

PRECAUTIONS	29	REMOVAL AND INSTALLATION	34
General Precautions	29	FUEL LEVEL SENSOR UNIT	34
PREPARATION	30	Exploded View	34
PREPARATION	30	Removal and Installation	34
Special Service Tool	30	Disassembly and Assembly	37
Commercial Service Tools	30	Inspection	38
PERIODIC MAINTENANCE	31	FUEL TANK	39
FUEL SYSTEM	31	Exploded View	39
Checking Fuel Line	31	Removal and Installation	39
FUEL FILTER	32	Inspection	40
Exploded View	32	SERVICE DATA AND SPECIFICATIONS	
Removal and Installation	32	(SDS)	41
Water Draining	32	SERVICE DATA AND SPECIFICATIONS	
Air Bleeding	33	(SDS)	41
		Fuel Tank	41

PRECAUTION

PRECAUTIONS

General Precautions

INFOID:000000005988482

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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.
- 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-45, "Fuel"](#).
- 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 [EC3-186, "Work Procedure"](#).
 - Disconnect the battery cable from the negative terminal.
- Always replace O-ring and clamps with new ones.
- Never kink or twist tubes when they are being installed.
- Never tighten hose clamps excessively to avoid damaging hoses.
- After installing tubes, check 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 “MI” may come on.
- For servicing “EVAPORATIVE EMISSION SYSTEM” parts, refer to [EC3-475, "Hydraulic Layout"](#).

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PREPARATION

< PREPARATION >

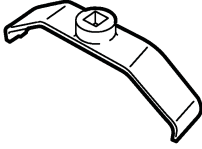
[HR12DE, HR15DE]

PREPARATION

PREPARATION

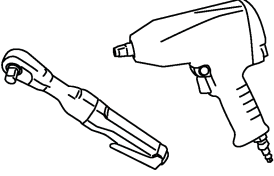
Special Service Tool

INFOID:000000005988483

Tool number Tool name	Description
KV10119900 Lock ring wrench  JPBIA3555ZZ	Removing and Installing lock ring

Commercial Service Tools

INFOID:000000005988484

Tool name	Description
Power tool  PBIC0190E	Loosening bolts and nuts

PERIODIC MAINTENANCE

FUEL SYSTEM

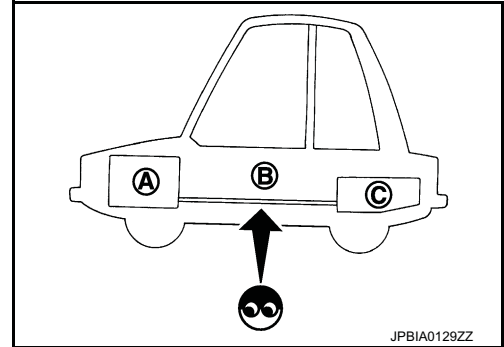
Inspection

INFOID:000000005988485

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

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

If necessary, repair or replace damaged parts.



INFOID:000000005988486

Quick Connector

CAUTION:

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

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FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[HR12DE, HR15DE]

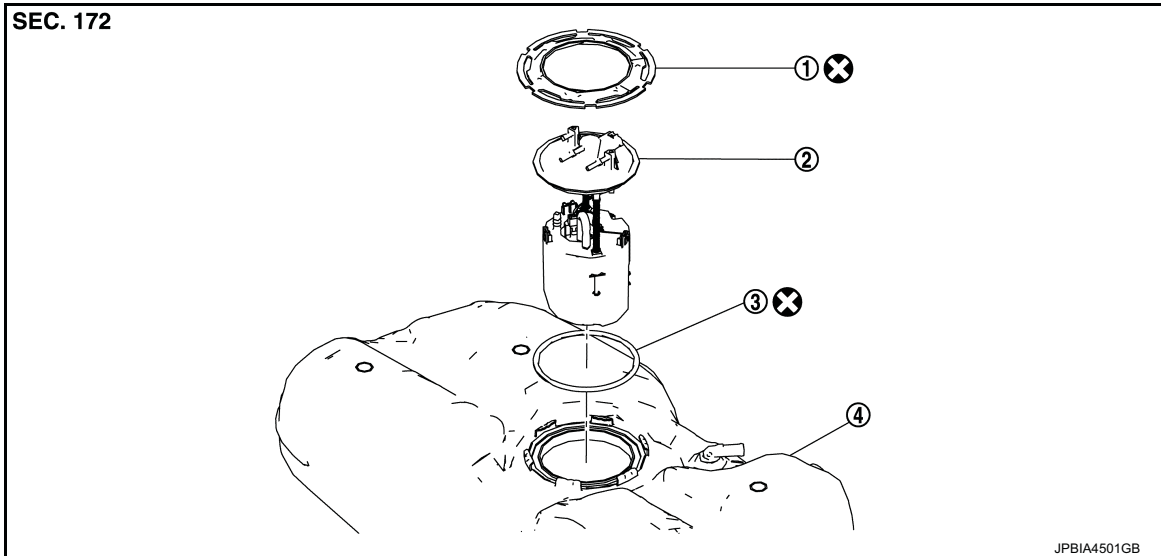
REMOVAL AND INSTALLATION

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

Exploded View

INFOID:000000005988487

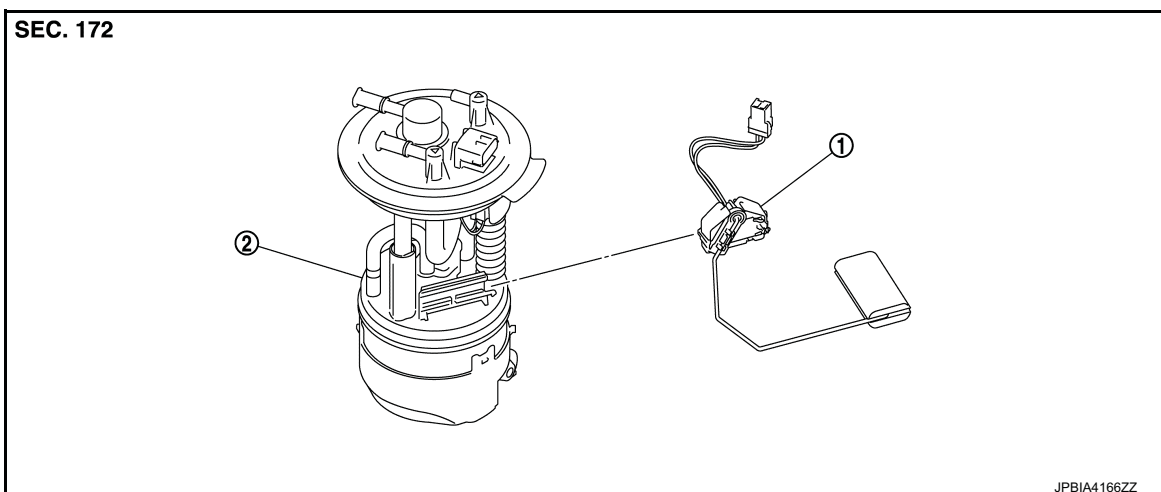
REMOVAL



1. Lock ring
2. Fuel level sensor unit, fuel filter and fuel pump assembly
3. O-ring
4. Fuel tank

⊗ : Always replace after every disassembly.

DISASSEMBLY



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

Removal and Installation

INFOID:000000005988488

WARNING:

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

REMOVAL

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[HR12DE, HR15DE]

1. Release the fuel pressure from the fuel lines. Refer to following;
 - HR12DE (TYPE1): [EC3-186, "Work Procedure"](#)
 - HR12DE (TYPE2): [EC3-603, "Work Procedure"](#)
 - HR15DE (TYPE1): [EC4-117, "Work Procedure"](#)
 - HR15DE (TYPE2): [EC4-401, "Work Procedure"](#)
2. Check fuel level on a level ground. If the fuel level is 7/8 of the fuel tank (full or nearly full), draw appropriate amount of fuel from the fuel tank.

Guideline : Draw approximately 10 liters (2-2/8 Imp gal) from a full-tank condition.

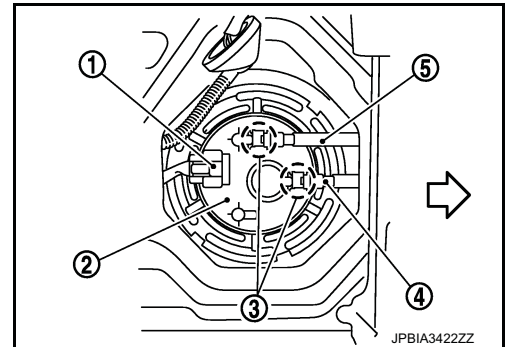
- In the event of malfunction in fuel pump, insert a hose measuring 20mm (0.79 in) in diameter into the filler opening to draw approximately 10 liters (2-2/8 Imp gal) fuel.

3. Open fuel filler lid.
4. Open filler cap and release the pressure inside fuel tank.
5. Remove rear seat. Refer to [SE-36, "Exploded View"](#).
6. Remove inspection hole cover.
7. Disconnect harness connector (1), fuel feed tube (5) and EVAP tube (4).

2 : Fuel level sensor unit, fuel filter and fuel pump assembly

3 : Quick connector

⇐ : Vehicle front

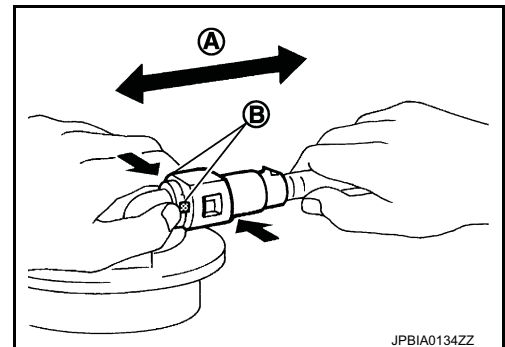


- Remove quick connector in the following procedures.
- Hold the sides of quick connector, press tabs and pull out fuel feed tube.

