

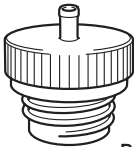
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**GROUP 13B****FUEL SUPPLY****CONTENTS**

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## SPECIAL TOOL

M1135000601262

Tool	Number	Name	Use
 B992145	MB992145	Fuel leak check cap	Fuel leak check

## ON-VEHICLE SERVICE

## FUEL PUMP OPERATION CHECK

M1135002300446

Refer to GROUP 13A – On-vehicle Service, Fuel Pump Operation Check .

## FUEL GAUGE UNIT CHECK

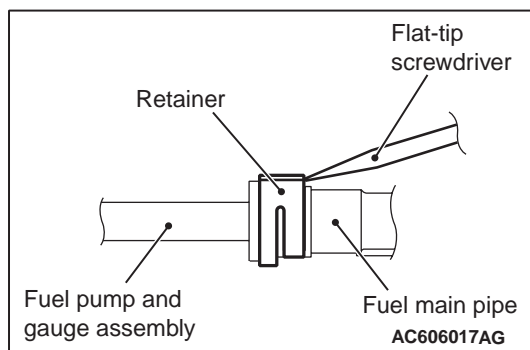
M1135003101170

Refer to GROUP 54A – Combination Meter, On-vehicle Service, Fuel Gauge Unit Check .

## FUEL PUMP AND GAUGE ASSEMBLY REPLACEMENT

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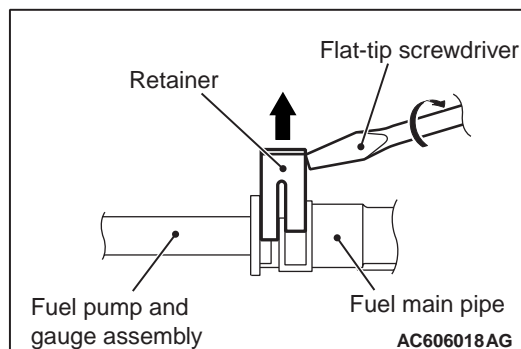
1. Fuel line pressure reduction (Refer to GROUP 13A – On-vehicle Service, How to Reduce Pressurized Fuel Lines ).



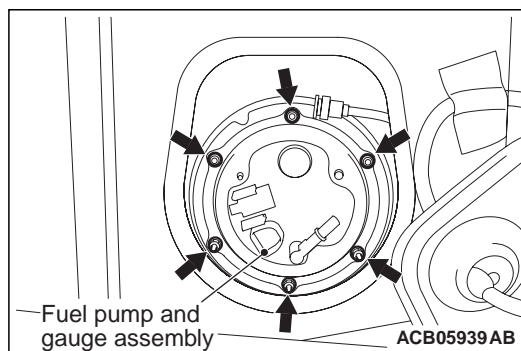
2. Insert a flat-tip screwdriver (6 mm wide and 1 mm thick) into the retainer of the fuel main pipe connector.

**CAUTION**

When pushing up the retainer of the fuel main pipe connector, pay attention to avoid damage to the retainer.



3. Turn the flat-tip screwdriver inserted into the retainer by 90 degrees to push up the retainer and unlock the fuel main pipe connector.



4. Remove the mounting nuts of fuel pump and gauge assembly.
5. Remove the fuel tank bracket and connector housing assembly and the fuel pump bracket plate.

**CAUTION**

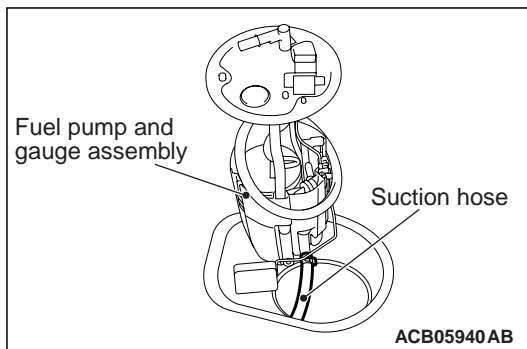
Pay attention not to damage the gauge unit and the float of fuel pump and gauge assembly when withdrawing it from the service hole.

6. Remove the fuel pump and gauge assembly from the fuel tank. <2WD>

*NOTE: For disassembly and reassembly of the fuel pump and gauge assembly, refer to "Disassembly and reassembly of fuel pump and gauge assembly" (refer to P.13B-11).*

**CAUTION**

Pay attention not to damage the gauge unit and the float of fuel pump and gauge assembly when withdrawing it from the service hole.



7. While withdrawing the fuel pump and gauge assembly from the service hole, disconnect the suction hose from the fuel pump and gauge assembly to remove the fuel pump and gauge assembly from the fuel tank. <4WD>

*NOTE: For disassembly and reassembly of the fuel pump and gauge assembly, refer to "Disassembly and reassembly of fuel pump and gauge assembly" (refer to P.13B-17).*

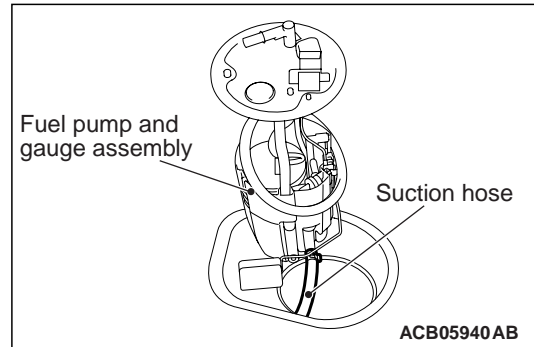
8. Replace the fuel pump and gauge assembly gasket with a new one.

**CAUTION**

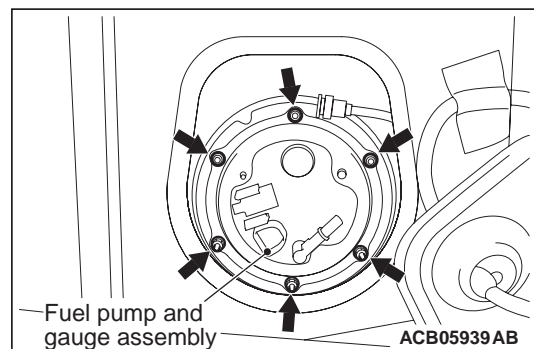
- Pay attention not to damage the gauge unit and the float of fuel pump and gauge assembly when installing it to the fuel tank from the service hole.
  - When installing the fuel pump and gauge assembly to the fuel tank, check that the gauge moving area moves smoothly.
9. Install the fuel pump and gauge assembly to the fuel tank through the service hole. <2WD>

**CAUTION**

- Pay attention not to damage the gauge unit and the float of fuel pump and gauge assembly when installing it to the fuel tank from the service hole.
- Pay attention to prevent the float of fuel pump and gauge assembly from being trapped by the suction hose inside the fuel tank.
- When installing the fuel pump and gauge assembly to the fuel tank, check that the gauge moving area moves smoothly.

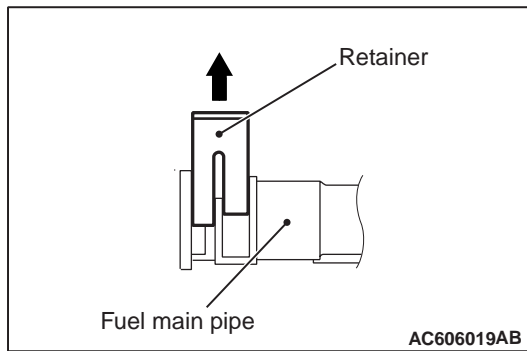


10. While inserting the fuel pump and gauge assembly into the fuel tank from the service hole, connect the suction hose to the fuel pump and gauge assembly to install the fuel pump and gauge assembly to the fuel tank. <4WD>
11. Install the fuel pump bracket plate and the fuel tank bracket and connector housing assembly.



