TECHNICAL INSTRUCTIONS

FOR

SAFETY RECALL 26LA05

FUEL PUMP WITH FILTER ASSEMBLY REPLACEMENT

GS F/ RC F / IS500

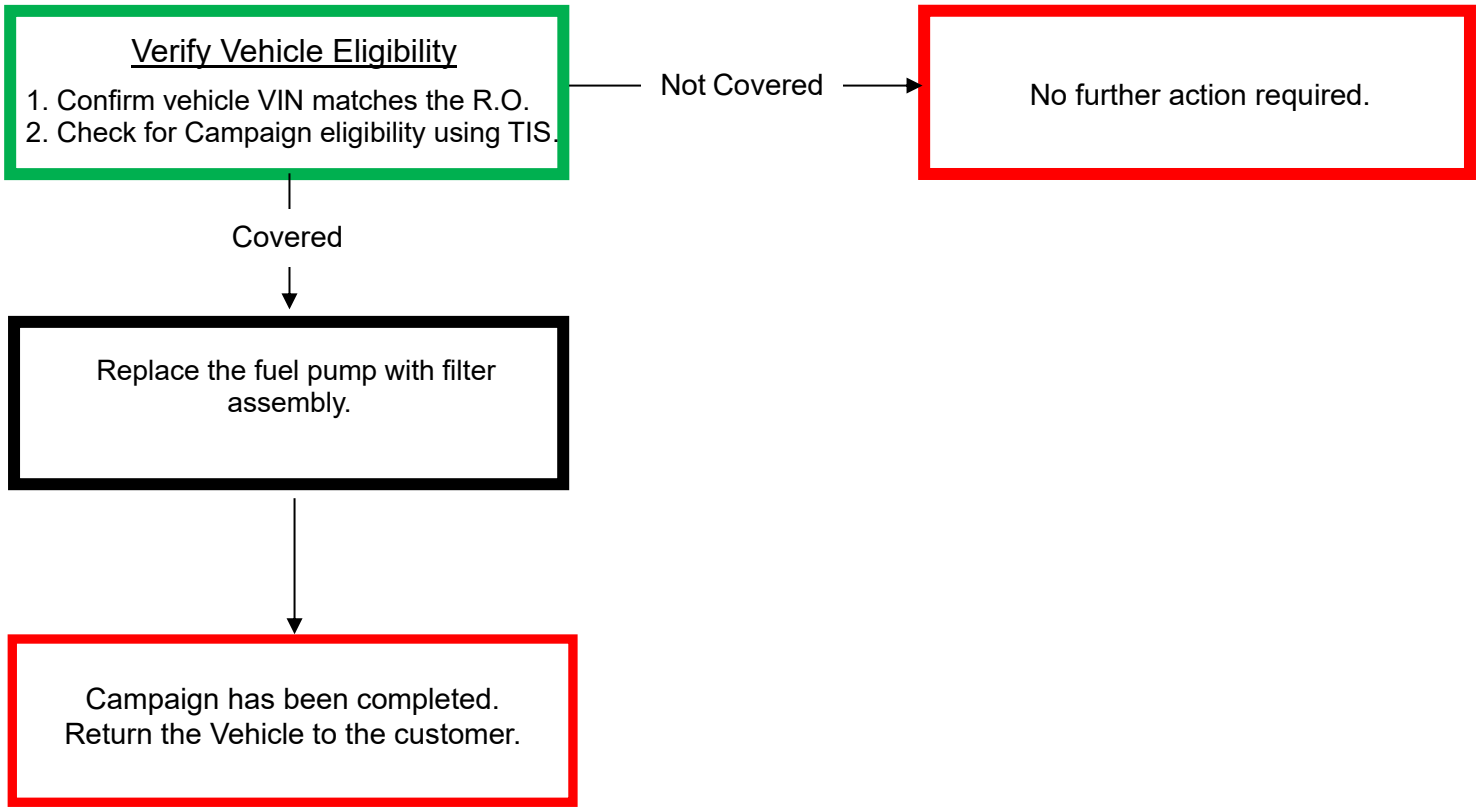
The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this Recall are required to successfully complete the most current version of the E-Learning course "Safety Recall and Service Campaign Essentials". To ensure that all vehicles have the repair performed correctly; technicians performing this Recall repair are required to have currently completed the following course:

- LIC206B – Electrical Repair 2

It is the dealership's responsibility to select technicians with the above course completion to perform this Recall repair. Carefully review your resources, the technician skill level, and ability before assigning technicians to this repair. It is important to consider technician days off and vacation schedules to ensure there are properly trained technicians available to perform this repair at all times.

I. OPERATION FLOW CHART

The flow chart is for reference only. *DO NOT* use it in place of the full technical instructions. Follow *ALL* steps as outlined in the full technical instructions to confirm the campaign is completed correctly.



II. IDENTIFICATION OF AFFECTED VEHICLES

1. CHECK VEHICLE FOR CAMPAIGN ELIGIBILITY

a) Compare the vehicles VIN with the VIN listed on the Repair Order to ensure they match.
b) Check the TIS Vehicle Inquiry System to confirm the VIN is involved in the campaign and it has not been completed yet.

NOTICE:
Lexus warranty will not reimburse dealers for repairs completed on vehicles that are not affected or were previously completed, even by another dealer.

III. PREPARATION

A. PARTS

Part Number	Part Description	Quantity
04002-19238	**FUEL PUMP KIT**	1

* The kit above includes the following parts.

Part Number	Part Name	Quantity
23220-38090	FUEL PUMP	1
90301-08024	O-RING	1
90301-11025	O-RING	1
77169-47040	FUEL SUCTION TUBE SET GASKET	1
77289-52090	FUEL TANK PIPE SETTING HOLDER	1
72693-12080	REAR SEAT CUSHION LOCK HOOK	2

B. SST, TOOLS, SUPPLIES & EQUIPMENT

Part Number	Part Name	Quantity
09808-01072	CLAW No.3	1
09808-14031	**Fuel Pump Retainer Tool**	1

* The set above includes the following tools.

Part Number	Part Name	Quantity
09808-01010	Handle	1
09808-01020	Bolt	1
09808-01030	Plate	1
09808-01090	Bolt	1

- Clip remover
- GTS＋
- CO/HC meters
- Extension Bar 75mm
- Torque Wrench
- Mityvac/Gas Caddy

C. MATERIALS

- Protective gloves
- Protective tape
- Tray
- Marker pen
- wire
- Protective glasses
- Plastic bag
- Cloth
- Filter paper(Coffee Filter,etc.)
- Funnel(Fuel-resistant material)
  - Polypropylene(PP)
  - Polyethylene(PE)
  - Polycarbonate(PC)
  - Nylon,etc
- Brake cleaner
- Butyl tape
- Mityvac Connection Hose
- Engine oil
- Fuel Drain Hose
- -

IV. WORK PROCEDURE TABLE OF CONTENTS

V. GENERAL DESCRIPTION

A. WORK OUTLINE

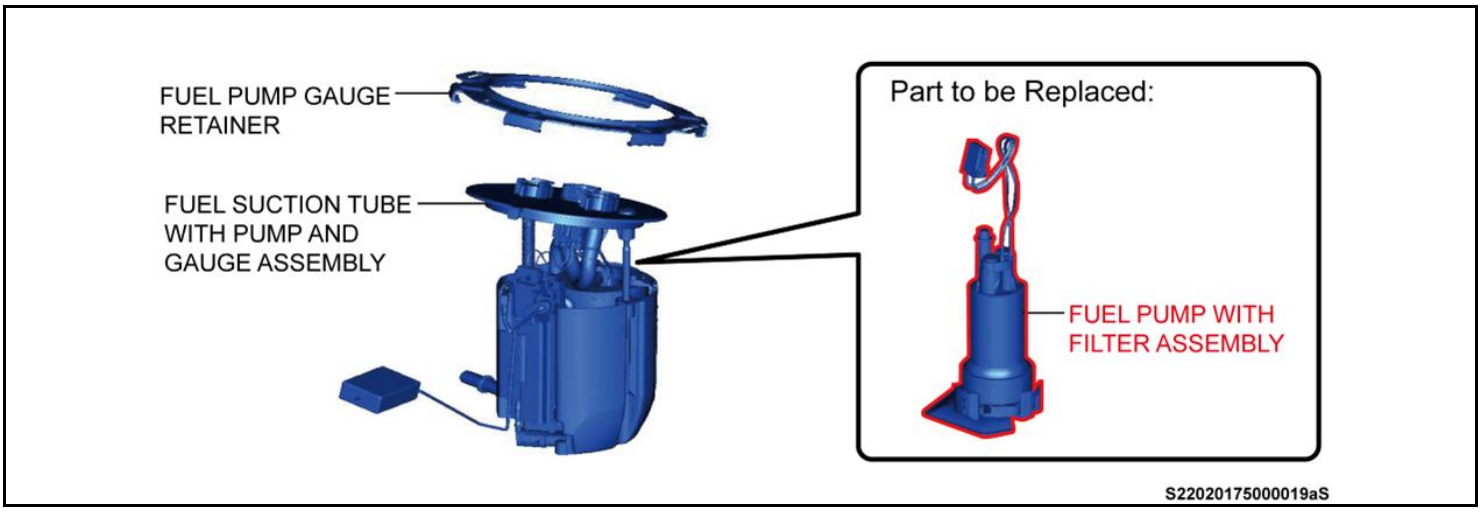
[Be sure to read through this Technical Instructions manual before work]

The basic instructions for the fuel pump with filter assembly replacement are the same as those in the repair manuals.

The work outline is as follows, however, please read through this manual before proceeding with work, to prevent injuries and mistakes.

Especially, to prevent fuel leaks, be sure to read and understand the instructions in "VI. [IMPORTANT] 4 TIPS TO PRVENT FUEL LEAKS" and carefully follow the instructions.

a) Replace the fuel pump with filter assembly inside the fuel tank with a ***NEW*** one.



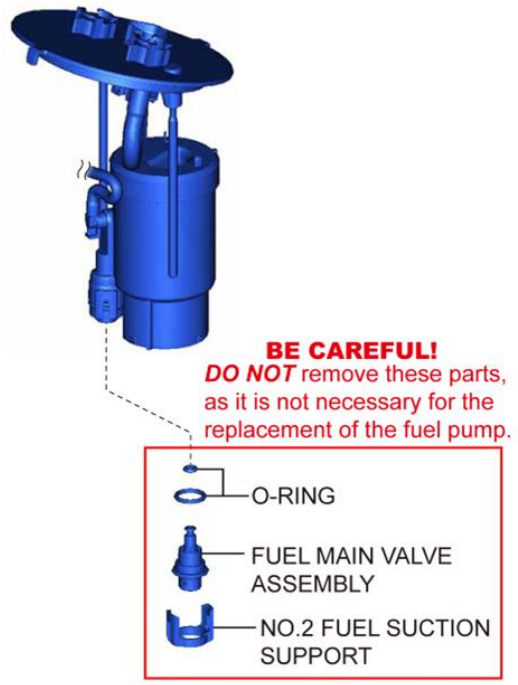
B. FUEL LEVEL AT WHICH WORK CAN BE PERFORMED

a) If the fuel level inside the fuel tank is above the specified level, the fuel may overflow from the fuel tank or may spill over the floor during the removal of the fuel suction tube assembly. Thus be sure to confirm the following list to confirm the fuel level at which procedures can be performed, and drain the fuel if the actual amount of fuel left in the tank is above the specified level.