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

< REMOVAL AND INSTALLATION >

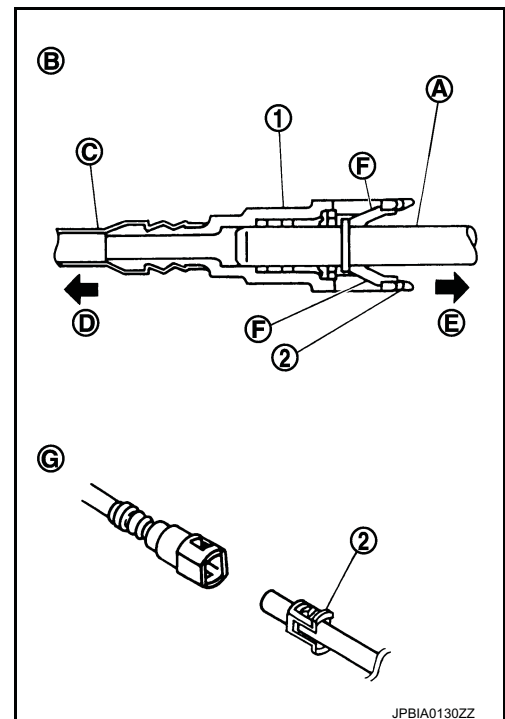
[HR12DE, HR15DE]

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

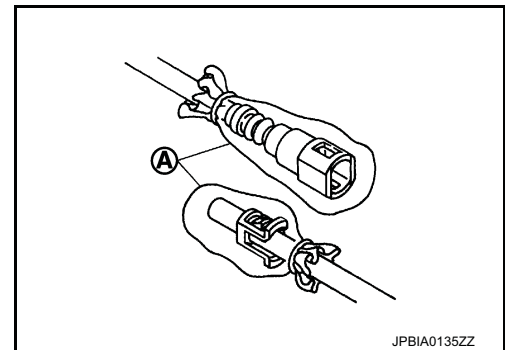
B : Connection (cross-section)
 D : To under floor fuel line
 E : To fuel tank
 G : Disconnection

- 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 : Blue



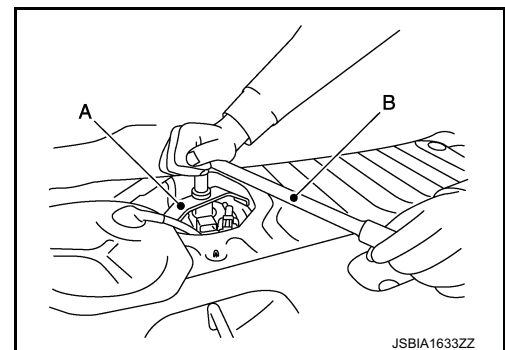
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.



- Use lock ring wrench [SST: KV10119900] (A) to remove lock ring.

CAUTION:

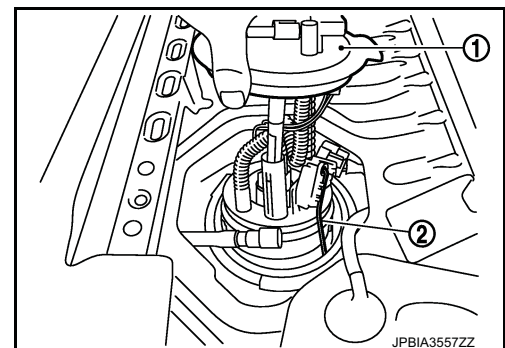
- To prevent lock ring wrench from being detached, securely hold down spinner handle (B) by hand.
- To reduce impact caused by removal operation, use long spinner handle [handle length: 60 cm (23.62 in) or more] and slowly turn it counterclockwise.



- Remove fuel level sensor unit, fuel filter and fuel pump assembly (1).

CAUTION:

- Never bend float arm (2) 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.



FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[HR12DE, HR15DE]

INSTALLATION

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

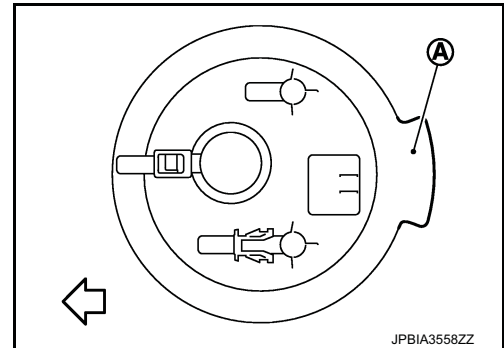
Fuel Level Sensor Unit

1. Install new O-ring to fuel tank without any twist.
2. Install the fuel gauge on the fuel tank with the fuel gauge top surface (A) fased the rear of the vehicle.

← : Vehicle front

CAUTION:

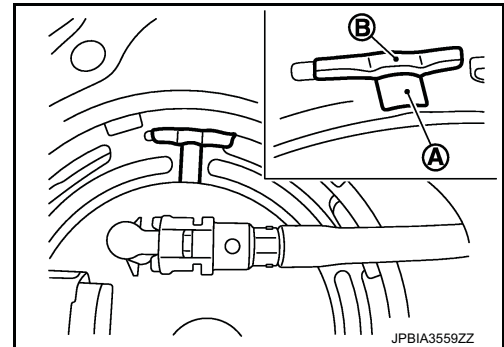
- Never allow O-ring to drop.
- Never bend float arm during installing.



3. Install lock ring for fuel level sensor unit, fuel filter and fuel pump assembly with lock ring wrench [SST: KV10119900] by turning clockwise.

CAUTION:

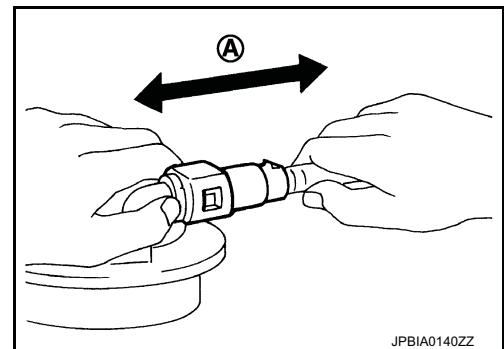
- Install lock ring horizontally.
- Turn the lock ring (A) until it is engaged in the fuel tank side (B) as shown in the figure.



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, 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.



Disassembly and Assembly

INFOID:000000006274262

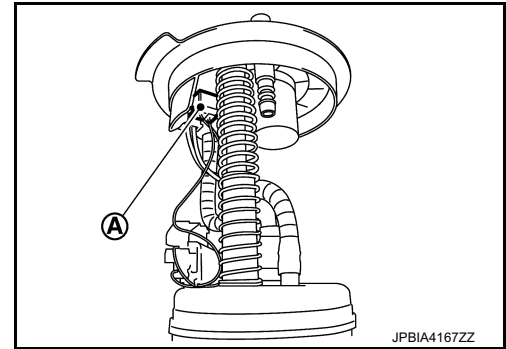
Disassembly

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

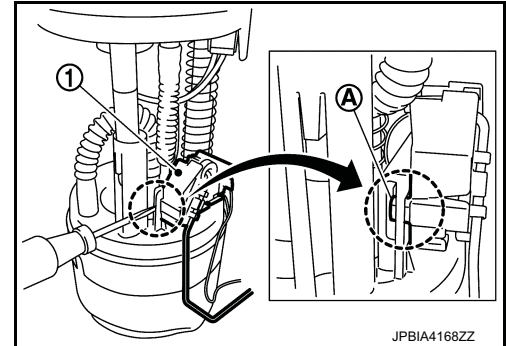
< REMOVAL AND INSTALLATION >

[HR12DE, HR15DE]

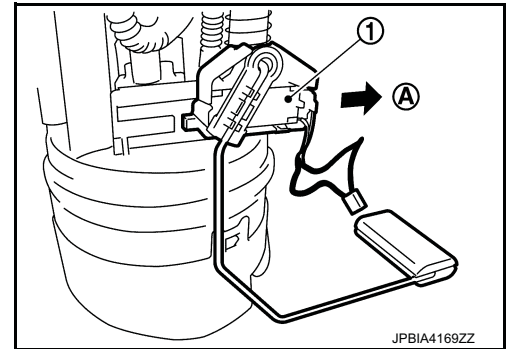
1. Disconnect harness connector (A).



2. Press (A) with a flat-blade screwdriver or an equivalent to release the lock and push out the fuel gauge (1).



3. To remove the fuel gauge (1), slide it in the direction (A) of the arrow with the lock released.



Assembly

CAUTION:

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

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 stops.
 - After inserting, apply force in reverse direction (removal direction) to ensure it cannot be pulled out.
3. Connect harness connector.

Inspection

INFOID:000000005988489

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 and let it idle and check there are no fuel leakage at the fuel system connections.

FUEL TANK

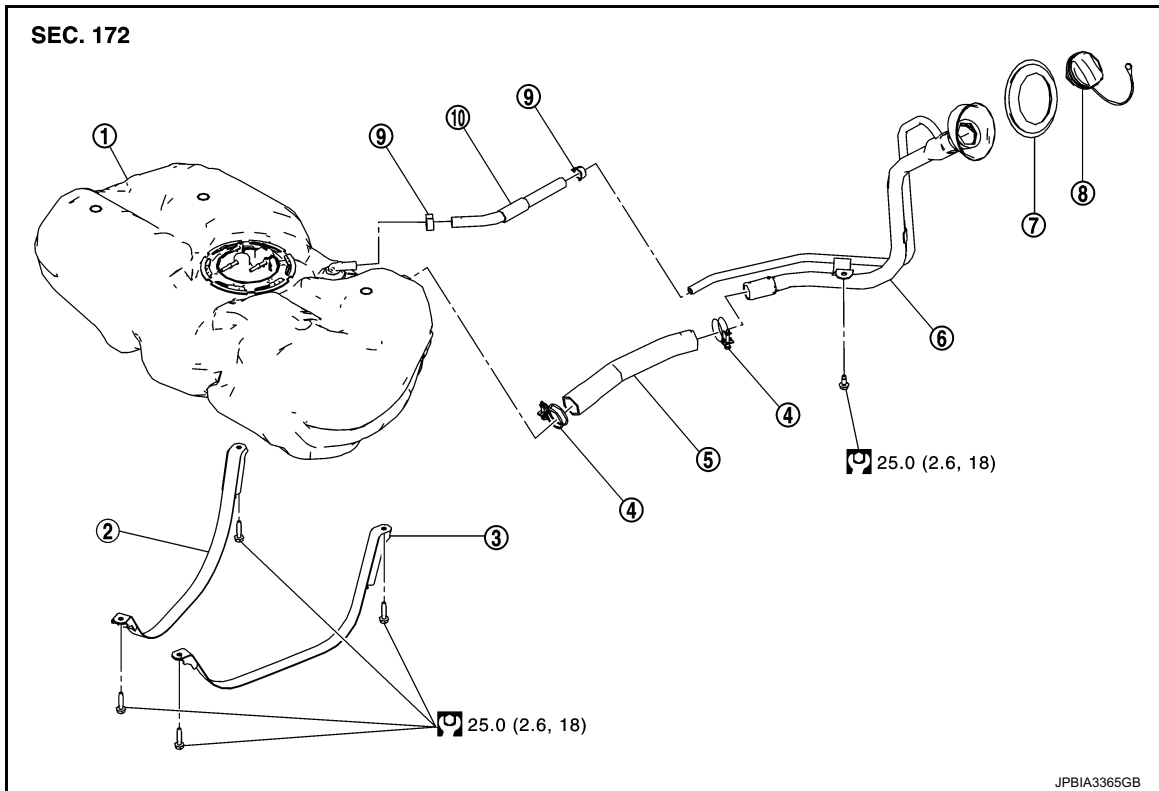
< REMOVAL AND INSTALLATION >

[HR12DE, HR15DE]


FUEL TANK

Exploded View

INFOID:000000005988490



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

 : N·m (kg-m, ft-lb)

Removal and Installation

INFOID:000000005988491

WARNING:

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

REMOVAL

- Drain fuel from fuel tank if necessary. Refer to [FL-6, "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 fuel level sensor unit, fuel filter and fuel pump assembly. Refer to [FL-6, "Removal and Installation"](#).
 2. Remove center muffler. Refer to [EX-5, "Exploded View"](#).
 3. Remove insulator on vehicle side located above center and main mufflers.

