

TECHNICAL INSTRUCTIONS
FOR
SPECIAL SERVICE CAMPAIGN FLF
FUEL PUMP REPLACEMENT
CERTAIN 2010 – 2012 MODEL YEAR HS 250h

Updated 1/27/16

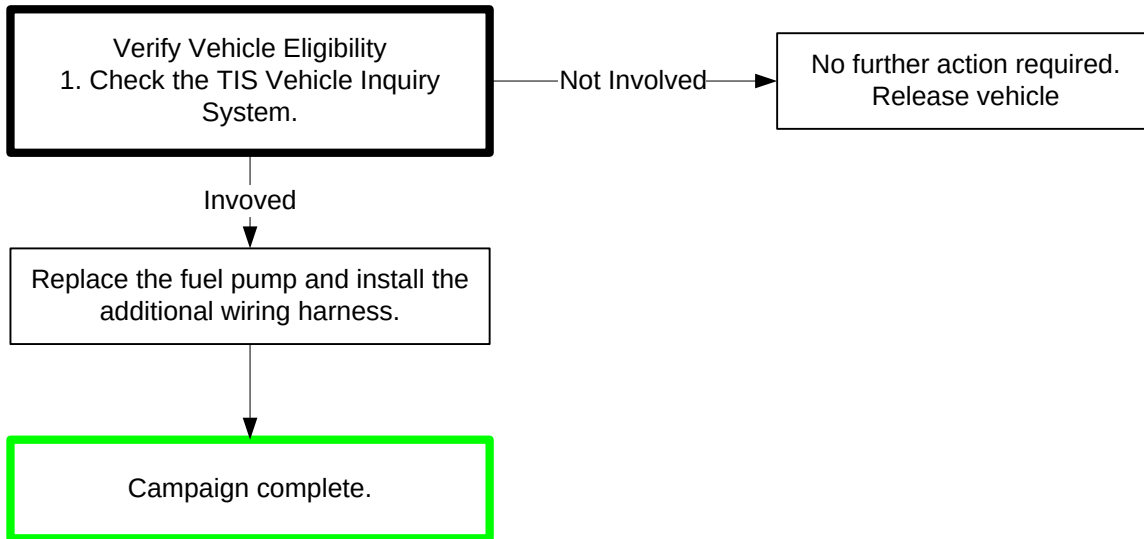
- The fuel tank gasket kit part number has been corrected.

The repair quality of covered vehicles is extremely important to Lexus. All dealership technicians performing this SSC 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 SSC repair are required to currently hold at least one of the following certification levels:

- **Senior Service Technician**
- **Senior Diagnostic Specialist**
- **Master Service Technician**
- **Master Diagnostic Specialist**

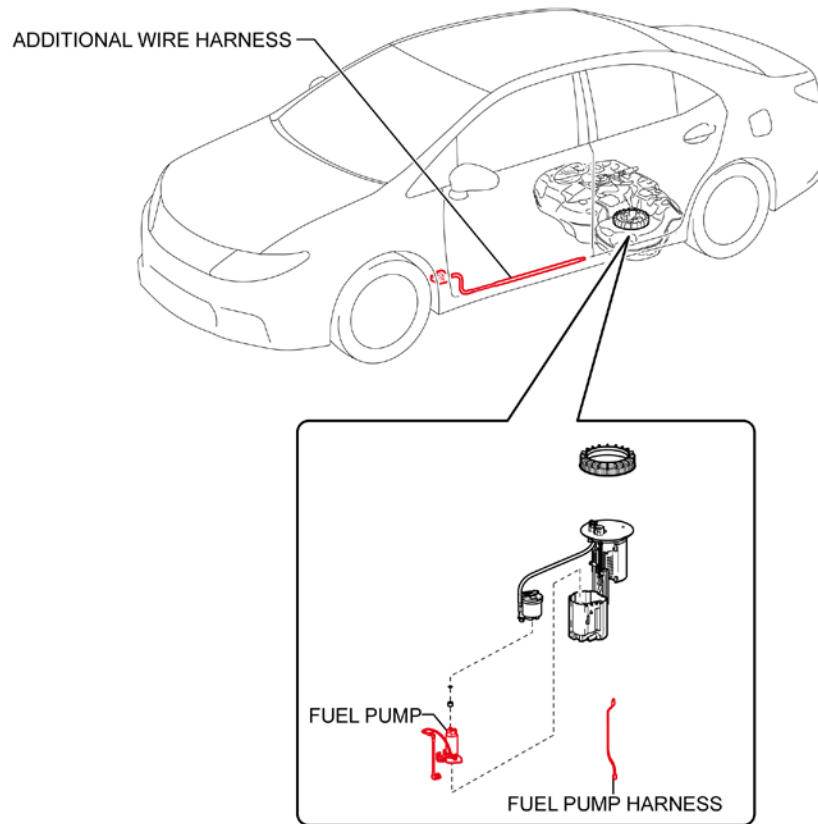
I. OPERATION FLOW CHART

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.



[Video Supplement: Click here to watch an overview of the repair](#)

II. BACKGROUND



S17157aS

The subject vehicles are equipped with a fuel pump that could experience premature wear of internal components, causing it to become inoperative. If this occurs the vehicle will illuminate various warning lamps and enter a fail-safe mode, reducing motive power.

III. IDENTIFICATION OF AFFECTED VEHICLES

A. COVERED VIN RANGE

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Special Service Campaign, and that the campaign has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or were completed by another dealer.

IV. PREPARATION

A. PARTS

Part Number	Part Description	Quantity
04005-33275	Fuel Pump Kit*	1

*The kit includes the following components

Part Description (Kit Contents)	Quantity
Fuel Pump	1
Fuel Pump Harness	1
Tie-Wrap	3
Junction Block Harness	1
Fuel Pump O-Ring	1

Part Number	Part Description	Quantity
04004-85552	Fuel Tank Gasket Kit**	1

**The kit includes the following components

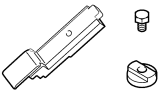
Part Description (Kit Contents)	Quantity
Fuel Tank Gasket	1
Fuel Pump Gauge Retainer Ring (White)	1

B. MATERIALS

- Protective Tape
- Butyl Tape
- Plastic Bags

C. TOOLS & EQUIPMENT

- Techstream
- Vernier Caliper
- Tray
- Standard Hand Tools
- Marker Pen

Part Number	Part Name	Quantity
09808-01030*	Plate*	1
	Claw set to remove retaining ring**	4
	Adaptor for plate**	1
	Retainer Pliers**	1

*This tool is a component of SST kit 09808-14030 (Essential tool)

** These tools were supplied to the dealer prior to the start of the campaign

V. SAFETY PRECAUTIONS

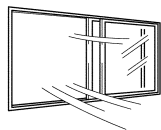


CRITICAL INFORMATION – READ THOROUGHLY



These cautions should be observed when performing this campaign. Failure to follow these cautions could result in damaged parts or inadequate repair quality.

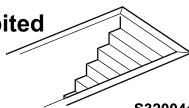
OK Natural Ventilation



NG Electric Fan



NG Pit Work Prohibited



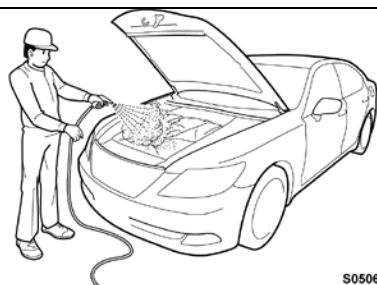
S32004aS

1. VENTILATION

- Preform this repair in a well-ventilated area.
- DO NOT** have any electrical devises operating in the area that could generate a spark.
- Any spilled fuel should be cleaned up immediately and clean up material should be disposed of in accordance with local and state regulations.

