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# SECTION **FL**

## FUEL SYSTEM

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**SERVICE DATA AND SPECIFICATIONS  
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# SERVICE INFORMATION

## APPLICATION NOTICE

### How to Check Vehicle Type

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Check the model variation code of the vehicle to confirm the service information in FL section. Refer to [GI-22](#), "[Model Variation](#)".

Destination	12th digit of model variation code	Service information
Except for Mexico	Except for "J"	Type 1
Mexico	"J"	Type 2

# PRECAUTION

## PRECAUTIONS

### General Precautions

INFOID:000000001713621

**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 CO<sub>2</sub> 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-31, "FUEL : Unleaded Regular Gasoline"](#).
- 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-486, "Inspection"](#) (for California) or [EC-915, "Inspection"](#) (Except for California).
  - Disconnect the battery cable from the negative terminal.
- Always replace O-ring and clamps with new ones.
- Never bend 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.
  - 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 “MIL” may come on.
- For servicing “Evaporative Emission System” parts. Refer to [EC-72, "System Diagram"](#) (for California) or [EC-545, "System Diagram"](#) (Except for California).

# PREPARATION

< PREPARATION >

[TYPE 1]

## PREPARATION

### PREPARATION

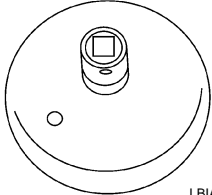
#### Special Service Tool

INFOID:000000001713622

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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description	C
KV991J0090 (J-46214) Lock ring wrench	 LBIA0353E	D

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## ON-VEHICLE MAINTENANCE

### FUEL SYSTEM

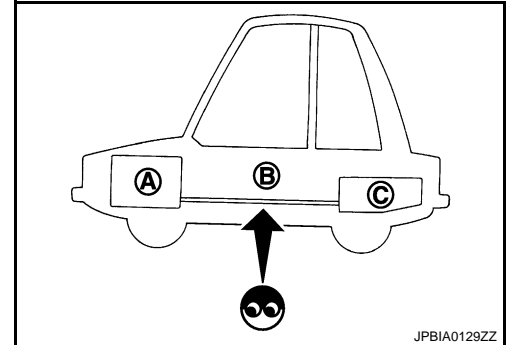
#### Inspection

INFOID:000000001713623

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

If necessary, repair or replace damaged parts.

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



JPBIA0129ZZ

#### Quick Connector

INFOID:000000001713624

#### **CAUTION:**

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



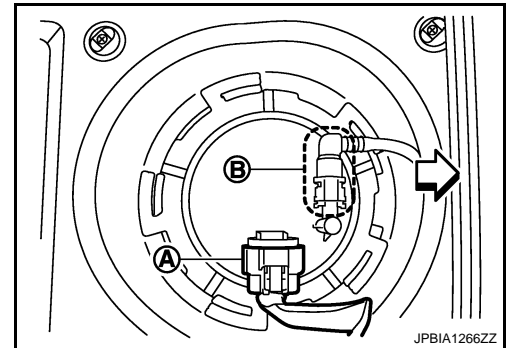
# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< ON-VEHICLE REPAIR >

[TYPE 1]

- In case fuel pump does not operate, perform the following procedure.
- a. Insert hose of less than 20 mm (0.79 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-15. "2WD : Exploded View"](#).
- c. Insert hose 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-915. "Inspection"](#) (Except for California) or [EC-486. "Inspection"](#) (for California).
- 3. Open fuel filler lid.
- 4. Open fuel filler cap and release the pressure inside the fuel tank.
- 5. Remove rear seat cushion. Refer to [SE-35. "Exploded View"](#).
- 6. Remove inspection hole cover.
  - Using a screwdriver, remove it by turning clips clockwise by 90 degrees.
- 7. Disconnect harness connector (A) and quick connector (B).

⇐ : Vehicle front



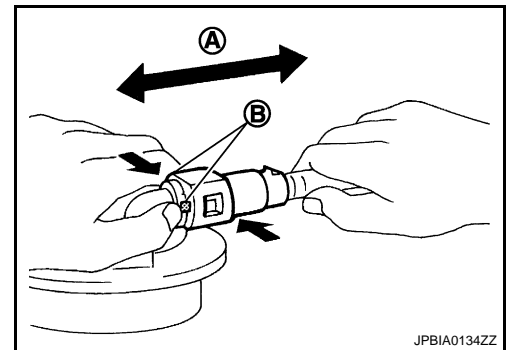
Disconnect quick connector as follows:

- Hold the sides of connector, press tabs and pull out fuel feed tube.

A : Pull

B : Push in tabs

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



**CAUTION:**



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

< ON-VEHICLE REPAIR >

[TYPE 1]

- Quick connector (1) can be disconnected when the tabs (F) are depressed completely. Never twist it more than necessary.

B : Connection (Cross-section)

D : To under floor fuel line

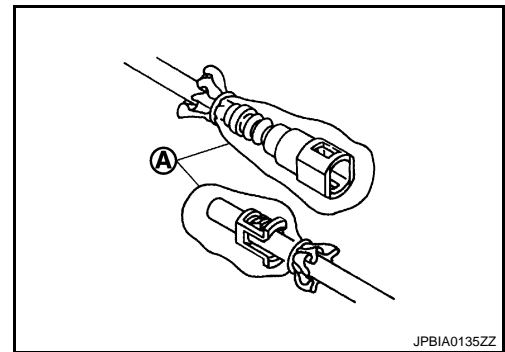
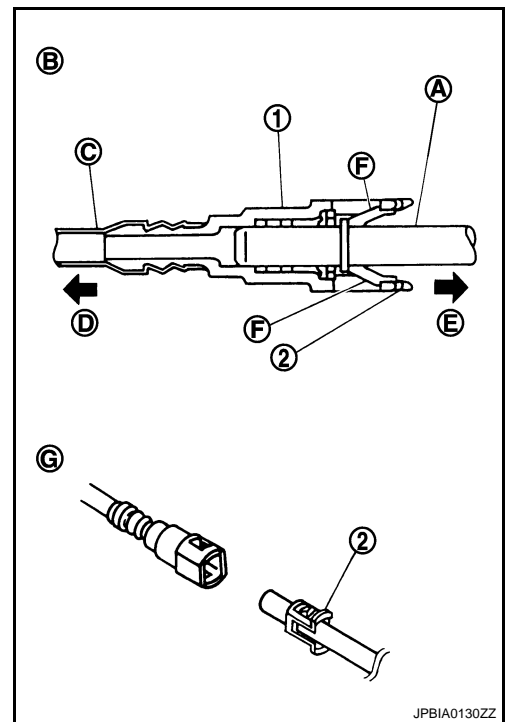
E : To fuel tank

G : Disconnection

- Never use any tools to disconnected quick connector.
- Keep resin tube (C) 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.
- Never remove the remaining retainer (2) on hard tube (or the equivalent) (A) 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 (A) or something similar.

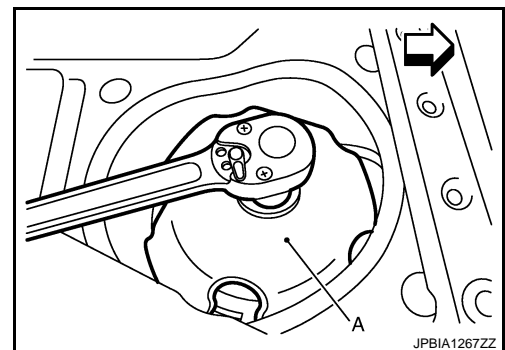


- Using lock ring wrench [SST: KV991J0090 (J-46214)] (A), remove lock ring.

↔ : Vehicle front

**NOTE:**

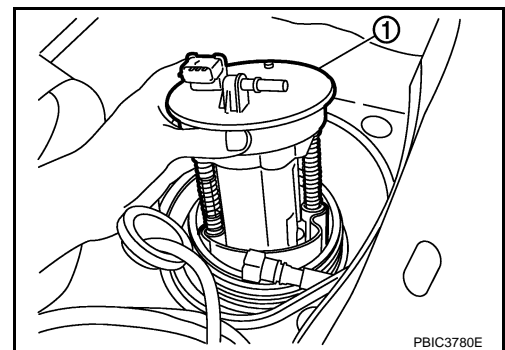
For reference when installing, put a matching mark on lock ring, fuel pump assembly and fuel tank.