[Fuel Level at Which Work can be Performed]

Vehicle Model	Fuel level at which procedures can be performed
GS F RC F IS500	**1/3 or less**

C. POINTS THAT DIFFER FROM THE REPAIR MANUAL'S WORK PROCEDURES



VI. [IMPORTANT] 4 TIPS TO PREVENT FUEL LEAKS

To prevent leaks, make sure to understand the 4 tips and then perform the procedure.

■Copy And Display When Working

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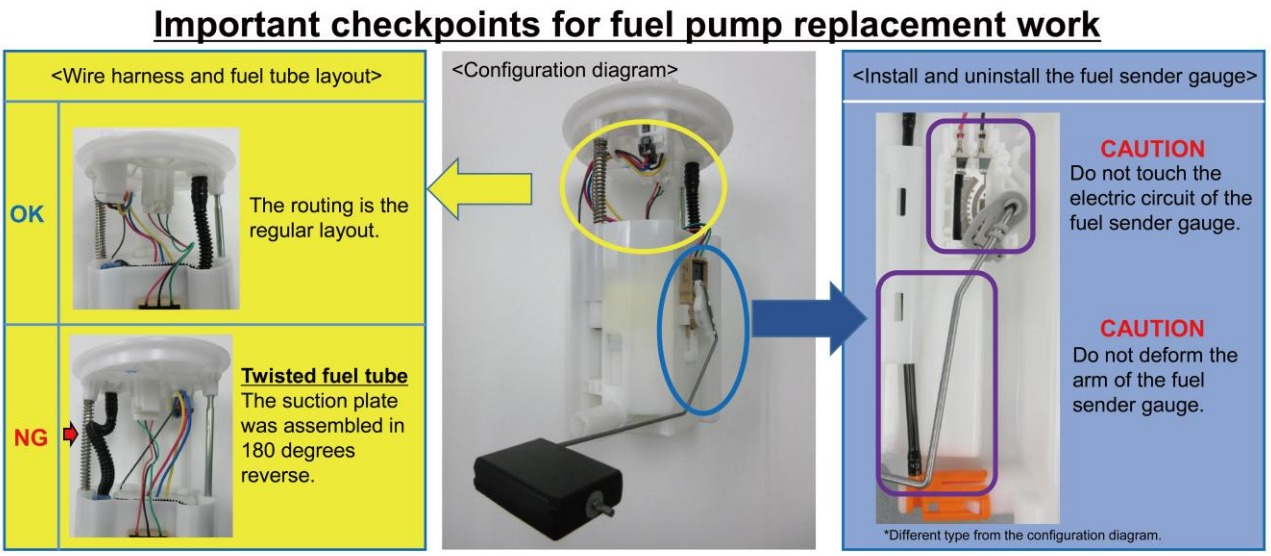
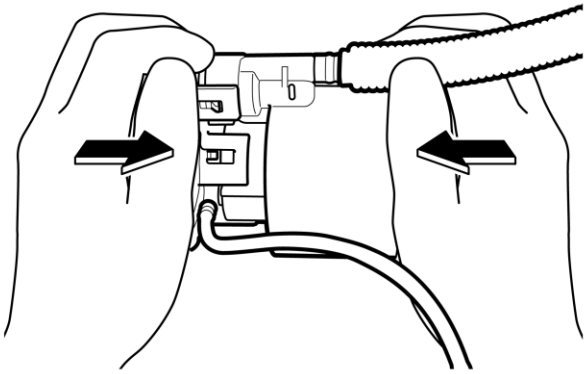


A. IMPORTANT POINT 1
PREVENT PINCHING OF FUEL PUMP O-RINGS

Work	Purpose of work	Problem caused if work is not completed
Engagement of the claws at once by pushing the parts with both hands straight with enough force, preventing them from being pushed backwards.	To prevent pinching of the O-ring	The O-ring may move out of place and cause the fuel pressure to decrease, and the engine check light may turn ON, if the parts are pushed in with insufficient force.

OK Push in straight to engage the claws at once



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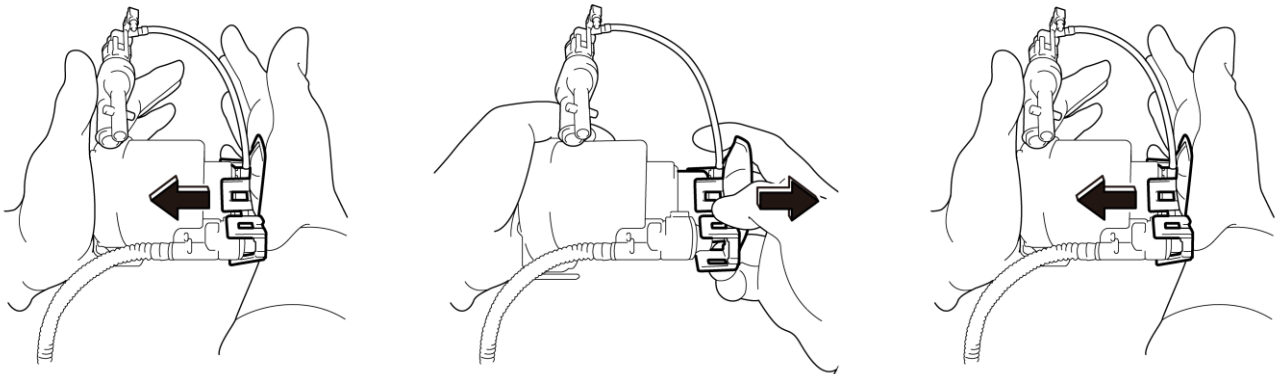
NG O-ring may be pinched if pushed in multiple times

Push in ⇨ Pushed back ⇨ Push in



If pushed backwards as the claws don't engage,
Check and adjust the O-ring position again.

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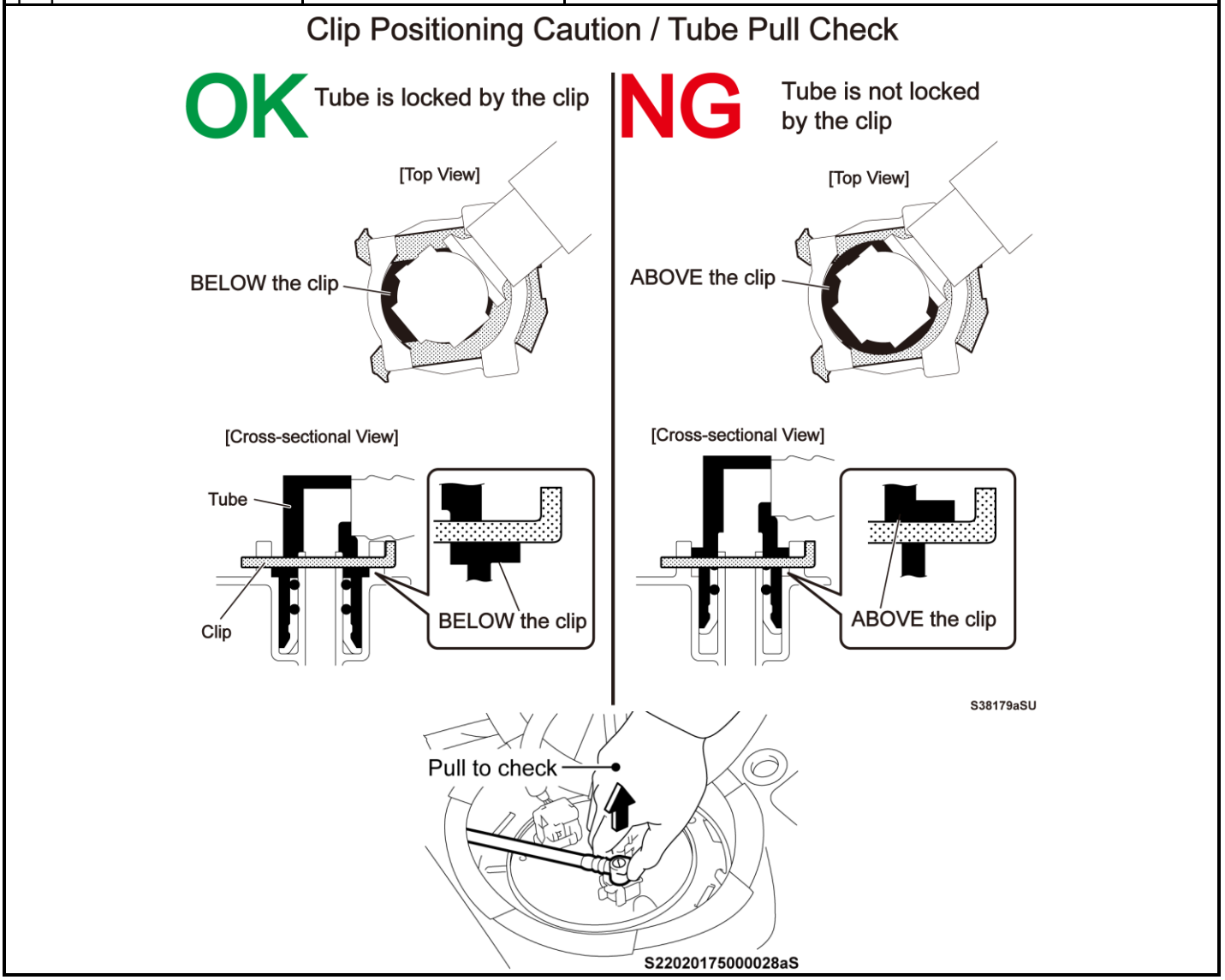
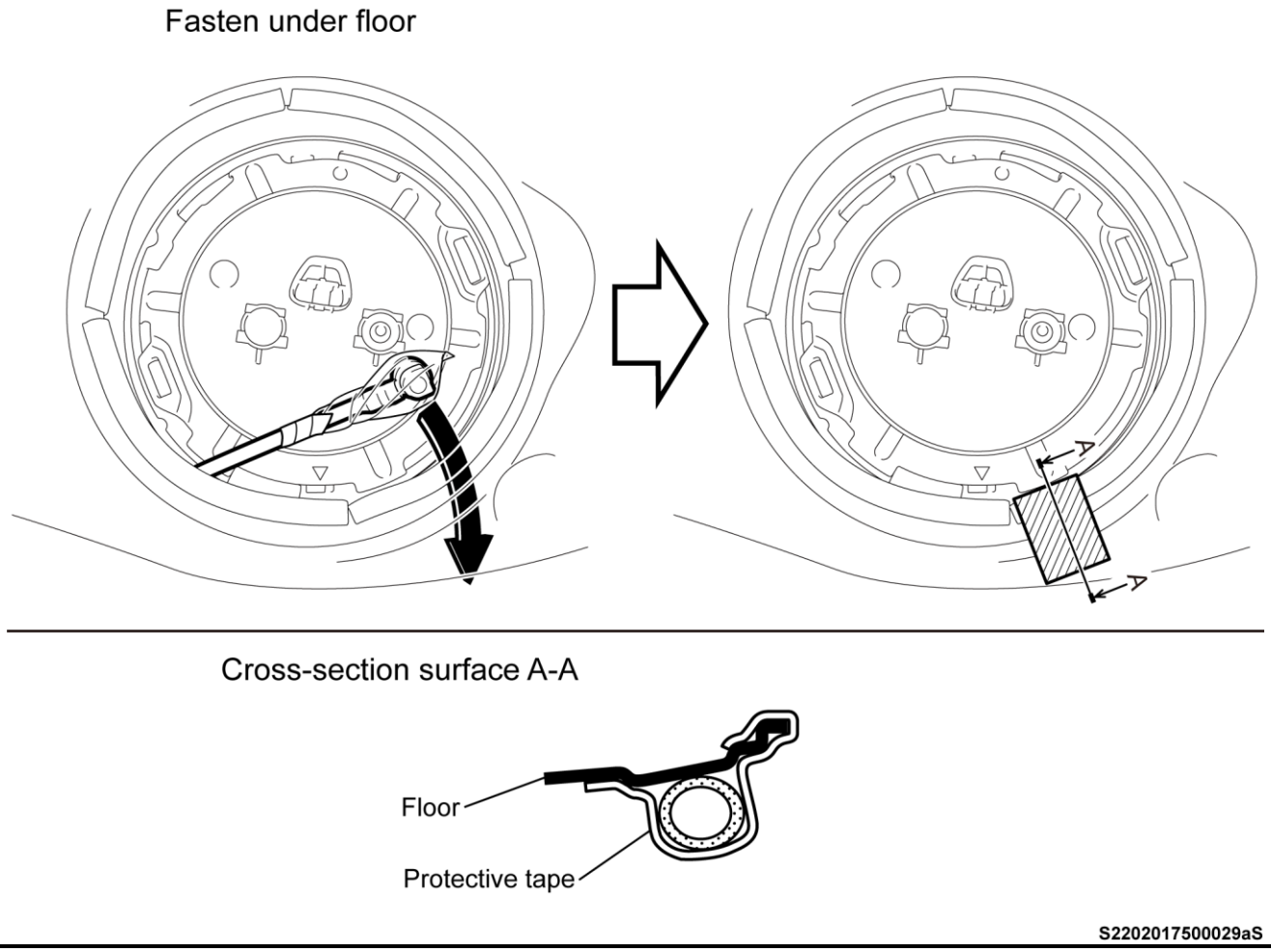
B. IMPORTANT POINT 2
PREVENT INCORRECT INSTALLATION OF FUEL TANK MAIN TUBE CLIP