2. DIFFUSE FUEL VAPOR

- Periodically use compressed air to clear the area of fuel vapor build up.



S05066Q

3. PERSONAL PROTECTION

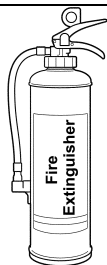
- Gasoline emits vapors that could cause physical illness. Use an appropriately rated gas mask when needed.
- Wear protective eye wear when performing this repair.



S60179bS

4. FIRE PREVENTION

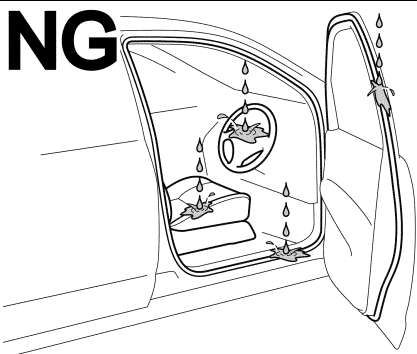
- Ensure that there are working fire extinguishers nearby.
- Ensure that there are no open flames in the area.
- Be aware of static electricity.



S32008aS

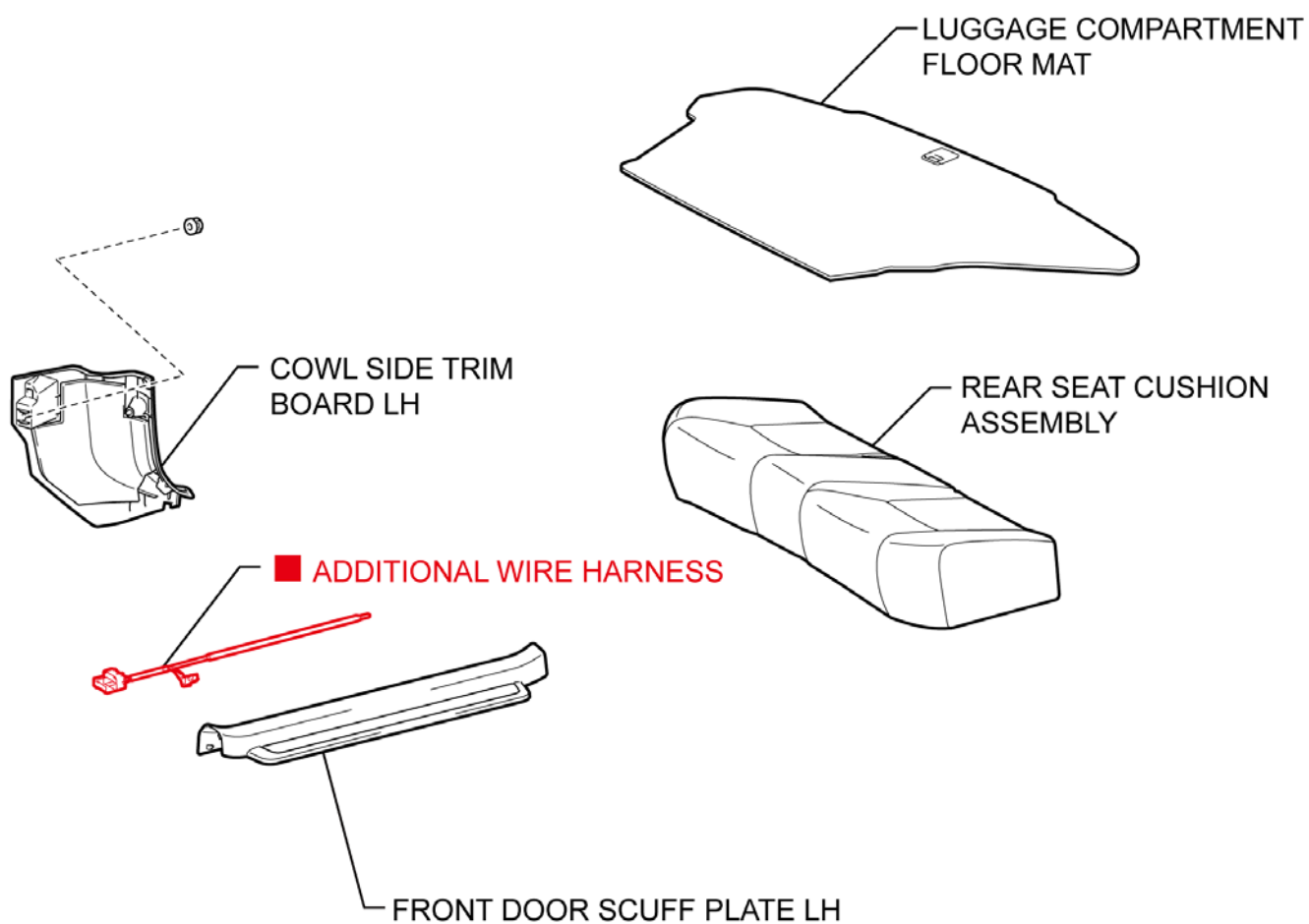
5. DO NOT ALLOW FUEL TO COME INTO CONTACT WITH INTERIOR COMPONENTS