12. Tighten the fuel pump and gauge assembly mounting nuts to the specified torque.

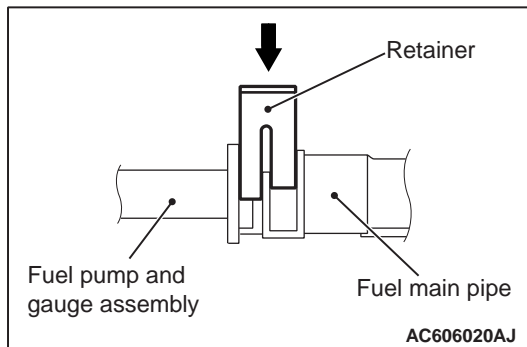
**Tightening torque:  $2.5 \pm 0.4$  N·m**



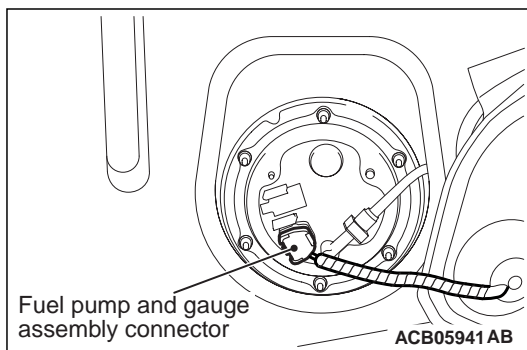
13. Pull up the retainer of fuel main pipe to unlock before installing.

**CAUTION**

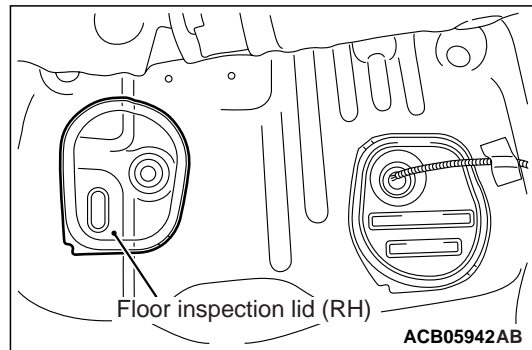
- When pushing in the retainer of the fuel main pipe connector, pay attention to avoid damage to the retainer.
- After the installation of the fuel main pipe, slightly pull the fuel main pipe to check that it is connected securely. At this time, also check that there is approximately 1 mm play.



14. Install the fuel main pipe to the fuel pump and gauge assembly securely and push in the retainer of the fuel main pipe connector to lock the fuel main pipe and fuel pump and gauge assembly.



15. Connect the fuel pump and gauge assembly connector.



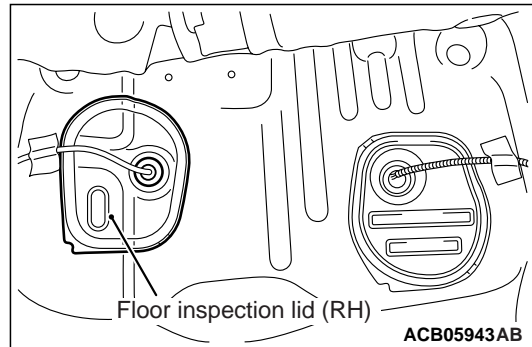
16. Install the floor inspection lid (LH).

17. Return the floor carpet to the original condition and install the second seat assembly (Refer to GROUP 52A – Second Seat Assembly ).

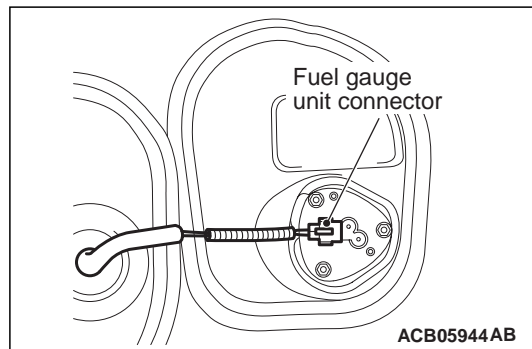
## FUEL GAUGE UNIT REPLACEMENT <4WD>

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1. Remove the second seat assembly (Refer to GROUP 52A – Second Seat Assembly ), and turn up the floor carpet.



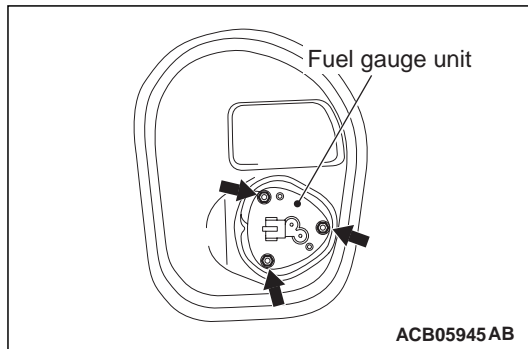
2. Remove the floor inspection lid (RH).



3. Disconnect the fuel gauge unit connector.

**CAUTION**

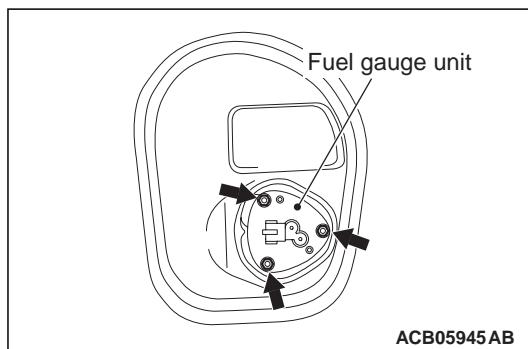
Pay attention not to damage the gauge unit and the float of fuel gauge unit when withdrawing it from the service hole.



4. Remove the fuel gauge unit mounting nuts, and remove the fuel gauge unit from service hole.
5. Replace the fuel gauge unit gasket with a new one.

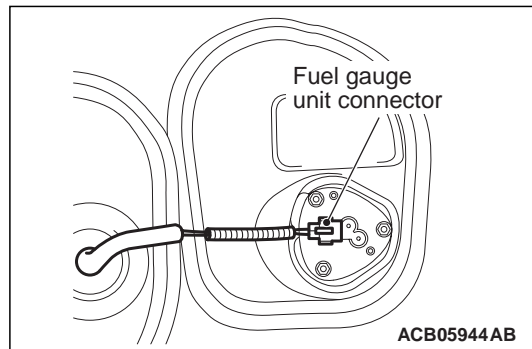
**CAUTION**

Pay attention not to damage the gauge unit and the float of fuel gauge unit when installing it to the fuel tank through the service hole.

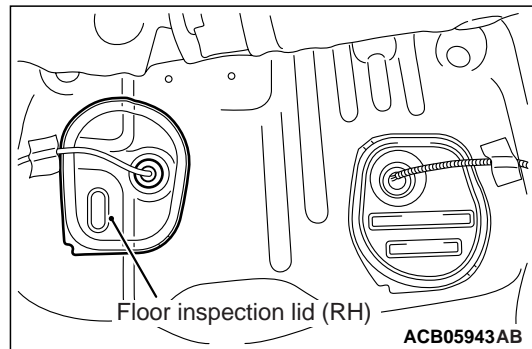


6. Install the fuel gauge unit to the fuel tank through the service hole, and tighten the mounting nuts to the specified torque.

**Tightening torque:  $2.5 \pm 0.4$  N·m**



7. Connect the fuel gauge unit connector.



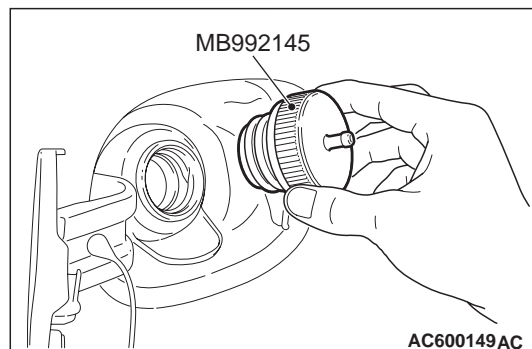
8. Install the floor inspection lid (RH).
9. Return the floor carpet to the original condition and install the second seat assembly (Refer to GROUP 52A – Second Seat Assembly ).