Work	Purpose of work	Problem caused if work is not completed
・Installation of fuel tank main tube clip in the correct position ・Pulling on the fuel tank main tube after making the connection to ensure proper connection	To ensure that the clip is properly installed on the fuel tank main tube	If the clip for locking the tube is installed in a wrong location, the tube may disconnect and result in fuel leaks. **NOTICE:** **The tube would not immediately detach by the fuel pressure even when the engine is started with the clip installed in a wrong position.**



C. IMPORTANT POINT 3
PREVENT DAMAGE TO TUBE BY BEING CAUGHT BY TOOLS

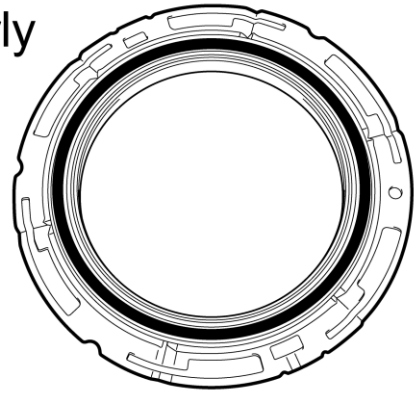
Work	Purpose of work	Problem caused if work is not completed
Fastening of the disconnected tube	To prevent tools from being caught when installing and removing the retainer	The tube may be damaged and result in fuel leaks.



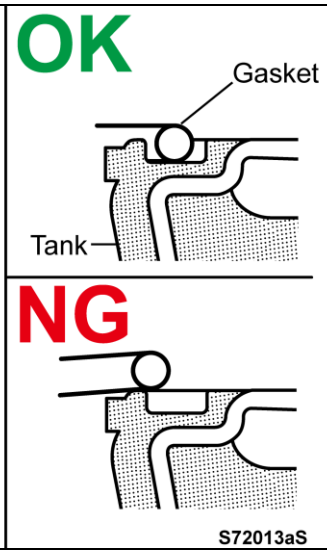
D. IMPORTANT POINT 4
PREVENT *NEW* GASKET AND FUEL SUCTION FROM MOVING OUT OF PLACE

Work	Purpose of work	Problem caused if work is not completed
・Checking the installation condition of the ***NEW*** gasket ・Continuously pressing on the fuel suction tube to the tank while tightening the retainer	・To properly set a ***NEW*** gasket ・To avoid the gasket from moving out of place or being pinched ・To prevent the fuel suction tube from moving out of place	・If the gasket moves out of place and get pinched between parts, fuel leaks may occur. ・If the fuel suction tube moves out of place, the tank may be damaged and result in fuel leaks.

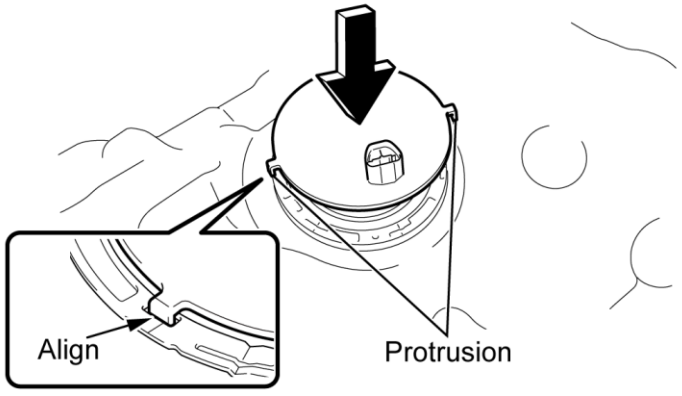
Set ***NEW*** gasket properly



DO NOT apply silicon grease



Keep pressing down the fuel suction tube while installing the retainer.



VII. HANDLING OF GASOLINE REMOVED FROM VEHICLE

Basically, ***DO NOT*** dispose of the fuel removed from the vehicle but return it to the vehicle from which it was obtained. Thus, make sure not to contaminate the fuel with water, solvents, oil, etc. during work, such as by using an unclean container.

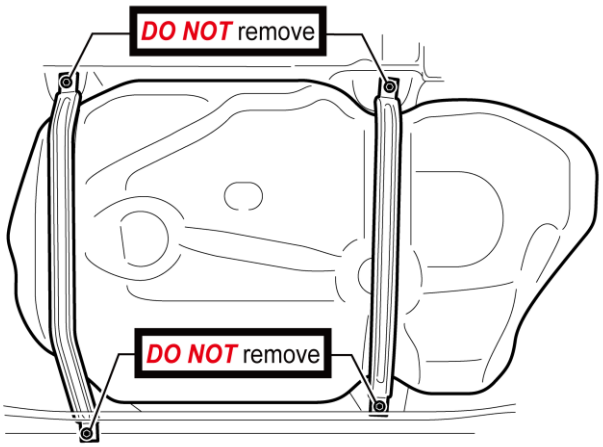
If it is contaminated by any contaminants such as dust, filter it with a filter such as a paper filter. To prevent fires, be sure that the filter has completely dried out before disposing of it after use.

VIII. ACTIONS TO TAKE WHEN TOOLS INTERFERE WITH SERVICE HOLE

A. When installing or removing the retainer, the tools may interfere with the service hole. In such a case, adjust the tank position using the following procedure.

[When tools interfere with the service hole edge]

Loosen the fuel tank band mounting bolts, move the tank and make adjustments until the tools would no longer interfere with the service hole edge.
(Whether there is interference must be judged after removing the service hole cover.)



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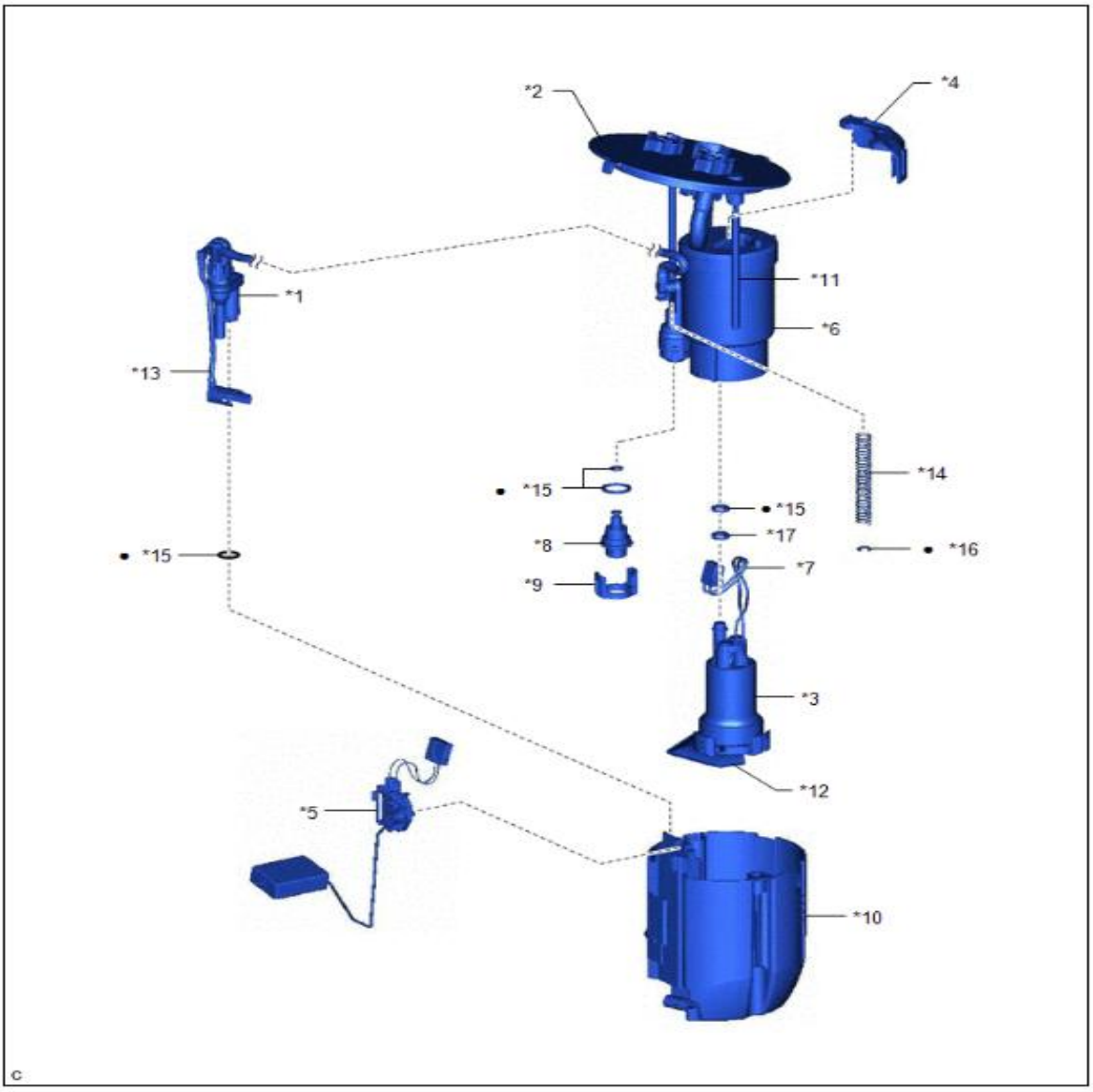
IX. FUEL PUMP WITH FILTER ASSEMBLY REPLACEMENT

Retainer Type	Metal Retainer (Cam Lock)
Work Method	Replace the fuel pump with filter assembly from the vehicle cabin.

