

SECTION **FL**
FUEL SYSTEM

CONTENTS

APPLICATION NOTICE	2	INSPECTION AFTER INSTALLATION	9	F
How to Check Vehicle Type	2	Disassembly and Assembly	9	
PREPARATION	3	DISASSEMBLY	9	
Commercial Service Tools	3	ASSEMBLY	10	G
FUEL SYSTEM	4	FUEL TANK	12	
Checking Fuel Lines	4	Removal and Installation	12	
General Precautions	4	REMOVAL	12	H
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND		INSTALLATION	13	
FUEL PUMP ASSEMBLY	5	INSPECTION AFTER INSTALLATION	13	
Removal and Installation	5	SERVICE DATA AND SPECIFICATIONS (SDS)	14	I
REMOVAL	5	Standard and Limit	14	
INSPECTION AFTER REMOVAL	7	Tightening Torque	14	
INSTALLATION	8			J

APPLICATION NOTICE

APPLICATION NOTICE

PFP:00000

How to Check Vehicle Type

ABS00CGH

Check the transmission and vehicle serial number to confirm the service information in EC section.

Transmission	Vehicle serial number	Service information
A/T	Up to serial 329287 except 327918, 327920, 327976, 327978, 328979, 329004, 329025, 329078	TYPE 1
	For serial 327918, 327920, 327976, 327978, 328979, 329004, 329025, 329078 and from serial 329288	TYPE 2
M/T	-	

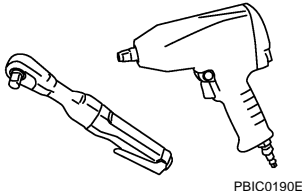
PREPARATION

PREPARATION

PFP:00002

Commercial Service Tools

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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 340">Loosening bolts and nuts</p>

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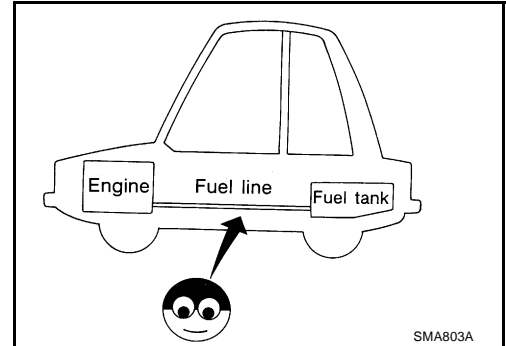
FUEL SYSTEM

PF17503

Checking Fuel Lines

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



General Precautions

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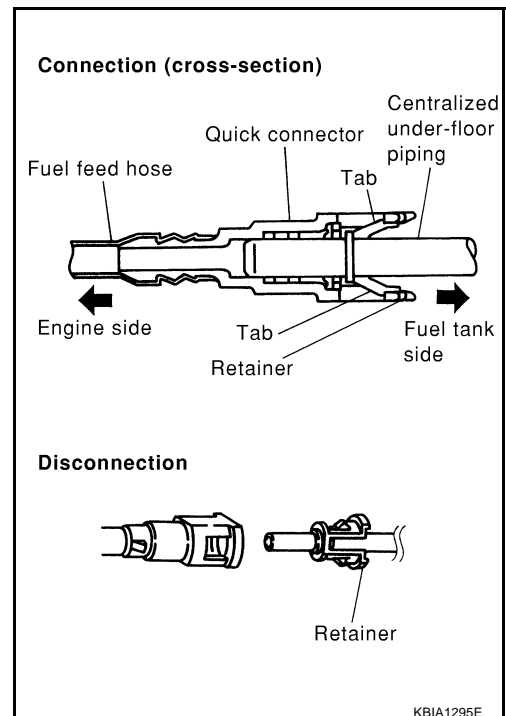
WARNING:

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:
 - 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-53, "FUEL PRESSURE RELEASE" \(TYPE 1\)](#) or [EC-694, "FUEL PRESSURE RELEASE" \(TYPE 2\)](#).
 - Disconnect the battery ground cable.
- Always replace O-ring 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.
- 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.
 - Apply fuel pressure to fuel lines with turning ignition switch ON (with engine stopped). Then check for fuel leaks at connections.
 - 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-635, "EVAPORATIVE EMISSION SYSTEM" \(TYPE 1\)](#) or [EC-1292, "EVAPORATIVE EMISSION SYSTEM" \(TYPE 2\)](#).
- For servicing "On Board Refueling Vapor Recovery (ORVR)" parts, refer to [EC-642, "ON BOARD REFUELING VAPOR RECOVERY \(ORVR\)" \(TYPE 1\)](#) or [EC-1299, "ON BOARD REFUELING VAPOR RECOVERY \(ORVR\)" \(TYPE 2\)](#).

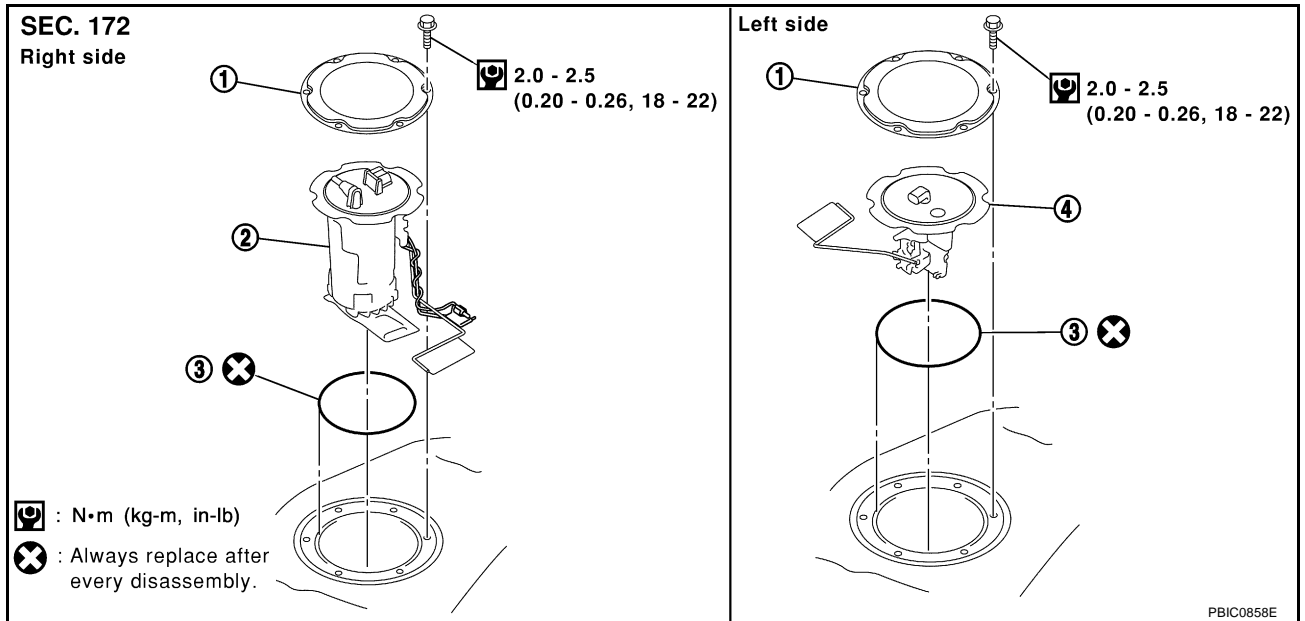


FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

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

Removal and Installation

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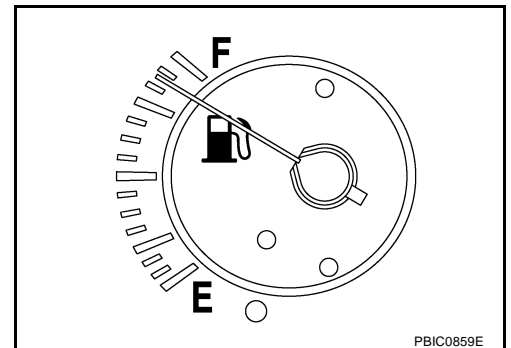
1. Retainer
2. Main fuel level sensor unit, fuel filter - and fuel pump assembly
3. O - ring
4. Sub fuel level sensor unit

REMOVAL

WARNING:

Be sure to read "General Precautions" when working on the fuel system. Refer to [FL-4, "General Precautions"](#).