- Raise fuel level sensor unit, fuel filter and fuel pump assembly (1), and disconnect fuel tube and harness connector.

**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.



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

< ON-VEHICLE REPAIR >

[TYPE 1]

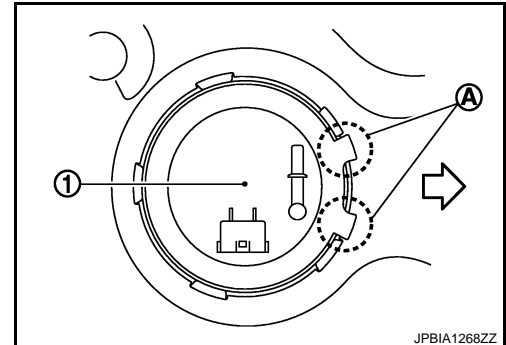
## INSTALLATION

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

Fuel Level Sensor Unit, Fuel Filter and Fuel Pump Assembly

1. Install O-ring to fuel tank without any twist.
2. Align (A) with vehicle front as shown in the figure. Install fuel level sensor unit (1) to fuel tank.

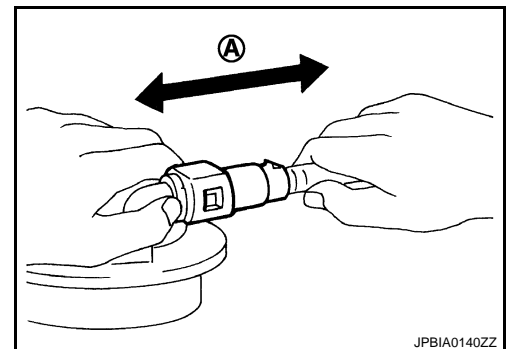
⇐ : Vehicle front



## Quick Connector

Connect quick connector of fuel feed tube in the following procedures.

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



## 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.
2. Lock clips by turning counterclockwise.

## 2WD : Inspection

INFOID:000000001713627

## 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. Then let it idle and check that there is no fuel leakage at the fuel system connections.

## AWD

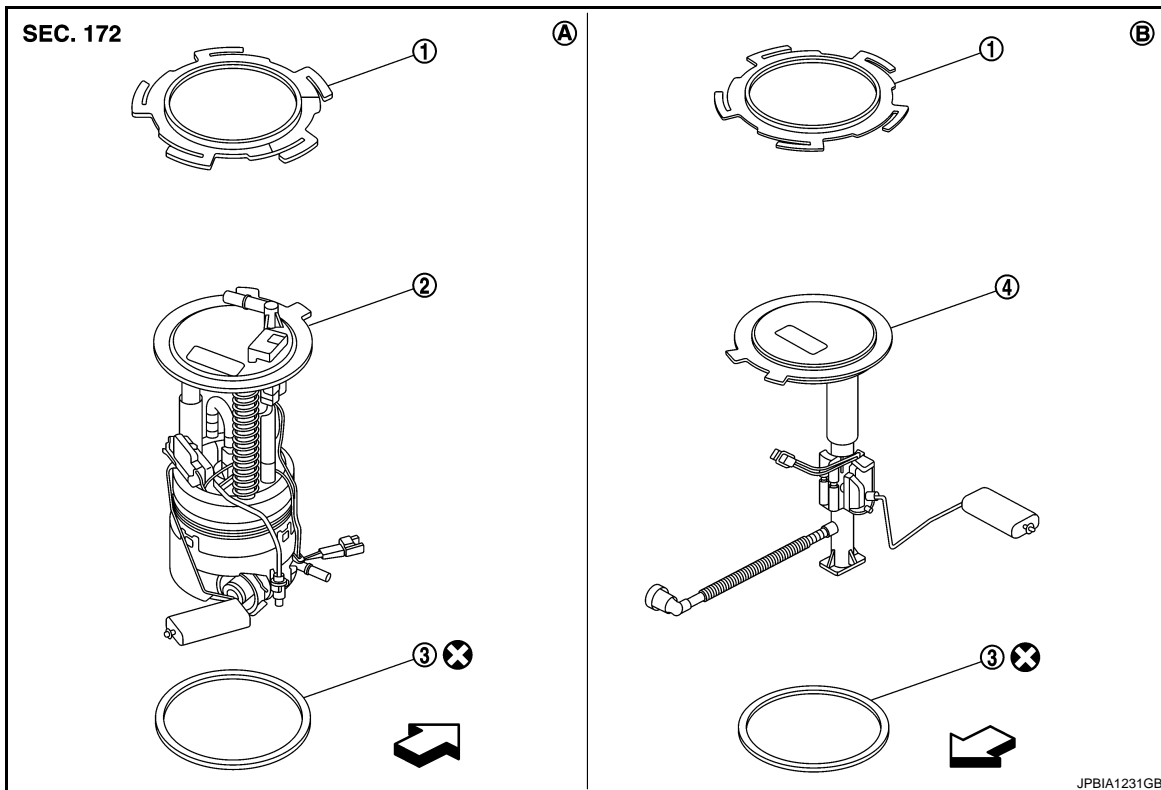
# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< ON-VEHICLE REPAIR >

[TYPE 1]

AWD : Exploded View

INFOID:000000001713671



- 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

↔ : Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

## CAUTION:

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

AWD : Removal and Installation

INFOID:000000001713672

## REMOVAL

### WARNING:

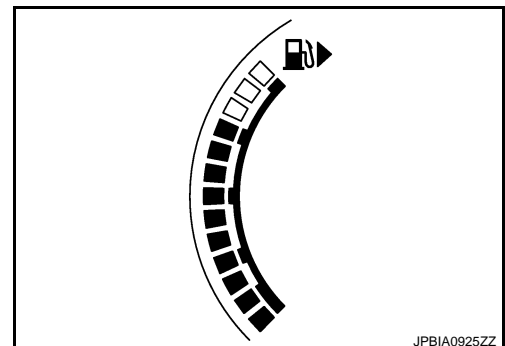
Be sure to read "General Precautions" before working on the fuel system. Refer to [FL-4, "General Precautions"](#).

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 spills when removing fuel level sensor unit, fuel filter and fuel pump assembly for the top of the fuel is above the installation surface of fuel level sensor unit.

- As a guide, fuel level becomes the position as shown in the figure or below when approximately 15 ℓ (4 US-gal, 3-1/4 Imp gal) of fuel are drained from fuel tank.
- In case fuel pump does not operate, perform the following procedure.



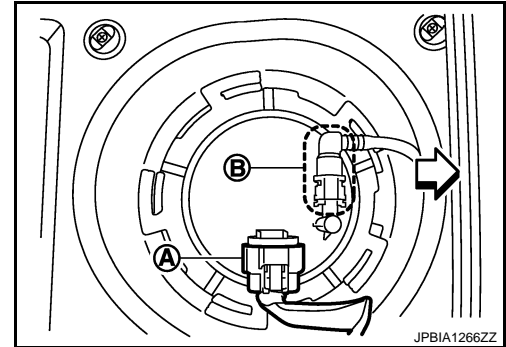
# FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< ON-VEHICLE REPAIR >

[TYPE 1]

- a. Insert hose of less than 20 mm (0.79 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-17, "AWD : Exploded View"](#).
- c. Insert hose 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-915, "Inspection"](#) (Except for California) or [EC-486, "Inspection"](#) (for California).
3. Open fuel filler lid.
4. Open fuel filler cap and release the pressure inside the fuel tank.
5. Remove rear seat cushion. Refer to [SE-35, "Exploded View"](#).
6. Remove inspection hole cover.
  - Using a screwdriver, remove it by turning clips clockwise by 90 degrees.
7. Disconnect harness connector (A) and quick connector (B).

↶ : Vehicle front

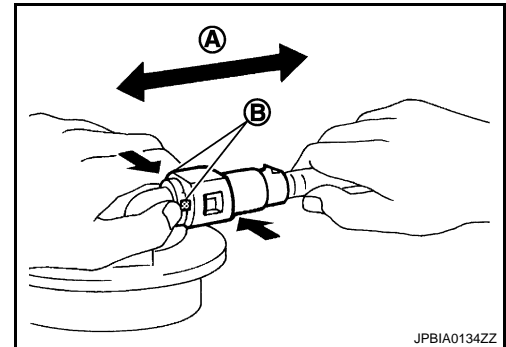


Disconnect quick connector as follows:

- Hold the sides of connector, press tabs and pull out fuel feed tube.