NG



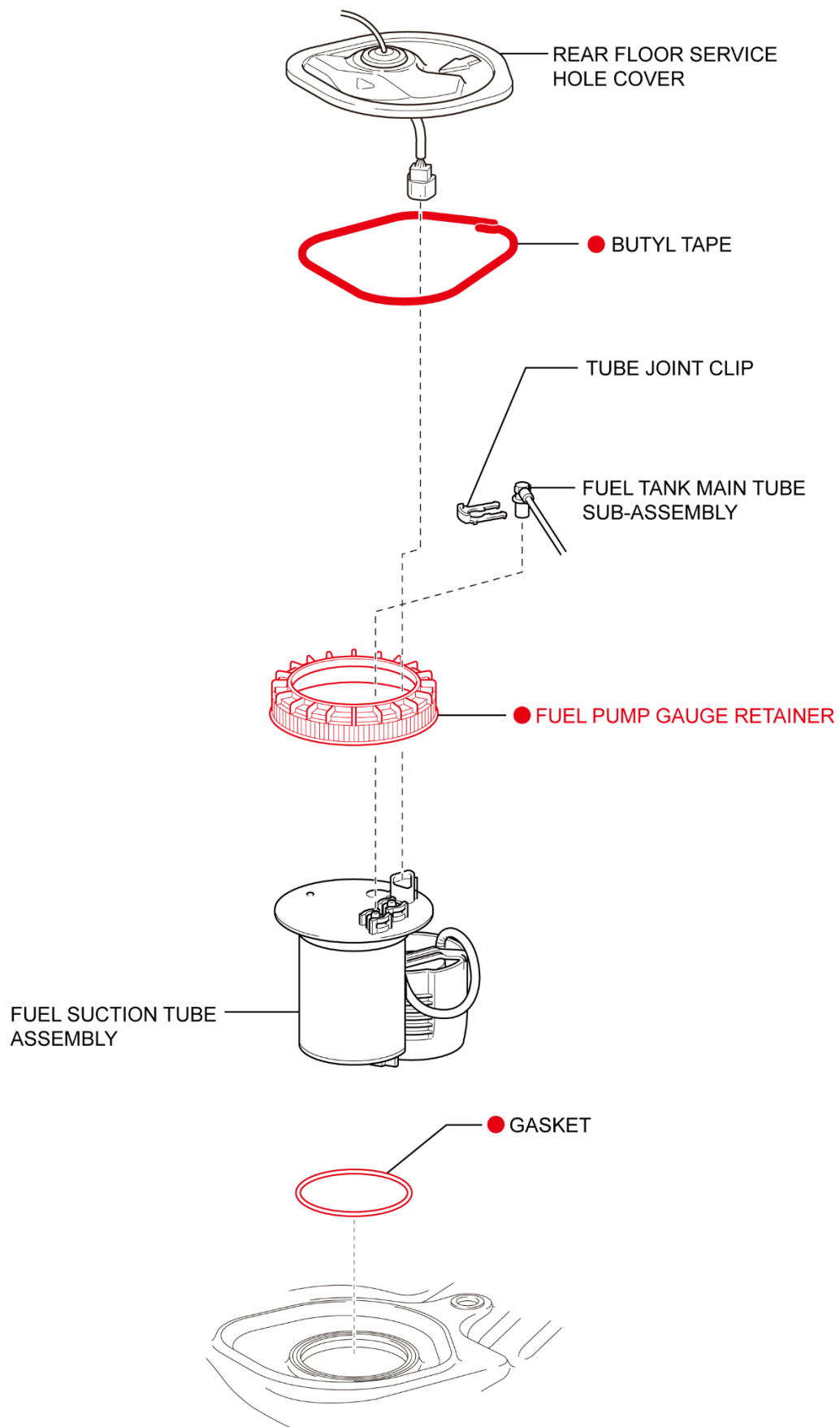
S32012aS

VI. COMPONENTS



■: New additional component

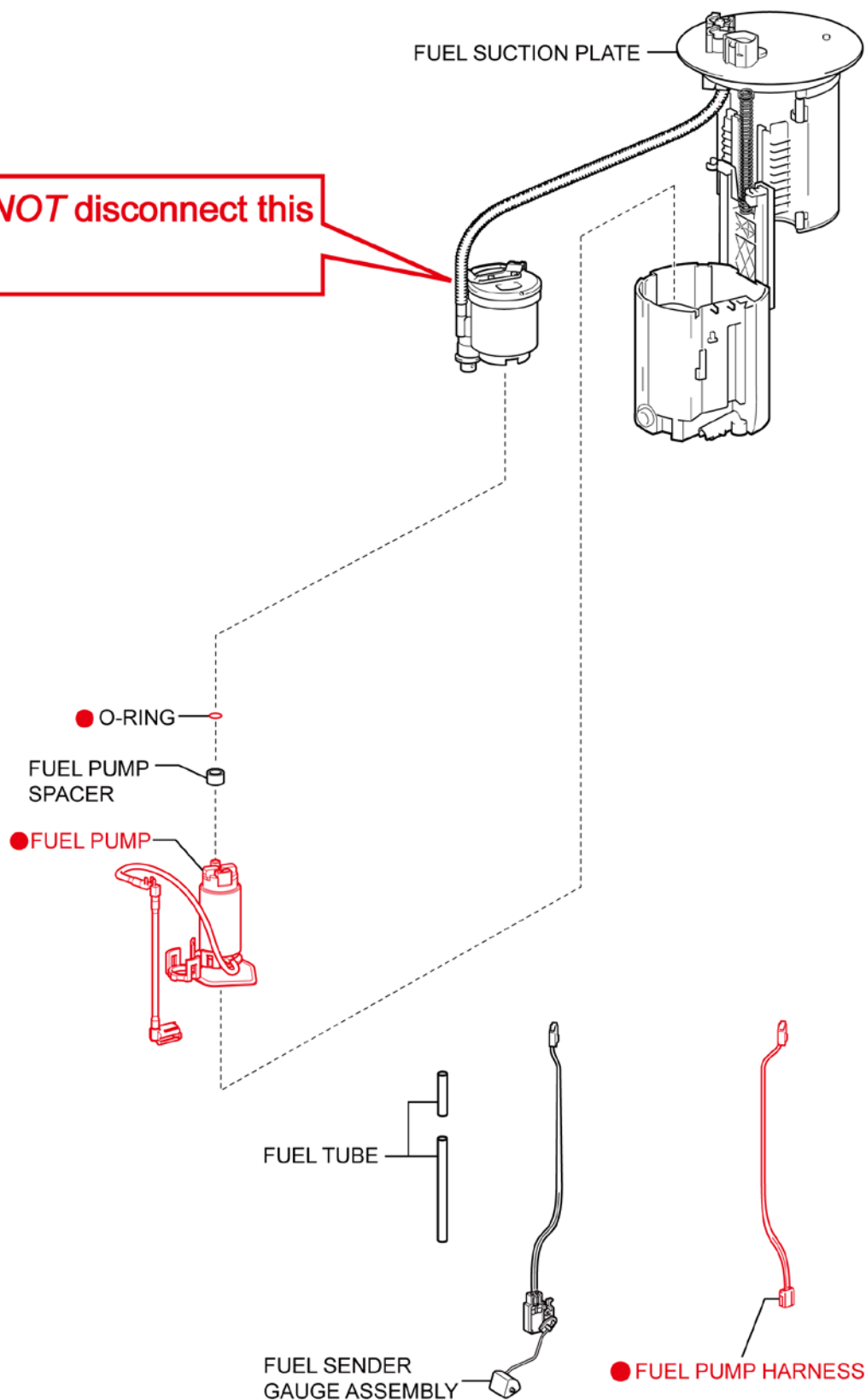
S17088bS



● : Component to be replaced

S17019aS

DO NOT disconnect this part



● : Component to be replaced

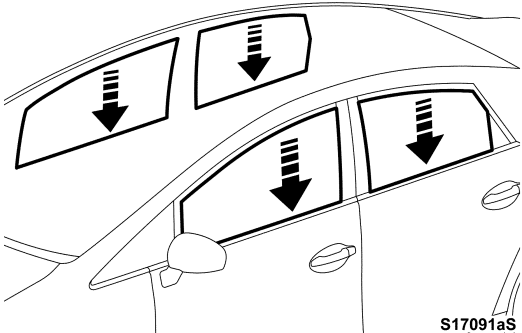
S17097cS

VII. VEHICLE PREPARATION



This campaign only covers the replacement of the fuel pump.
No other components in the engine management system are covered under this campaign.

Fully open all windows



1. OPEN ALL 4 WINDOWS

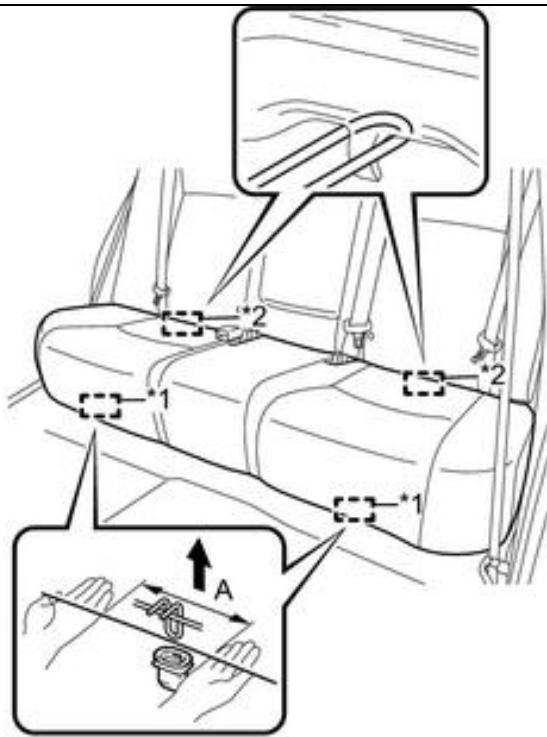
- Lower all 4 windows to prevent fuel vapor from condensing in the vehicle.