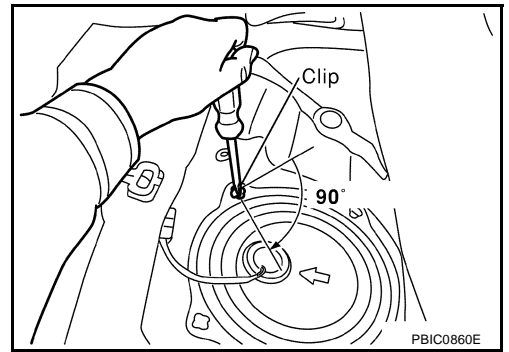
1. Check fuel level on level place. If gauge indicates more than the level shown in figure (full or almost full), drain fuel from fuel tank until gauge indicates level shown in figure or below.
 - In case of fuel pump does not operate, take following procedure.
 - a. Insert fuel tube of less than 25 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 20 ℓ (5-1/4 US gal, 4-3/8 Imp gal) of fuel are drained from fuel tank.



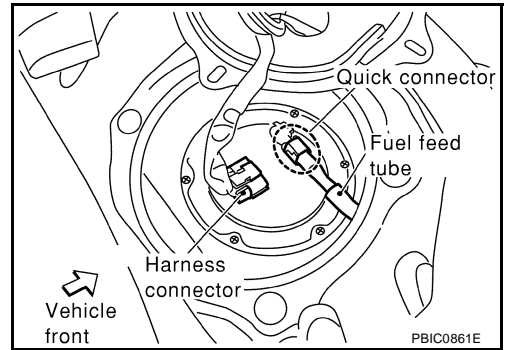
2. Release the fuel pressure from the fuel lines. Refer to [EC-53, "FUEL PRESSURE RELEASE"](#) (TYPE 1) or [EC-694, "FUEL PRESSURE RELEASE"](#) (TYPE 2).
3. Open fuel filler lid.
4. Open the filler cap and release the pressure inside the fuel tank.
5. Remove the rear seat cushion. Refer to [SE-73, "Removal 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 by turning clips clockwise by 90°.

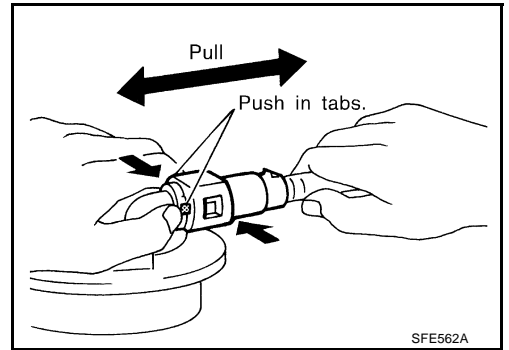


7. Disconnect the harness connector and fuel feed tube.



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 tube are stuck together, push and pull several times until they start to move. Then disconnect them by pulling.