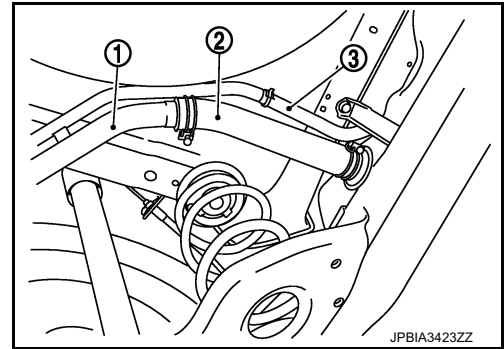
FUEL TANK

< REMOVAL AND INSTALLATION >

[HR12DE, HR15DE]

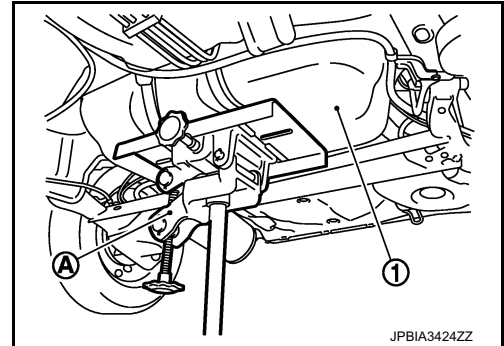
4. Disconnect fuel filler hose at fuel filler tube side.

- 1 : Filler tube
- 2 : Filler hose
- 3 : Vent hose



5. Remove vent hose from fuel tank side.

6. Support the center part of fuel tank (1) with transmission jack (A).



7. Remove fuel tank mounting bands (RH and LH).
8. 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

- Surely clamp fuel hose insert fuel filler hose to the length below.

Fuel filler hose : 35 mm (1.38 in)

The other hose : 25 mm (0.98 in)

- Be sure hose clamp is not placed on swelled area of fuel filler tube.
- Install fuel filler hose to fuel tank, paying attention to install mark.
- Tighten fuel filler hose clamp so that the remaining length of screw thread becomes to the following.

Fuel tank side hose clamp : 7 - 11 mm (0.28 - 0.43 in)

Fuel filler tube side hose clamp : 8 - 12mm (0.31 - 0.47 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.

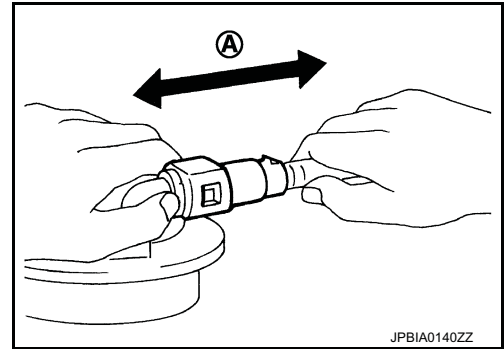
FUEL TANK

< REMOVAL AND INSTALLATION >

[HR12DE, HR15DE]

3. After connecting, pull out quick connector and centralized under floor piping by hand. Check connections are secure.

A : Pull



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

INFOID:000000005988492

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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[HR12DE, HR15DE]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Fuel Tank

INFOID:000000005988493

Standard and Limit

Fuel tank capacity	Approx. 41.0 ℓ (9.0 Imp gal)
Fuel recommendation	Refer to G1-45. "Fuel"

PRECAUTION

PRECAUTIONS

General Precautions

INFOID:000000007275574

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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.
- 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-45, "Fuel"](#).
- 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 [EC3-1001, "Work Procedure"](#).
 - Disconnect the battery cable from the negative terminal.
- Always replace O-ring and clamps with new ones.
- Never kink or twist tubes when they are being installed.
- Never tighten hose clamps excessively to avoid damaging hoses.
- After installing tubes, check 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 “MI” may come on.
- For servicing “EVAPORATIVE EMISSION SYSTEM” parts, refer to [FL-26, "Hydraulic Layout"](#).

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PREPARATION

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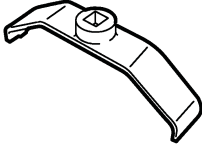
[HR12DDR]

PREPARATION

PREPARATION

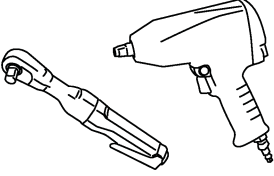
Special Service Tool

INFOID:000000007275575

Tool number Tool name	Description
KV10119900 Lock ring wrench  JPBIA3555ZZ	Removing and Installing lock ring

Commercial Service Tools

INFOID:000000007275576

Tool name	Description
Power tool  PBIC0190E	Loosening bolts and nuts

PERIODIC MAINTENANCE

FUEL SYSTEM

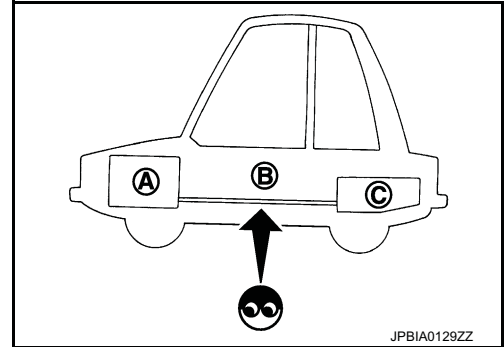
Inspection

INFOID:000000007275577

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

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

If necessary, repair or replace damaged parts.



INFOID:000000007275578

Quick Connector

CAUTION:

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

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FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[HR12DDR]

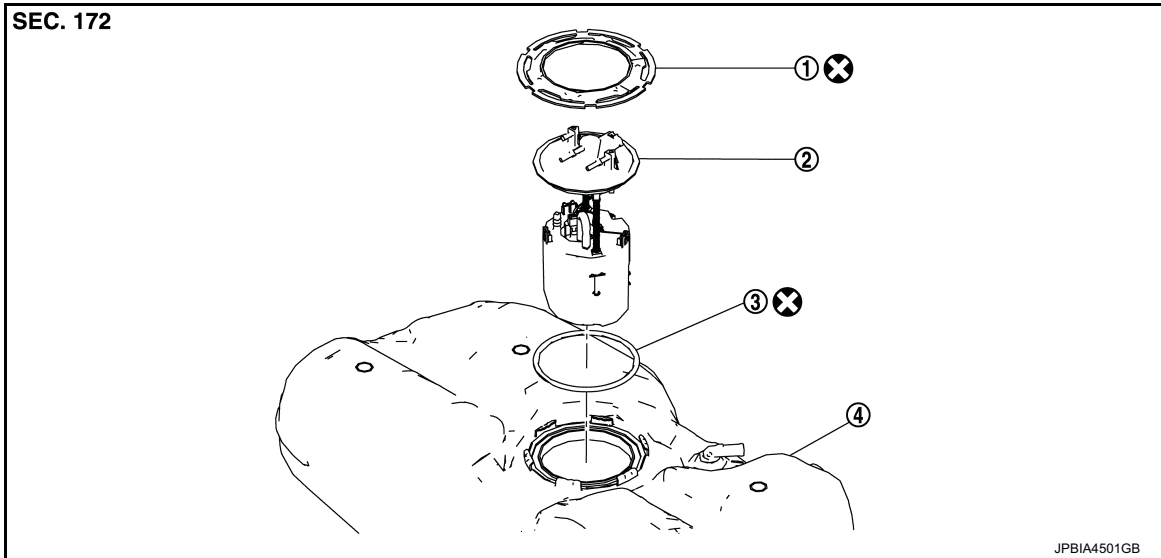
REMOVAL AND INSTALLATION

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

Exploded View

INFOID:000000007275579

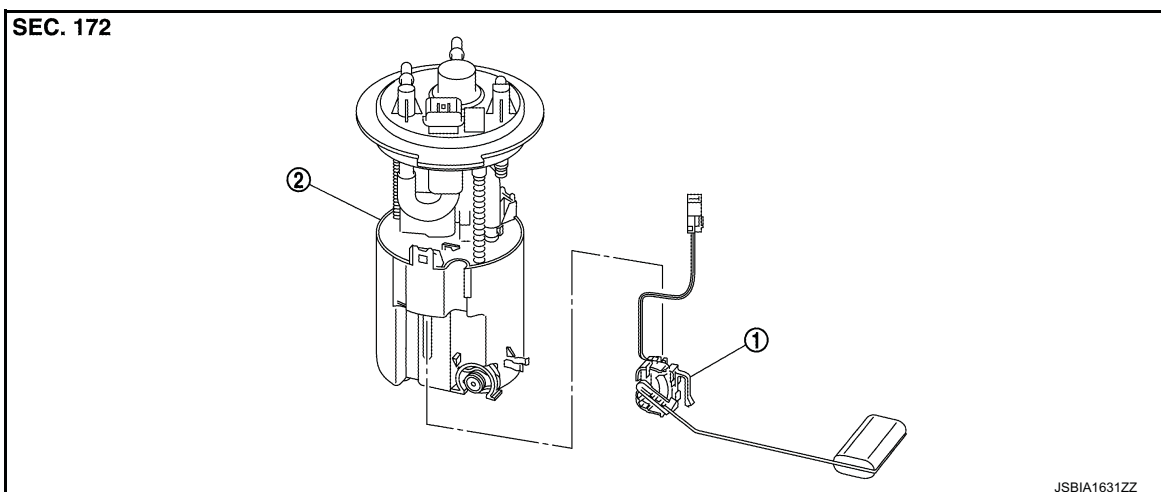
REMOVAL



1. Lock ring
2. Fuel level sensor unit, fuel filter and fuel pump assembly
3. O-ring
4. Fuel tank

⊗ : Always replace after every disassembly.

DISASSEMBLY



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

Removal and Installation

INFOID:000000007275580

WARNING:

Read "General Precautions" when working on the fuel system. Refer to [FL-15, "General Precautions"](#).