1. COMPONENTS

HINT:

Components that are not removed and reinstalled may also be shown on the COMPONENT pages.



*1	JET PUMP	*2	FUEL SUCTION PLATE SUB-ASSEMBLY
*3	FUEL PUMP WITH FILTER ASSEMBLY	*4	NO. 1 FUEL SUCTION SUPPORT
*5	FUEL SENDER GAUGE ASSEMBLY	*6	FUEL FILTER
*7	FUEL PUMP HARNESS	*8	FUEL MAIN VALVE ASSEMBLY
*9	NO. 2 FUEL SUCTION SUPPORT	*10	NO. 1 FUEL SUB-TANK
*11	FUEL SUCTION PLATE SHAFT	*12	SUCTION FILTER
*13	FUEL TUBE	*14	SPRING
*15	O-RING	*16	E-RING
*17	FUEL PUMP SPACER	-	-
•	Non-reusable part	-	-

2. REMOVE FUEL PUMP

a. CHECK FOR DTCS

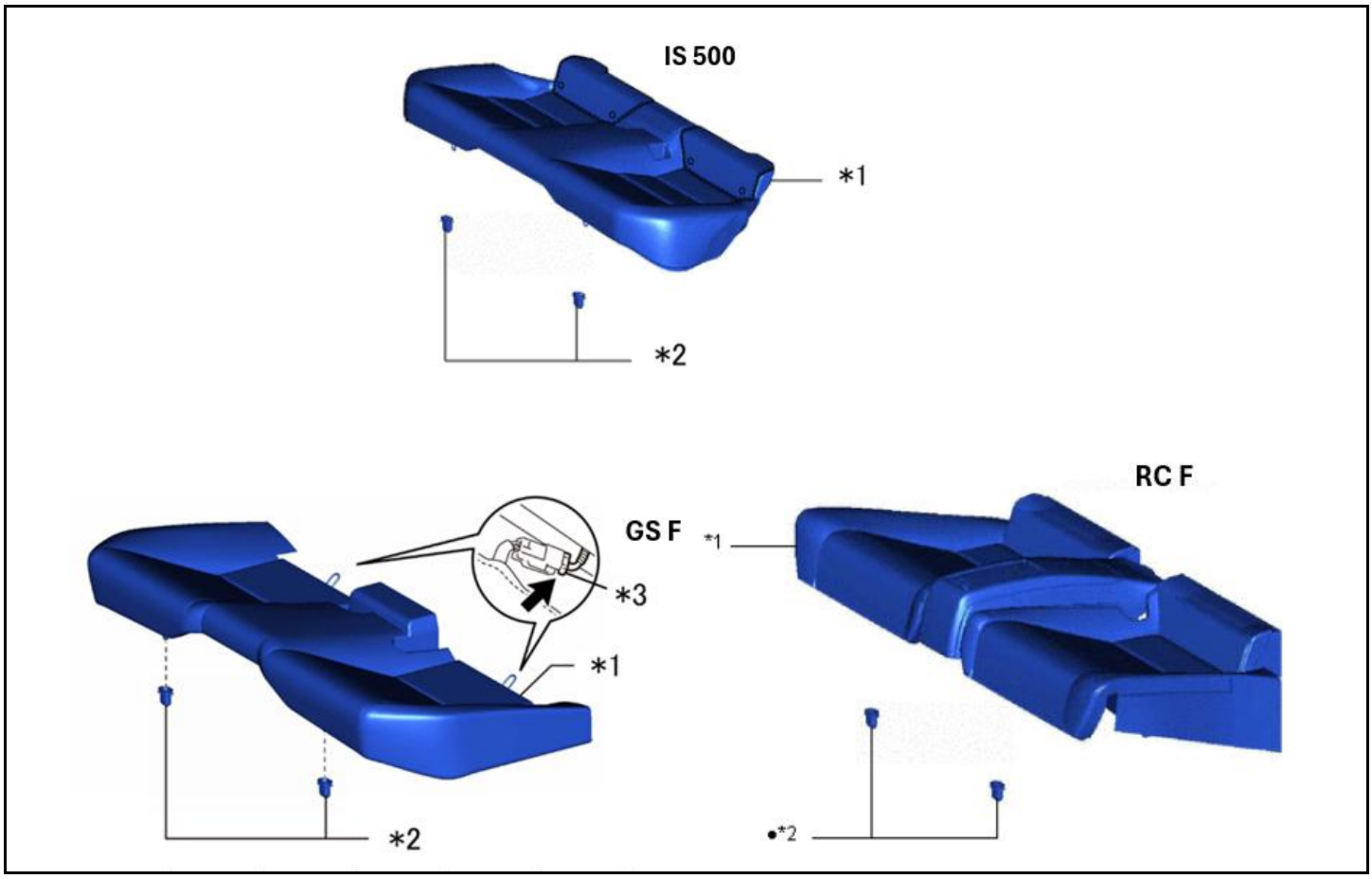
HINT:

This campaign covers only the replacement of fuel pump with filter assembly and associated parts. It does not cover the diagnosis or replacement of any other parts on the vehicle.

b. CONFIRM FUEL LEVEL

1. Check the fuel gauge, and if certain amount of fuel remains, drain the fuel until the amount

of fuel decreases to 1/3 or lower.



1. PRECAUTION

a. 4 TIPS TO PREVENT FUEL LEAKS

1. To prevent fuel leaks, make sure to understand the 4 tips and then perform the procedure.

2. DISCHARGE FUEL SYSTEM PRESSURE

3. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

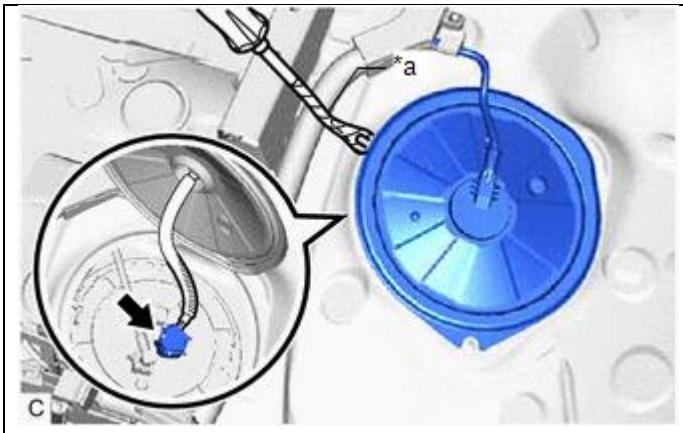
After turning the engine switch off, waiting time may be required before disconnecting the cable from the negative (-) battery terminal. Therefore, make sure to read the disconnecting the cable from the negative (-) battery terminal notices before proceeding with work.

NOTICE:

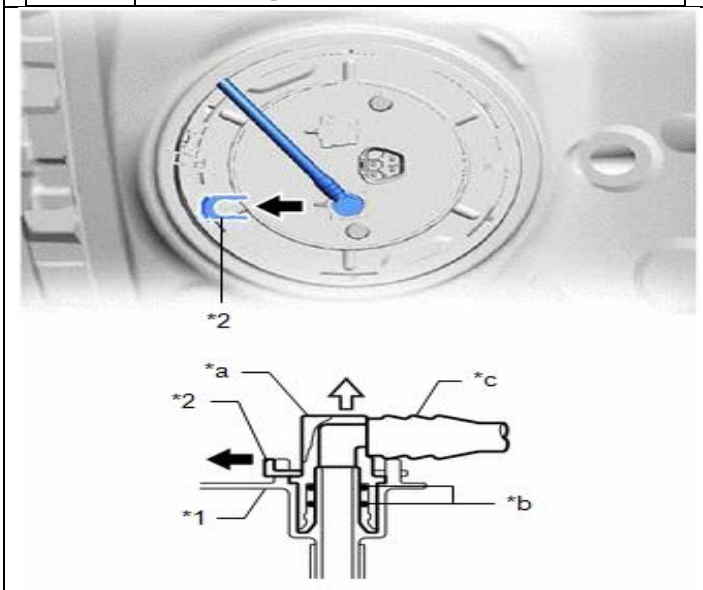
When disconnecting the cable, some systems need to be initialized after the cable is reconnected.

4. REMOVE REAR SEAT CUSHION ASSEMBLY

*1	BENCH TYPE REAR SEAT CUSHION ASSEMBLY	*2	REAR SEAT CUSHION LOCK HOOK
*3	CONNECTORS(Depending on the vehicle model)	-	-



*a	Protective Tape



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*1	Fuel Suction Plate Sub-assembly
*2	Tube Joint Clip
*a	Fuel Tube Joint
*b	O-ring
*c	Nylon Tube
➡	Pull off
⇨	Pull off

5. REMOVE REAR FLOOR SERVICE HOLE COVER

a. Using a clip remover with its tip wrapped with protective tape, remove the rear floor service hole cover and butyl tape

b. Disconnect the fuel pump connector.

6. DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

a. Remove the tube joint clip, and pull off the fuel tube joint of the fuel tank main tube sub-assembly

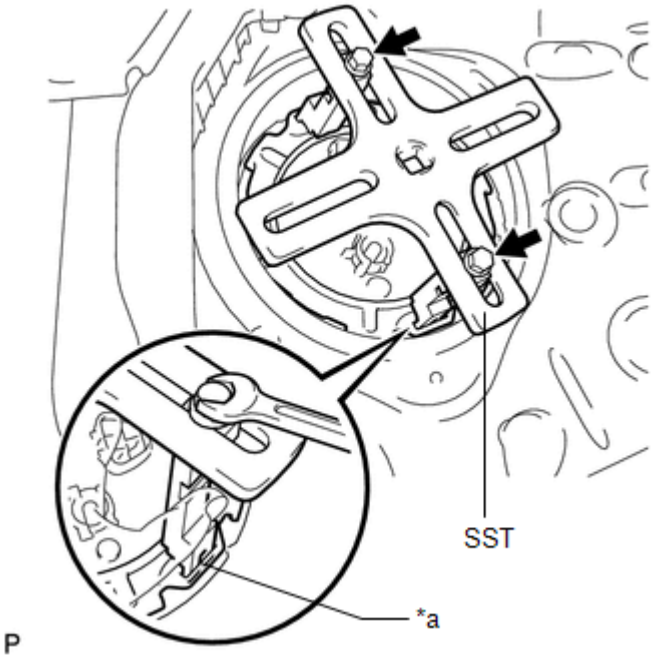
NOTICE:

- Remove any foreign matter on the fuel tube joint before performing this work.
- Do not allow any scratches or foreign matter to get on the parts when disconnecting them as the fuel tube joint has O-rings that seal the plug.
- Be sure to disconnect the fuel tube joint by hand.
- Do not forcibly bend, twist or turn the nylon tube.
- Protect the disconnected part by covering it with a plastic bag after disconnecting the fuel tube joint.
- If the fuel tube joint and fuel suction plate sub-assembly are stuck, push and pull to release them.