A : Pull  
B : Push in tabs

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



**CAUTION:**

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

< ON-VEHICLE REPAIR >

[TYPE 1]

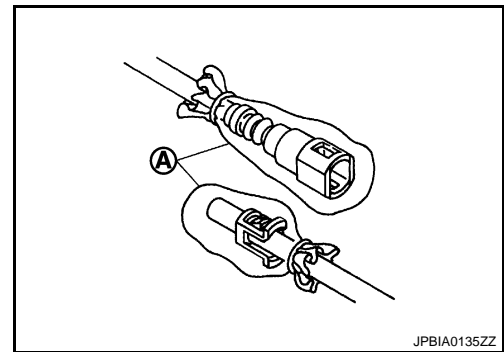
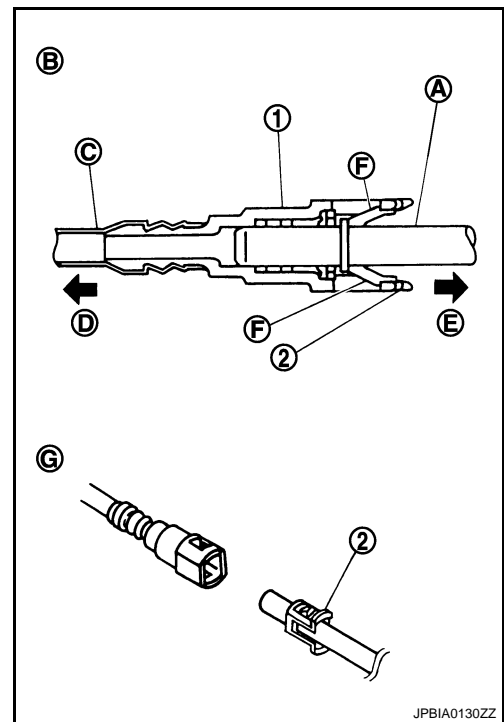
- Quick connector (1) can be disconnected when the tabs (F) are depressed completely. Never twist it more than necessary.

B : Connection (Cross-section)  
 D : To under floor fuel line  
 E : To fuel tank  
 G : Disconnection

- Never use any tools to disconnected quick connector.
- Keep resin tube (C) 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.
- Never remove the remaining retainer (2) on hard tube (or the equivalent) (A) 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

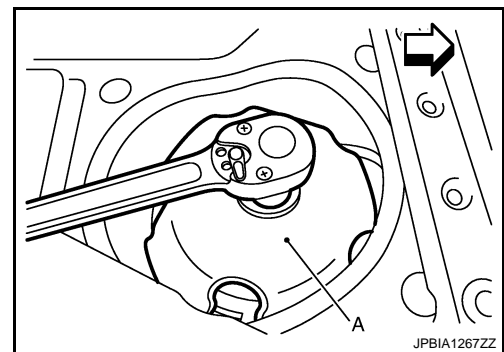
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.



- Using lock ring wrench [SST: KV991J0090 (J-46214)] (A) (commercial service tool), remove lock ring.

**NOTE:**

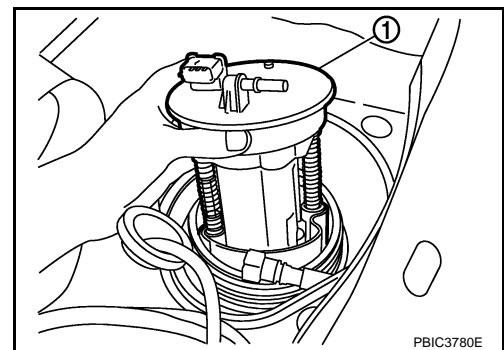
For reference when installing, put a matching mark on lock ring, fuel pump assembly and fuel tank.



- Raise fuel level sensor unit, fuel filter and fuel pump assembly (1), and disconnect fuel tube and harness connector.

**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.



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

< ON-VEHICLE REPAIR >

[TYPE 1]

10. Raise sub fuel level sensor assembly.

## CAUTION:

- Never disassemble a fuel tube 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.

## INSTALLATION

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

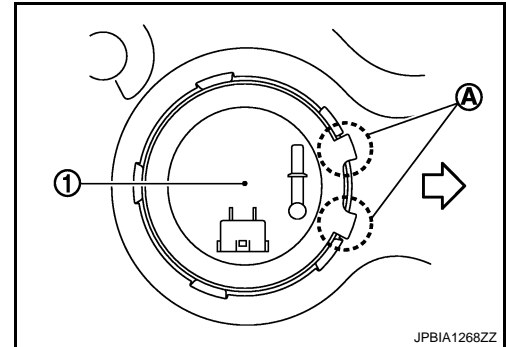
Fuel Level Sensor Unit, Fuel Filter and Fuel Pump Assembly and Sub Fuel Level Sensor Assembly

1. Install O-ring to fuel tank without any twist.
2. Align (A) with vehicle front as shown in the figure. Install fuel level sensor unit (1) to fuel tank.

⇐ : Vehicle front

## NOTE:

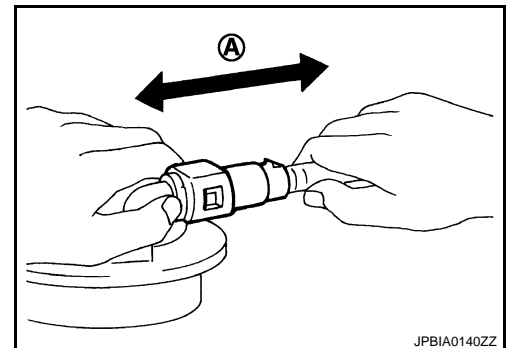
Figure shows fuel level sensor unit, fuel filter and fuel pump assembly side of fuel tank.



## Quick Connector

Connect quick connector of fuel feed tube in the following procedures.

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



## Inspection Hole Cover

- Before installing inspection hole cover, check that the connecting part has no fuel leakage. Refer to [FL-14, "AWD : Inspection"](#).

1. Install inspection hole covers with the front mark (arrow) facing front of vehicle.
2. Lock clips by turning counterclockwise.

## AWD : Inspection

INFOID:000000001713673

## 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. Then let it idle and check that there is no fuel leakage at the fuel system connections.