**FUEL LEAK CHECK OF FUEL TANK**

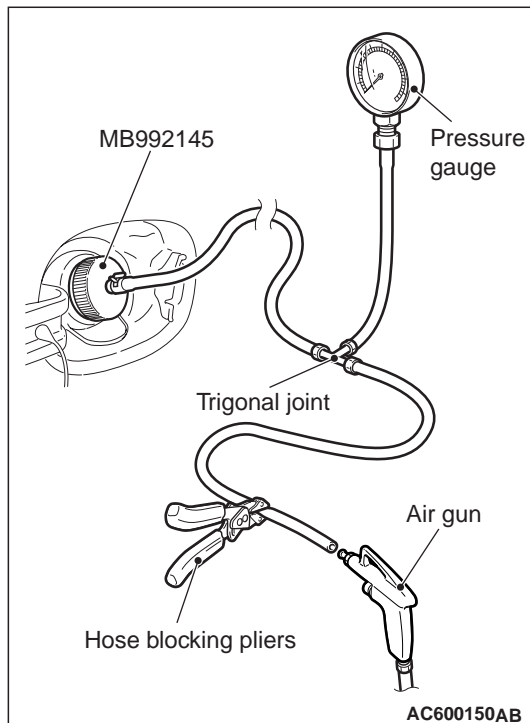
M1135005900704

**CAUTION**

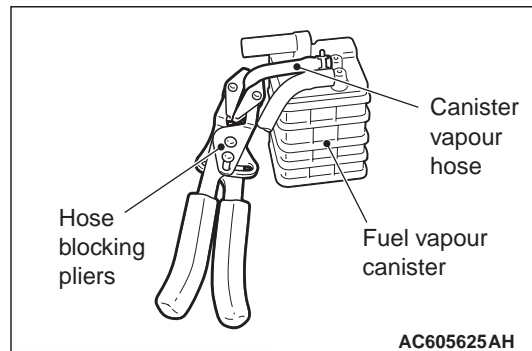
Always check the fuel leak of fuel tank with the vehicle loaded. If it is checked with the fuel tank removed, the fuel tank may be damaged.



1. Remove the fuel tank cap, and install special tool fuel leak check cap (MB992145).



2. Install the hose and pressure gauge to the special tool (MB992145) as shown.



3. Block the canister vapour hose (fuel tank side).

**CAUTION**

- Do not pressurize suddenly.
  - Do not pressurize 11.76 kPa or more to prevent the damage of components.
4. Pressurize while checking the pressure gauge and hold if it reaches from 9.80 to 11.76 kPa.
  5. Leave it for approximately 3 minutes and check that the pressure is not weakened.
  6. If the pressure is weakened, apply soapy water to each part with pressurized state and check the leak while confirming if air bubbles are seen.

# FUEL TANK <2WD>

## REMOVAL AND INSTALLATION <2WD>

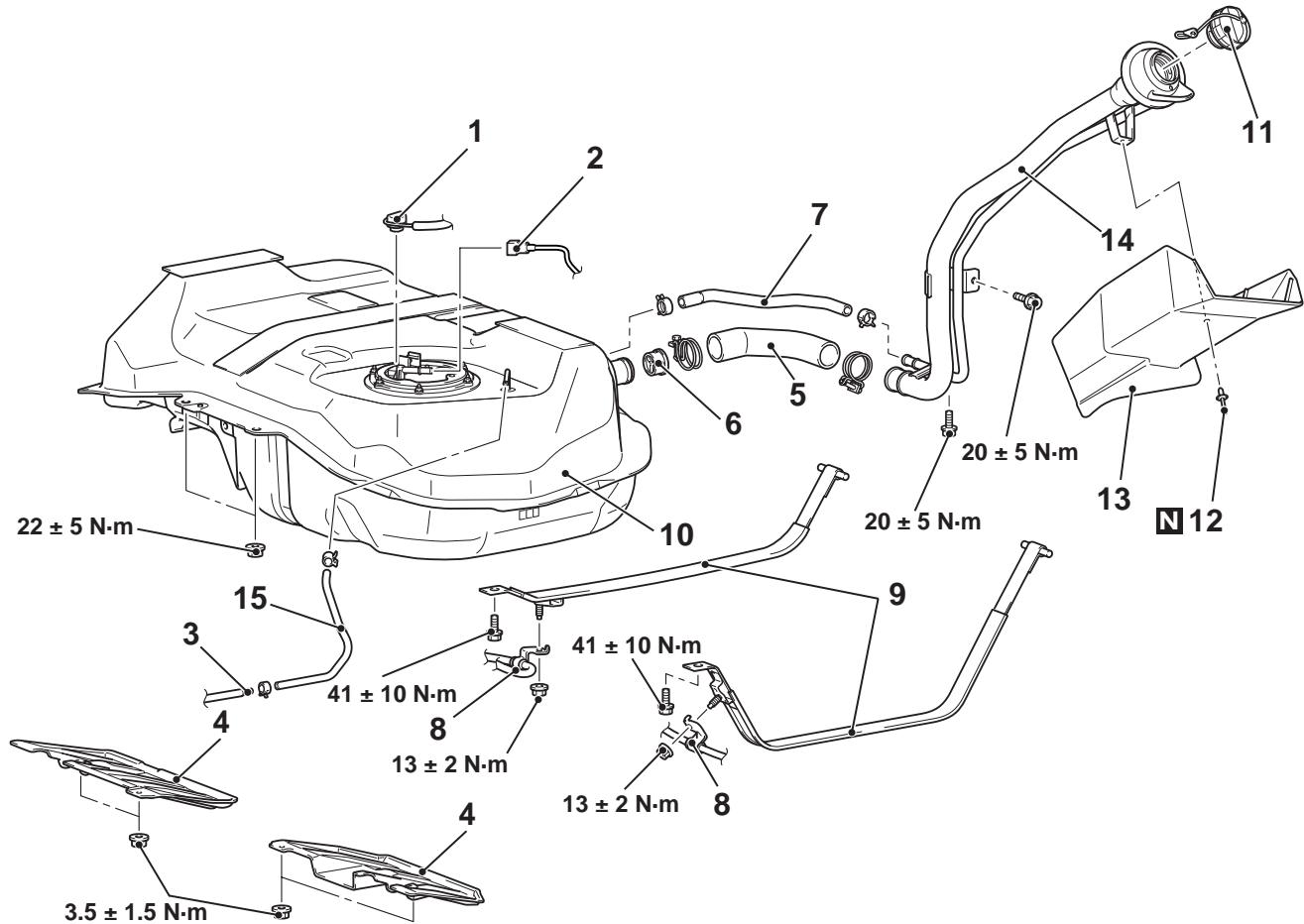
M1135001904072

### Pre-removal operation

- Fuel Pump Connector Disconnection (Refer to GROUP 13D – On-vehicle Service, How to Reduce Pressurized Fuel Lines ).
- Fuel Draining.
- Centre Exhaust Pipe Removal (Refer to GROUP 15 – Exhaust Pipe and Main Muffler ).

### Post-installation operation

- Centre Exhaust Pipe Removal (Refer to GROUP 15 – Exhaust Pipe and Main Muffler ).
- Fuel Refilling.
- Fuel Leak Check (Refer to P.13B-5).



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### Removal steps

- Second seat assembly (Refer to GROUP 52A – Second Seat Assembly ).
- Fuel pump and gauge assembly connector
  - Fuel main pipe connection
  - Fuel vapour pipe connection
  - Front floor under cover
  - Fuel filler hose
  - Fuel shut-off valve

<<A>>

<<A>> >>C<<

>>B<<

<<B>>

<<B>>

<<C>>

<<C>>

### Removal steps (Continued)

- Fuel filler neck breather hose
- Parking brake rear cable clamp connection
- Fuel tank band
- Fuel tank assembly
- Fuel tank cap
- Rivet
- Fuel filler neck protector
- Fuel filler neck assembly
- Fuel vapour hose

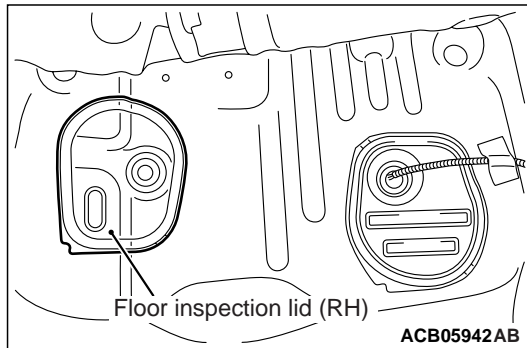
>>A<<

>>A<<

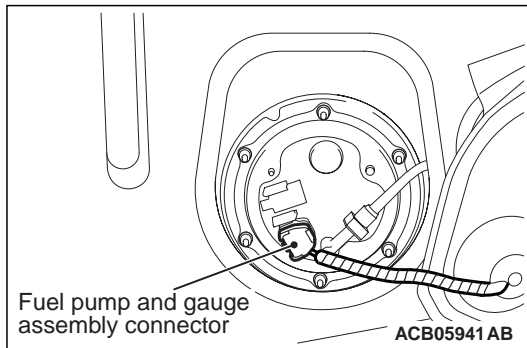


## REMOVAL SERVICE POINTS

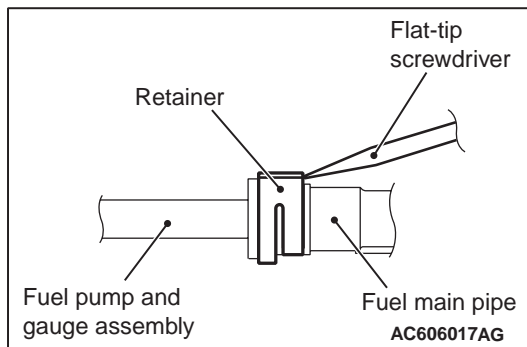
## &lt;&lt;A&gt;&gt; FUEL PUMP AND GAUGE ASSEMBLY CONNECTOR/SPARE CONNECTOR/FUEL MAIN PIPE DISCONNECTION