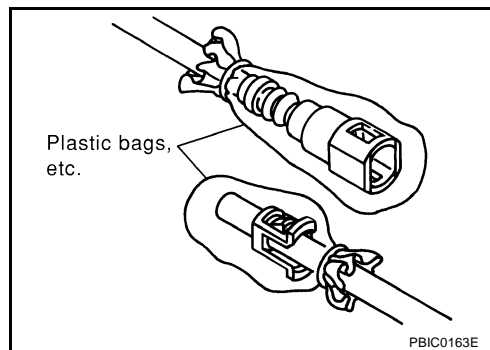
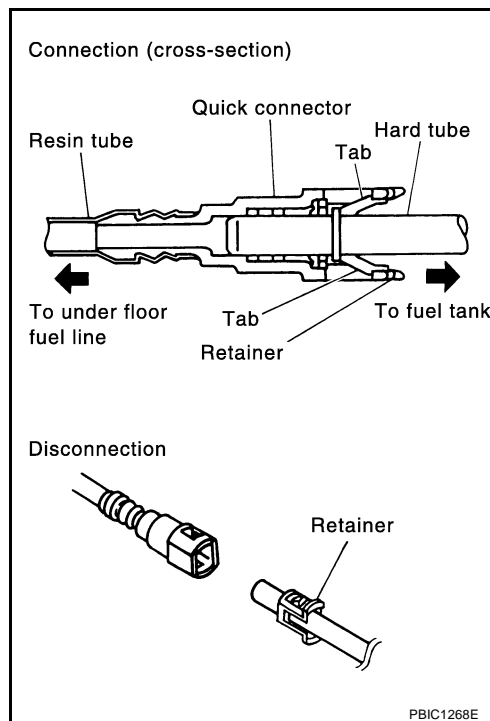
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

CAUTION:

- The quick connector can be disconnected when the tabs are completely depressed. Do not twist it more than necessary.
- Do not use any tools to disconnected 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.
- Replace same color retainer as before replacing.

Retainer color: Orange

- To keep clean the connecting portion 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 and 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.

- a. Removal of main fuel level sensor unit, fuel filter and fuel pump assembly:

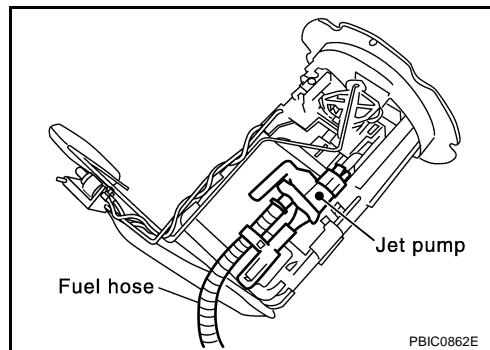
- i. Remove retainer.
- ii. Raise the sender unit, and remove the jet pump to remove the sender unit.
- iii. Leave the jet pump on the fuel tank with the fuel hose.

CAUTION:

Do not disassemble the jet pump, fuel hose and jet pump inlet assembly. If necessary, replace as a set of fuel tank.

- b. Removal of sub fuel level sensor unit:

- i. Remove retainer.
- ii. Raise and release the sub fuel level sensor unit to remove.



INSPECTION AFTER REMOVAL

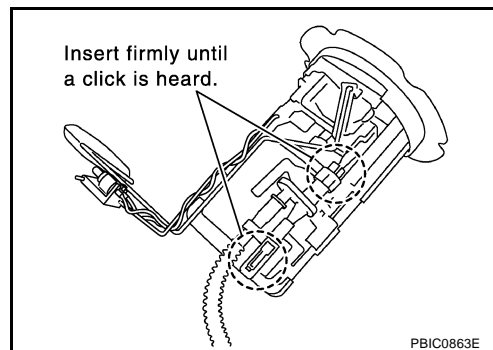
Make sure the fuel pump strainer is free from foreign materials. If any are found, remove them.

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

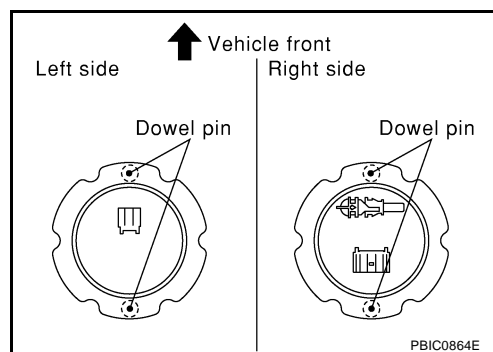
INSTALLATION

Installation is in the reverse order of removal paying attention to the following.