REMOVAL

1. Release the fuel pressure from the fuel lines. Refer to [EC3-1001, "Work Procedure"](#).

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

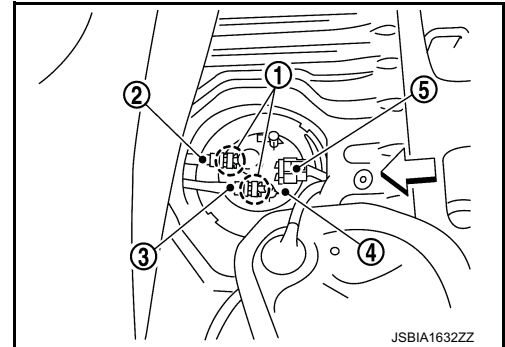
[HR12DDR]

2. Check fuel level on a level ground. If the fuel level is 7/8 of the fuel tank (full or nearly full), draw appropriate amount of fuel from the fuel tank.

Guideline : Draw approximately 10 liters from a full-tank condition.

- In the event of malfunction in fuel pump, insert a hose measuring 20 mm (0.79 in) in diameter into the filler opening to draw approximately 10 liters fuel.
3. Open fuel filler lid.
 4. Open filler cap and release the pressure inside fuel tank.
 5. Remove rear seat. Refer to [SE-36, "Exploded View"](#).
 6. Remove inspection hole cover.
 7. Disconnect harness connector (5), fuel feed tube (3) and EVAP tube (2).

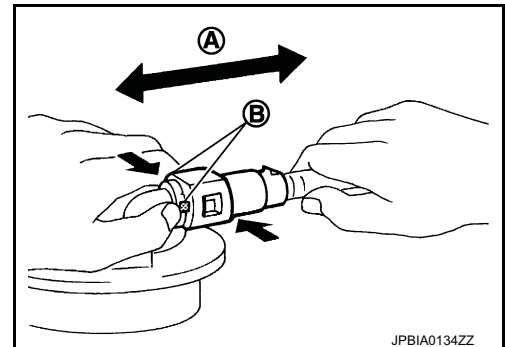
- 1 : Quick connector
- 4 : Fuel level sensor unit, fuel filter and fuel pump assembly
- ↔ : Vehicle front



- Remove quick connector in the following procedures.
- Hold the sides of quick 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

< REMOVAL AND INSTALLATION >

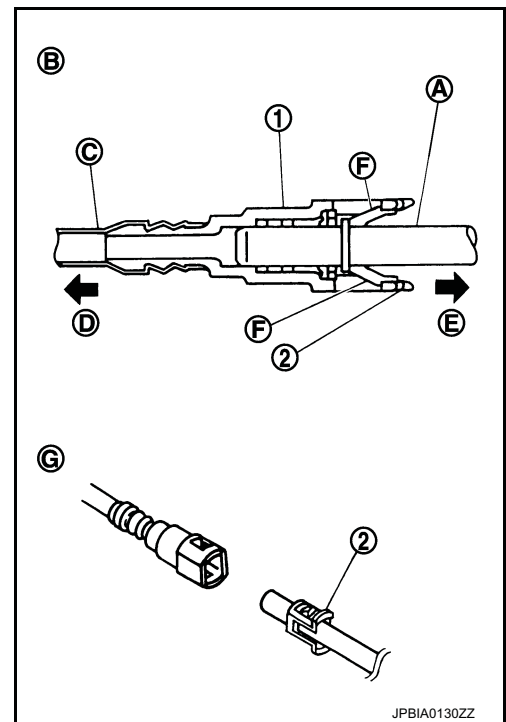
[HR12DDR]

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

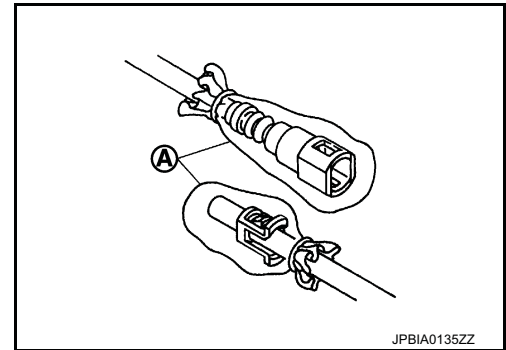
B : Connection (cross-section)
 D : To under floor fuel line
 E : To fuel tank
 G : Disconnection

- 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 : Blue



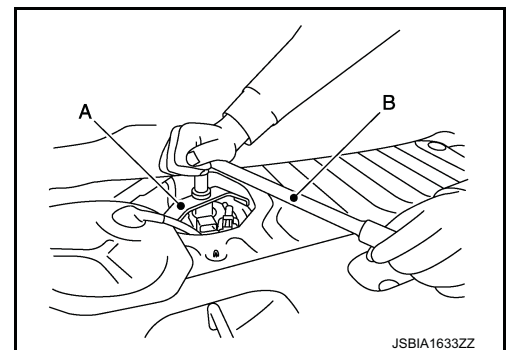
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.



- Use lock ring wrench [SST: KV10119900] (A) to remove lock ring.

CAUTION:

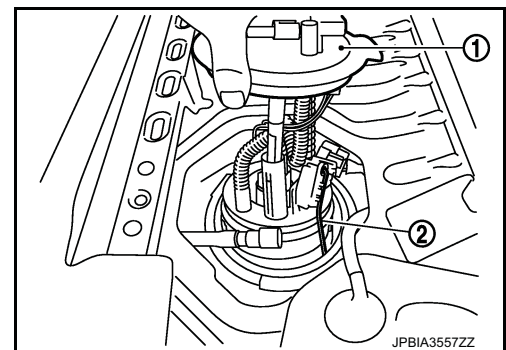
- To prevent lock ring wrench from being detached, securely hold down spinner handle (B) by hand.
- To reduce impact caused by removal operation, use long spinner handle [handle length: 60 cm (23.62 in) or more] and slowly turn it counterclockwise.



- Remove fuel level sensor unit, fuel filter and fuel pump assembly (1).

CAUTION:

- Never bend float arm (2) 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.



FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

< REMOVAL AND INSTALLATION >

[HR12DDR]

INSTALLATION

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

CAUTION:

Do not reuse O-ring.

Fuel Level Sensor Unit

1. Install new O-ring to fuel tank without any twist.

CAUTION:

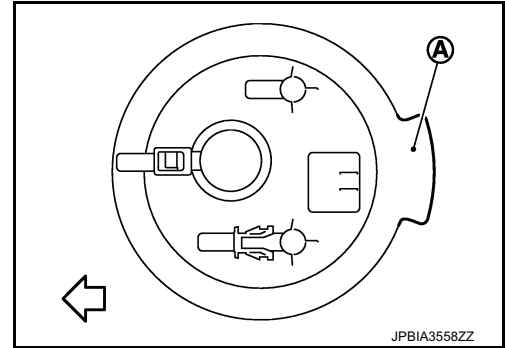
Do not reuse O-ring.

2. Install the fuel gauge on the fuel tank with the fuel gauge top surface (A) faced the rear of the vehicle.

← : Vehicle front

CAUTION:

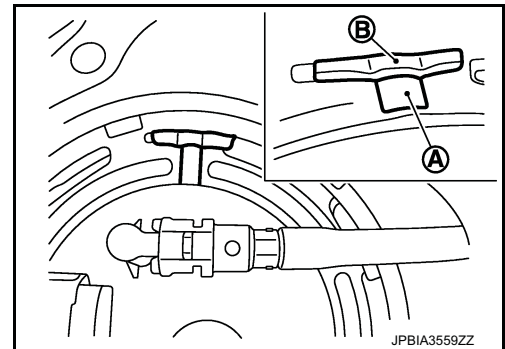
- Never allow O-ring to drop.
- Never bend float arm during installing.



3. Install lock ring for fuel level sensor unit, fuel filter and fuel pump assembly with lock ring wrench [SST: KV10119900] by turning clockwise.

CAUTION:

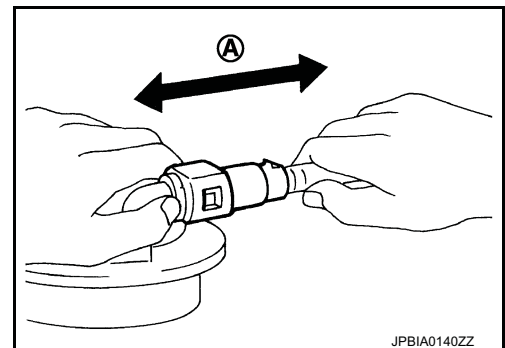
- Install lock ring horizontally.
- Turn the lock ring (A) until it is engaged in the fuel tank side (B) as shown in the figure.



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, 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.



Disassembly and Assembly

INFOID:000000007275581

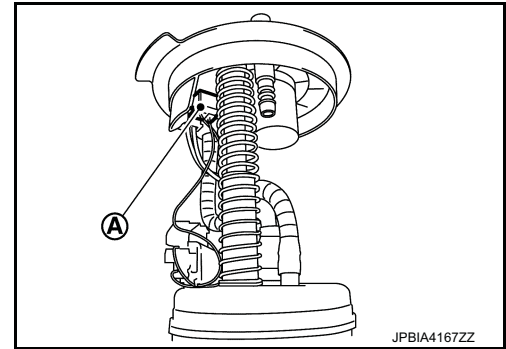
DISASSEMBLY

FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY

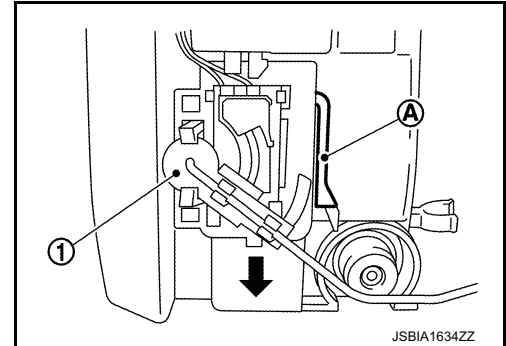
< REMOVAL AND INSTALLATION >

[HR12DDR]

1. Disconnect harness connector (A).



2. Press (A) with a flat-blade screwdriver or an equivalent to release lock and push out the fuel level sensor unit (1) .
3. To remove the fuel level sensor unit, slide it in the direction (←) of the arrow with the lock released.



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 stops.
 - After inserting, apply force in reverse direction (removal direction) to ensure it cannot be pulled out.
3. Connect harness connector.

Inspection

INFOID:000000007275582

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 and let it idle and check there are no fuel leakage at the fuel system connections.