# FUEL TANK

< ON-VEHICLE REPAIR >

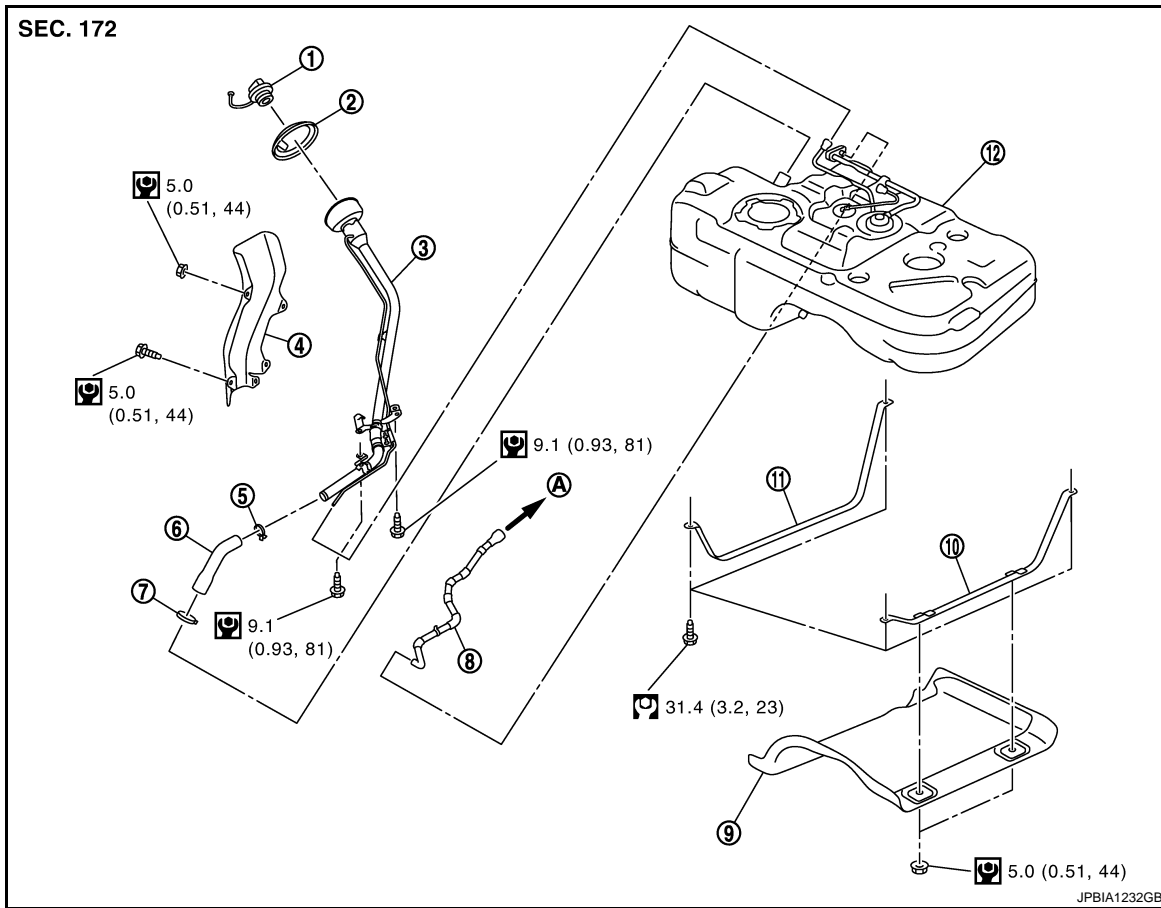
[TYPE 1]

## FUEL TANK

2WD

2WD : Exploded View

INFOID:000000001713628



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

Refer to [GI-4, "Components"](#) for symbols in the figure.

## 2WD : Removal and Installation

INFOID:000000001713629

### REMOVAL

#### **WARNING:**

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

- Perform the steps 2 to 7 of "REMOVAL" in "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY". Refer to [FL-7, "2WD : Removal and Installation"](#).
- Drain fuel from fuel tank if necessary. Refer to [FL-7, "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.
- Remove muffler assembly. Refer to [EX-5, "Exploded View"](#).

# FUEL TANK

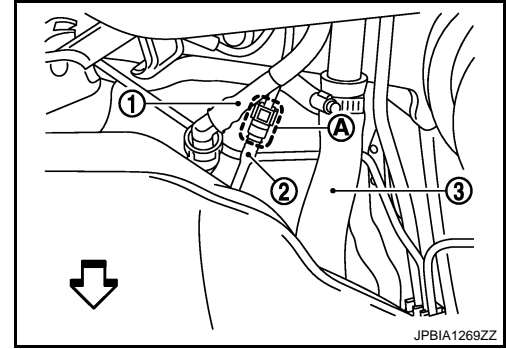
[TYPE 1]

## < ON-VEHICLE REPAIR >

4. Remove protector from fuel tank.
5. Remove vent hose (1) at rear side of fuel tank.

⇐: Vehicle front

6. Disconnect EVAP tube (2) at rear side of fuel tank.
  - Instruction for quick connector (A) of EVAP tube. Refer to [FL-7, "2WD : Removal and Installation"](#).
7. Remove fuel filler hose (3) at fuel filler tube side.

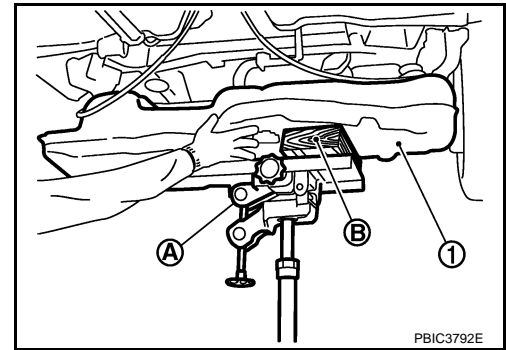


8. Remove suspension bar. Refer to [RSU-20, "Exploded View"](#).
9. Remove parking brake cable mounting bolts and separate parking brake cable from suspension arm. Refer to [PB-6, "Exploded View"](#).

10. Support center of fuel tank (1) with transmission jack (A).

### **CAUTION:**

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



11. Remove fuel tank band (RH and LH).
12. 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

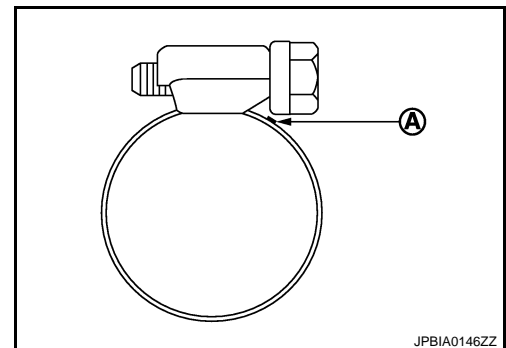
Note the following, and install in the reverse order of removal.

### Fuel 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 the clamp hand with the top mark (A) until the mark is on the bolt head flange.



### EVAP Hose



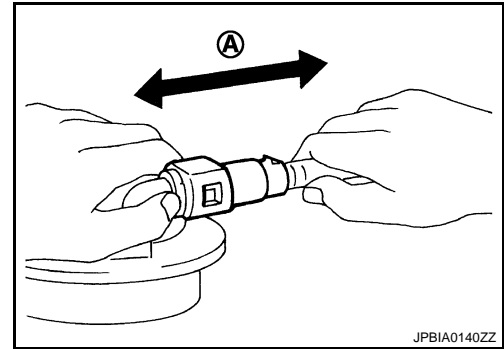
# FUEL TANK

< ON-VEHICLE REPAIR >

[TYPE 1]

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



## 2WD : Inspection

INFOID:000000001713630

### INSPECTION AFTER INSTALLATION

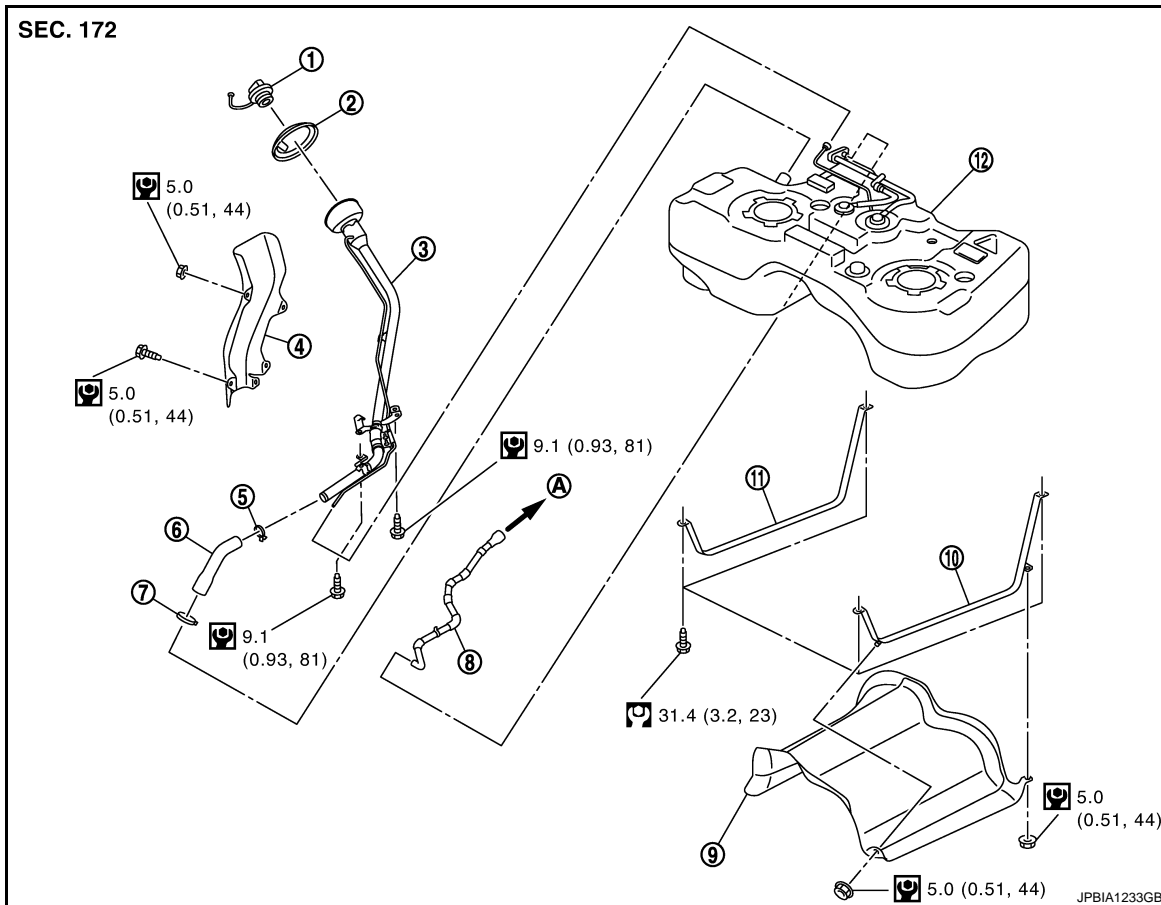
Use the following procedure to check for fuel leakage.