2. REMOVE THE REAR SEAT CUSHION

- Disengage the 2 front hooks for the seat cushion as shown.
- Disengage the 2 guides from the seatback.
- Remove the seat cushion from the vehicle and store in an area where it will not be damaged.



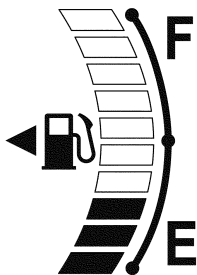
If the plastic locks for the front hooks come out of the floor pan they will need to be replaced.



3. CHECK FUEL LEVEL

- Check and record fuel level to ensure correct sender operation after pump replacement.

NOTE: DO NOT remove the pump assembly if the fuel level is $\frac{3}{4}$ of a tank or higher. If the fuel level is $\frac{3}{4}$ or higher the tank will need to be drained refer to the appendix section.



S63074aO



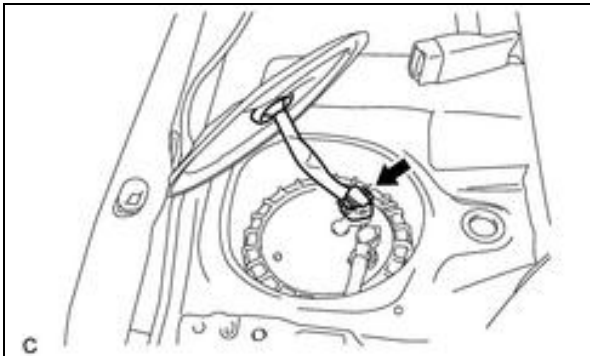
4. CHECK FOR DTC'S

- a) Using Techstream, perform a health check to confirm if there are any DTCs present in the system (current, history or pending).
- b) Record and clear any codes.



5. DISCHARGE THE FUEL SYSTEM

- a) Remove the fuel filler cap to relieve pressure in the tank.
- b) Remove the fuel service cover.



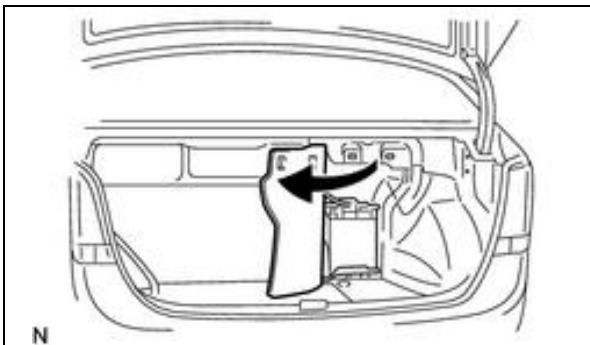
- c) Disconnect the fuel pump connector.
- d) Using Techstream place the vehicle in "inspection mode"
- e) Start the engine and allow it to run until it stops on its own.
- f) Shut the vehicle "OFF".
- g) Crank the engine again and ensure it does not start.
- h) Shut the vehicle "OFF".

NOTE: DTC P0171/25 may be set during this procedure.

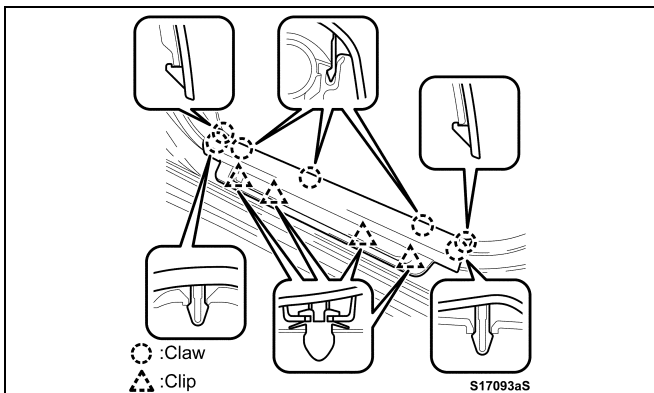
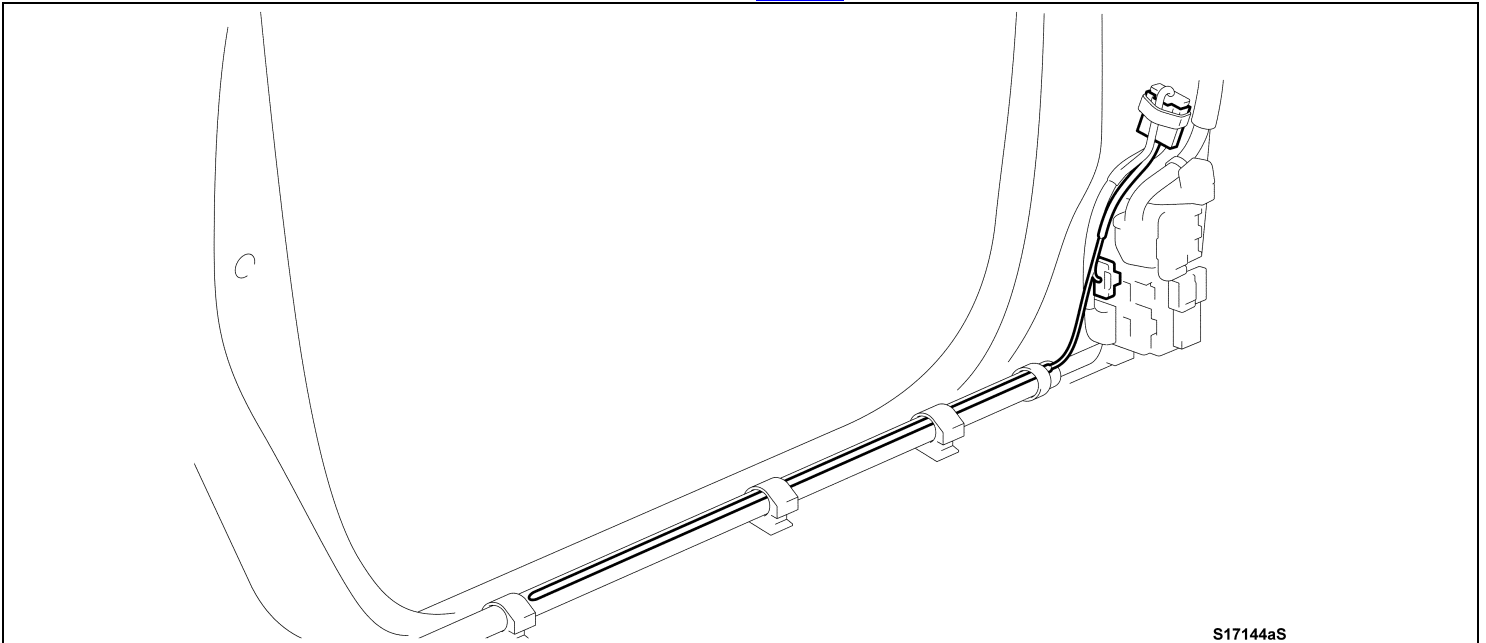
6. POWER DOWN VEHICLE

- a) Move both front seats and backrests fully forward.
- b) Remove the luggage floor mat.
- c) Open the luggage compartment trim cover on the right side of the vehicle.
- d) Disconnect the negative battery cable.