FUEL TANK

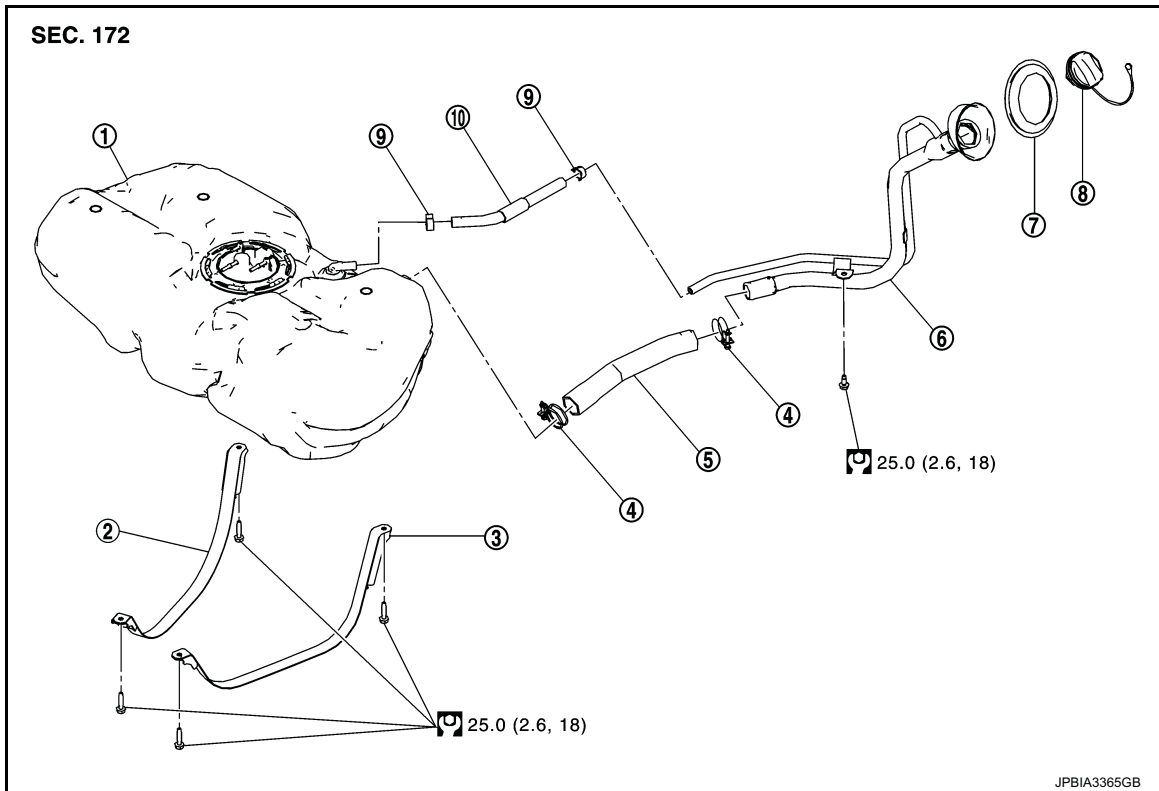
< REMOVAL AND INSTALLATION >

[HR12DDR]

FUEL TANK

Exploded View

INFOID:000000007275583



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

: N·m (kg-m, ft-lb)

Removal and Installation

INFOID:000000007275584

WARNING:

Be sure to read "General Precautions" when working on the fuel system. Refer to [FL-15, "General Precautions"](#).

REMOVAL

- Drain fuel from fuel tank if necessary. Refer to [FL-18, "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 fuel level sensor unit, fuel filter and fuel pump assembly. Refer to [FL-18, "Removal and Installation"](#).
 2. Remove center muffler. Refer to [EX-11, "Exploded View"](#).
 3. Remove insulator on vehicle side located above center and main mufflers.

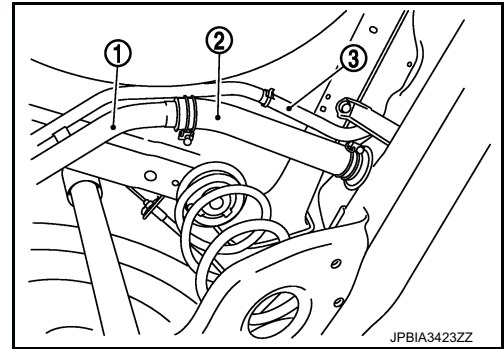
FUEL TANK

< REMOVAL AND INSTALLATION >

[HR12DDR]

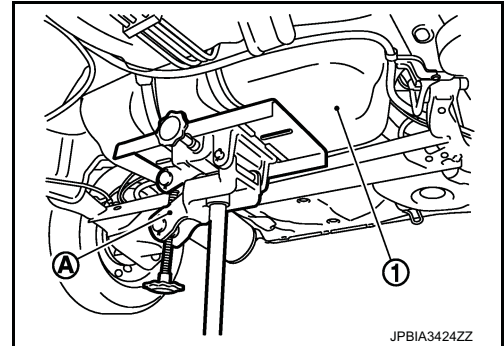
4. Disconnect fuel filler hose at fuel filler tube side.

- 1 : Filler tube
- 2 : Filler hose
- 3 : Vent hose



5. Remove vent hose from fuel tank side.

6. Support the center part of fuel tank (1) with transmission jack (A).



7. Remove fuel tank mounting bands (RH and LH).
8. 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

- Surely clamp fuel hose insert fuel filler hose to the length below.

Fuel filler hose : 35 mm (1.38 in)

The other hose : 25 mm (0.98 in)

- Be sure hose clamp is not placed on swelled area of fuel filler tube.
- Install fuel filler hose to fuel tank, paying attention to install mark.
- Tighten fuel filler hose clamp so that the remaining length of screw thread becomes to the following.

Fuel tank side hose clamp : 7 - 11 mm (0.28 - 0.43 in)

Fuel filler tube side hose clamp : 8 - 12mm (0.31 - 0.47 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.

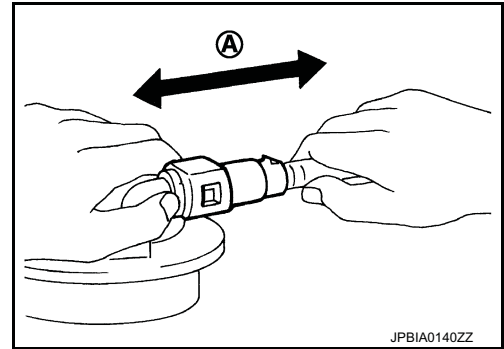
FUEL TANK

< REMOVAL AND INSTALLATION >

[HR12DDR]

3. After connecting, pull out quick connector and centralized under floor piping by hand. Check connections are secure.

A : Pull



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

INFOID:000000007275585

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EVAP CANISTER

< REMOVAL AND INSTALLATION >

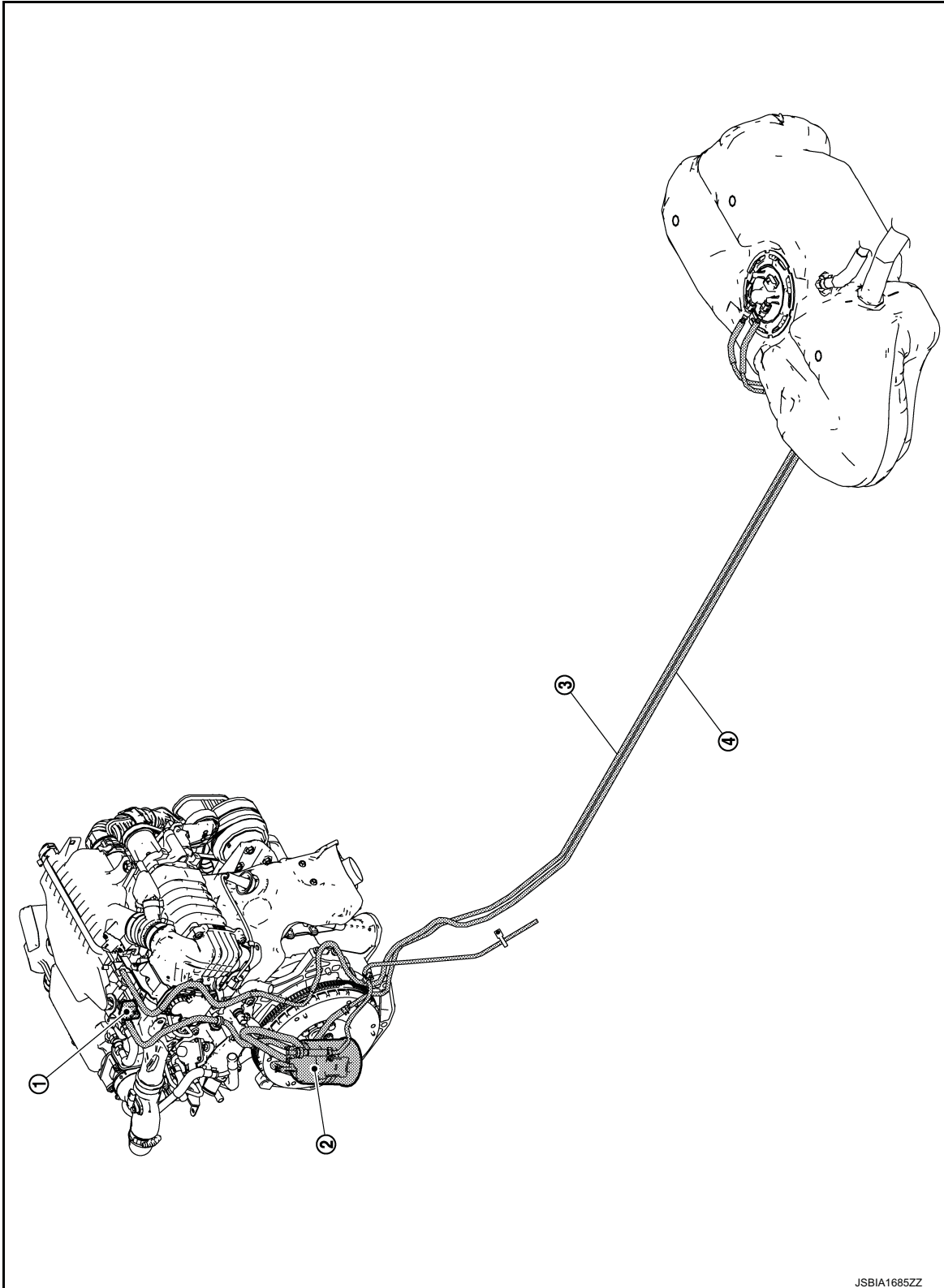
[HR12DDR]

EVAP CANISTER

Hydraulic Layout

INFOID:000000007275586

EVAPORATIVE EMISSION LINE DRAWING



JSBIA1685ZZ

EVAP CANISTER

< REMOVAL AND INSTALLATION >

[HR12DDR]

1. EVAP canister purge volume control solenoid valve
2. EVAP canister
3. EVAP line
4. Fuel line

A

NOTE:

Do not use soapy water or any type of solvent while installing vacuum hose or purge hoses.