⇨	Front Side

7. REMOVE FUEL PUMP GAUGE RETAINER

a. Release the lock to remove the No. 1 fuel tube clamp.



*a	Insertion Point
➡	SST (Bolt)

b. Remove the fuel pump gauge retainer.

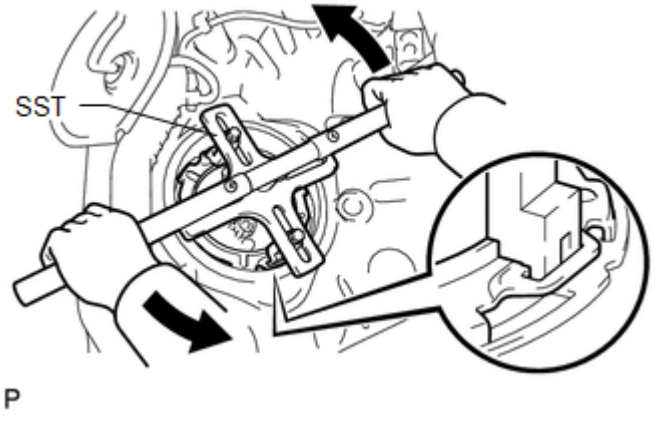
1. Set the 2 claws, 2 bolts and plate of SST on the fuel pump gauge retainer.

SST: 09808-14031
1.*09808-01010*
2.*09808-01020*
3.*09808-01030*
4.*09808-01090*
SST: 09808-01071

HINT:
Securely insert the ends of SST (claw) into the insertion points in the fuel pump gauge retainer

2. While firmly pressing SST (claw) into the insertion points in the fuel pump gauge retainer, tighten SST (bolt).

3. Attach the handle of SST.



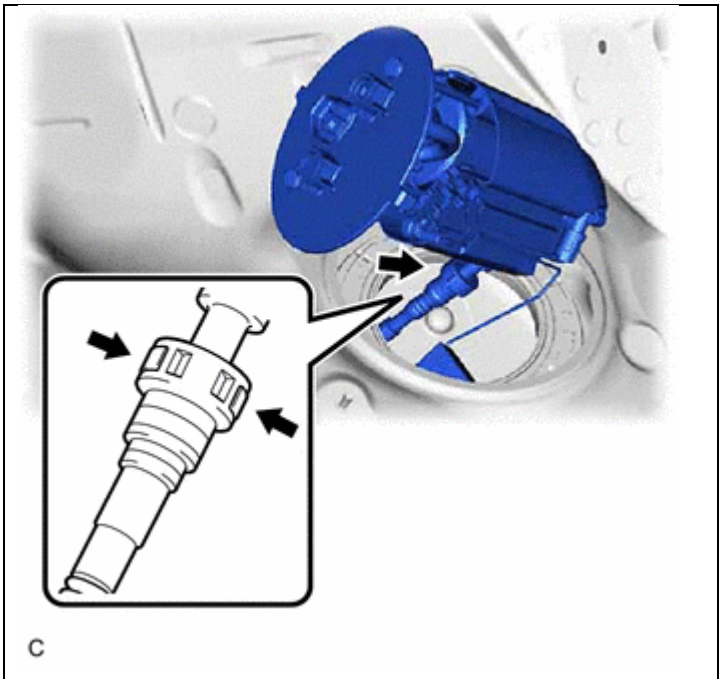
4. Check once more that the tip of SST is securely inserted into the insertion area of the fuel pump gauge retainer as shown in the illustration.

5. Lightly press down on SST to prevent it from separating from the fuel pump gauge retainer. While pressing down on SST, rotate SST (handle) slowly to loosen the fuel pump gauge retainer.

6. While pressing down on the fuel suction tube with pump and gauge assembly, remove the fuel pump gauge retainer.

NOTICE:

- Do not use any tools other than specified in this operation as this may result in damage to the fuel pump gauge retainer or the fuel tank assembly.
- Do not press down on SST excessively as this may make the fuel pump gauge retainer hard to rotate, and may damage components.
- Make sure to rotate SST (handle) horizontally. If it is rotated at an angle, SST may come off.
- Do not spin SST too fast or use an impact wrench as this may result in damage to components.
- If SST comes off of the fuel pump gauge retainer, loosen SST (bolt) and reinstall SST.



8. REMOVE FUEL SUCTION TUBE WITH PUMP AND GAUGE ASSEMBLY

a. Disconnect the fuel return vent tube sub-assembly and remove the fuel suction tube with pump and gauge assembly from the fuel tank assembly.

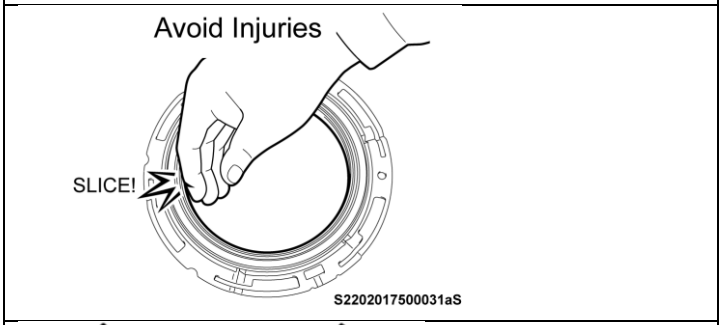
NOTICE:

Make sure that the fuel sender gauge assembly arm does not bend.

- Do not damage the fuel return vent tube sub-assembly.

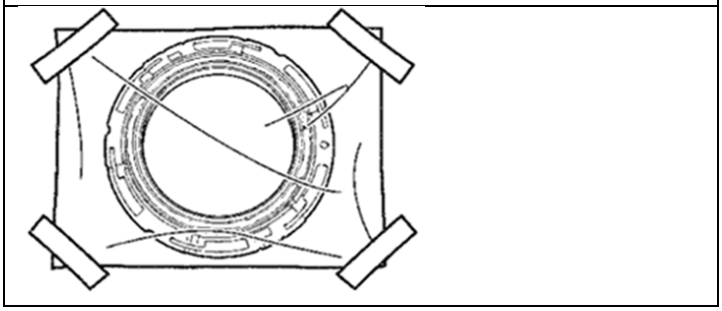
When disconnecting the fuel tube connector, do not excessively pull on the fuel return vent tube sub-assembly.

b. Remove the fuel suction tube set gasket from the fuel tank assembly.



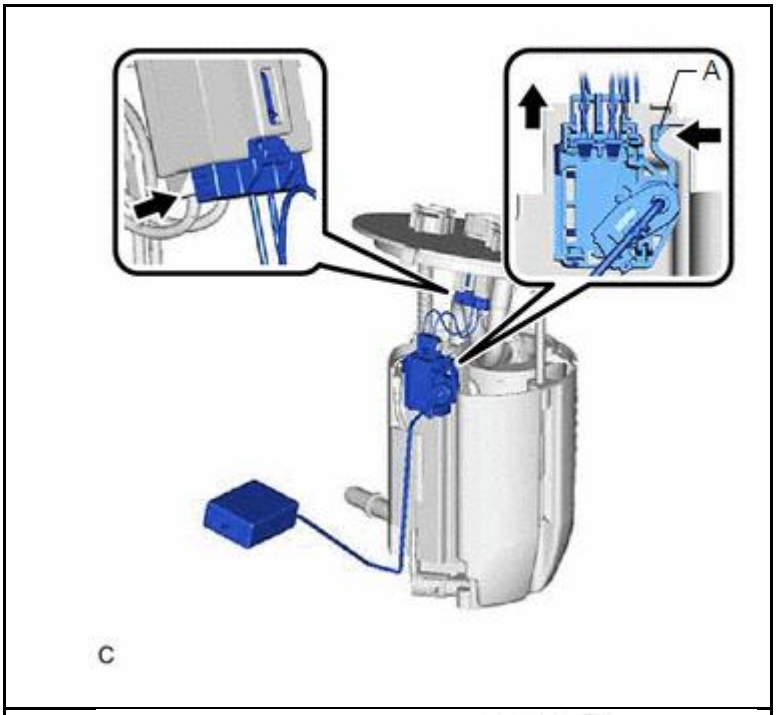
NOTICE:

To avoid injury, be careful not to touch the edge of the fuel tank opening when disconnecting the tube.



NOTICE:

To prevent fuel vapor from being dispersed, cover the opening of fuel tank with a plastic bag.



9. DISASSEMBLE THE FUEL PUMP

a. Remove fuel gauge sender assembly

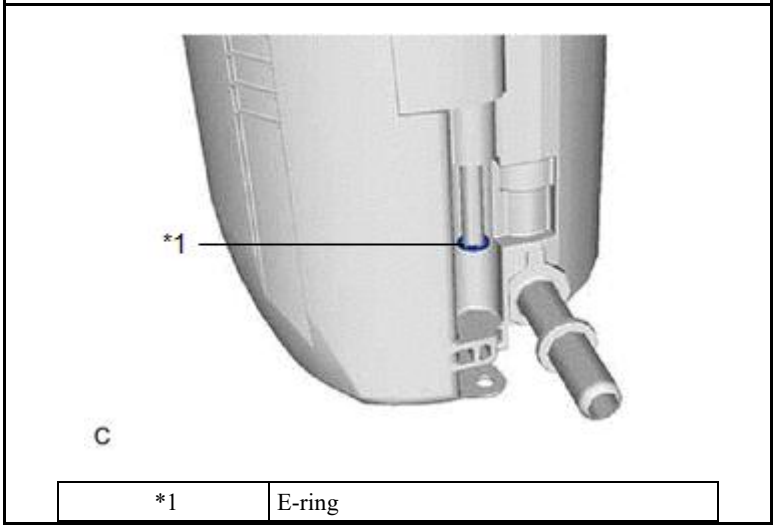
1. Disconnect the fuel sender gauge assembly connector.
2. Push the claw (A) of the fuel sender gauge assembly, and then pull up the fuel sender gauge assembly to remove it.

NOTICE:

- Do not touch the resistance plate or contacts of the fuel sender gauge assembly.
- Make sure that the fuel sender gauge assembly arm does not bend.

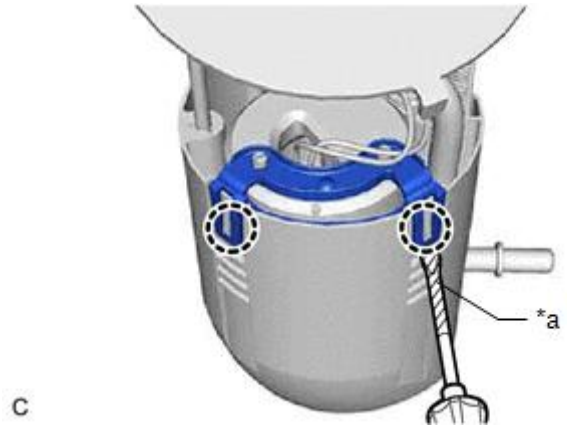
b. Remove the fuel suction plate sub-assembly

1. Disengage the clamp to disconnect the fuel pump harness from the fuel suction plate sub-assembly.
2. Disconnect the fuel pump harness connector.