1. Remove the floor inspection lid (LH).



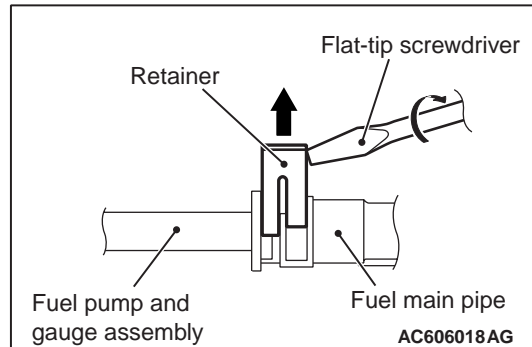
2. Disconnect the fuel pump and gauge assembly connector and spare connector.



3. Insert a flat-tip screwdriver (6 mm wide and 1 mm thick) into the retainer of the fuel main pipe connector.

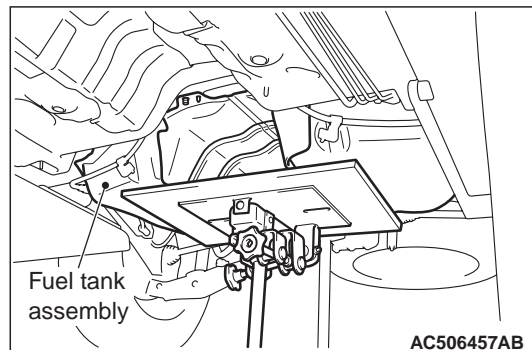
**CAUTION**

When pushing up the retainer of the fuel main pipe connector, pay attention to avoid damage to the retainer.



4. Turn the flat-tip screwdriver inserted into the retainer by 90 degrees to push up the retainer and unlock the fuel main pipe connector.
5. Disconnect the fuel main pipe from the fuel pump and gauge assembly.

## &lt;&lt;B&gt;&gt; FUEL TANK BAND/FUEL TANK ASSEMBLY REMOVAL



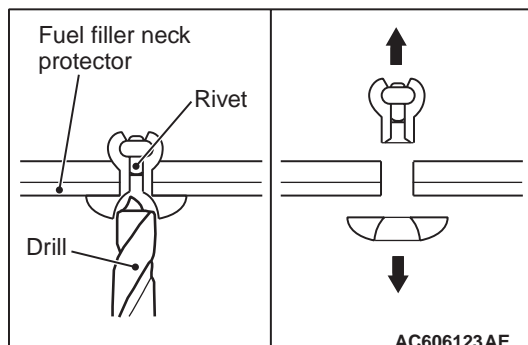
1. Hold the fuel tank assembly with the transmission jack, and remove the connecting bolts of fuel tank band and the connecting nuts of fuel tank assembly.
2. Remove the fuel tank assembly.



## <<C>> RIVET/FUEL FILLER NECK PROTECTOR REMOVAL

### ⚠ CAUTION

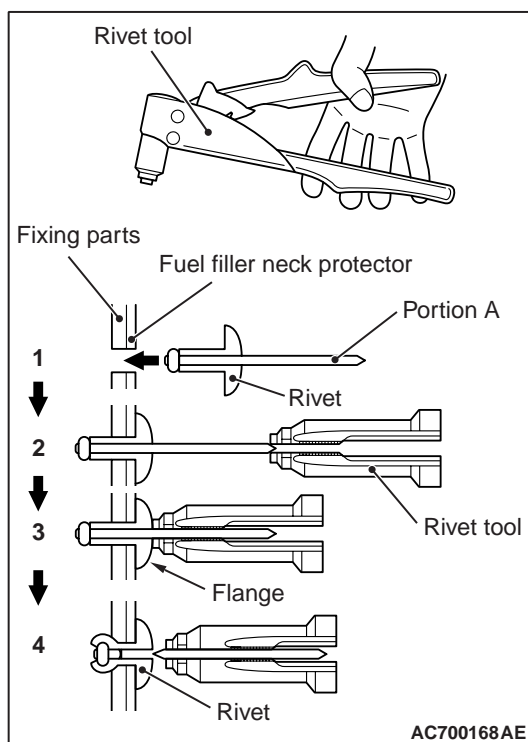
Be careful not to damage the fuel filler neck protector with the drill.



Use a drill (6.0 mm) to make a hole in the rivet to break it, and then remove the rivet.

## INSTALLATION SERVICE POINTS

### >>A<< FUEL FILLER NECK PROTECTOR/RIVET INSTALLATION

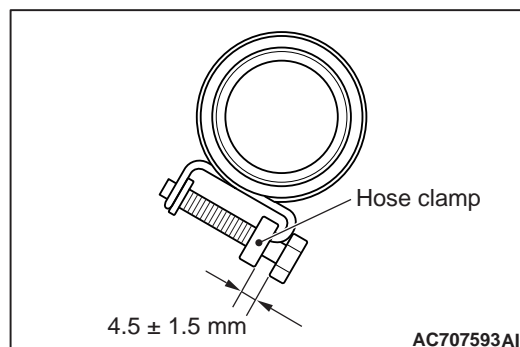


Use a rivet tool shown in the illustration to connect the parts with rivets by the following procedures.

1. Insert the rivet into a corresponding location.
2. Set the rivet tool at a portion A of rivet.
3. While pushing the flange surface of the rivet onto parts to be fixed with the rivet tool, press the handle of the tool.

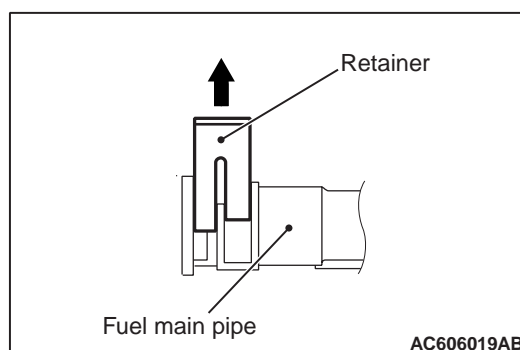
4. Thin part of portion A of the rivet will be cut off and the part is fixed in position.

### >>B<< FUEL FILLER HOSE CONNECTION



After connecting the fuel filler hose, tighten the bolts of hose clamp so that the tightening dimension is  $4.5 \pm 1.5$  mm.