NOTE: After the start switch has been turned "OFF" allow at least 6 minutes before disconnecting the battery to allow for systems to power down.

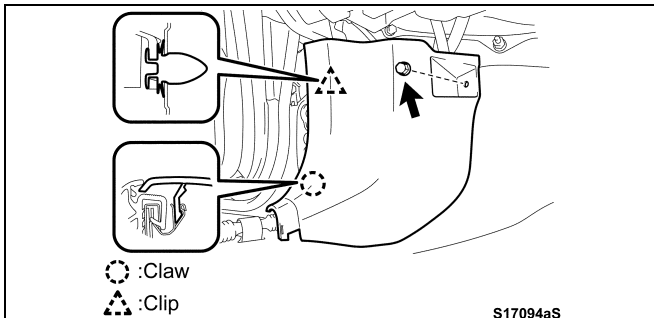


VIII. INSTALL ADDITIONAL WIRE HARNESS [Video](#)



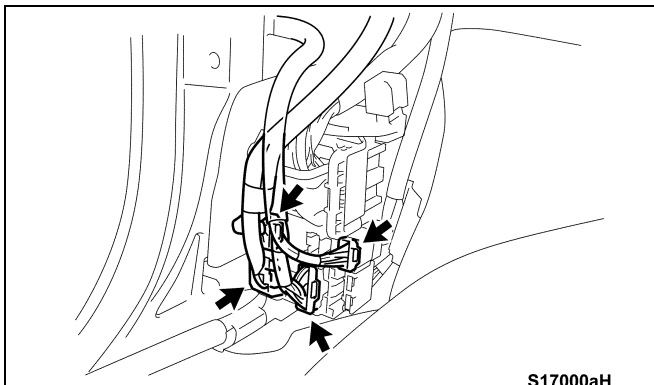
1. REMOVE THE LF DOOR SCUFF PLATE

- Disengage the 7 claws and 4 clips.
- Remove scuff plate.



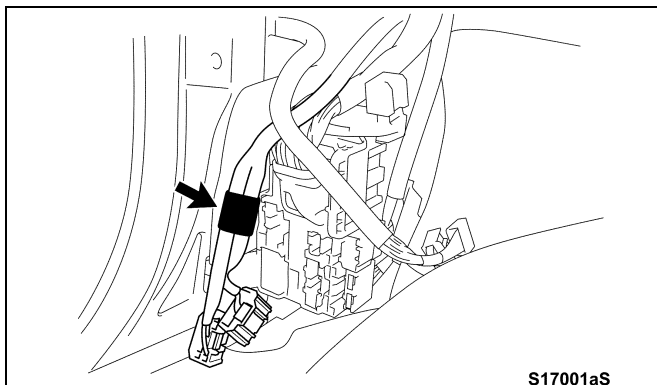
2. REMOVE THE LEFT COWL TRIM BOARD

- Remove the plastic nut.
- Disengage the claw and the clip.
- Remove the trim board.

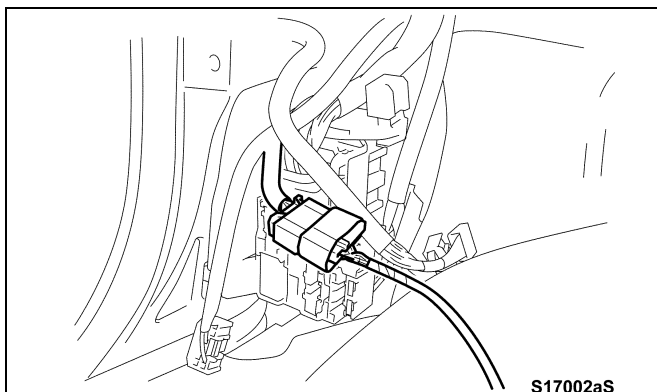


3. INSTALL THE NEW HARNESS

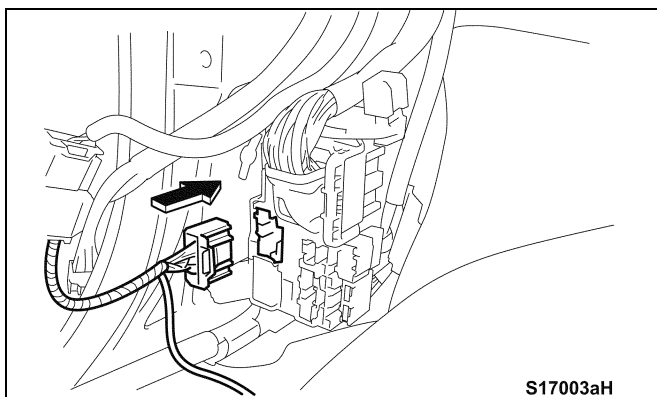
- Disconnect the 4 connectors from the junction block.
- NOTE: All 4 connectors must be disconnected to allow the correct routing of the new harness.**



- b) Remove the tape from the harness as shown.
NOTE: Remove the tape by hand. Cutting the tape could damage the harness.

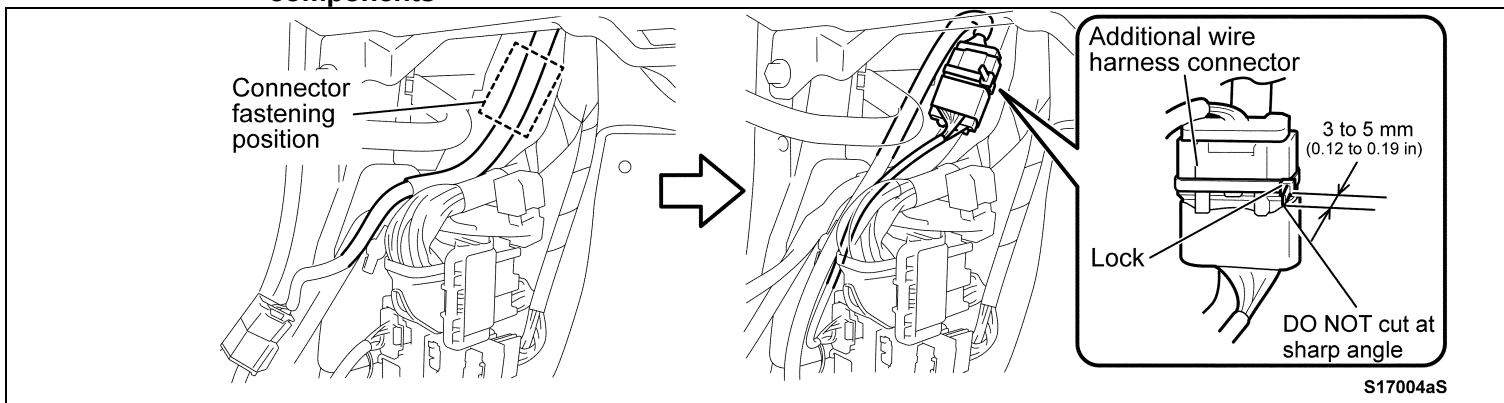


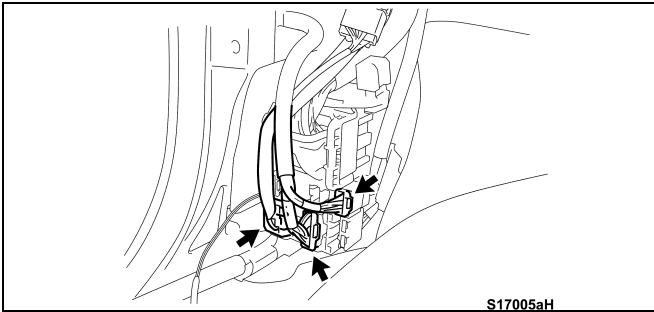
- c) Connect the connector of the new harness to the connector of the disconnected harness.