*1	E-ring

3. Using needle nose pliers, remove the E-ring from the fuel suction plate shaft.
4. Remove the fuel suction plate sub-assembly and spring from the No. 1 fuel sub-tank.

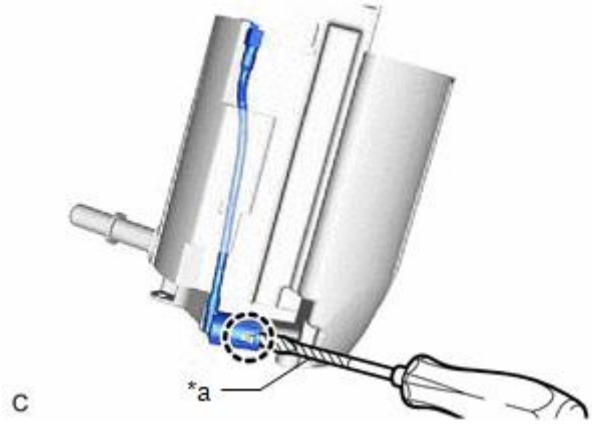


*a	Protective Tape

c. Remove the fuel filter

1. Using a screwdriver with its tip wrapped with protective tape, disengage the 2 claws, and remove the fuel filter and fuel pump with filter assembly from the No. 1 fuel sub-tank.

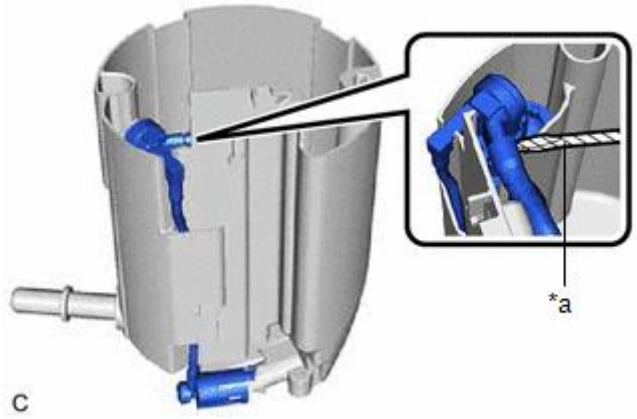
NOTICE:
Do not damage the No. 1 fuel sub-tank or fuel filter.



*a	Protective Tape

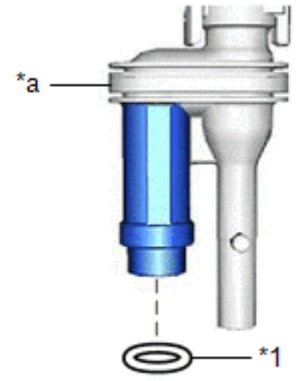
d. Remove the jet pump

1. Using a screwdriver with its tip wrapped with protective tape, disengage the claw and remove the fuel tube.



*a	Protective Tape

2. Using a screwdriver with its tip wrapped with protective tape, remove the jet pump from the No. 1 fuel sub-tank.



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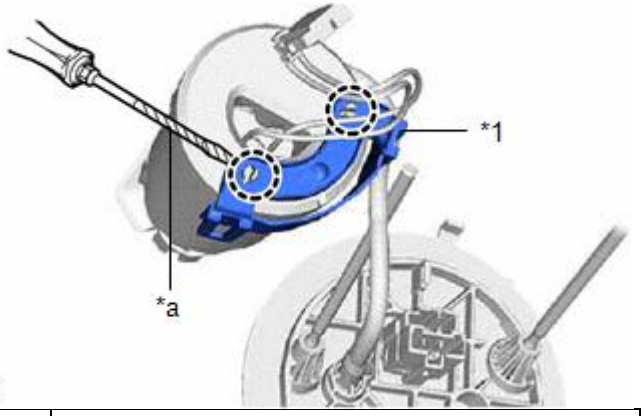
*1	O-ring
*a	Jet Pump

3. Remove the O-ring from the jet pump.



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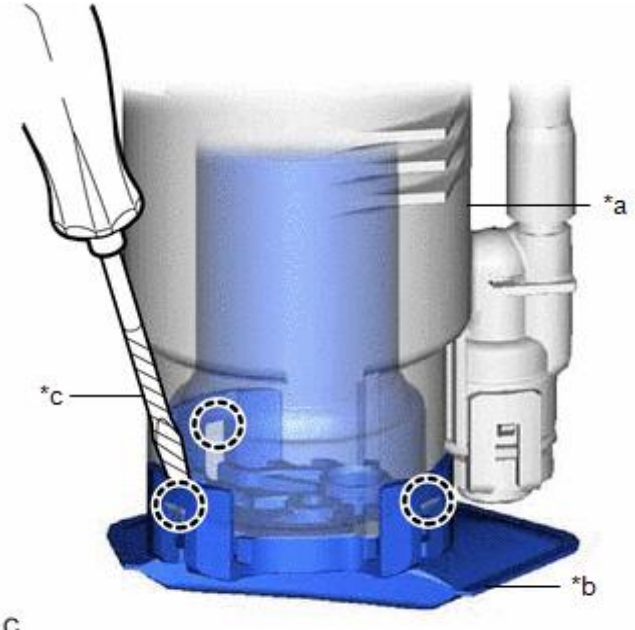
*1	No. 1 Fuel Suction Support
*a	Protective Tape

e. Remove the No.1 fuel suction support

1. Using a screwdriver with its tip wrapped with protective tape, disengage the 2 claws and remove the No. 1 fuel suction support from the fuel filter.



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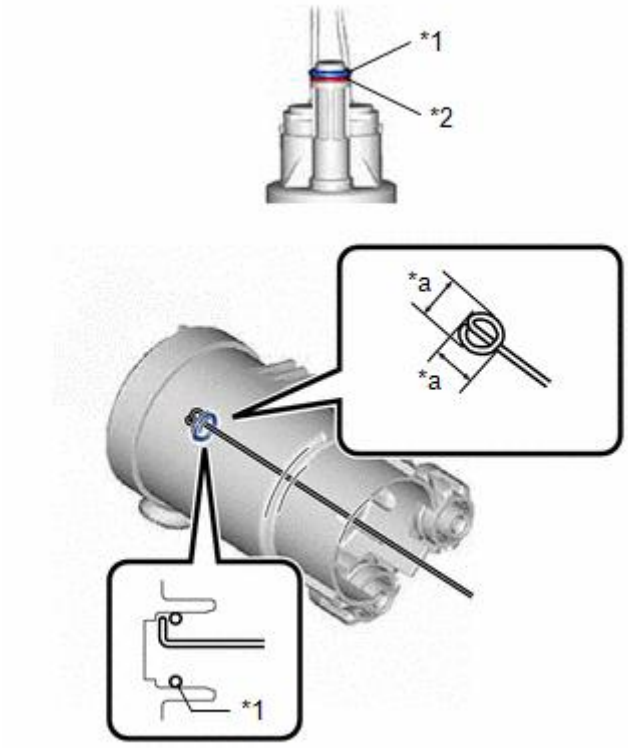
*a	Fuel Filter
*b	Suction Filter
*c	Protective Tape

f. Remove the fuel pump with filter assembly

1. Using a screwdriver with its tip wrapped with protective tape, disengage the 3 claws, and remove the fuel pump with filter assembly from the fuel filter.

NOTICE:

- Do not damage the fuel filter.
- Do not remove the suction filter.
- Do not use either the fuel pump with filter assembly or the suction filter if the suction filter is removed from the fuel pump with filter assembly.



C

*1	O-ring
*2	Fuel Pump Spacer
*a	5.0 mm (0.197 in.)

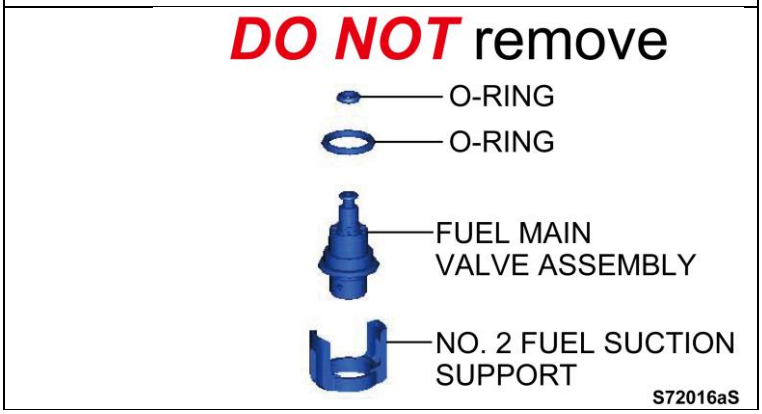
g. Remove the O-ring and the fuel pump spacer from the fuel pump with filter assembly.

NOTICE:

Be careful not to damage the sealing surface.

- **HINT:**

If the O-ring still remains in the fuel filter, remove it using a wire tip (1.0 mm (0.0394 in.) diameter) that is formed as shown in the illustration.

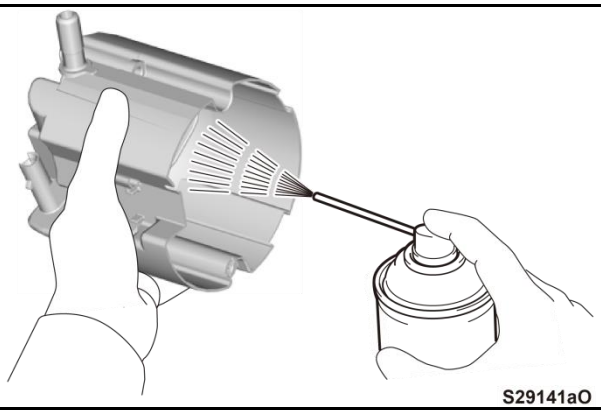


NOTICE:

DO NOT remove the fuel main valve assembly.

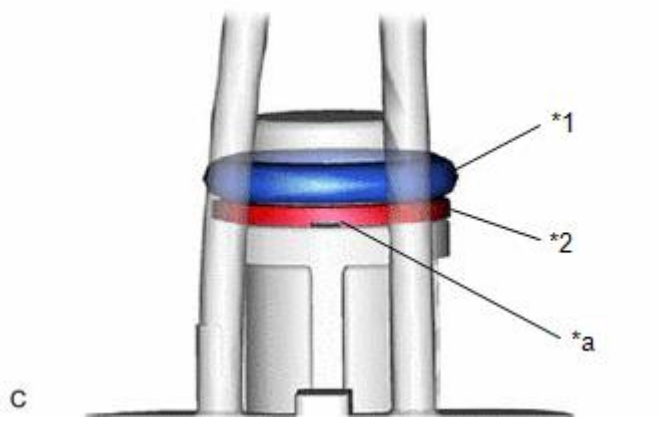
10. REASSEMBLE THE FUEL PUMP

a. Using brake cleaner, clean the sub-tank.



b. Install the new fuel pump with filter assembly

1. Install the fuel pump spacer to the fuel pump with filter assembly as shown in the illustration.



*1	O-ring
*2	Fuel Pump Spacer
*a	Notch of the fuel pump spacer

NOTICE:

Apply engine oil to a NEW O-ring before installing it to a NEW fuel pump with filter assembly.