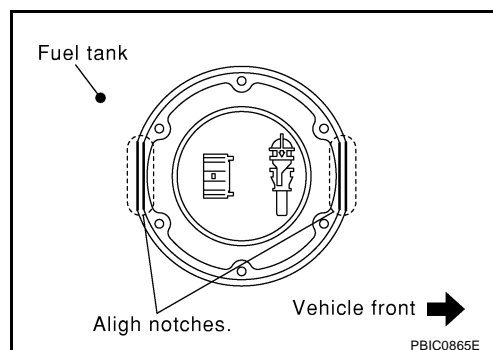
- When installing the jet pump, insert them fully until a click sound of full stopper engagement is heard.



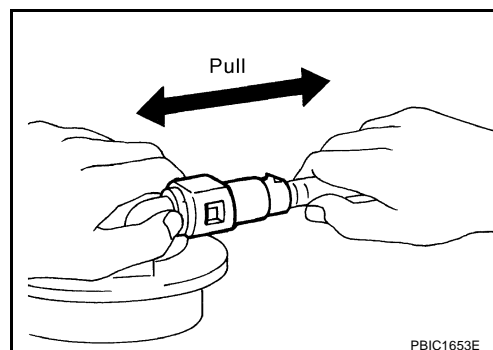
- Face main and sub fuel level sensor units as shown in the figure, and install it with knock pin on back aligned with pinhole on fuel tank.



- 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.
 - Visually confirm that the two retainer tabs are connected to the connector.
 - Pull the tube and the connector to make sure they are securely connected.



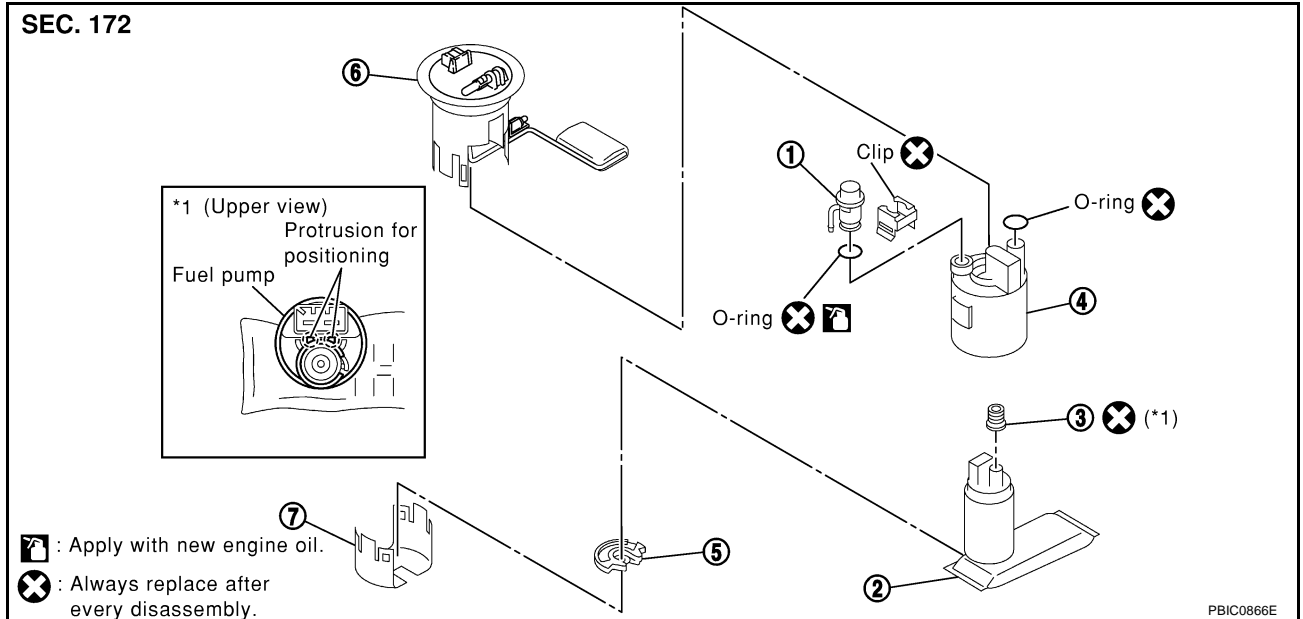
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

INSPECTION AFTER INSTALLATION

- Use the following procedure to check for fuel leaks.
- 1. Turn ignition switch "ON" (with engine stopped), 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.