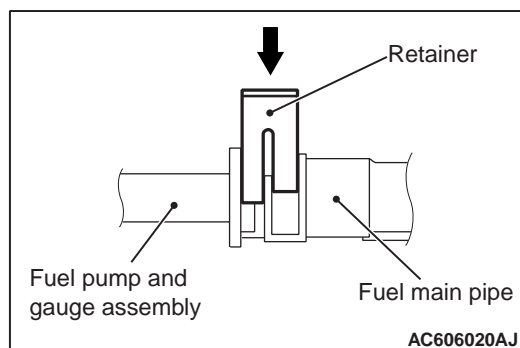
### >>C<< FUEL MAIN PIPE CONNECTION



1. Pull up the retainer of fuel main pipe to unlock before installing.

### ⚠ CAUTION

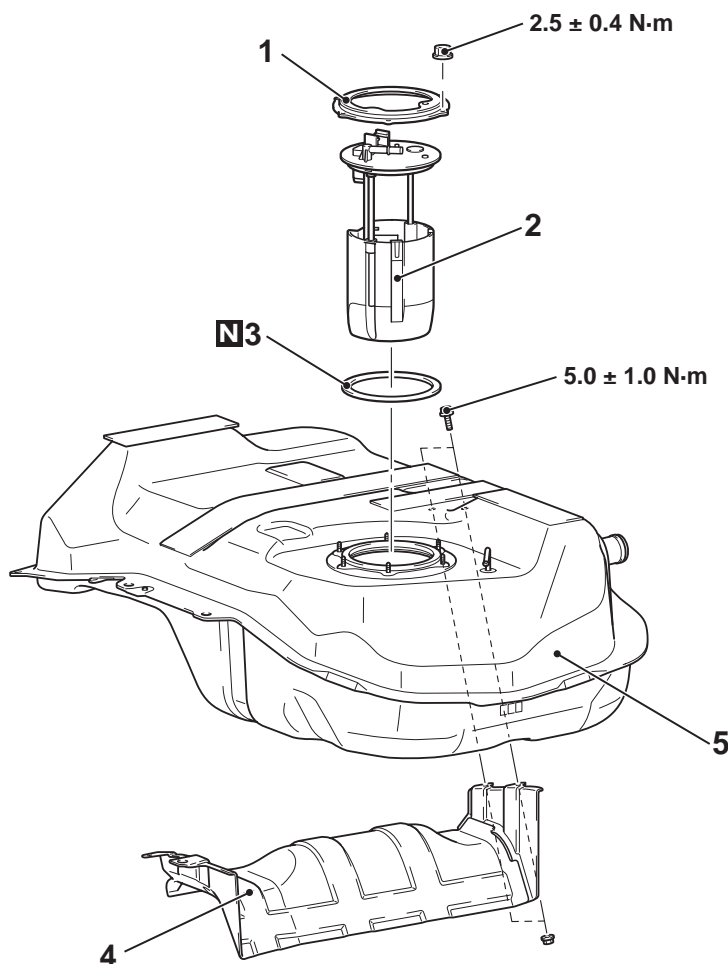
- When pushing in the retainer of the fuel main pipe connector, pay attention to avoid damage to the retainer.
- After the installation of the fuel main pipe, slightly pull the fuel main pipe to check that it is connected securely. At this time, also check that there is approximately 1 mm play.



2. Install the fuel main pipe to the fuel pump and gauge assembly securely and push in the retainer of the fuel main pipe connector to lock the fuel main pipe and fuel pump and gauge assembly.

## DISASSEMBLY AND REASSEMBLY

M1135006800692



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- <<A>> >>A<<
- Removal steps**
1. Fuel pump bracket plate
  2. Fuel pump and gauge assembly
  3. Fuel pump and gauge assembly gasket
  4. Fuel tank lower protector
  5. Fuel tank

### DISASSEMBLY SERVICE POINTS

#### <<A>> FUEL PUMP AND GAUGE ASSEMBLY REMOVAL

##### **CAUTION**

Pay attention not to damage the gauge unit and the float of fuel pump and gauge assembly when removing it from the fuel tank.

Remove the fuel pump and gauge assembly from the fuel tank.

### REASSEMBLY SERVICE POINTS

#### >>A<< FUEL PUMP AND GAUGE ASSEMBLY INSTALLATION

##### **CAUTION**

- Pay attention not to damage the gauge unit and the float of fuel pump and gauge assembly when installing it to the fuel tank.
- When installing the fuel pump and gauge assembly to the fuel tank, check that the gauge moving area moves smoothly.

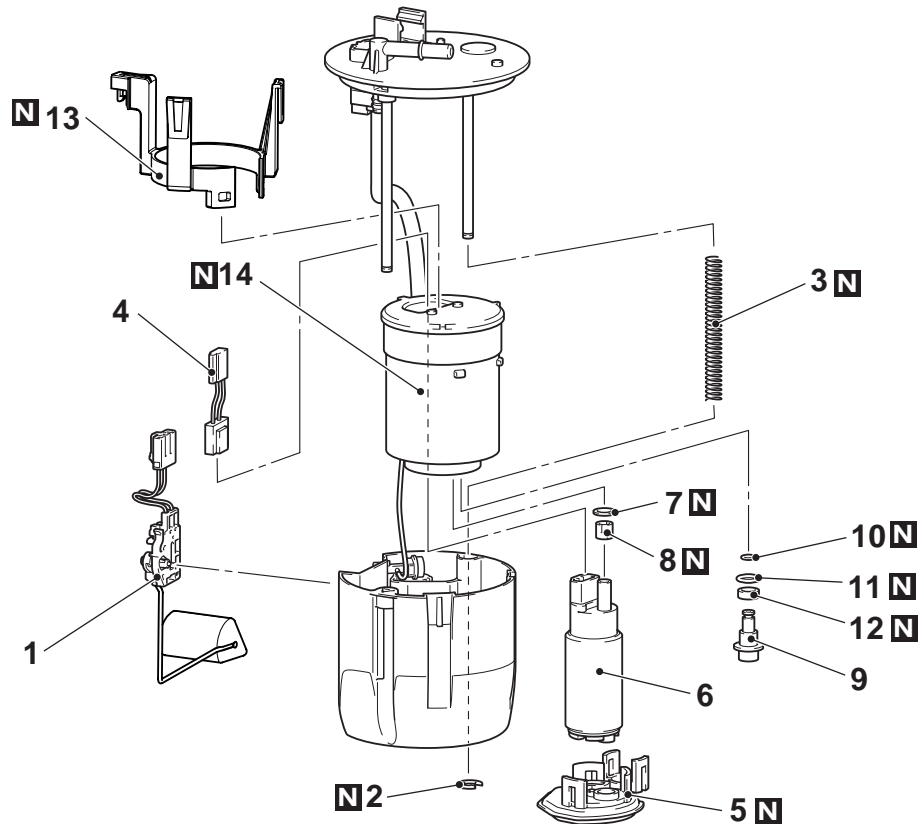
Install the fuel pump and gauge assembly to the fuel tank.

## DISASSEMBLY AND ASSEMBLY

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### FUEL PUMP AND GAUGE ASSEMBLY

*NOTE: For installation and removal, refer to On-vehicle Service, Fuel Pump Module Replacement (Refer to P.13B-2).*



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#### Disassembly steps

1. Fuel gauge unit
2. Clip
3. Spring
4. Fuel pump wiring harness
5. Fuel filter
6. Fuel pump assembly
7. O-ring
8. Spacer
9. Fuel pressure regulator
10. O-ring
11. O-ring

>>A<<

>>A<<

>>A<<

#### Disassembly steps

12. Spacer
13. Bracket
14. Fuel flange and filter assembly

### ASSEMBLY SERVICE POINT

#### >>A<< O-RING INSTALLATION

To avoid twisting and damage, apply gasoline before installation of the O-ring.

