

SECTION **FL**
FUEL SYSTEM

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

CONTENTS

SERVICE INFORMATION	2	Removal and Installation	4
PREPARATION	2	Component	8
Commercial Service Tool	2	Disassembly and Assembly	8
FUEL SYSTEM	3	FUEL TANK	10
Checking Fuel Line	3	Component	10
General Precaution	3	Removal and Installation	10
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY	4	SERVICE DATA AND SPECIFICATIONS (SDS)	12
Component	4	Standard and Limit	12

PREPARATION

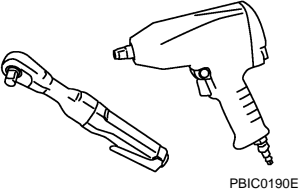
< SERVICE INFORMATION >

SERVICE INFORMATION

PREPARATION

Commercial Service Tool

INFOID:000000001327103

Tool name	Description
<p data-bbox="162 415 272 441">Power tool</p>  <p data-bbox="852 634 922 651">PBIC0190E</p>	<p data-bbox="1015 415 1263 441">Loosening nuts and bolts</p>

FUEL SYSTEM

< SERVICE INFORMATION >

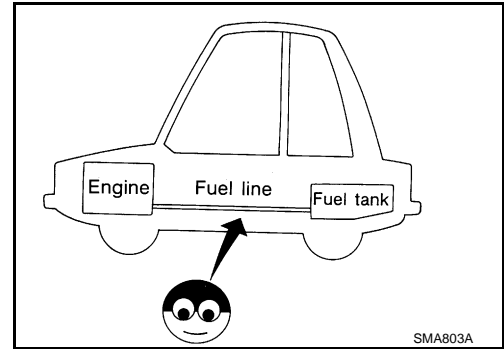
FUEL SYSTEM

Checking Fuel Line

INFOID:000000001327104

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

If necessary, repair or replace damaged parts.



General Precaution

INFOID:000000001327105

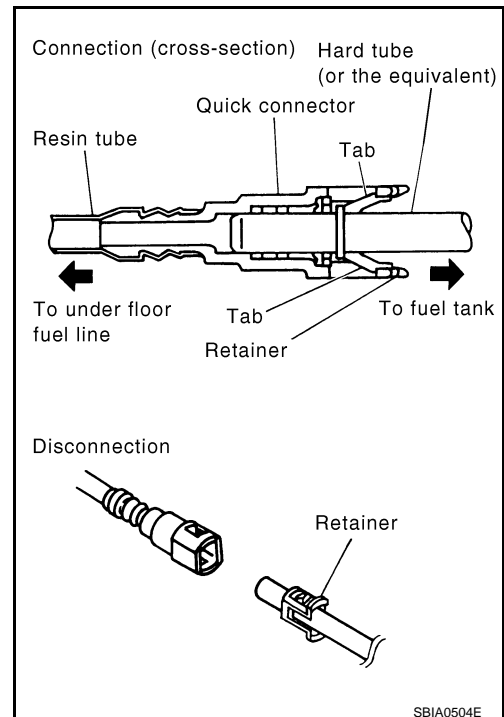
WARNING:

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.
- Do not 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-5, "Precaution for Fuel \(Unleaded Premium Gasoline Recommended\)"](#).
- 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-87, "Fuel Pressure Check" \(VQ35DE\)](#) or [EC-665, "Fuel Pressure Check" \(VK45DE\)](#).
 - Disconnect negative battery terminal.
 - 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 fuel tube quick connectors, make sure quick connectors are secure. Ensure that 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 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-40, "Description" \(VQ35DE\)](#) or [EC-618, "Description" \(VK45DE\)](#).
- For servicing "On Board Refueling Vapor Recovery (ORVR)" parts, refer to [EC-46, "System Description" \(VQ35DE\)](#) or [EC-624, "System Description" \(VK45DE\)](#).