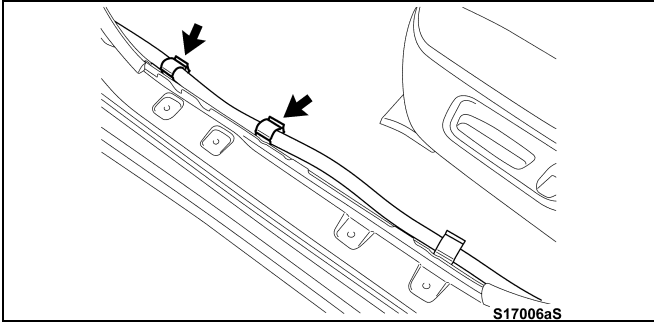
- d) Connect the connector of the new harness to the junction block.

- e) Tie-wrap the connector for the new harness as shown below.
NOTE: Ensure to position the tie wrap lock as shown to prevent damage to surrounding components

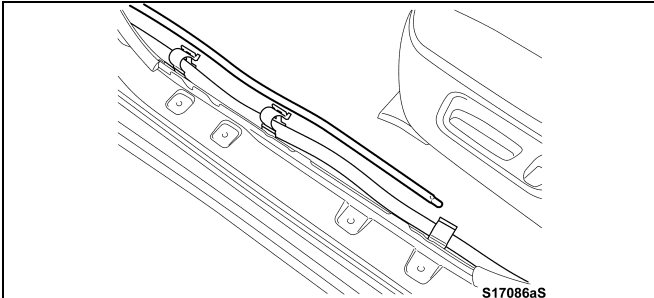




f) Reconnect the 3 connectors.



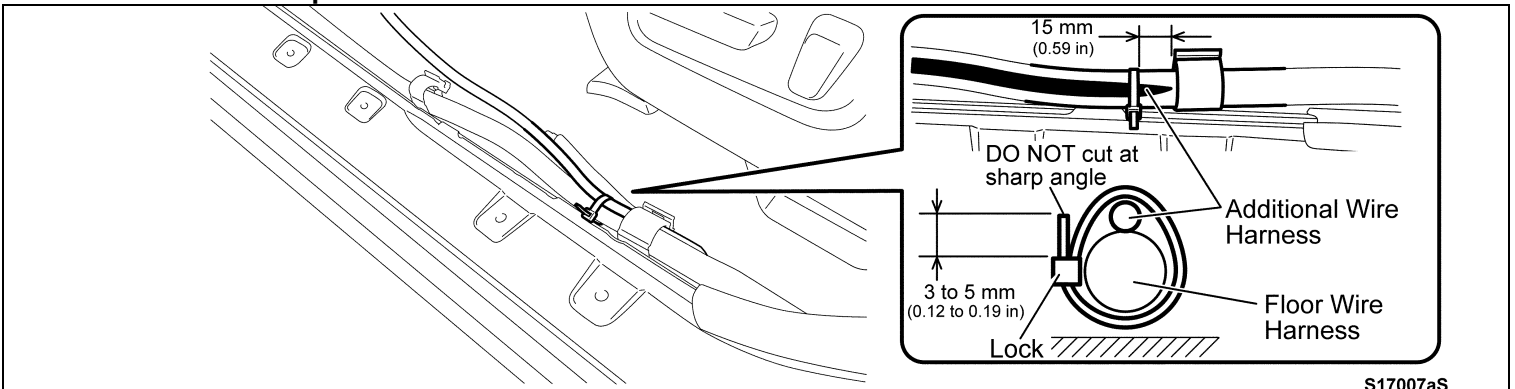
g) Detach the 2 claws for the harness clamp.



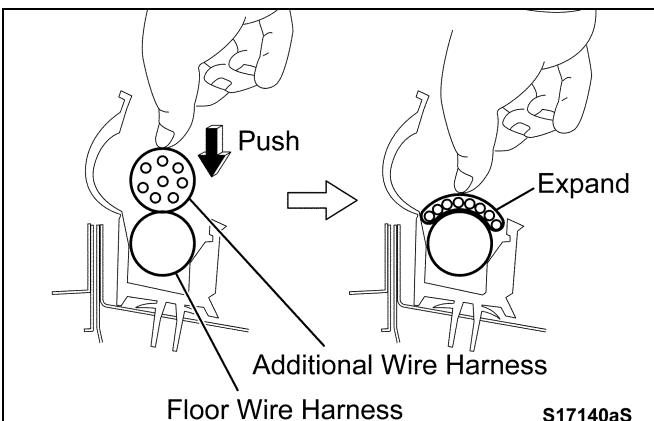
h) Route the harness on top of the existing floor harness.

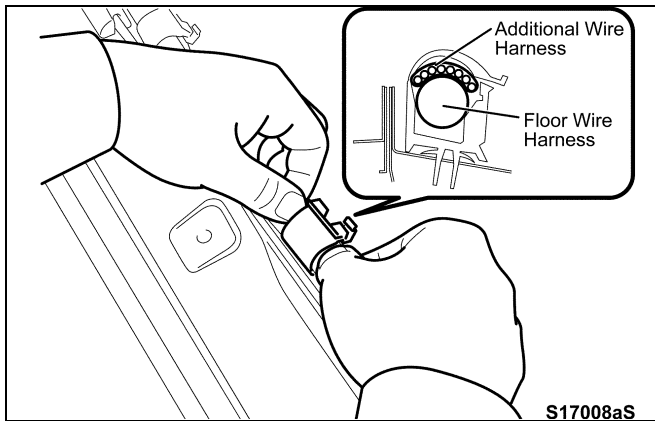
i) Tie-wrap the new harness as shown below approximately 15mm from the clamp.

NOTE: Ensure to position the tie wrap lock as shown to prevent damage to surrounding components