## FUEL TANK &lt;4WD&gt;

## REMOVAL AND INSTALLATION &lt;4WD&gt;

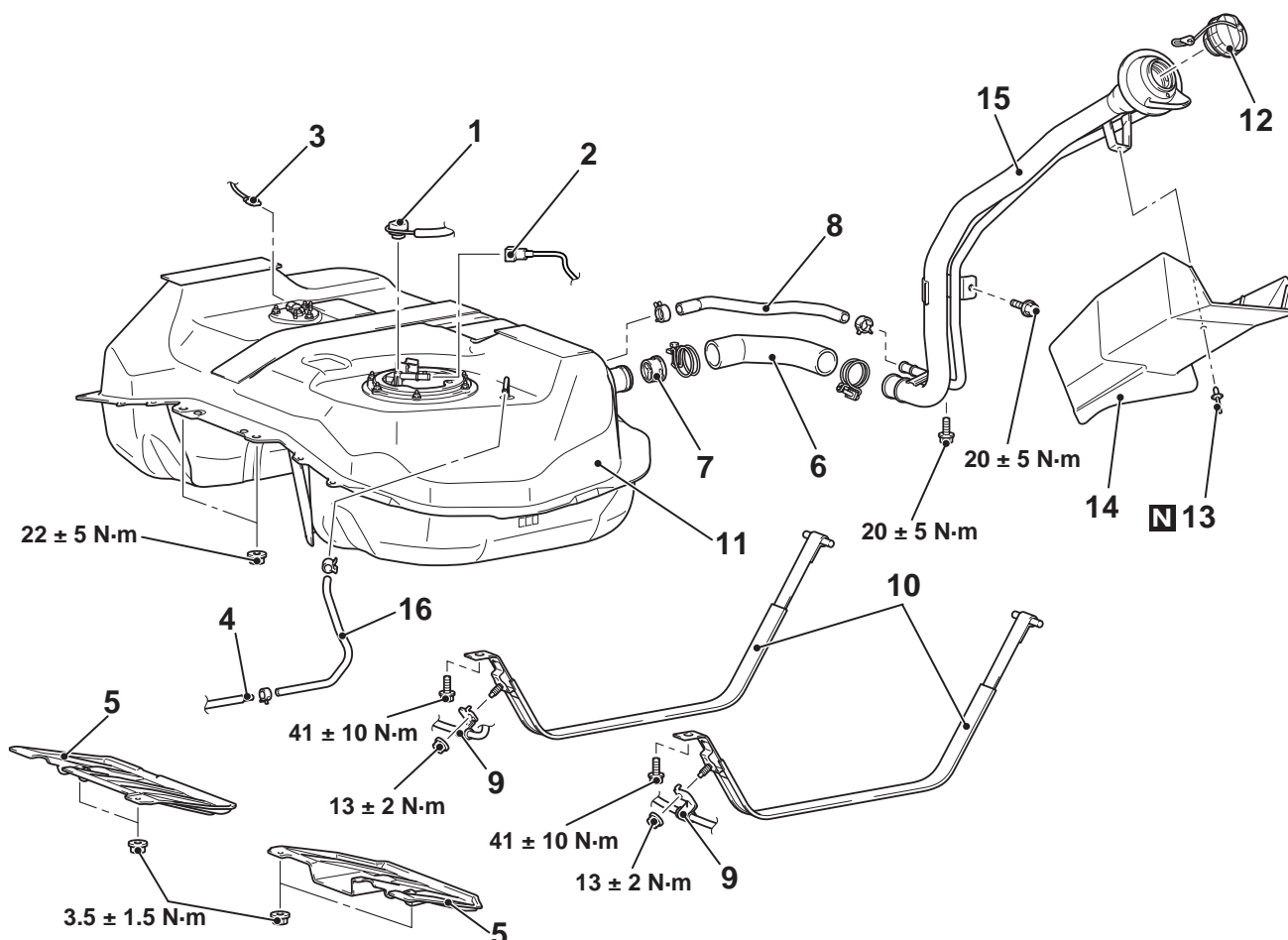
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**Pre-removal operation**

- Fuel Pump Connector Disconnection (Refer to GROUP 13A – On-vehicle Service, How to Reduce Pressurized Fuel Lines ).
- Fuel Draining.
- Propeller Shaft Removal (Refer to GROUP 25 – Propeller Shaft ).
- Centre Exhaust Pipe Removal (Refer to GROUP 15 – Exhaust Pipe and Main Muffler ).

**Post-installation operation**

- Centre Exhaust Pipe Removal (Refer to GROUP 15 – Exhaust Pipe and Main Muffler ).
- Propeller Shaft Installation (Refer to GROUP 25 – Propeller Shaft ).
- Fuel Refilling.
- Fuel Leak Check (Refer to P.13B-5).



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**Removal steps**

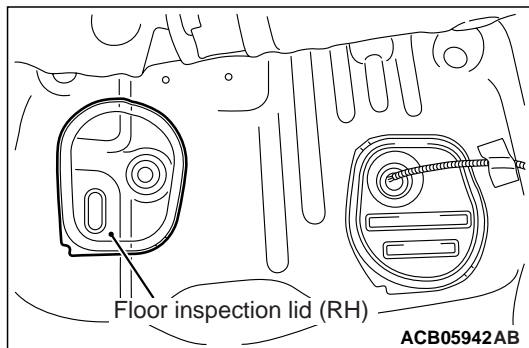
- Second seat assembly (Refer to GROUP 52A – Second Seat Assembly ).
- <<A>> 1. Fuel pump and gauge assembly connector <<C>>
- <<A>> >>C<< 2. Fuel main pipe connection <<C>>
- <<B>> 3. Fuel gauge unit connector <<C>>
4. Fuel vapour pipe connection
5. Front floor under cover <<D>> >>A<<
- >>B<< 6. Fuel filler hose <<D>> >>A<<
7. Fuel shut-off valve

**Removal steps (Continued)**

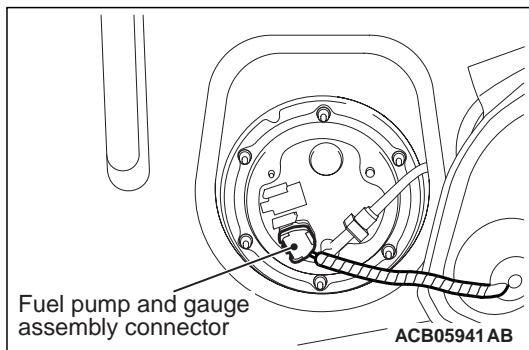
8. Fuel filler neck breather hose
9. Parking brake rear cable clamp connection
- Differential mount bracket mounting bolt
10. Fuel tank band
11. Fuel tank assembly
12. Fuel tank cap
13. Rivet
14. Filler neck protector
15. Fuel filler neck assembly
16. Fuel vapour hose

## REMOVAL SERVICE POINTS

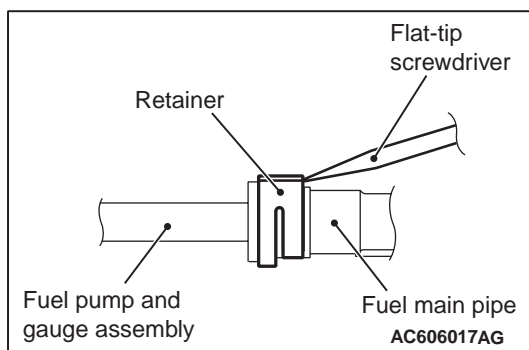
### <<A>> FUEL PUMP AND GAUGE ASSEMBLY CONNECTOR/SPARE CONNECTOR/FUEL MAIN PIPE DISCONNECTION



1. Remove the floor inspection lid (LH).



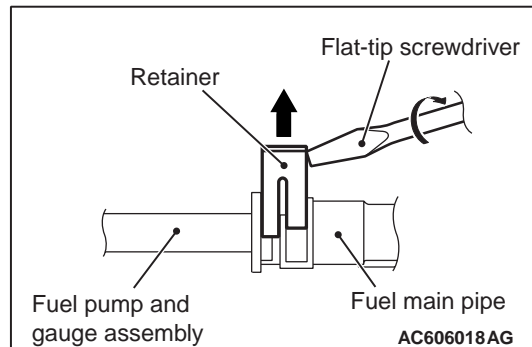
2. Disconnect the fuel pump and gauge assembly connector.



3. Insert a flat-tipped screwdriver (6 mm wide and 1 mm thick) into the retainer of the fuel main pipe connector.

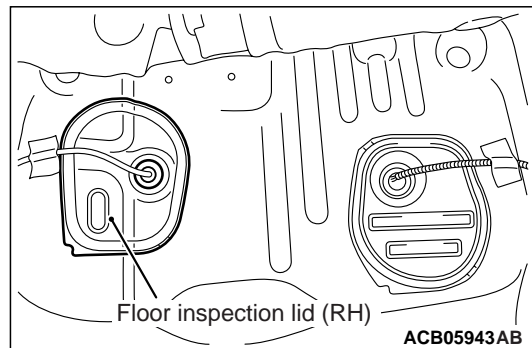
### ⚠ CAUTION

When pushing up the retainer of the fuel main pipe connector, pay attention to avoid damage to the retainer.

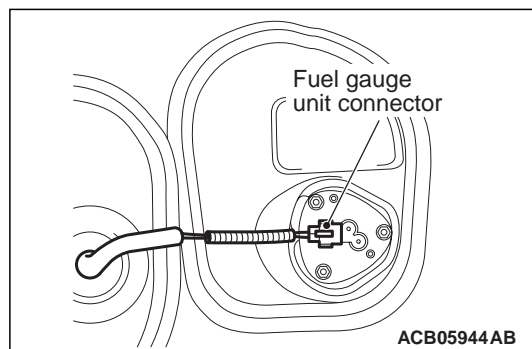


4. Turn the flat-tipped screwdriver inserted into the retainer by 90 degrees to push up the retainer and unlock the fuel main pipe connector.
5. Disconnect the fuel main pipe from the fuel pump and gauge assembly.