Disassembly and Assembly

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1. Pressure regulator
2. Fuel pump
3. Packing
4. Fuel filter
5. Rubber
6. Main fuel level sensor unit
7. Bracket

NOTE:

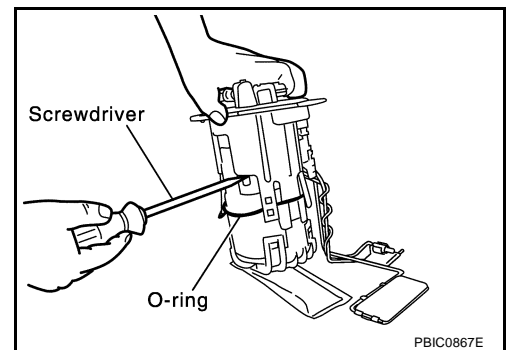
- Sub fuel level sensor unit cannot be disassembled and should be replaced as a unit.

DISASSEMBLY

1. Separate the main fuel level sensor unit.
 - a. Fit a used O-ring into space between main fuel level sensor unit and fuel filter. Undo catches and separate main fuel level sensor unit and fuel filter.
 - For reference when reassembling, put a mating mark on outer edges of main fuel level sensor unit and fuel filter with some means which cannot be erased by fuel.
 - b. Insert blade end screwdriver to the gap between the fuel filter and main fuel level sensor unit to separate them.

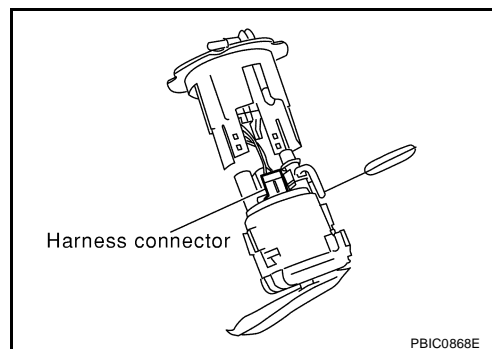
CAUTION:

- Put cloth or similar one on the edge of screwdriver not to damage the inserted portion.
- Separate main fuel level sensor unit by pulling it straight. If lateral force is applied, inner resin tube (between main fuel level sensor unit and fuel filter) may break.

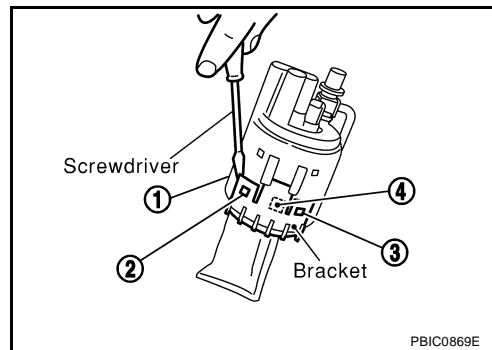


FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

2. Disconnect the harness connector from fuel pump side.



3. Separate bracket, fuel pump from fuel filter.
 - Using a screwdriver, remove the snap fit portion of bracket in the order of (1), (2), (3) and (4) as shown in the figure.
 - For reference when reassembling, put a mating mark on outer edges of fuel filter and bracket with some means which cannot be erased by fuel.



4. Remove pressure regulator from fuel filter.
 - a. Open and remove the clip.
 - b. Pull the pressure regulator straight out during removal.

CAUTION:

- Handle fuel tube carefully and avoid damaging it.
- Avoid impacts such as falling during removal.
- Do not disassemble or adjust.

ASSEMBLY

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

Fuel Filter and Fuel Pump

- Install fuel filter and fuel pump with the tabs aligned, make sure a click sound of secure engagement is heard.
- Securely connect harness connector of fuel pump.