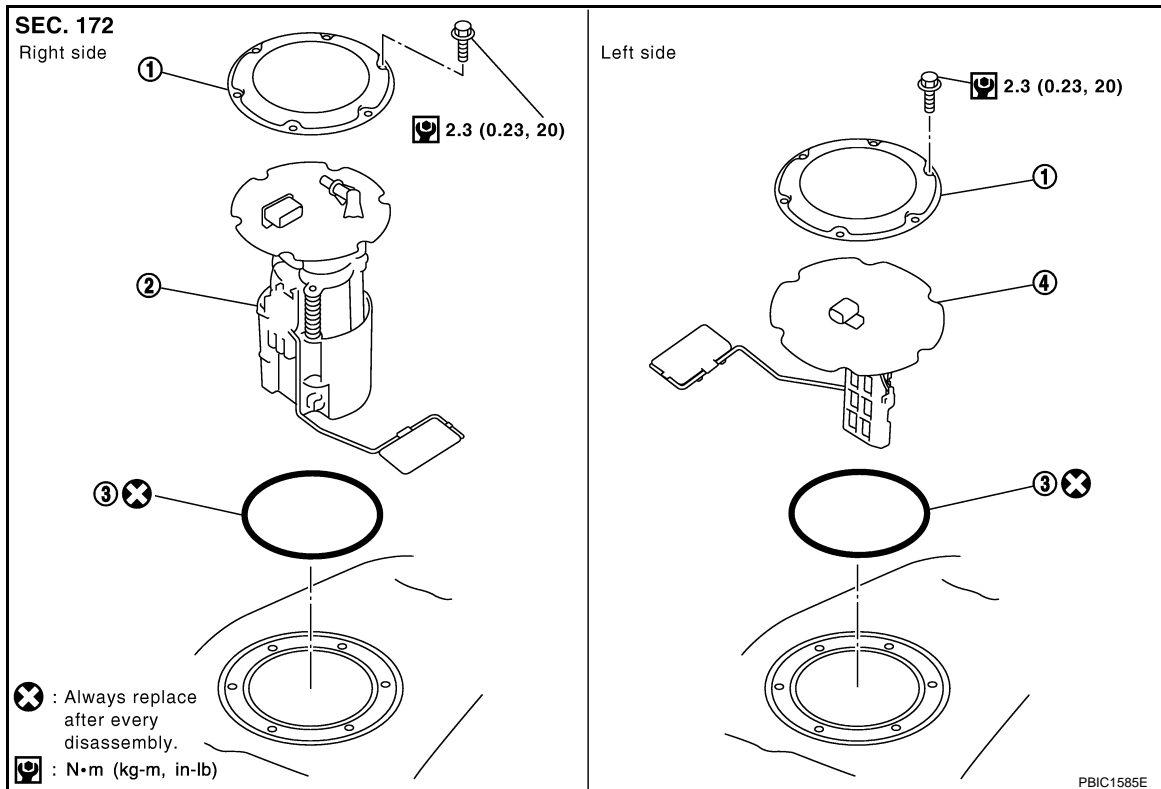
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< SERVICE INFORMATION >

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

Component

INFOID:000000001327106



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

Removal and Installation

INFOID:000000001327107

REMOVAL

WARNING:

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

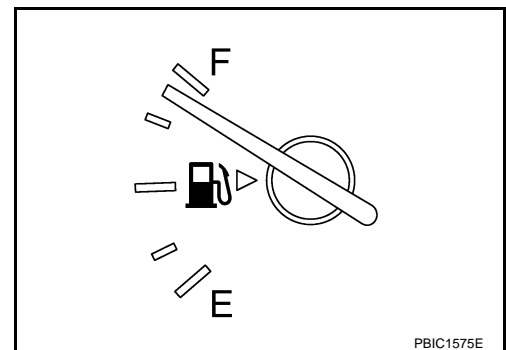
1. Check fuel level on fuel gauge. If fuel gauge indicates more than the level as shown in the figure (full or almost full), drain fuel from fuel tank until fuel gauge indicates level as shown in the figure or below.

NOTE:

Because fuel will be spilled when removing 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 (5-1/4 US gal, 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.