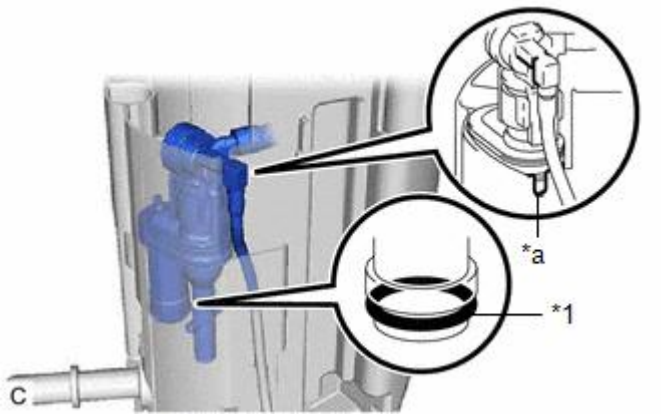
c. Engage the 3 claws to install the fuel pump with filter assembly to the fuel filter.

NOTICE:

- Make sure that the O-ring is not cut or pinched during installation.
- Engage the claws securely.
- Do not remove the suction filter.

d. Install the No.1 fuel suction support.

1. Engage the 2 claws to install the No. 1 fuel suction support to the fuel filter.



*1	O-ring
*a	Notch

e. Install the jet pump

1. Apply a light coat of gasoline to a new O-ring and install the O-ring to the jet pump.

2. Install the jet pump to the No. 1 fuel sub-tank as shown in the illustration.

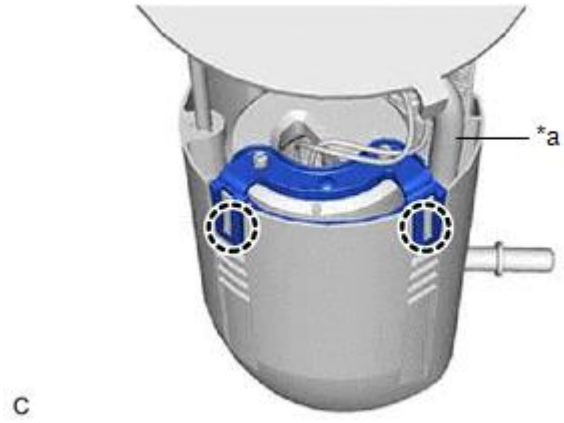
NOTICE:

Make sure that the O-ring is not cut or pinched during installation.

3. Engage the claw and install the fuel tube to the No. 1 fuel sub-tank.

NOTICE:

Securely engage the claw.



*a	Tube

f. Install the fuel filter

1. Engage the 2 claws to install the fuel filter and fuel pump with filter assembly to the No. 1 fuel sub-tank.

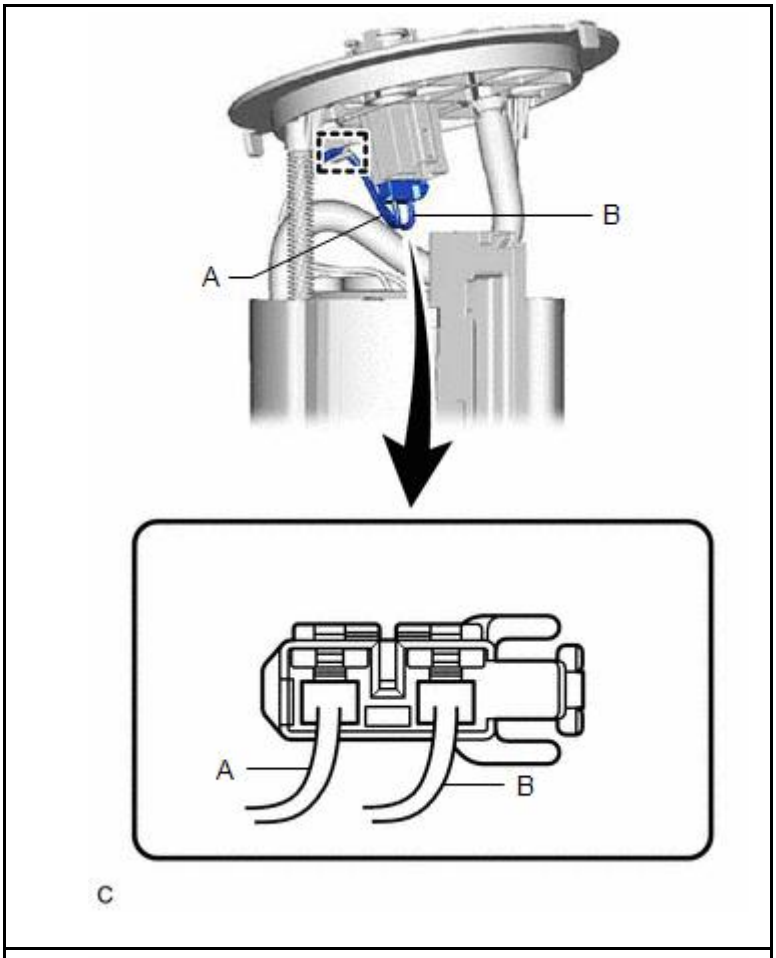
NOTICE:

- Do not apply excessive force to the tube or No. 1 fuel suction support.
- Securely engage the claws.

*1	E-ring

g. Install the fuel suction plate sub-assembly

1. Install the spring to the fuel suction plate shaft.
2. Install the fuel suction plate sub-assembly to the No. 1 fuel sub-tank.
3. Install a new E-ring to the fuel suction plate shaft.



4. Connect the fuel pump harness connector.

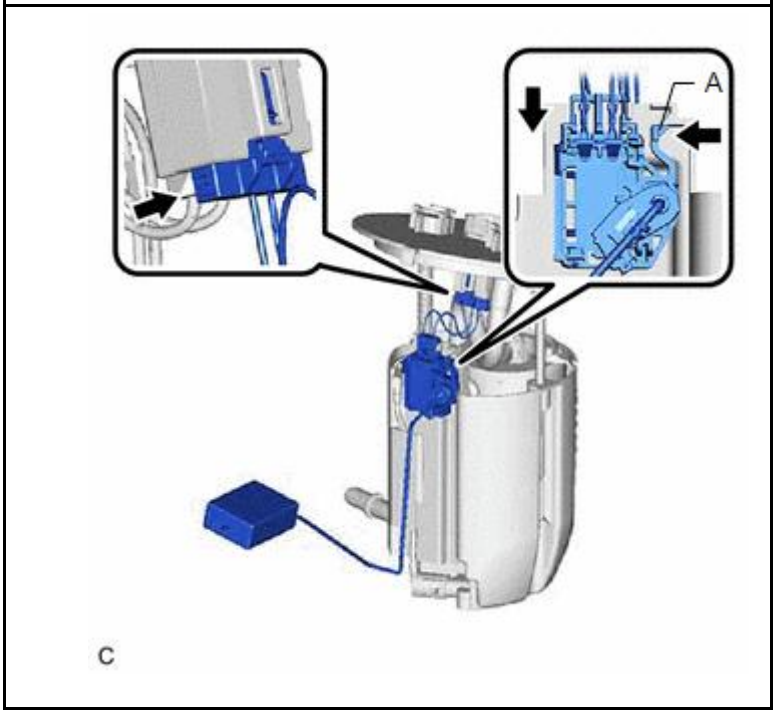
NOTICE:

Make sure that the fuel pump harness connector is engaged securely.

5. Engage the clamp to connect the fuel pump harness to the fuel suction plate sub-assembly as shown in the illustration.

NOTICE:

- Engage the connector (A) first and then (B) when connecting the fuel pump harness to the clamp.
- Do not twist or excessively pull the fuel pump harness.



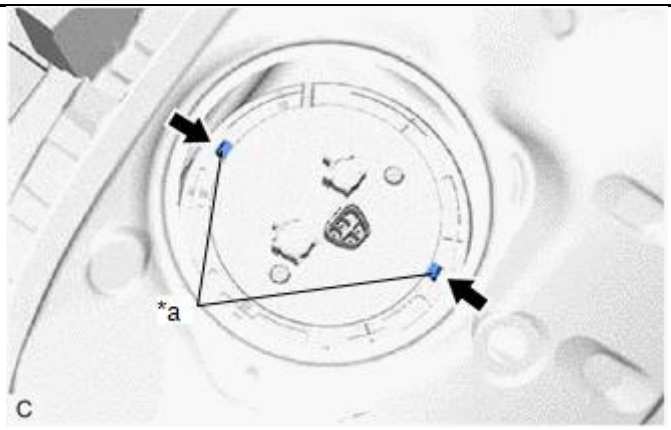
h. Install the fuel gauge assembly

6. Slide the fuel sender gauge assembly downward and engage the claw (A) to install the fuel sender gauge assembly.

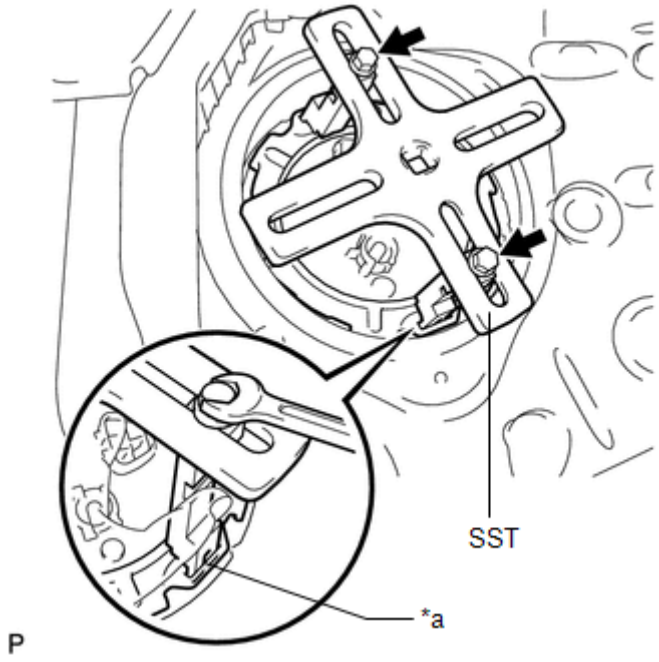
7. Connect the fuel sender gauge assembly connector.

NOTICE:

- Do not touch the resistance plate or contacts of the fuel sender gauge assembly.
- Make sure that the fuel sender gauge assembly arm does not bend.



*a	Protrusion
➡	Notch



*a	Insertion Point
➡	SST (Bolt)

11. INSTALL FUEL SUCTION TUBE WITH PUMP AND GAUGE ASSEMBLY

a. Install a new fuel suction tube set gasket to the fuel tank assembly.

b. Connect the fuel return vent tube sub-assembly and set the fuel suction tube with pump and gauge assembly into the fuel tank assembly.

c. align the protrusions of the fuel suction tube with pump and gauge assembly with the notches in the fuel tank assembly.

d. Install fuel pump gauge retainer

1. While pressing down on the fuel suction tube with pump and gauge assembly, temporarily install the fuel pump gauge retainer.
2. Set the 2 claws, 2 bolts and plate of SST on the fuel pump gauge retainer.