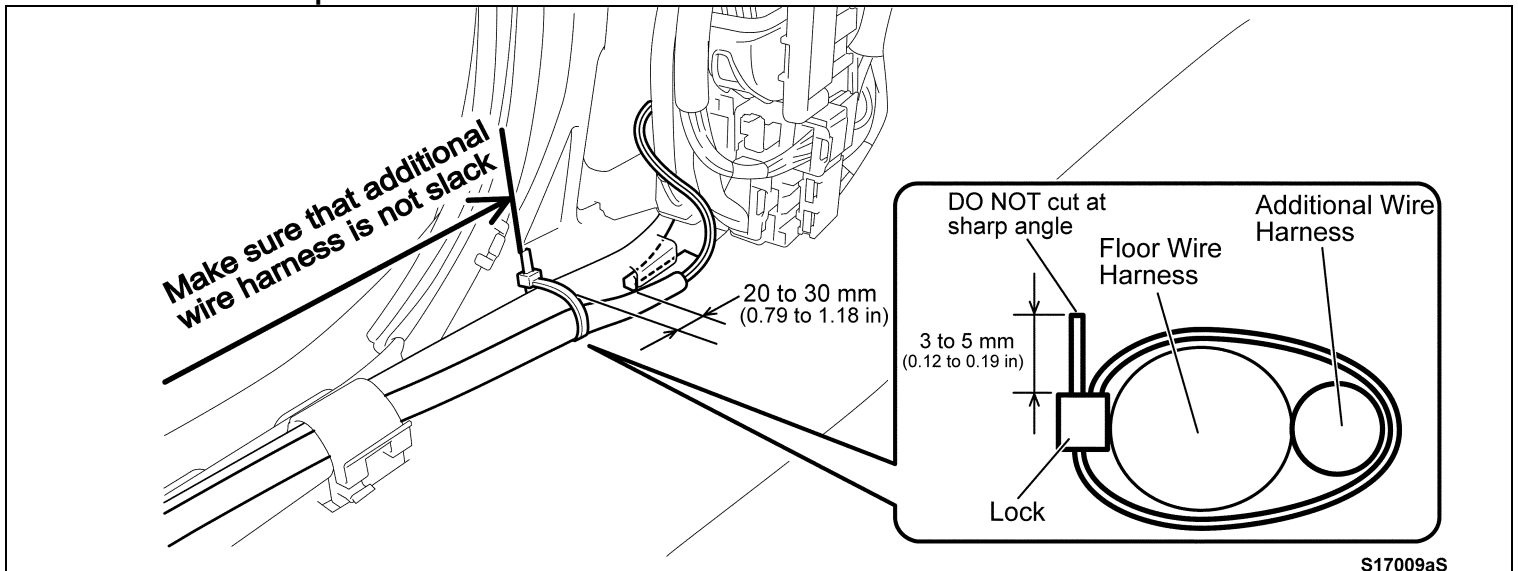
NOTE: The design of the new harness allows the wiring inside to conform around the floor harness.



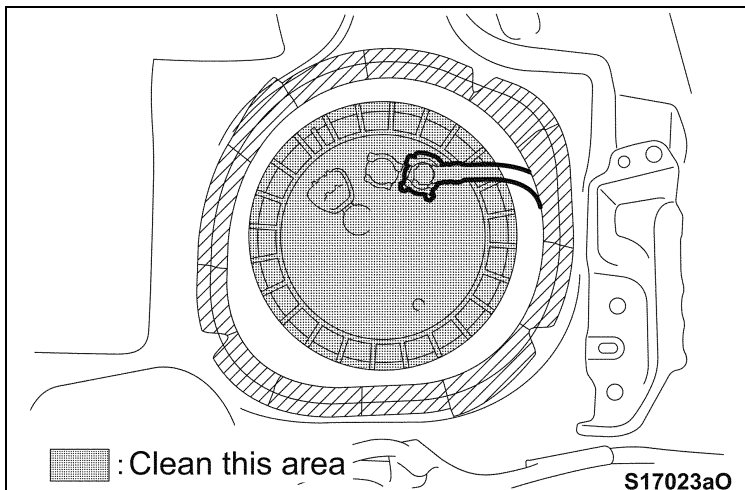


- j) While pressing down on the new harness reengage the 2 harness clamps.
NOTE: Ensure that the new harness conforms around the floor harness so that the clamp engage properly.

- k) Tie-wrap the new harness to the floor harness as shown below 20-30mm from the floor harness protector.
NOTE: Ensure to position the tie wrap lock as shown to prevent damage to surrounding components



IX. REPLACE THE FUEL PUMP



1. CLEAN THE AREA AROUND THE RETAINING RING

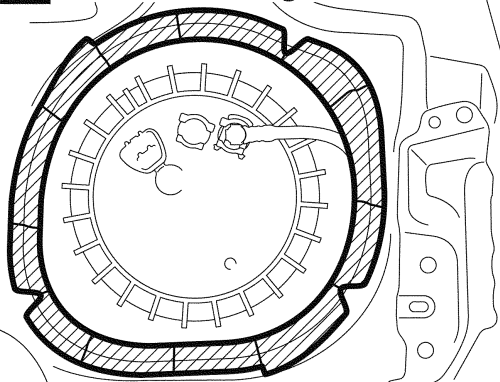
- a) Clean the area around the retaining ring and fuel line with a vacuum prior to removing the fuel pump so no foreign matter enters the fuel tank.

NOTE: DO NOT use an air gun as it will circulate dust inside the vehicle.

If the fuel level is above $\frac{3}{4}$ of a tank it will need to be drained refer to the appendix.

[Video](#)

Important Avoid injuries



S17022aO

2. APPLY TAPE

- Apply protective tape around the circumference of the service port as shown.



The area surrounding the service port could be sharp.

3. DISCONNECT THE FUEL LINE

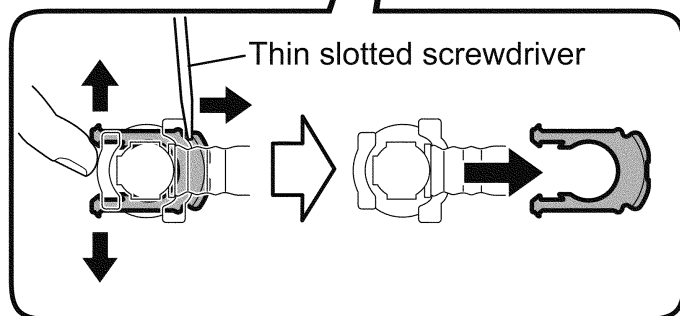
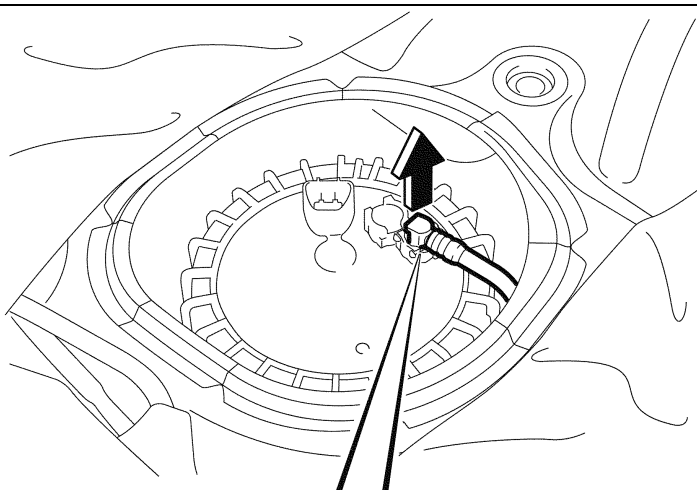
- Place cloth around the fuel line to catch any fuel that could be released due to residual pressure in the tank.

NOTE: Wear the appropriate protective equipment when disconnecting the fuel line. There could be up to 100 cc's of fuel in the line under residual pressure.

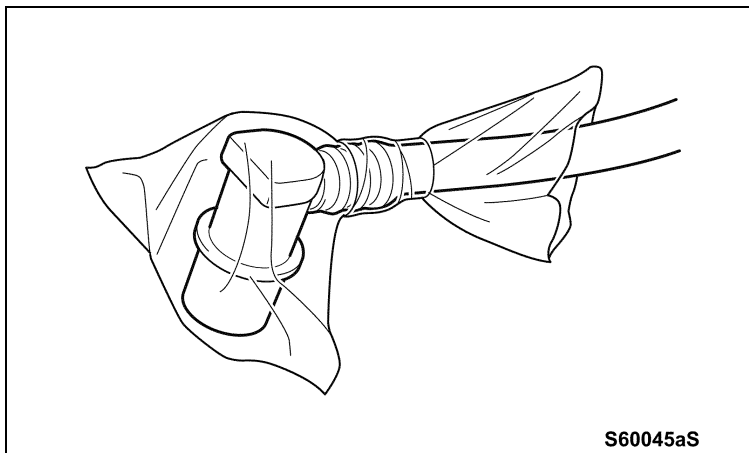
- Disengage the clip from the fuel tube using a thin screwdriver while disengaging the claws with your finger.