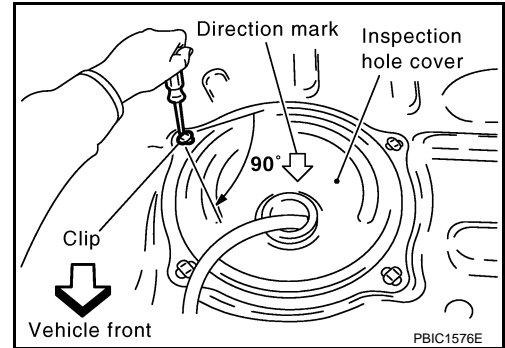
- a. Insert hose of less than 25 mm (0.98 in) in diameter into fuel filler tube through fuel filler opening to draw fuel from fuel filler tube.
- b. Disconnect fuel filler hose from fuel filler tube. Refer to [FL-10, "Component"](#).
- c. Insert fuel tube into fuel tank through fuel filler hose to draw fuel from fuel tank.



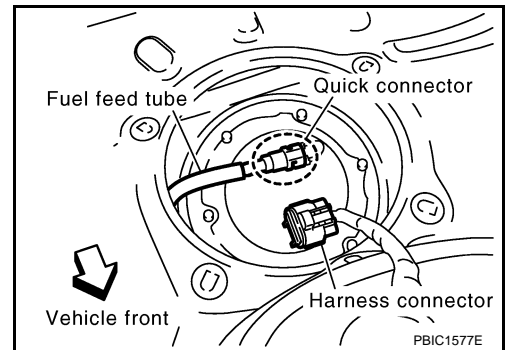
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< SERVICE INFORMATION >

2. Release the fuel pressure from the fuel lines. Refer to [EC-87. "Fuel Pressure Check"](#) (VQ35DE) or [EC-665. "Fuel Pressure Check"](#) (VK45DE).
3. Open fuel filler lid.
4. Open filler cap and release the pressure inside fuel tank.
5. Remove rear seat cushion. Refer to [SE-95. "Removal and Installation"](#).
6. Peel off floor carpet, then remove inspection hole cover for main and sub fuel level sensor units by turning clips clockwise by 90 degrees.

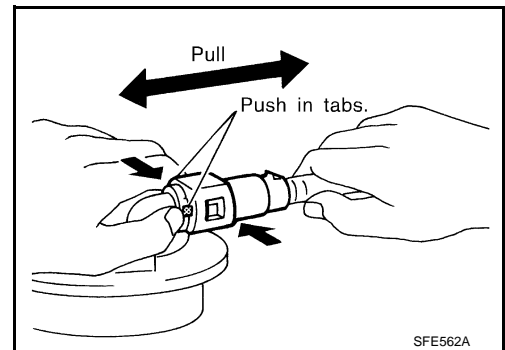


7. Disconnect harness connector and fuel feed tube.



Disconnect quick connector as follows:

- Hold the sides of connector, push in tabs and pull out tube.
- If quick connector sticks to tube of main fuel level sensor unit, push and pull quick connector several times until they start to move. Then disconnect them by pulling.



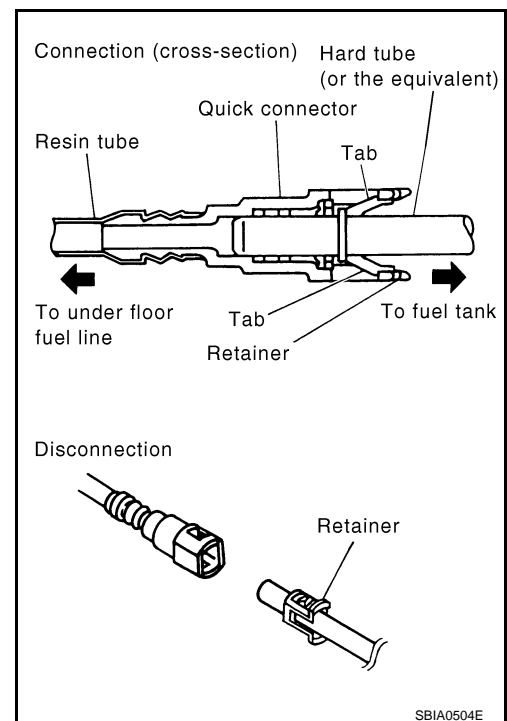
CAUTION:

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

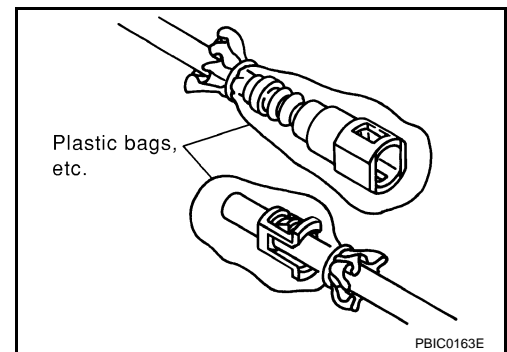
< SERVICE INFORMATION >

- 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 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.
- Do not bend or twist resin tube during installation and disconnection.
- Do not remove the remaining retainer on hard tube (or the equivalent) except when resin tube or retainer is replaced.
- When resin tube or hard tube (or the equivalent) is replaced, also replace retainer with new one.

Retainer color: White



- 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 and fuel pump assembly, and sub fuel level sensor unit as follows:

CAUTION:

- Do not bend 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:

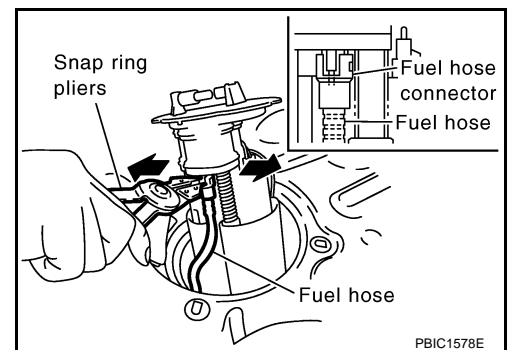
- Remove retainer.
- Raise main fuel level sensor unit, fuel filter and fuel pump assembly, and using snap ring pliers, remove fuel hose connector.

CAUTION:

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

- b. Removal of sub fuel level sensor unit:

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



INSTALLATION

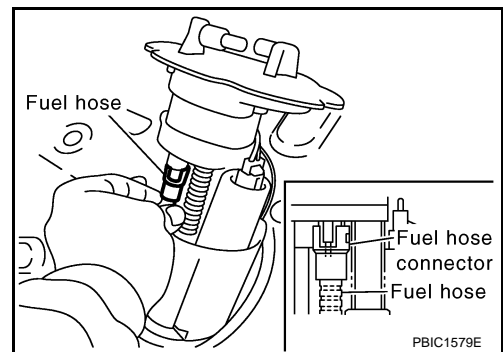
Note to the following, and install in the reverse order of removal.

Main and Sub Fuel Level Sensor Unit

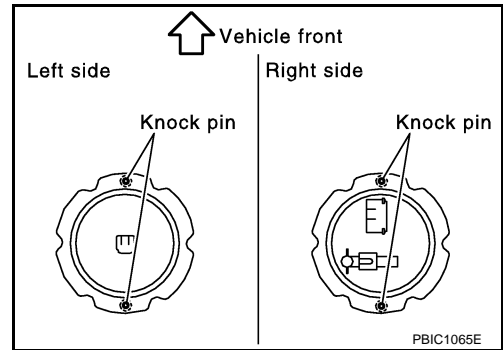
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< SERVICE INFORMATION >

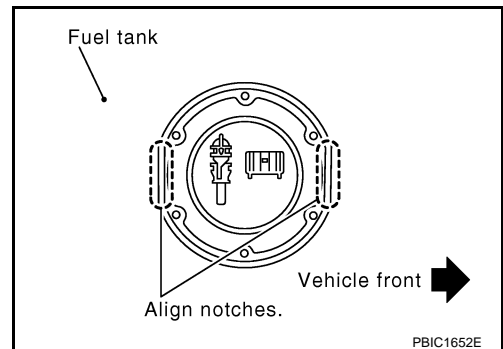
- When installing fuel hose connector insert them fully until a click sound of full stopper engagement is heard.