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 that there is no fuel leakage at the fuel system tube and hose connections.

## AWD

### AWD : Exploded View

INFOID:000000001713668



- |                    |              |                     |
|--------------------|--------------|---------------------|
| 1. Fuel filler cap | 2. Grommet   | 3. Fuel filler tube |
| 4. Cover           | 5. Clamp     | 6. Fuel filler hose |
| 7. Clamp           | 8. Vent hose | 9. Protector        |

# FUEL TANK

< ON-VEHICLE REPAIR >

[TYPE 1]

10. Fuel tank band (LH)                      11. Fuel tank band (RH)                      12. Fuel tank  
A. To EVAP canister

Refer to [GI-4, "Components"](#) for symbols in the figure.

## AWD : Removal and Installation

INFOID:000000001713669

### REMOVAL

#### **WARNING:**

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

1. Perform the steps 2 to 7 of "REMOVAL" in " FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY". Refer to [FL-11, "AWD : Removal and Installation"](#).
2. Drain fuel from fuel tank if necessary. Refer to [FL-11, "AWD : Removal and Installation"](#).

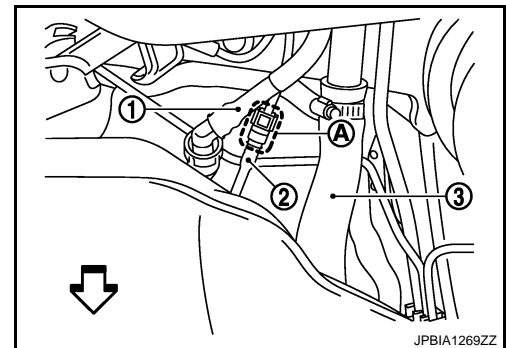
#### **CAUTION:**

- 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.

3. Remove muffler assembly. Refer to [EX-5, "Exploded View"](#).
4. Remove propeller shaft. Refer to [DLN-87, "Exploded View"](#).
5. Remove protector from fuel tank.
6. Remove vent hose (1) at rear side of fuel tank.

⇐: Vehicle front

7. Disconnect EVAP tube (2) at rear side of fuel tank.
  - Instruction for quick connector (A) of EVAP tube. Refer to [FL-11, "AWD : Removal and Installation"](#).
8. Remove fuel filler hose (3) at fuel filler tube side.



9. Remove suspension bar. Refer to [RSU-20, "Exploded View"](#).
10. Remove parking brake cable mounting bolts and separate parking brake cable from suspension arm. Refer to [PB-6, "Exploded View"](#).
11. Disconnect AWD solenoid harness connector and harness clip. Refer to [DLN-101, "Exploded View"](#).

# FUEL TANK

[TYPE 1]

## < ON-VEHICLE REPAIR >

12. Loosen final drive mounting nut (A) at rear suspension member (1). [DLN-105, "Exploded View"](#).

**CAUTION:**

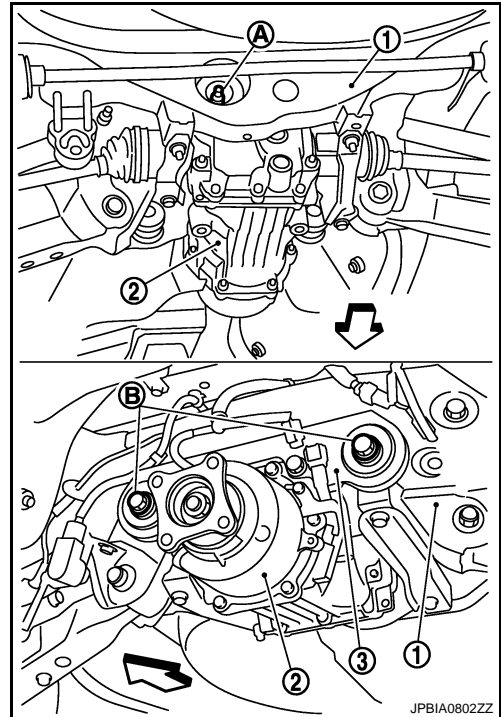
Never remove final drive mounting nut.

↔ : Vehicle front

13. Remove final drive mounting bolts (B) from final drive mounting bracket (3) to tilt final drive assembly (2). Refer to [DLN-105, "Exploded View"](#).

**NOTE:**

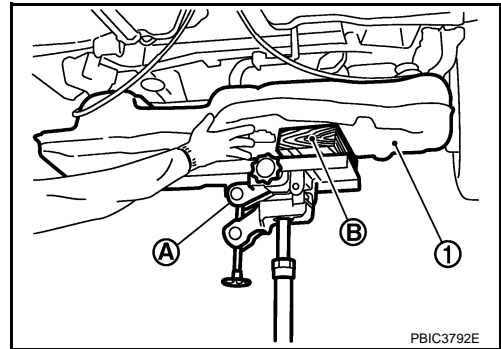
Final drive assembly does not have to be removed from the vehicle.



14. Support center of fuel tank (1) with transmission jack (A).

**CAUTION:**

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



15. Remove fuel tank band (RH and LH).

16. 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 Filler Hose

- Insert fuel filler hose to the length below.

**: 35 mm (1.38 in)**

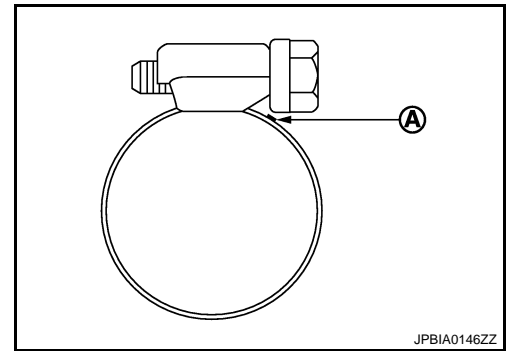
- Be sure hose clamp is not placed on swelled area of fuel filler tube.

# FUEL TANK

[TYPE 1]

## < ON-VEHICLE REPAIR >

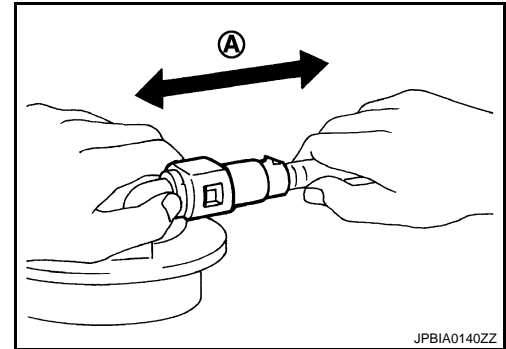
- Tighten the clamp hand with the top mark (A) until the mark is on the bolt head flange.



## 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. Check connections are secure.

A : Pull



## AWD : Inspection

INFOID:000000001713670

## 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 that there is no fuel leakage at the fuel system tube and hose connections.

# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[TYPE 1]

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Fuel Tank

INFOID:000000001713631

A

FL

#### Standard and Limit

Fuel tank capacity	Approx. 60 ℓ (15-7/8 US gal, 13-1/4 Imp gal)
Fuel recommendation	Refer to <a href="#">GI-31</a>

C

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M

N

O

P

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

#### General Precautions

INFOID:000000001714483

**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 CO<sub>2</sub> 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-31, "FUEL : Unleaded Regular Gasoline"](#).
- 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-1272, "Inspection"](#).
  - Disconnect the battery cable from the negative terminal.
- Always replace O-ring and clamps with new ones.
- Never bend 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.
  - 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 “MIL” may come on.
- For servicing “Evaporative Emission System” parts. Refer to [EC-971, "System Diagram"](#).

# PREPARATION

< PREPARATION >

[TYPE 2]

## PREPARATION

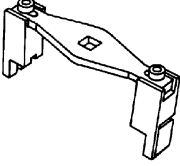
### PREPARATION

#### Commercial Service Tools

INFOID:000000001714484

A

FL

Tool name	Description
<p data-bbox="175 415 347 443">Lock ring wrench</p>  <p data-bbox="833 632 899 646">ZZA0122D</p>	<p data-bbox="984 415 1317 443">Removing and Installing lock ring</p>

C

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## ON-VEHICLE MAINTENANCE

### FUEL SYSTEM

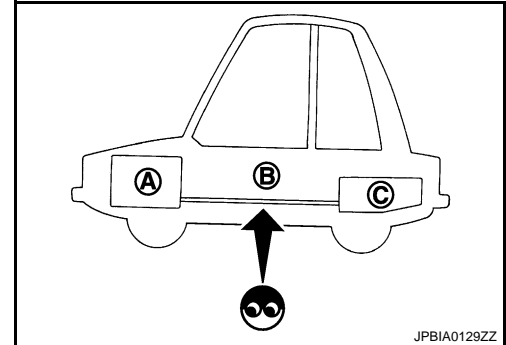
#### Inspection

INFOID:000000001714485

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

If necessary, repair or replace damaged parts.

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



JPBIA0129ZZ

#### Quick Connector

INFOID:000000001714486

#### **CAUTION:**

- After connecting fuel tube quick connectors, check that 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

< ON-VEHICLE REPAIR >

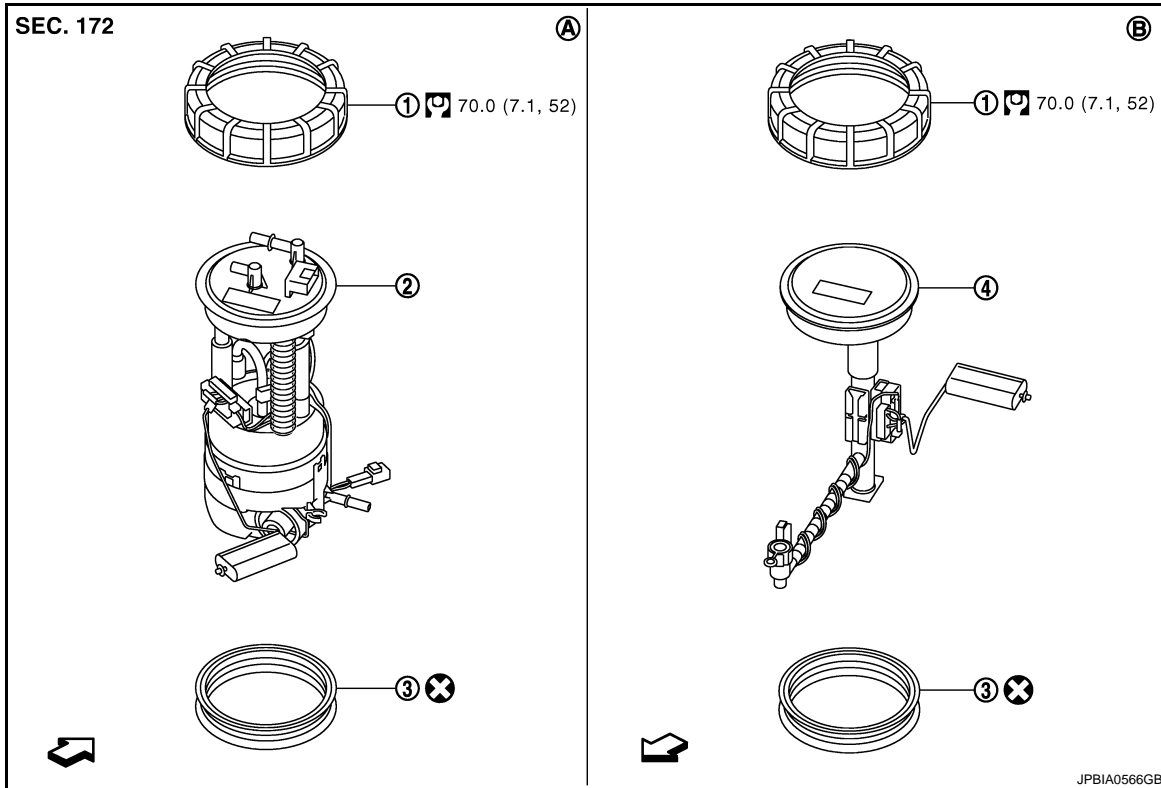
[TYPE 2]

## ON-VEHICLE REPAIR

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

Exploded View

INFOID:000000001714487



- 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

← : Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

#### CAUTION:

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

#### Removal and Installation

INFOID:000000001714488

#### REMOVAL

#### WARNING:

Be sure to read "General Precautions" before working on the fuel system. Refer to [FL-22, "General Precautions"](#).

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

< ON-VEHICLE REPAIR >

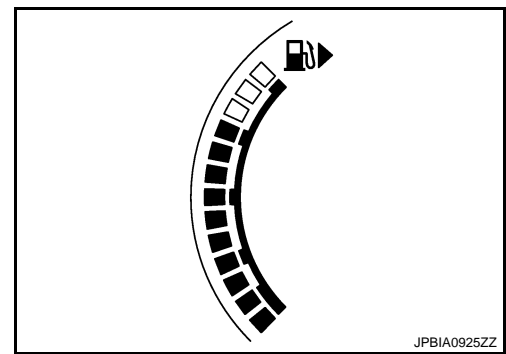
[TYPE 2]

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:**

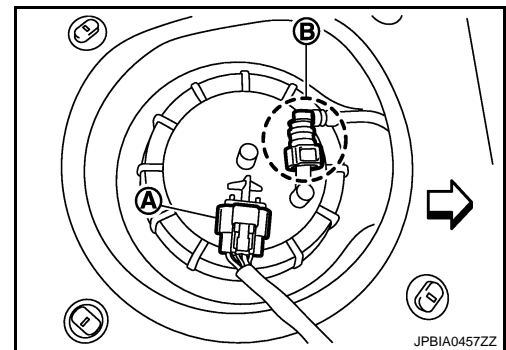
Because fuel spills when removing fuel level sensor unit, fuel filter and fuel pump assembly for the top of the fuel is above the installation surface of fuel level sensor unit.

- As a guide, fuel level becomes the position as shown in the figure or below when approximately 15 ℓ (4 US gal, 3-1/4 Imp gal) of fuel are drained from fuel tank.
- In case fuel pump does not operate, perform the following procedure.



- a. Insert hose of less than 20 mm (0.79 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-29, "Exploded View"](#).
  - c. Insert hose 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-1272, "Inspection"](#).
  3. Open fuel filler lid.
  4. Open fuel filler cap and release the pressure inside the fuel tank.
  5. Remove rear seat cushion. Refer to [SE-35, "Exploded View"](#).
  6. Remove inspection hole cover.
    - Using a screwdriver, remove it by turning clips clockwise by 90 degrees.
  7. Disconnect harness connector (A) and quick connector (B).

← : Vehicle front



Disconnect quick connector as follows:

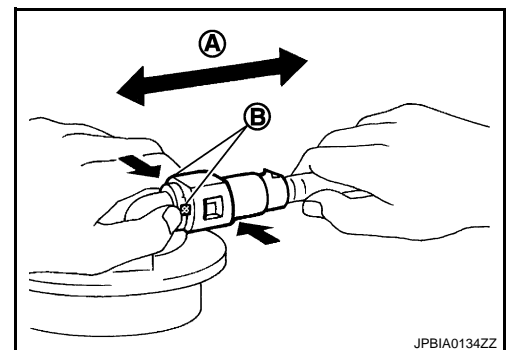
- Hold the sides of connector, press tabs and pull out fuel feed tube.