FL

Removal and Installation

INFOID:000000007391037

C

REMOVAL

1. Remove battery. Refer to [PG-529, "FOR MAINTENANCE REQUIRED BATTERY MODELS : Exploded View"](#) (Maintenance required battery models) or [PG-529, "FOR MAINTENANCE FREE BATTERY MODELS : Exploded View"](#) (Maintenance free battery models).
2. Remove IPDM E/R bracket and IPDM E/R. Refer to [PCS-72, "Exploded View"](#) (WITH I-KEY models) or [PCS-137, "Exploded View"](#) (WITH OUT I-KEY models).
3. Remove EVAP canister.

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INSTALLATION

Install in the reverse order of removal.

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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[HR12DDR]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Fuel Tank

INFOID:000000007275587

Standard and Limit

Fuel tank capacity	Approx. 41.0 ℓ (9.0 Imp gal)
Fuel recommendation	Refer to G1-45. "Fuel"

PRECAUTION

PRECAUTIONS

General Precautions

INFOID:000000006858105

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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.
- Never smoke while servicing fuel system. Keep open flames and sparks away from the work area.

CAUTION:

- Use diesel fuel required by the regulations for cetane number. Refer to [GI-45. "Fuel"](#).
- 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.
 - Disconnect the battery cable from the negative terminal.
 - Always replace O-ring and clamps with new ones.
 - Never kink 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.
 - 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.
 - Drain water from fuel filter, when the fuel filter warning lamp turns ON (with fuel filter warning). Refer to [FL-32. "Water Draining"](#).

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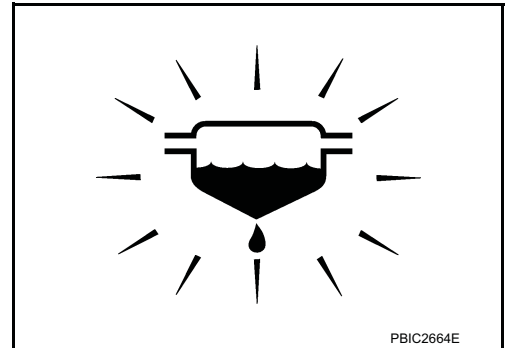
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PREPARATION

< PREPARATION >

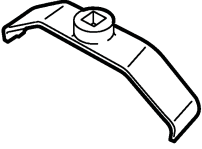
[K9K]

PREPARATION

PREPARATION

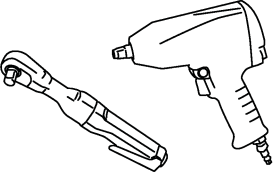
Special Service Tool

INFOID:000000006782982

Tool number Tool name	Description
<p data-bbox="164 443 337 495">KV10119900 Lock ring wrench</p>  <p data-bbox="808 659 894 674">JPBIA3555ZZ</p>	<p data-bbox="982 443 1317 468">Removing and Installing lock ring</p>

Commercial Service Tools

INFOID:000000006782983

Tool name	Description
<p data-bbox="164 842 272 867">Power tool</p>  <p data-bbox="808 1058 878 1073">PBIC0190E</p>	<p data-bbox="982 842 1235 867">Loosening bolts and nuts</p>

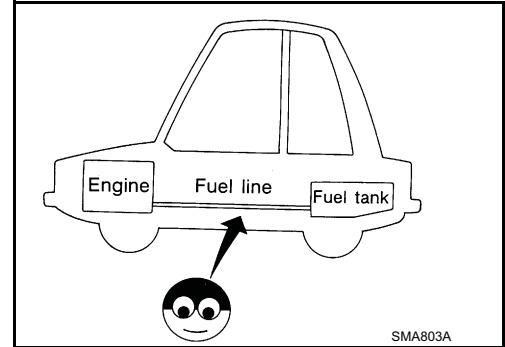
PERIODIC MAINTENANCE

FUEL SYSTEM

Checking Fuel Line

INFOID:000000006781226

Inspect fuel lines and tank for improper attachment, leaks, cracks, damage, chafing and deterioration. If necessary, repair or replace.



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FUEL FILTER

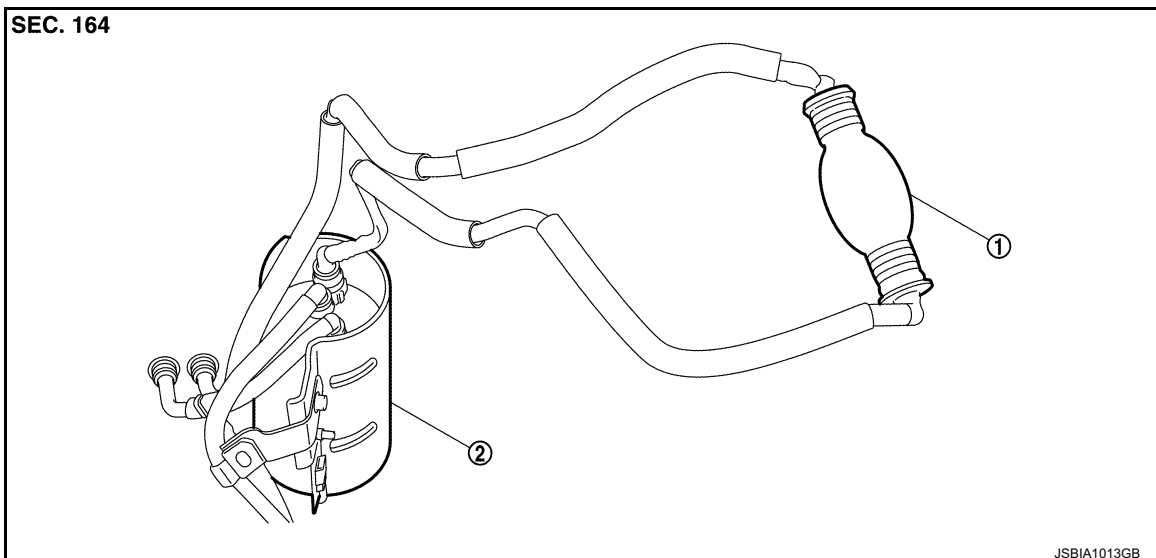
< PERIODIC MAINTENANCE >

[K9K]

FUEL FILTER

Exploded View

INFOID:000000006781227



1. Priming bulb

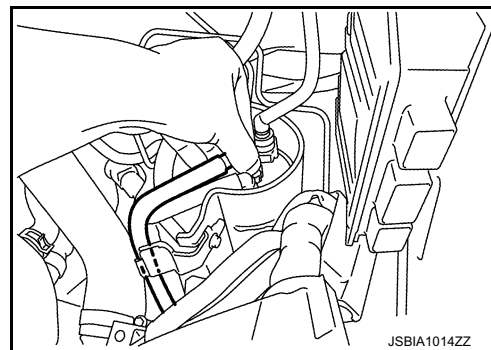
2. Fuel filter

Removal and Installation

INFOID:000000006781228

REMOVAL

1. Remove quick connectors in the following procedures.
 - Pinch quick connector square-parts with your fingers, and pull out the quick connector by hand.
 - If quick connector and tube on vehicle are stuck, push and pull several times until they move, and pull out.



2. Remove fuel filter from fuel filter bracket.

CAUTION:

Never spill the fuel during removal. If the fuel is spill, immediately wipe it off. Be especially careful to prevent the fuel from adhering to the insulators of the engine mounts.

Water Draining

INFOID:000000006781229

DRAINING WATER

CAUTION:

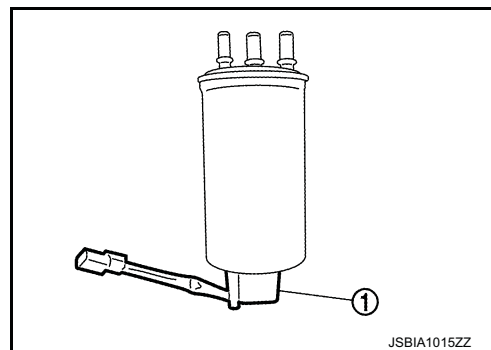
Before carrying out any work, wait for the fuel temperature is dropped.

FUEL FILTER

< PERIODIC MAINTENANCE >

[K9K]

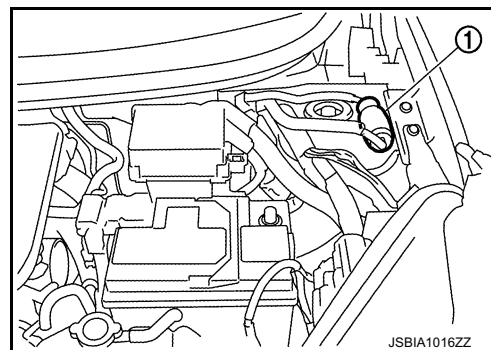
Open water in fuel sensor (1) at the bottom of fuel filter.



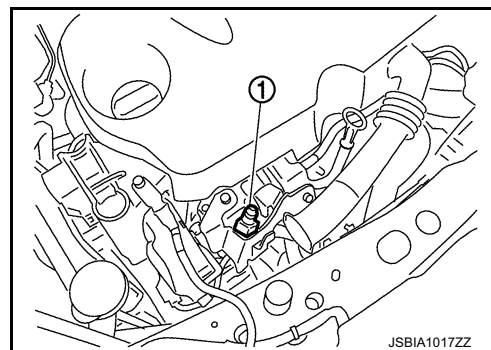
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Air Bleeding

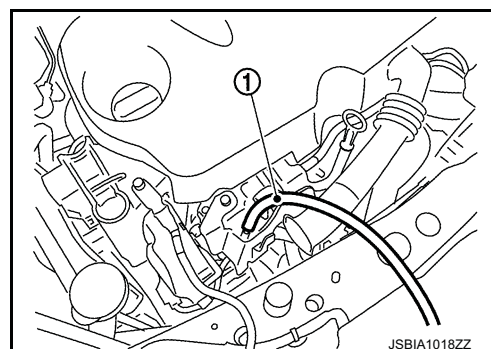
1. Prime the circuit using the priming bulb (1).
2. Perform engine cranking with repeating several times until engine starting.



3. If the engine does not start, perform the following procedure.
 - a. Remove quick connector (1).



- b. Connect drain hose (suitable hose) (1).
 - c. Place a tray at the drain hose open end.
 - d. Operate the priming bulb to completely bleed air from the circuit.
4. When air bleeding is completed, install quick connector, and check absence of leakage.