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



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

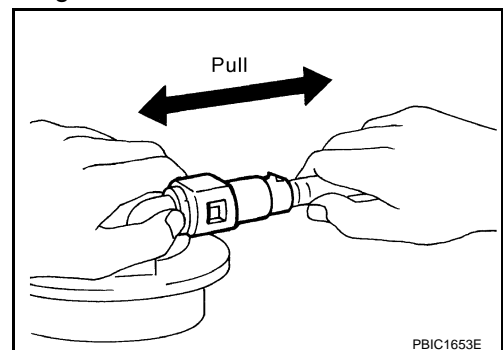


- Tighten retainer mounting bolts evenly.

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, make sure that the connection is secure by following method.
 - 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.

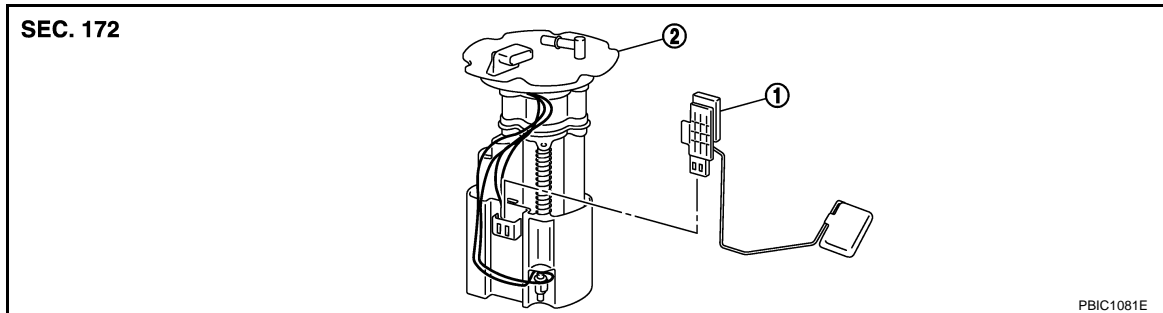
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< SERVICE INFORMATION >

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

Component

INFOID:000000001327108



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

Disassembly and Assembly

INFOID:000000001327109

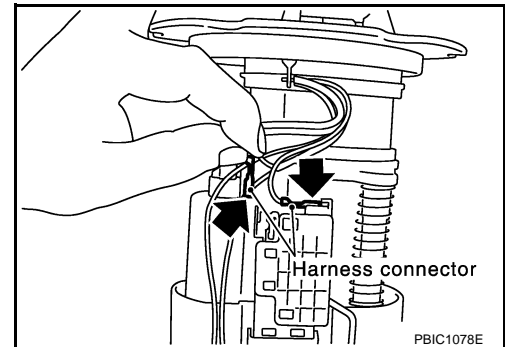
CAUTION:

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

DISASSEMBLY

Remove fuel level sensor unit as follows.

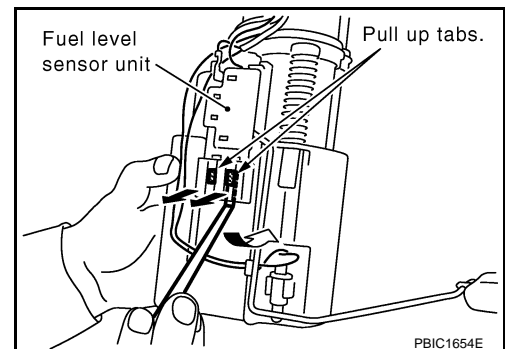
1. Disconnect harness connector.
 - Hold connector by fingers and pull it out, because there is no stopper release tab.



2. Using suitable tool, pull up tabs points as shown in the figure (two points) to release the lock.

CAUTION:

Be careful not to damage it.