A : Pull

B : Push in tabs

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

**CAUTION:**



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

< ON-VEHICLE REPAIR >

[TYPE 2]

- Quick connector (1) can be disconnected when the tabs (F) are depressed completely. Never twist it more than necessary.

B : Connection (Cross-section)

D : To under floor fuel line

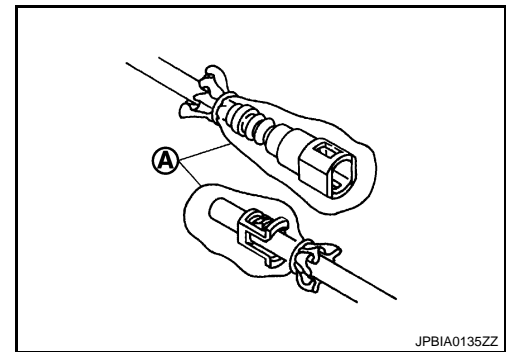
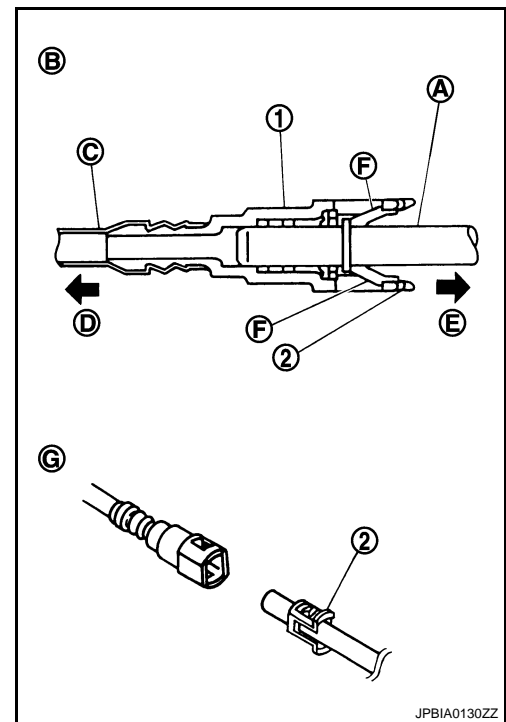
E : To fuel tank

G : Disconnection

- Never use any tools to disconnected quick connector.
- Keep resin tube (C) 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.
- Never remove the remaining retainer (2) on hard tube (or the equivalent) (A) 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

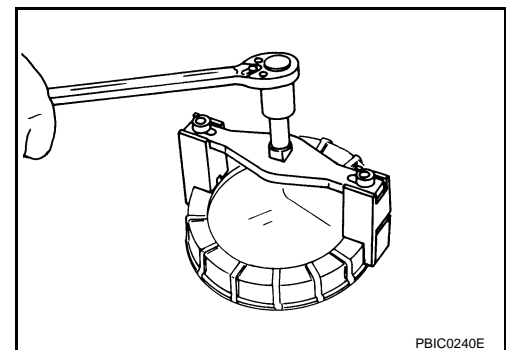
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.



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

**NOTE:**

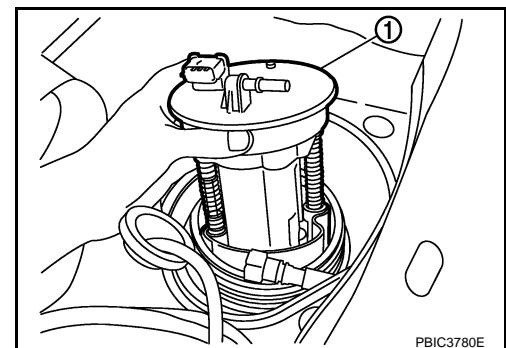
For reference when installing, put a matching mark on lock ring, fuel pump assembly and fuel tank.



- Raise fuel level sensor unit, fuel filter and fuel pump assembly (1), and disconnect fuel tube and harness connector.

**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 by dropping when handling components.



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

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

< ON-VEHICLE REPAIR >

[TYPE 2]

10. Raise sub fuel level sensor assembly.

## CAUTION:

- Never disassemble a fuel tube 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.

## INSTALLATION

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

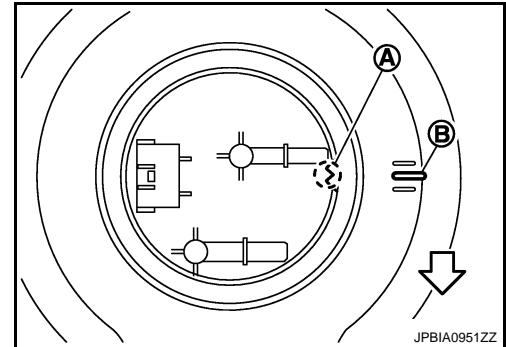
Fuel Level Sensor Unit, Fuel Filter and Fuel Pump Assembly and Sub Fuel Level Sensor Assembly

1. Install O-ring to fuel tank without any twist.
2. Install fuel level sensor unit with its matching mark (A) aligned with fuel tank matching mark (B) as shown in the figure.

⇐ : Vehicle front

## NOTE:

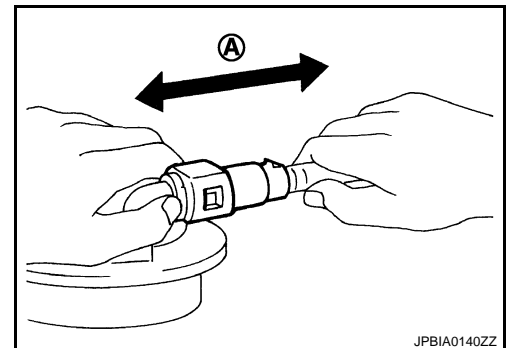
- Figure shows fuel level sensor unit, fuel filter and fuel pump assembly side of fuel tank.
- For sub fuel level sensor assembly matching mark is located on the fuel tank of the vehicle front side.



## Quick Connector

Connect quick connector of fuel feed tube in the following procedures.

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



## Inspection Hole Cover

- Before installing inspection hole cover, check that the connecting part has no fuel leakage. Refer to [FL-28, "Inspection"](#).

1. Install inspection hole covers with the front mark (arrow) facing front of vehicle.
2. Lock clips by turning counterclockwise.

## Inspection

INFOID:000000001714489

## 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. Then let it idle and check that there is no fuel leakage at the fuel system connections.