### <<B>> FUEL GAUGE UNIT CONNECTOR DISCONNECTION

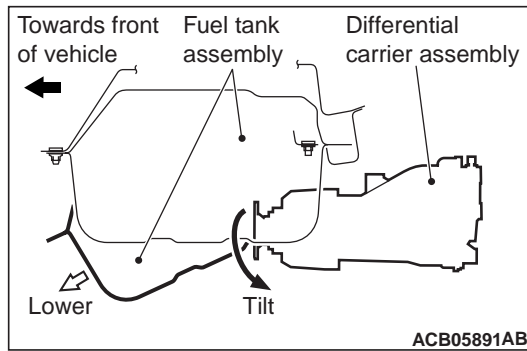


1. Remove the floor inspection lid (RH).

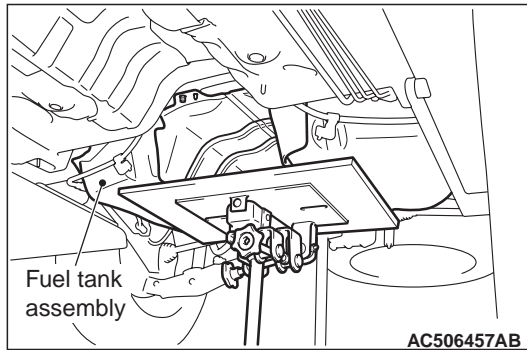


2. Disconnect the fuel gauge unit connector.

### <<C>> DIFFERENTIAL MOUNT BRACKET MOUNTING BOLT/FUEL TANK BAND/FUEL TANK ASSEMBLY REMOVAL



1. Remove the fuel tank, continuously checking that it does not make contact with the differential carrier assembly.

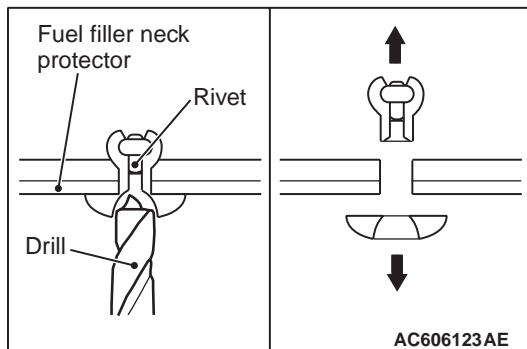


2. Hold the fuel tank assembly with the transmission jack, and remove the connecting bolts of fuel tank band and the connecting nuts of fuel tank assembly.
3. Remove the fuel tank assembly in the tilt direction, paying attention not to bump it against the differential carrier assembly.

## <<D>> RIVET/FUEL FILLER NECK PROTECTOR REMOVAL

### ⚠ CAUTION

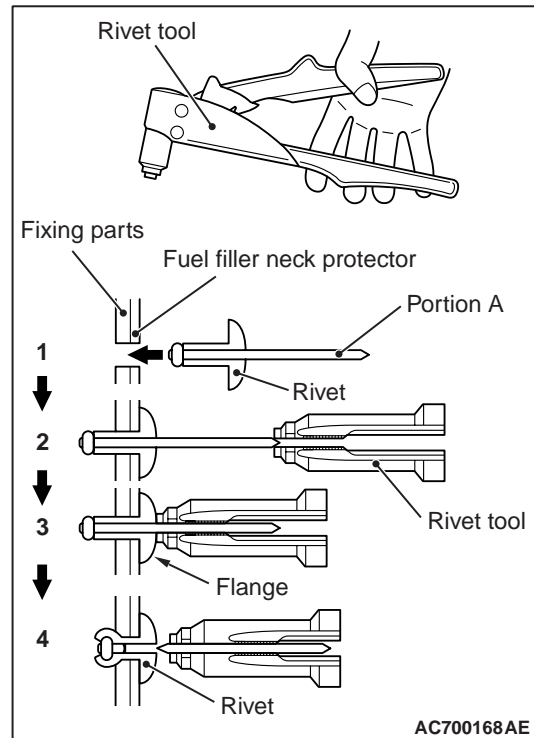
Be careful not to damage the fuel filler neck protector with the drill.



Use a drill (6.0 mm) to make a hole in the rivet to break it, and then remove the rivet.

## INSTALLATION SERVICE POINTS

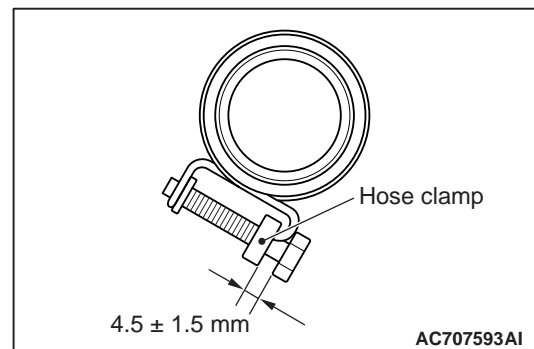
### >>A<< FUEL FILLER NECK PROTECTOR/RIVET INSTALLATION



Use a rivet tool shown in the illustration to connect the parts with rivets by the following procedures.

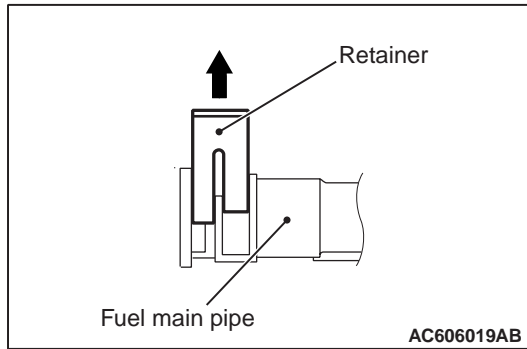
1. Insert the rivet into a corresponding location.
2. Set the rivet tool at a portion A of rivet.
3. While pushing the flange surface of the rivet onto parts to be fixed with the rivet tool, press the handle of the tool.
4. Thin part of portion A of the rivet will be cut off and the part is fixed in position.

### >>B<< FUEL FILLER HOSE CONNECTION



After connecting the fuel filler hose, tighten the bolts of hose clamp so that the tightening dimension is 4.5 ± 1.5 mm.

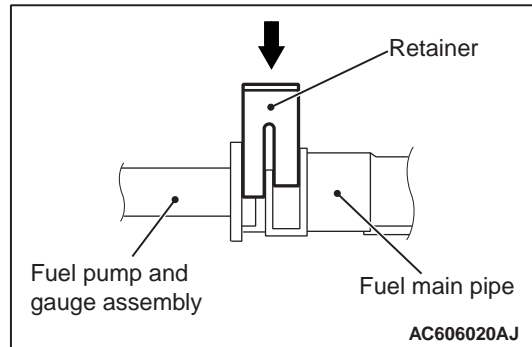
>>C<< FUEL MAIN PIPE CONNECTION



1. Pull up the retainer of fuel main pipe to unlock before installing.

**CAUTION**

- When pushing in the retainer of the fuel main pipe connector, pay attention to avoid damage to the retainer.
- After the installation of the fuel main pipe, slightly pull the fuel main pipe to check that it is connected securely. At this time, also check that there is approximately 1 mm play.