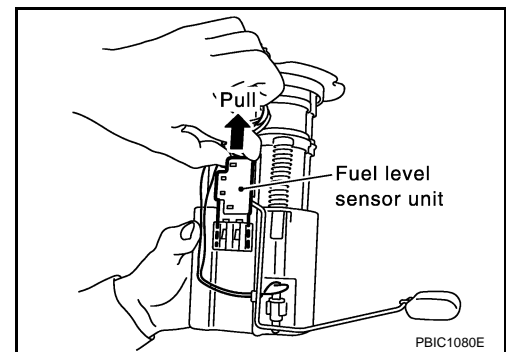
FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< SERVICE INFORMATION >

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

CAUTION:

Do not disassemble fuel filter and fuel pump assembly.



ASSEMBLY

1. Check for damage of fuel level sensor unit installation position on the side of fuel filter and fuel pump assembly.
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.

A

FL

C

D

E

F

G

H

I

J

K

L

M

N

O

P

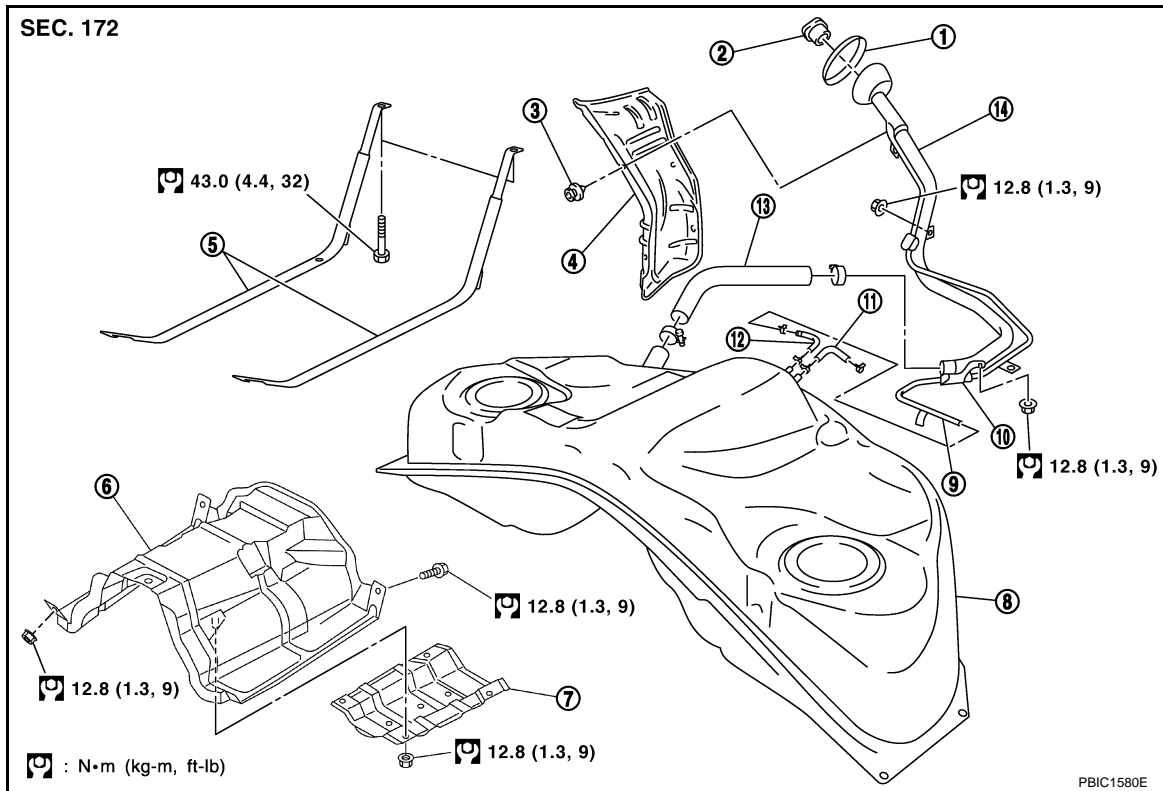
FUEL TANK

< SERVICE INFORMATION >

FUEL TANK

Component

INFOID:000000001327110



- | | | |
|-------------------------------|----------------------------|------------------------|
| 1. Grommet | 2. Fuel filler cap | 3. Clip |
| 4. Fuel filler tube protector | 5. Fuel tank mounting band | 6. Fuel tank protector |
| 7. Insulator | 8. Fuel tank | 9. Vent tube |
| 10. Vent hose | 11. EVAP hose | 12. Vent hose |
| 13. Fuel filler hose | 14. Fuel filler tube | |

