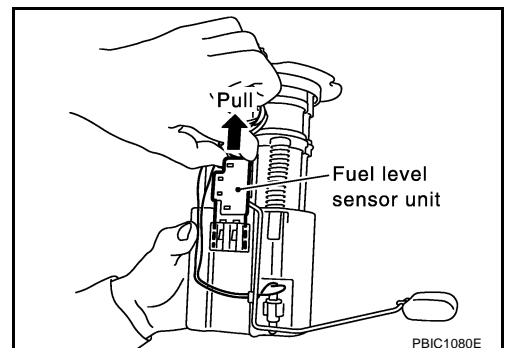


PBIC1079E

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

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

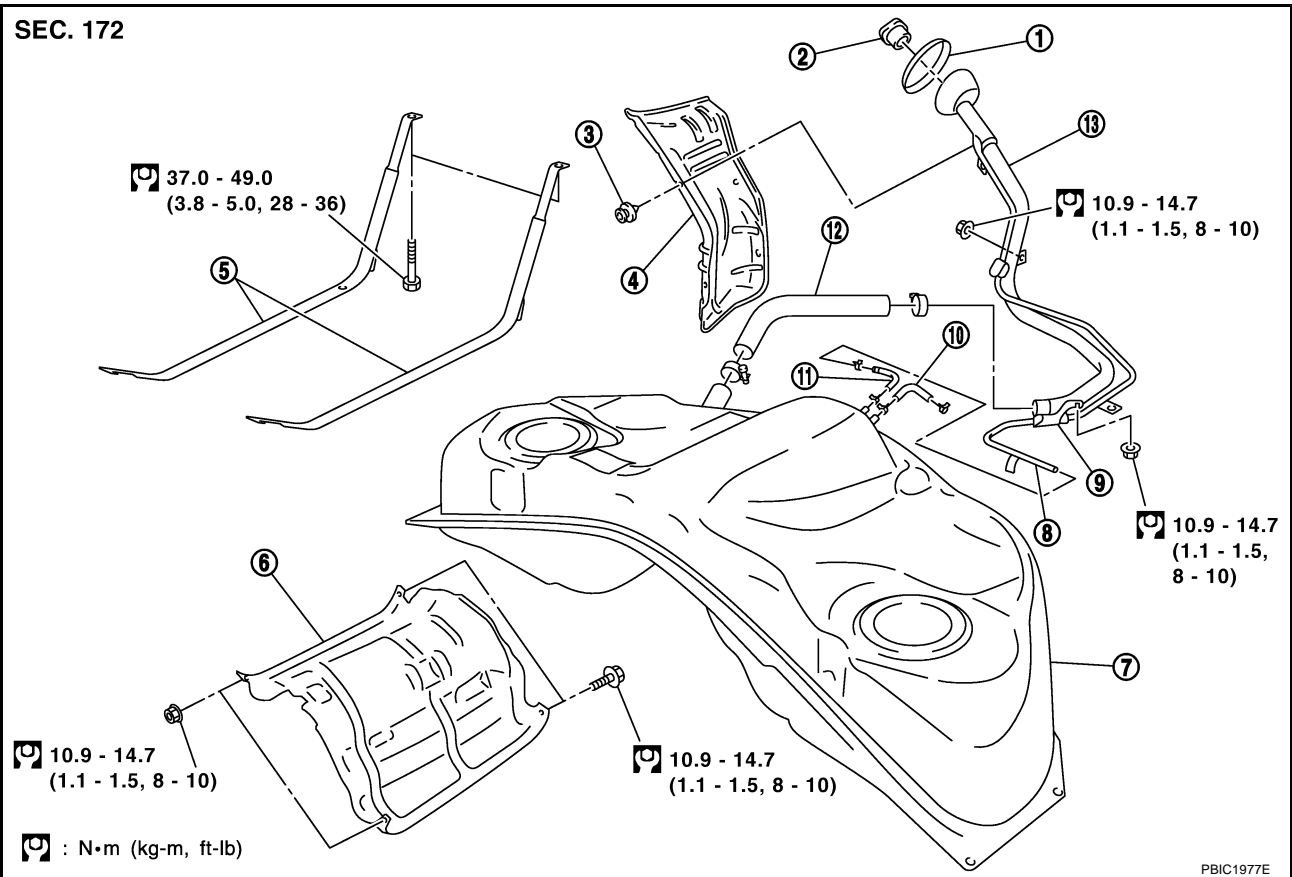
FUEL TANK

PFP:17202

Removal and Installation

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|-------------------------------|----------------------------|------------------------|
| 1. Grommet | 2. Fuel filler cap | 3. Clip |
| 4. Fuel filler tube protector | 5. Fuel tank mounting band | 6. Fuel tank protector |
| 7. Fuel tank | 8. Vent tube | 9. Vent hose |
| 10. EVAP hose | 11. Vent hose | 12. Fuel filler hose |
| 13. Fuel filler tube | | |

REMOVAL

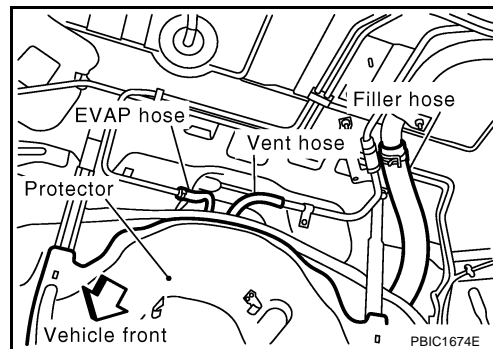
WARNING:

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

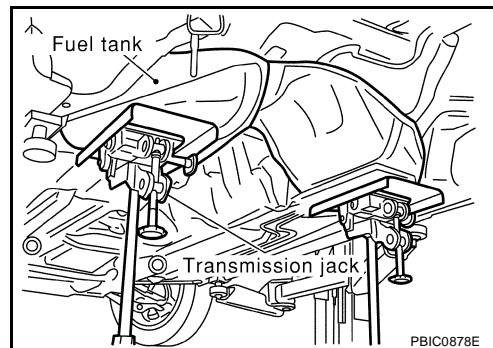
- Drain fuel from fuel tank if necessary.
 - Perform work on level place.
1. Carry out steps 2 to 7 of "REMOVAL" in "FUEL LEVEL SENSOR UNIT, FUEL FILTER, AND FUEL PUMP ASSEMBLY" on main and sub fuel level sensor units. Refer to [FL-5, "REMOVAL"](#).
 2. Remove the exhaust front tube, center muffler. Refer to [EX-3, "Removal and Installation"](#).
 3. Remove propeller shaft. Refer to [PR-4, "Removal and Installation"](#).
 4. Remove parking brake cables. Refer to [PB-6, "PARKING BRAKE CONTROL"](#).
 5. Remove rear suspension assembly. Refer to [RSU-7, "Components"](#).
 6. Remove fuel tank protector.

FUEL TANK

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



8. Remove fuel tank mounting band bolts while supporting fuel tank.
9. 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 of the filler hose so that the remaining length for tightening becomes 8 to 12 mm (0.31 to 0.47 in) fuel tank side and 5.7 to 9.7 mm (0.224 to 0.382 in) fuel filler tube side.
- 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

ABS002YB

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

ABS002YC

Unit: N·m (kg·m, ft. - lb)
Unit: 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)*

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SERVICE DATA AND SPECIFICATIONS (SDS)