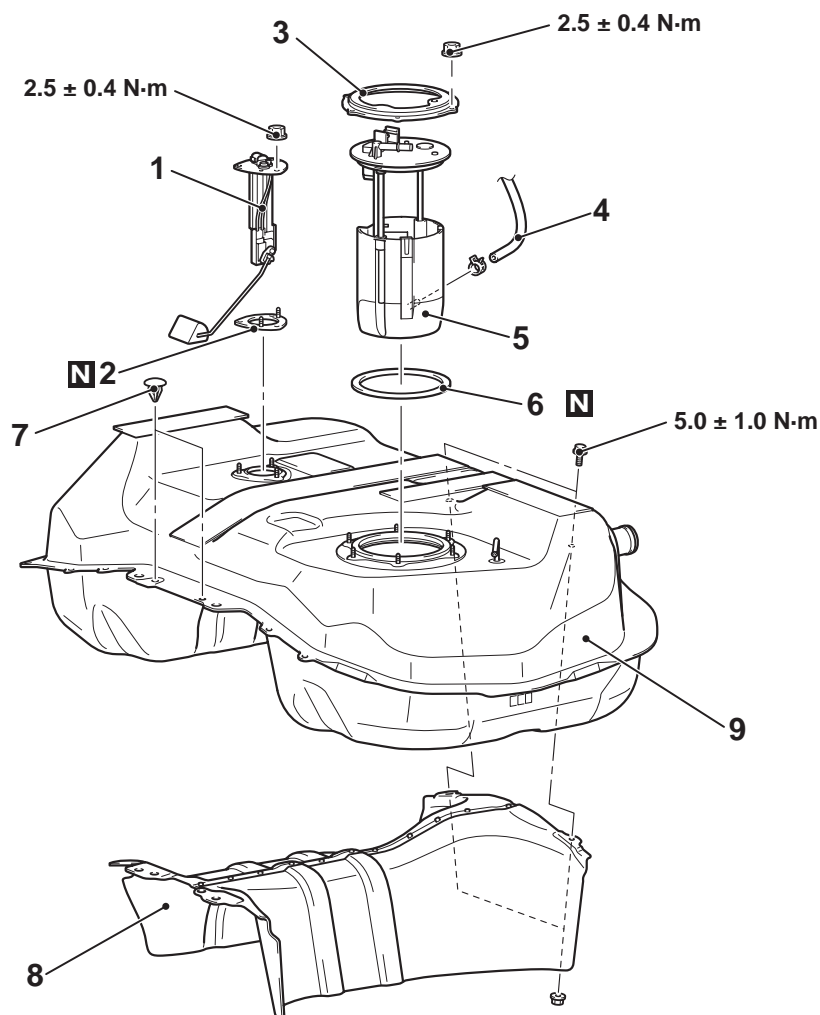


2. Install the fuel main pipe to the fuel pump and gauge assembly securely and push in the retainer of the fuel main pipe connector to lock the fuel main pipe and fuel pump and gauge assembly.



## DISASSEMBLY AND REASSEMBLY

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- |       |       |    |                                     |
|-------|-------|----|-------------------------------------|
| <<A>> | >>B<< | 1. | Fuel gauge unit                     |
|       |       | 2. | Fuel gauge unit gasket              |
|       |       | 3. | Fuel pump bracket plate             |
| <<B>> | >>A<< | 4. | Suction hose connection             |
| <<B>> | >>A<< | 5. | Fuel pump and gauge assembly        |
|       |       | 6. | Fuel pump and gauge assembly gasket |
|       |       | 7. | Clip                                |
|       |       | 8. | Fuel tank lower protector           |
|       |       | 9. | Fuel tank                           |

## DISASSEMBLY SERVICE POINTS

## &lt;&lt;A&gt;&gt; FUEL GAUGE UNIT REMOVAL

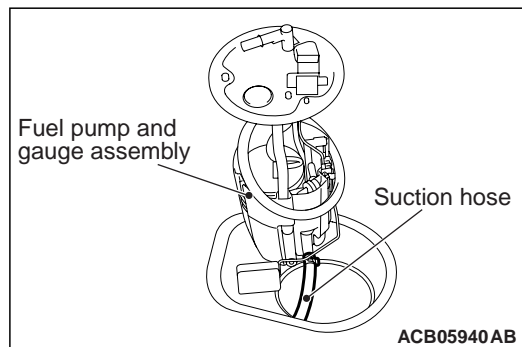
**CAUTION**

Pay attention not to damage the gauge unit and the float of fuel gauge unit when removing it from the fuel tank.

## &lt;&lt;B&gt;&gt; SUCTION HOSE/FUEL PUMP AND GAUGE ASSEMBLY REMOVAL

**CAUTION**

Pay attention not to damage the gauge unit and the float of fuel pump and gauge assembly when removing it from the fuel tank.



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While removing the fuel pump and gauge assembly from the fuel tank, disconnect the suction hose from the fuel pump and gauge assembly to remove the fuel pump and gauge assembly from the fuel tank.

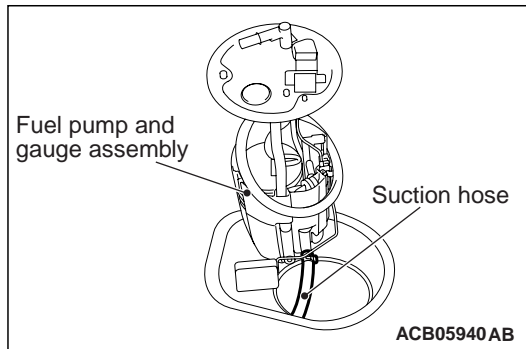
While inserting the fuel pump and gauge assembly into the fuel tank, connect the suction hose to the fuel pump and gauge assembly to install the fuel pump and gauge assembly to the fuel tank.

## REASSEMBLY SERVICE POINTS

### >>A<< FUEL PUMP AND GAUGE ASSEMBLY/SUCTION HOSE INSTALLATION

#### ⚠ CAUTION

- Pay attention not to damage the gauge unit and the float of fuel pump and gauge assembly when installing it to the fuel tank.
- Pay attention to prevent the float of fuel pump and gauge assembly from being trapped by the suction hose inside the fuel tank.
- When installing the fuel pump and gauge assembly to the fuel tank, check that the gauge moving area moves smoothly.



### >>B<< FUEL GAUGE UNIT INSTALLATION

#### ⚠ CAUTION

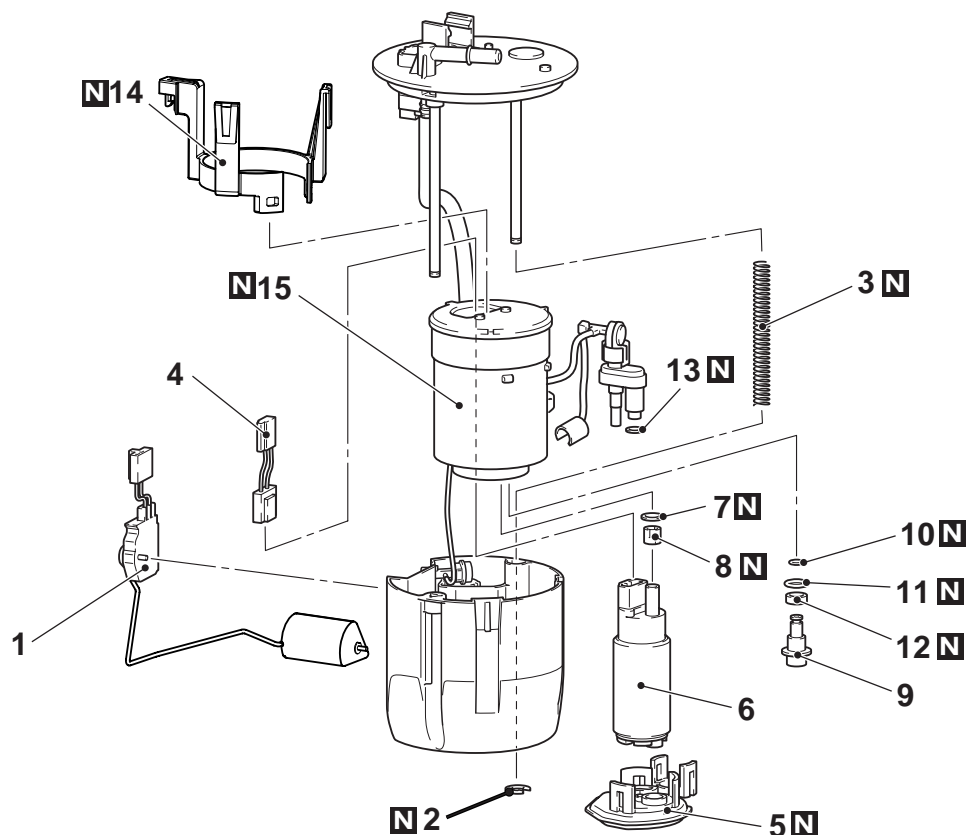
Pay attention not to damage the gauge unit and the float of fuel gauge unit when installing it to the fuel tank.

## DISASSEMBLY AND REASSEMBLY

### <FUEL PUMP AND GAUGE ASSEMBLY>

*NOTE: For installation and removal, refer to Fuel Pump and Gauge Assembly Replacement in On-vehicle Service (refer to [P.13B-2](#)).*

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**Disassembly steps**

1. Fuel gauge unit
2. Clip
3. Spring
4. Fuel pump wiring harness
5. Fuel filter
6. Fuel pump assembly
- >>A<< 7. O-ring
8. Spacer
9. Fuel pressure regulator
- >>A<< 10. O-ring
- >>A<< 11. O-ring

**Disassembly steps (Continued)**

12. Back up ring
- >>A<< 13. O-ring
14. Bracket
15. Fuel flange and filter assembly

**REASSEMBLY SERVICE POINT****>>A<< O-RING INSTALLATION**

To avoid twisting and damage, apply gasoline before installation of the O-ring.