Removal and Installation

INFOID:000000001327111

REMOVAL

WARNING:

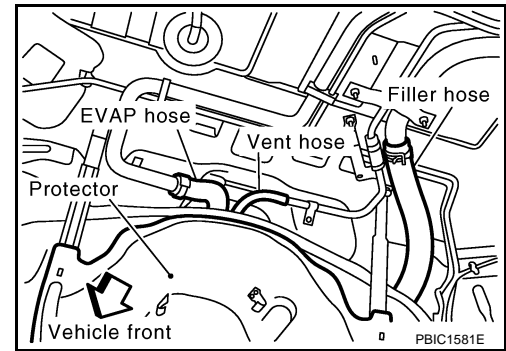
Be sure to read “General Precautions” when working on the fuel system. Refer to [FL-3, "General Precaution"](#).

- Drain fuel from fuel tank if necessary. Refer to [FL-4, "Removal and Installation"](#).
 - Perform work on level place.
1. Perform 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-4, "Removal and Installation"](#).
 2. Remove tunnel stay. Refer to [RSU-5, "On-Vehicle Inspection and Service"](#).
 3. Remove exhaust front tube, center muffler and main muffler. Refer to [EX-3, "Checking Exhaust System"](#).
 4. Remove insulator.
 5. Remove propeller shaft. Refer to [PR-7, "On-Vehicle Inspection"](#).
 6. Remove parking rear brake cables. Refer to [PB-4, "Component"](#).
 7. Compress coil spring and remove coil spring.
 8. Remove rear suspension assembly.
 9. Remove fuel tank protector.

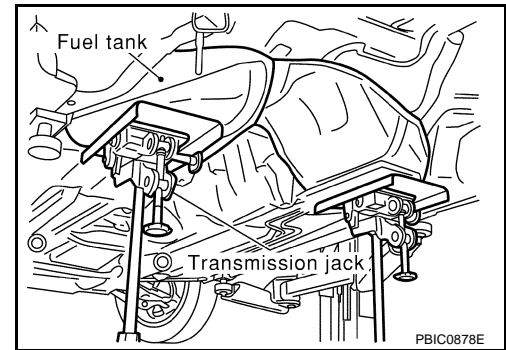
FUEL TANK

< SERVICE INFORMATION >

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



11. Support the lower part of fuel tank with transmission jack.
CAUTION:
Support the position that fuel tank mounting bands do not engage.



12. Remove fuel tank mounting bands.
13. Supporting with hands, descend transmission jack carefully, and remove fuel tank.
CAUTION:
 - Make sure that all connection points have been disconnected.
 - Confirm there is no interference with vehicle.
14. Remove fuel filler tube protector and fuel filler tube, if necessary.

INSTALLATION

- Note the following, and install in the reverse order of removal.
- 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 fuel hose clamp so that the distance between its lugs becomes to the following.

Fuel tank side : 8 - 12 mm (0.31 - 0.47 in)
Fuel filler tube side : 5.7 - 9.7 mm (0.224 - 0.382 in)

- To connect quick connector, refer to [FL-4, "Removal and Installation"](#).

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 engine and rev it up and make sure there are no fuel leaks at the fuel system tube and hose connections.

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE INFORMATION >

SERVICE DATA AND SPECIFICATIONS (SDS)

Standard and Limit

INFOID:000000001327112

FUEL TANK

Unit: US gal, Imp gal

Fuel tank capacity	Approx. 90 ℓ (23-3/4, 19-3/4)
Fuel recommendation	Refer to GI-5