# FUEL TANK

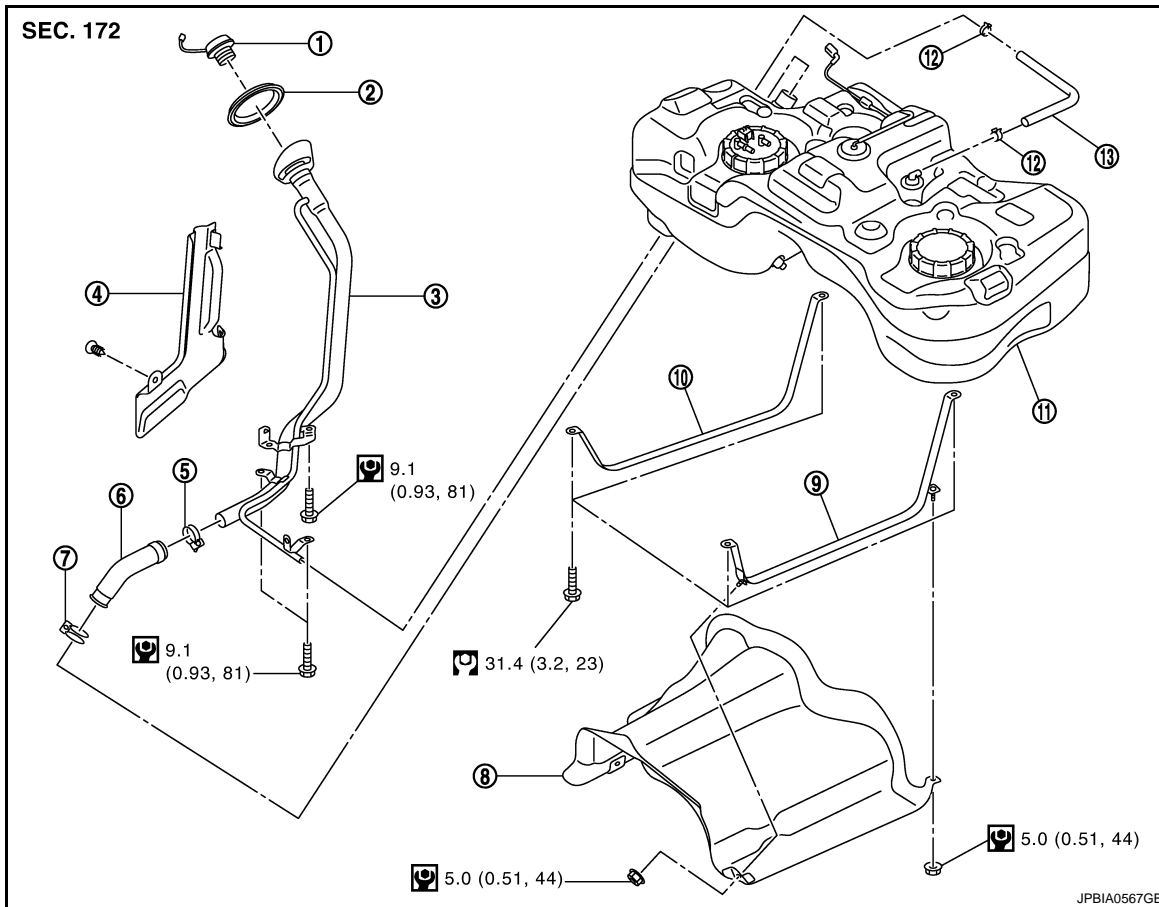
< ON-VEHICLE REPAIR >

[TYPE 2]

## FUEL TANK

### Exploded View

INFOID:000000001714490



- |                         |               |                        |
|-------------------------|---------------|------------------------|
| 1. Fuel filler cap      | 2. Grommet    | 3. Fuel filler tube    |
| 4. Cover                | 5. Clamp      | 6. Fuel filler hose    |
| 7. Clamp                | 8. Protector  | 9. Fuel tank band (LH) |
| 10. Fuel tank band (RH) | 11. Fuel tank | 12. Clamp              |
| 13. Vent hose           |               |                        |

Refer to [GI-4, "Components"](#) for symbols in the figure.

## Removal and Installation

INFOID:000000001714491

### REMOVAL

#### **WARNING:**

Be sure to read "General Precautions" when working on the fuel system. Refer to [FL-22, "General Precautions"](#).

1. Perform the steps 2 to 7 of "REMOVAL" in "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY". Refer to [FL-25, "Removal and Installation"](#).
2. Drain fuel from fuel tank if necessary. Refer to [FL-25, "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.

3. Remove main muffler. Refer to [EX-5, "Exploded View"](#).
4. Remove propeller shaft. Refer to [DLN-87, "Exploded View"](#) (AWD models).
5. Remove protector from fuel tank.

# FUEL TANK

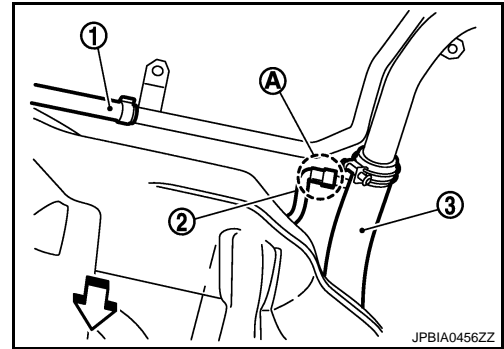
< ON-VEHICLE REPAIR >

[TYPE 2]

6. Remove vent hose (1) at rear side of fuel tank.

↔: Vehicle front

7. Disconnect EVAP tube (2) at rear side of fuel tank.  
• Instruction for quick connector (A) of EVAP tube. Refer to [FL-25, "Removal and Installation"](#).
8. Remove fuel filler hose (3) at fuel filler tube side.



9. Remove suspension bar. Refer to [RSU-22, "Exploded View"](#) (AWD models).
10. Remove parking brake cable mounting bolts and separate parking brake cable from suspension arm. Refer to [PB-6, "Exploded View"](#) (AWD models).
11. Disconnect AWD solenoid harness connector and harness clip (AWD models). Refer to [DLN-101, "Exploded View"](#).
12. Loosen final drive mounting nut (A) at rear suspension member (1). [DLN-105, "Exploded View"](#) (AWD models).

**CAUTION:**

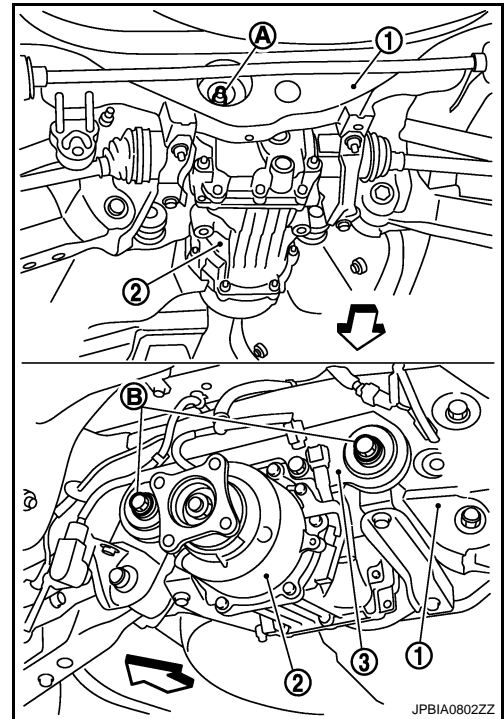
**Never remove final drive mounting nut.**

↔ : Vehicle front

13. Remove final drive mounting bolts (B) from final drive mounting bracket (3) to tilt final drive assembly (2). Refer to [DLN-105, "Exploded View"](#) (AWD models).

**NOTE:**

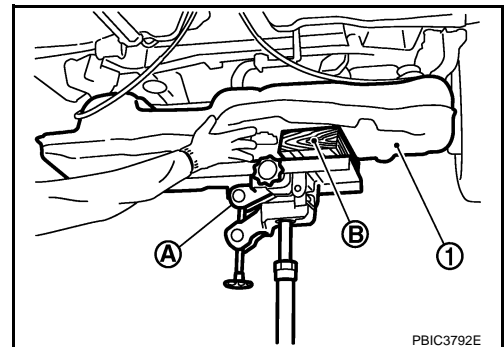
Final drive assembly does not have to be removed from the vehicle.



14. Support center of fuel tank (1) with transmission jack (A).

**CAUTION:**

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



15. Remove fuel tank band (RH and LH).
16. 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.**

# FUEL TANK

< ON-VEHICLE REPAIR >

[TYPE 2]

## 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.

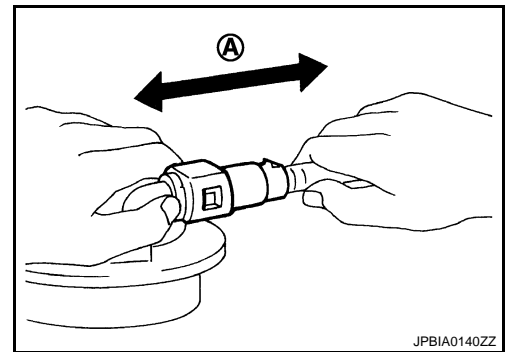
**Fuel filler tube side : 7 - 11 mm (0.28 - 0.43 in)**

**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. Check connections are secure.

A : Pull



INFOID:000000001714492

## Inspection

### 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 that there is no fuel leakage at the fuel system tube and hose connections.

## SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[TYPE 2]

# SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

### Fuel Tank

INFOID:000000002980547

#### Standard and Limit

Fuel tank capacity	Approx. 65 ℓ (17-1/8 US gal, 14-1/4 Imp gal)
Fuel recommendation	Refer to <a href="#">GI-31</a>