Pressure Regulator

Install pressure regulator as follows:

1. Install O-ring.

CAUTION:

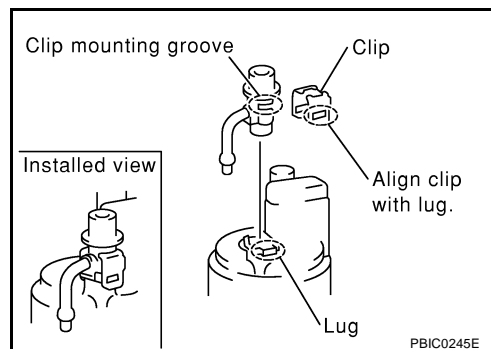
- Do not reuse O-ring. Replace it with a new one.
- Handle O-ring with bare hands. Do not wear gloves.
- Visually check O-ring, mounting parts and mating parts for foreign materials and flaws.
- Before installing, lubricate new engine oil.
- To avoid damage, do not apply an excessive force (pulling or stretching).

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

2. Insert the clip to the groove of the regulator.

CAUTION:

Do not reuse clip. Replace it with a new one.



3. With the clip installed, insert pressure regulator straight by matching the fuel filter protrusion and the clip notch.
4. Make sure that the fuel filter protrusion and clip notch are securely engaged.

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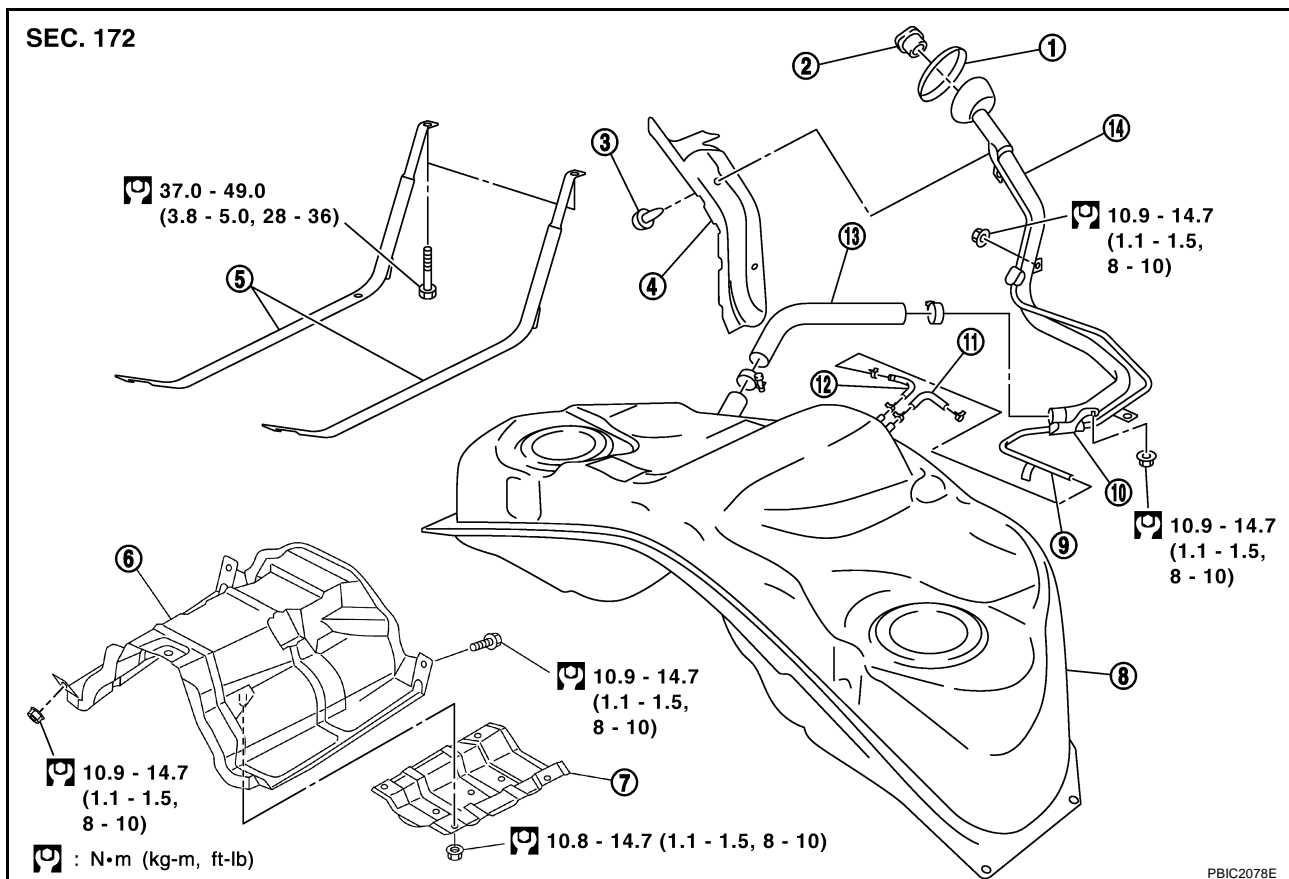
FUEL TANK