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FUEL LEVEL SENSOR UNIT

< REMOVAL AND INSTALLATION >

[K9K]

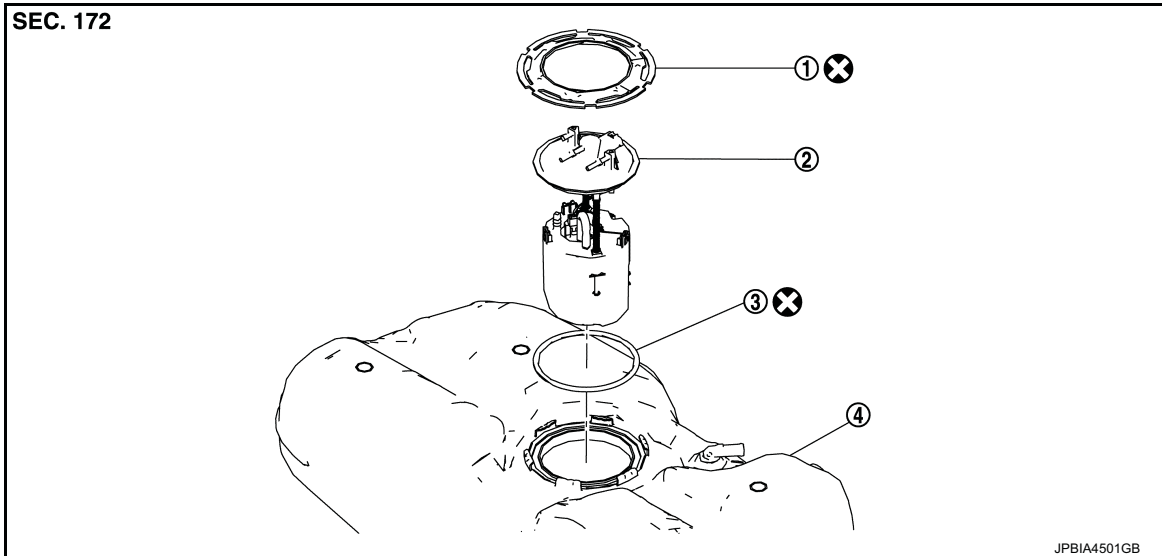
REMOVAL AND INSTALLATION

FUEL LEVEL SENSOR UNIT

Exploded View

INFOID:000000006708530

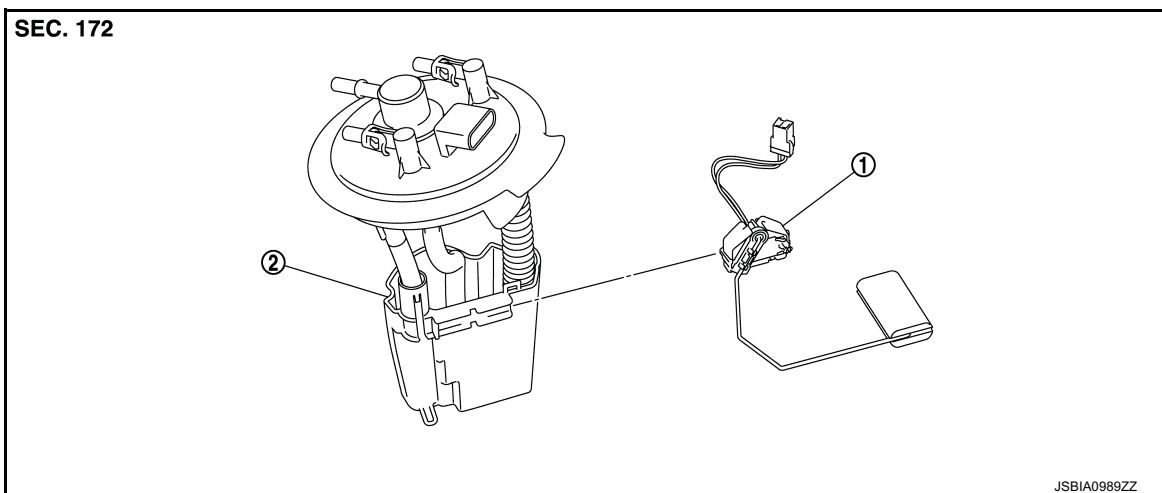
REMOVAL



1. Lock ring
2. Fuel level sensor unit
3. O-ring
4. Fuel tank

⊗ : Always replace after every disassembly.

DISASSEMBLY



1. Fuel gauge
2. Fuel level sensor unit

Removal and Installation

INFOID:000000006708531

WARNING:

Read “General Precautions” when working on the fuel system. Refer to [FL-29, "General Precautions"](#).

REMOVAL

1. Check fuel level on a level ground. If the fuel level is 7/8 of the fuel tank (full or nearly full), draw appropriate amount of fuel from the fuel tank.

FUEL LEVEL SENSOR UNIT

< REMOVAL AND INSTALLATION >

[K9K]

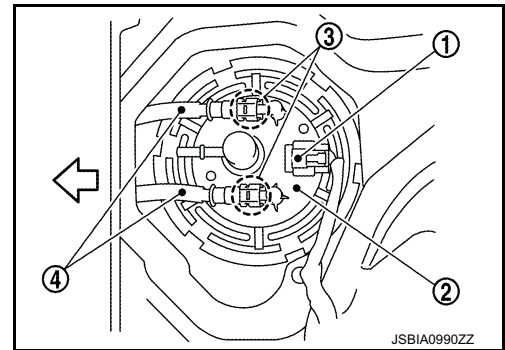
Guideline : Draw approximately 10 liters (2-2/8 Imp gal) from a full-tank condition.

- In the event of malfunction in fuel pump, insert a hose measuring 20mm (0.79 in) in diameter into the filler opening to draw approximately 10 liters (2-2/8 Imp gal) fuel.
2. Open fuel filler lid.
 3. Open filler cap and release the pressure inside fuel tank.
 4. Remove rear seat. Refer to [SE-36, "Exploded View"](#).
 5. Remove inspection hole cover.
 6. Disconnect harness connector (1), fuel feed tube (4).

2 : Fuel level sensor unit

3 : Quick connector

⇐ : Vehicle front

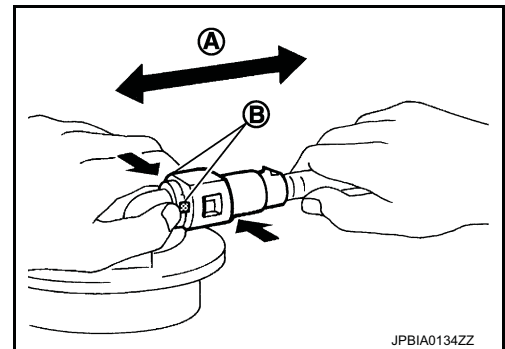


- Remove quick connector in the following procedures.
- Hold the sides of quick connector, press tabs and pull out fuel feed tube.

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

[K9K]

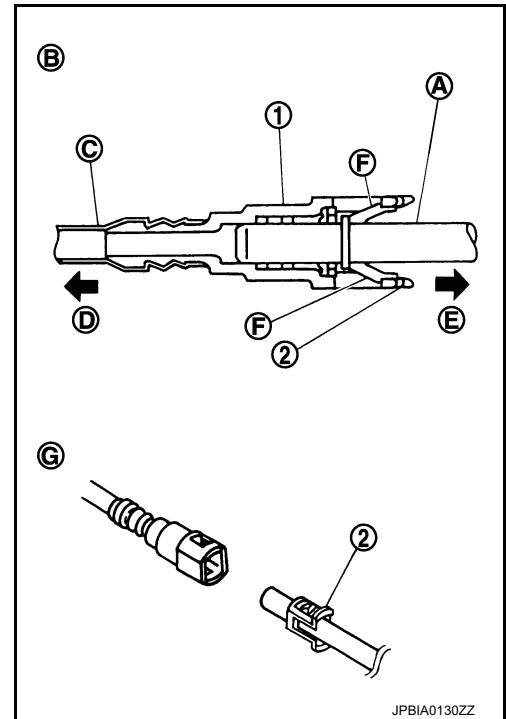
< REMOVAL AND INSTALLATION >

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

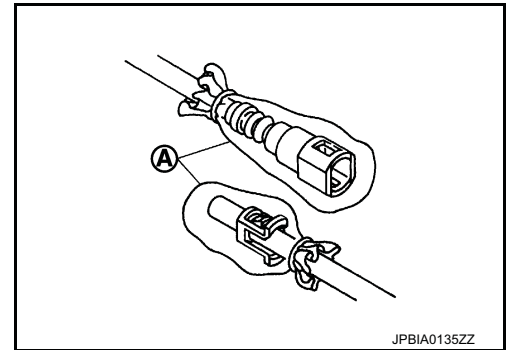
B : Connection (cross-section)
 D : To under floor fuel line
 E : To fuel tank
 G : Disconnection

- 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 : Blue



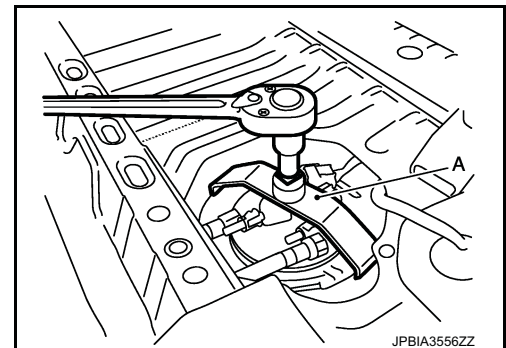
- To keep the connecting portion clean and to avoid damage and foreign materials, cover them completely with plastic bags (A) or something similar.



7. Use lock ring wrench [SST: KV10119900] (A) to remove lock ring.

NOTE:

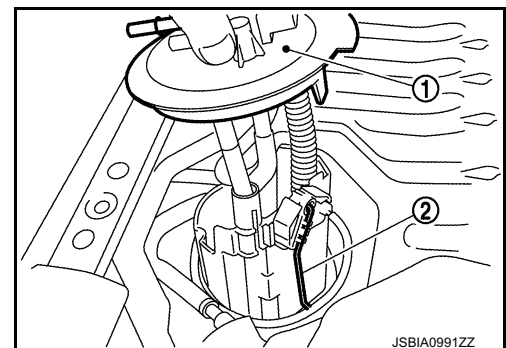
For reference when installing, put a matching mark on lock ring, fuel pump assembly and fuel tank.



8. Remove fuel level sensor unit (1).

CAUTION:

- Never bend float arm (2) 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.