SST: 09808-14031

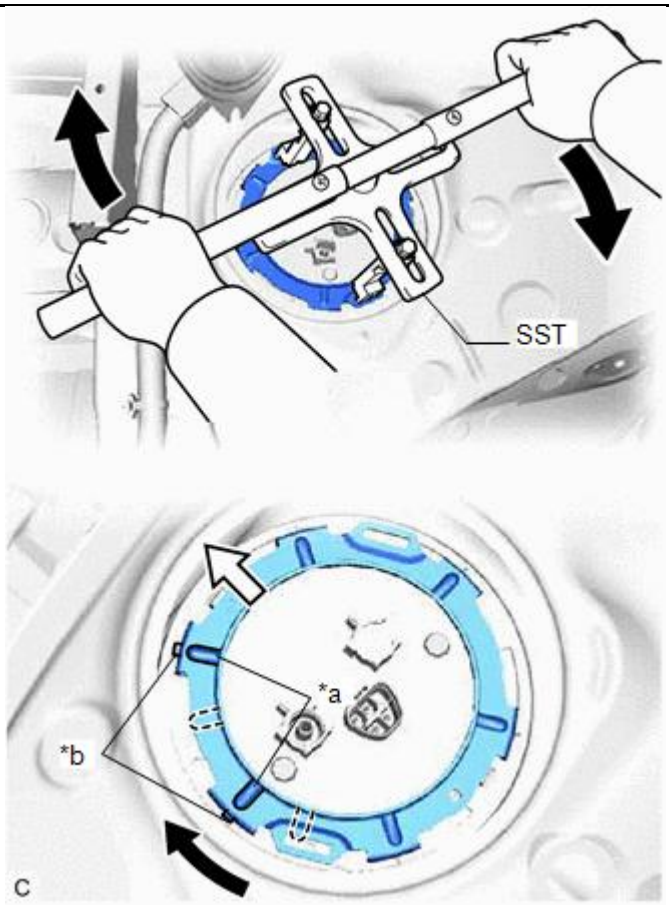
09808-01010
09808-01020
09808-01030
09808-01090

SST: 09808-01071

HINT:

Securely insert the ends of SST (claw) into the insertion points in the fuel pump gauge retainer.

3. While firmly pressing SST (claw) into the insertion points in the fuel pump gauge retainer, tighten SST (bolt).
4. Attach the handle of SST.
5. Check once more that the tip of SST is securely inserted into the insertion area of the fuel pump gauge retainer as shown in the illustration.



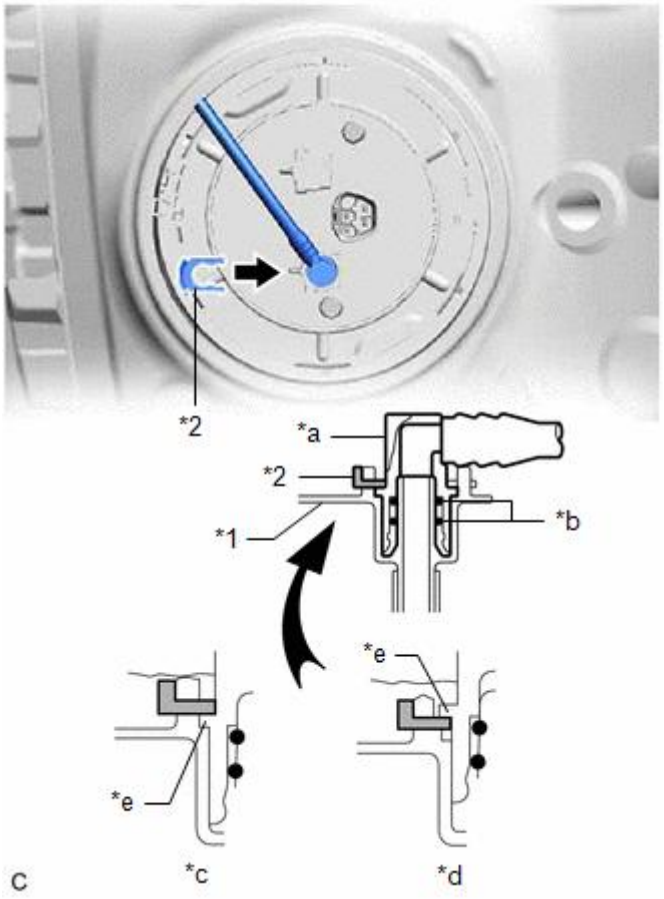
*a	Protrusion
*b	Groove
⇨	Front Side

6. Using SST, rotate the fuel pump gauge retainer so that the protrusions of the retainer are aligned with the grooves in the fuel tank assembly to install the fuel suction tube with pump and gauge assembly to the fuel tank assembly.

NOTICE:

- Do not use any tools other than specified in this operation as this may result in damage to the fuel pump gauge retainer or fuel tank assembly.
- Do not press down on SST excessively as this may make the retainer hard to rotate, and may damage components.
- Make sure to rotate SST (handle) horizontally. If it is rotated at an angle, SST may come off.
- Do not spin SST too fast or use an impact wrench as this may result in damage to components.
- If SST comes off of the fuel pump gauge retainer, loosen SST (bolt) and reinstall SST.
- Make sure that the fuel suction tube set gasket does not come off.

7. Install the No. 1 fuel tube clamp



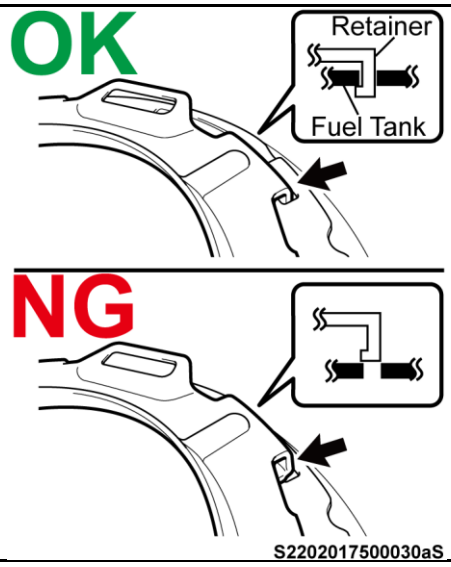
*1	Fuel Suction Plate Sub-assembly
*2	Tube Joint Clip
*a	Fuel Tube Joint
*b	O-ring
*c	Correct
*d	Incorrect
*e	Collar

e. Connect the fuel tank main tube sub-assembly

1. Push the fuel tube joint onto the plug of the fuel suction plate sub-assembly, then install the tube joint clip.

NOTICE:

- Check that there are no scratches or foreign matter around the connecting parts of the fuel tube joint and plug before performing this work.
- Check that the fuel tube joint is securely inserted to the end.
- Check that the tube joint clip is on the collar of the fuel tube joint as shown in the illustration.
- After installing the tube joint clip, check that the fuel tank main tube sub-assembly is securely connected by pulling on it.



f. Confirm that the 6 claws of retainer are engaged to the fuel tank.

g. Connect cable to the negative battery terminal.

12. INSPECT FOR FUEL LEAKS

a. Check fuel pump with filter assembly operation.

1. Connect GTS+ to the DLC3.
2. Turn the engine switch on (IG).

NOTICE:

Do not start the engine.

3. Turn on GTS+.
4. Enter the following menus: Powertrain / Engine / Active Test / Control the Fuel Pump / Speed.

Powertrain > Engine > Active Test

TESTER DISPLAY
Control the Fuel Pump / Speed

5. Check that sounds of fuel flowing from the fuel tank assembly can be heard.

b. Inspect for fuel leaks.

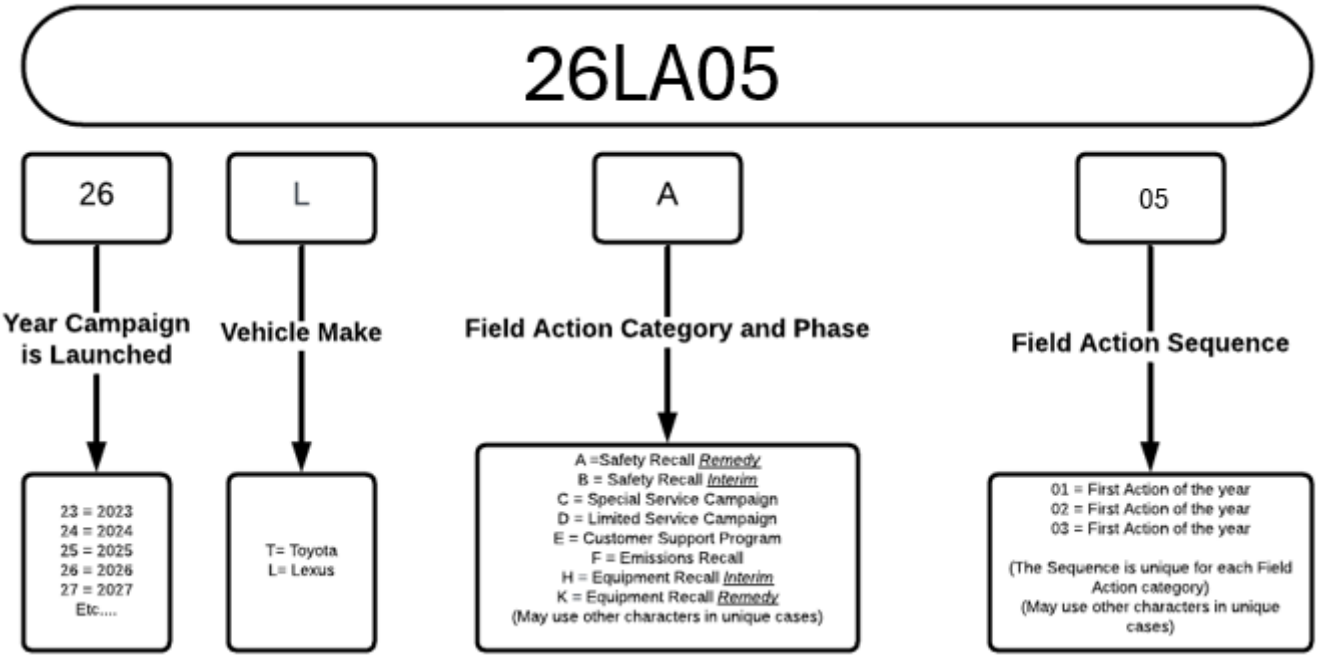
13. CHECK AND CLEAR DTCs

14. INSTALL REAR SEAT

a. Use the two new rear seat cushion lock hooks provided in kit.

X. APPENDIX

A. CAMPAIGN DESIGNATION DECODER



Examples:
20LA01 = Launched in 2020, Lexus, Safety Recall Remedy Phase, 1st Safety Recall Launched in 2020
21LC02 = Launched in 2021, Special Service Campaign, 2nd Special Service Campaign Launched in 2021
22LE05 = Launched in 2022, Customer Support Program, 5th Customer Support Program Launched in 2022

B. CAMPAIGN PARTS DISPOSAL

As required by Federal Regulations, please make sure all campaign parts (original parts) removed from the vehicle are disposed of in a manner in which they will not be reused, ***unless requested for parts recovery return.***