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FUEL TANK

Removal and Installation

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REMOVAL

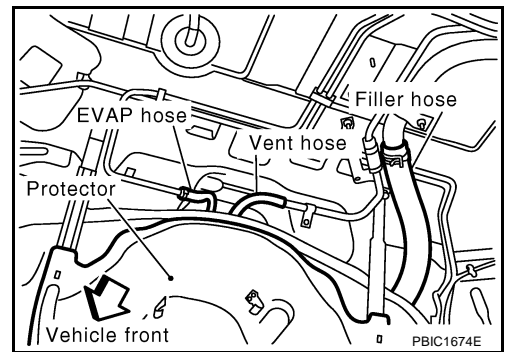
WARNING:

Be sure to read "General Precautions" when working on the fuel system. Refer to [FL-4, "General Precautions"](#).

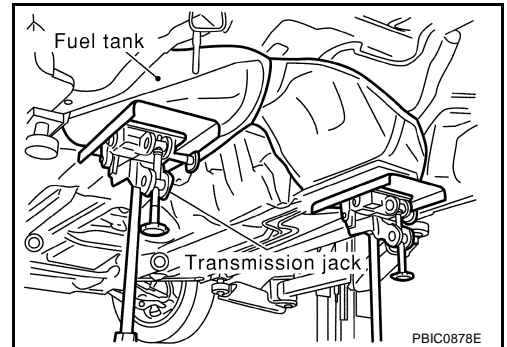
- Drain fuel from fuel tank if necessary.
 - Perform work on level place.
1. Carry out steps 2 to 7 of "REMOVAL" in "FUEL LEVEL SENSOR UNIT, FUEL FILTER, AND FUEL PUMP ASSEMBLY" on main and sub fuel level sensor units. Refer to [FL-5, "REMOVAL"](#).
 2. Remove the exhaust front tube, center muffler and main muffler. Refer to [EX-3, "Removal and Installation"](#).
 3. Remove insulator then propeller shaft. Refer to [PR-4, "Removal and Installation"](#).
 4. Remove parking brake cables. Refer to [PB-6, "Removal and Installation"](#).
 5. Remove rear suspension assembly. Refer to [RSU-8, "Removal and Installation"](#).
 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

1. 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 clamp (fuel tank side) of the fuel filler hose so that the remaining length of screw thread becomes 8 to 12 mm (0.31 to 0.47 in).
- Tighten clamp (fuel filler tube side) of the fuel filler hose so that the remaining length of screw thread becomes 5.7 to 9.7 mm (0.22 to 0.38 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" (with engine stopped), and check connections for leakage by applying fuel pressure to fuel piping.
2. Start 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

ABS000JM

Fuel tank capacity	Approx. 76 ℓ (20-1/8 US gal, 16-3/4 Imp gal)
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Tightening Torque

ABS000JM

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)*