FUEL LEVEL SENSOR UNIT

[K9K]

< REMOVAL AND INSTALLATION >

INSTALLATION

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

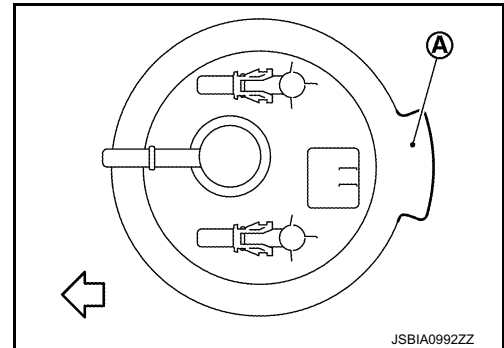
Fuel Level Sensor Unit

1. Install new O-ring to fuel tank without any twist.
2. Install the fuel gauge on the fuel tank with the fuel gauge top surface (A) faced the rear of the vehicle.

← : Vehicle front

CAUTION:

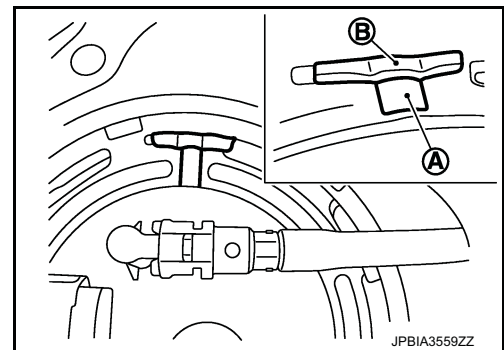
- Never allow O-ring to drop.
- Never bend float arm during installing.



3. Install lock ring for fuel level sensor unit with lock ring wrench [SST: KV10119900] by turning clockwise.

CAUTION:

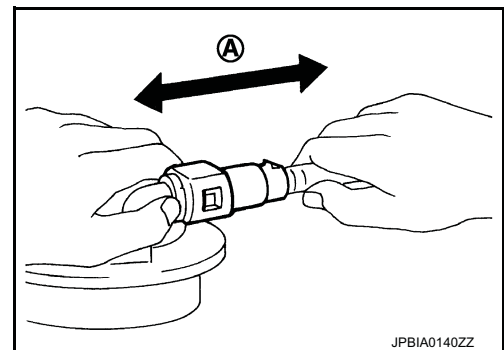
- Install lock ring horizontally.
- Turn the lock ring (A) until it is engaged in the fuel tank side (B) as shown in the figure.



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, 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.



Disassembly and Assembly

DISASSEMBLY

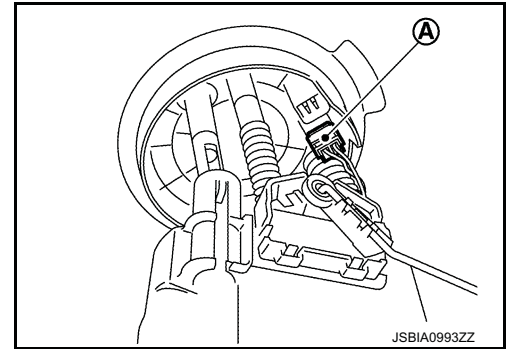
INFOID:000000006708532

FUEL LEVEL SENSOR UNIT

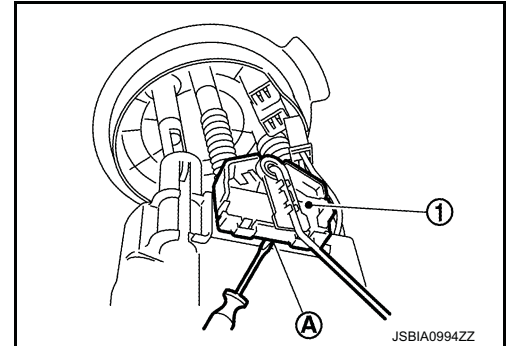
< REMOVAL AND INSTALLATION >

[K9K]

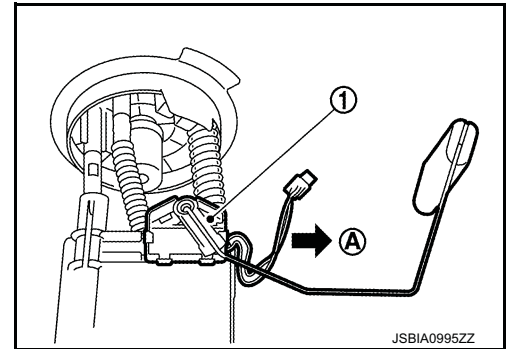
1. Disconnect harness connector (A).



2. Press (A) with a flat-blade screwdriver or an equivalent to release the lock and push out the fuel gauge (1).



3. To remove the fuel gauge (1), slide it in the direction (A) of the arrow with the lock released.



ASSEMBLY

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

Inspection

INFOID:000000006708533

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 and let it idle and check there are no fuel leakage at the fuel system connections.

FUEL TANK

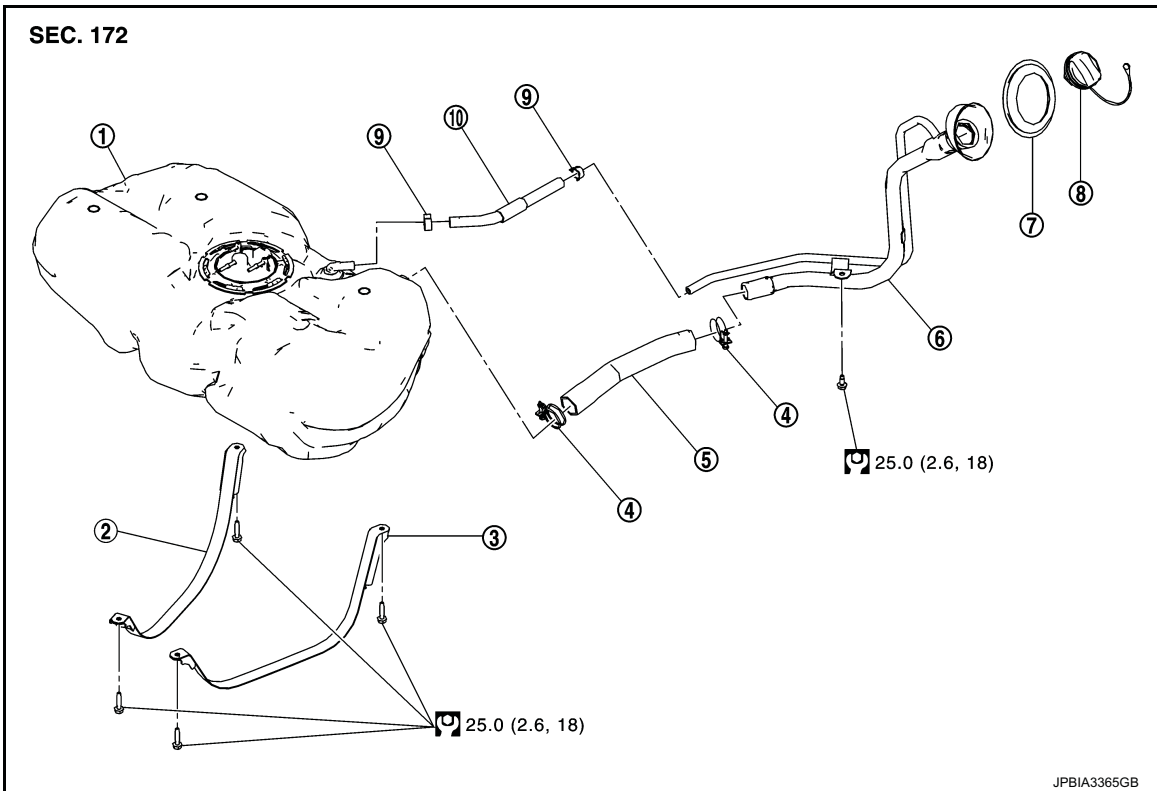
< REMOVAL AND INSTALLATION >

[K9K]

FUEL TANK

Exploded View

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

: N·m (kg-m, ft-lb)

Removal and Installation

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WARNING:

Be sure to read "General Precautions" when working on the fuel system. Refer to [FL-29, "General Precautions"](#).

REMOVAL

- Drain fuel from fuel tank if necessary. Refer to [FL-34, "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 fuel level sensor unit. Refer to [FL-34, "Removal and Installation"](#).
 2. Remove center tube. Refer to [EX-17, "Exploded View"](#).
 3. Remove insulator on vehicle side located above center tube and main mufflers.

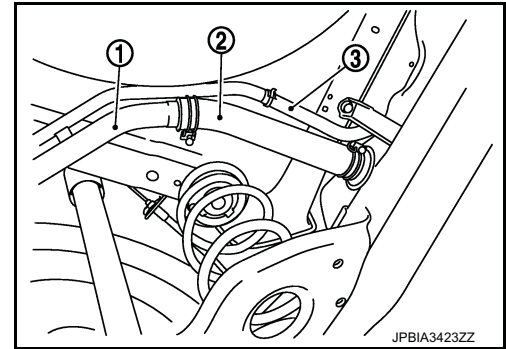
FUEL TANK

< REMOVAL AND INSTALLATION >

[K9K]

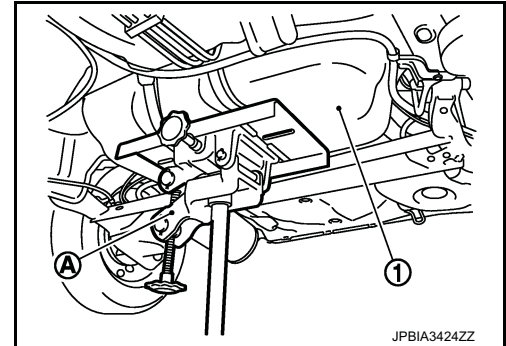
4. Disconnect fuel filler hose at fuel filler tube side.

- 1 : Filler tube
- 2 : Filler hose
- 3 : Vent hose



5. Remove vent hose from fuel tank side.

6. Support the center part of fuel tank (1) with transmission jack (A).



7. Remove fuel tank mounting bands (RH and LH).
8. 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

- Surely clamp fuel hose insert fuel filler hose to the length below.

Fuel filler hose : 35 mm (1.38 in)

The other hose : 25 mm (0.98 in)

- Be sure hose clamp is not placed on swelled area of fuel filler tube.
- Install fuel filler hose to fuel tank, paying attention to install mark.
- Tighten fuel filler hose clamp so that the remaining length of screw thread becomes to the following.

Fuel tank side hose clamp : 7 - 11 mm (0.28 - 0.43 in)

Fuel filler tube side hose clamp : 8 - 12mm (0.31 - 0.47 in)

Inspection

INFOID:000000006708536

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

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[K9K]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Fuel Tank

INFOID:000000006782980

A

FL

Standard and Limit

Fuel tank capacity	Approx. 41.0 ℓ (9.0 Imp gal)
Fuel recommendation	Refer to GI-45, "Fuel"

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