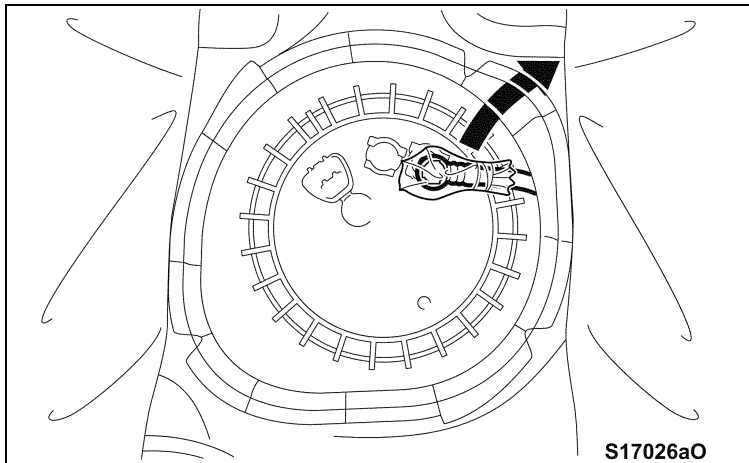
Remove the fuel line by hand using tools could damage the line. If the line is stuck push and pull on the line to release.



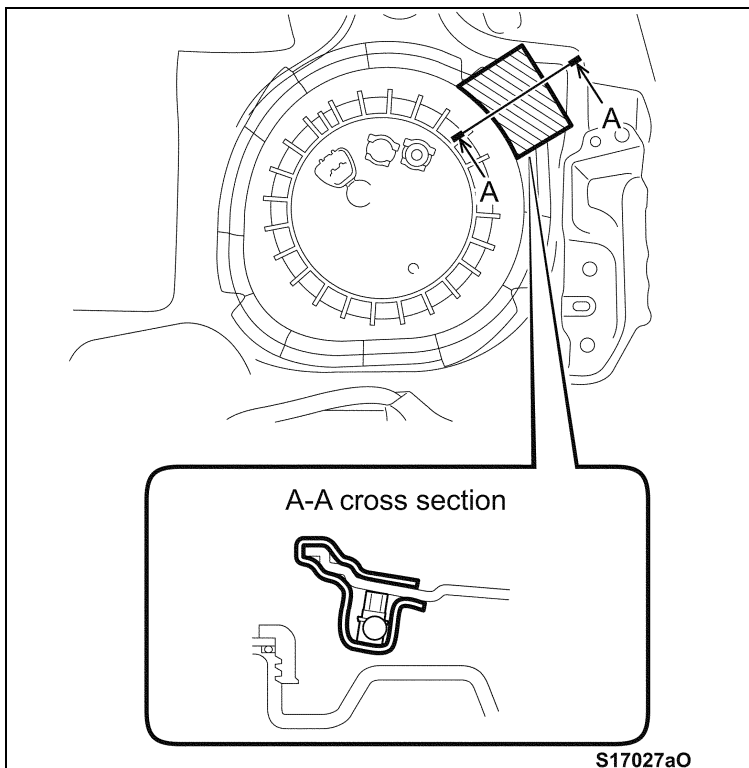
S17024aO



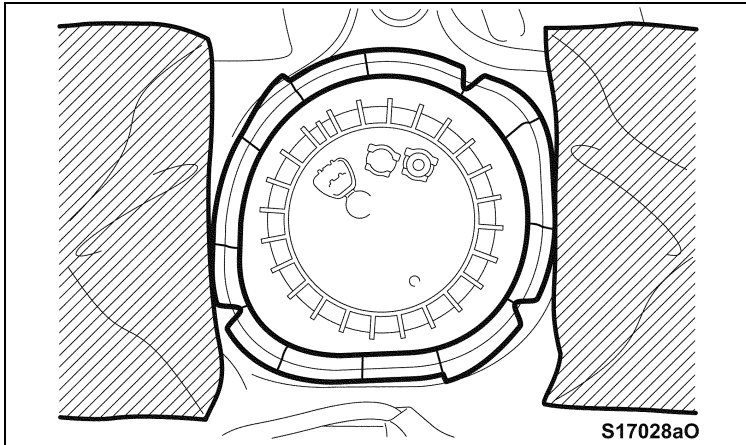
- c) Place the open end of the fuel line into a plastic bag and secure.



- d) Secure the fuel line away from the retaining ring.



- e) Tape the fuel line under the floor as shown.
NOTE: It may be necessary to clean the area if the tape does not adhere to the floor.



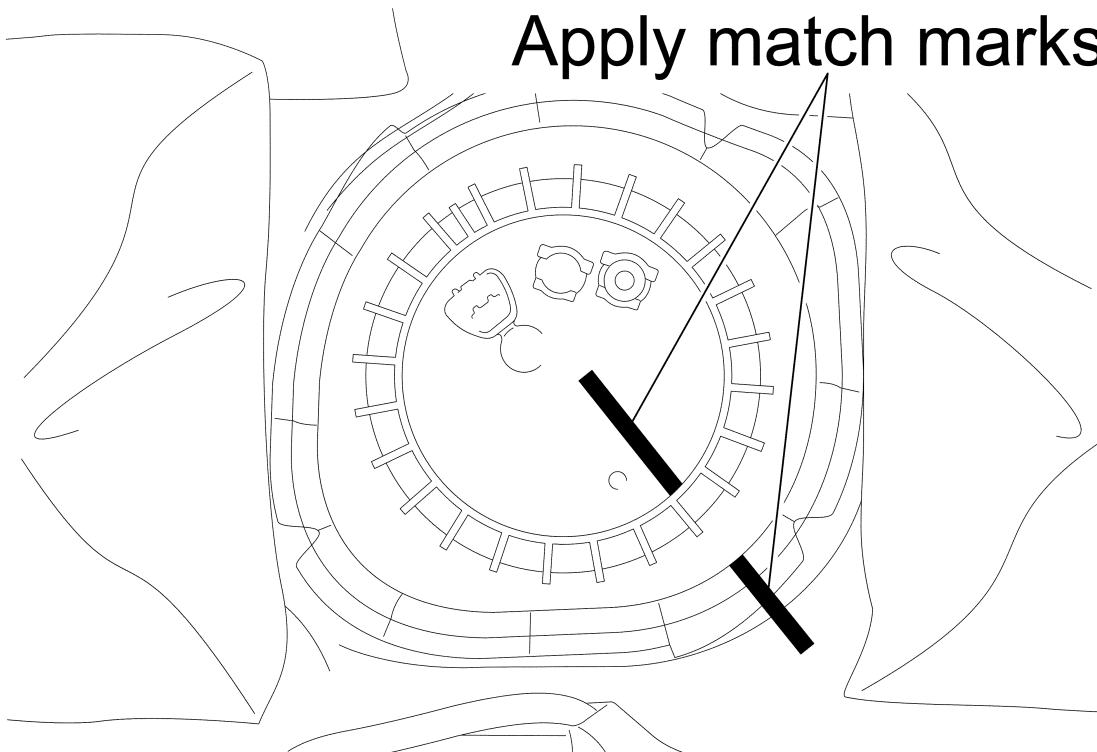
- f) Place absorbent material around the service port as shown.

- g) Place a reference mark on the fuel pump assembly and the floor as shown.

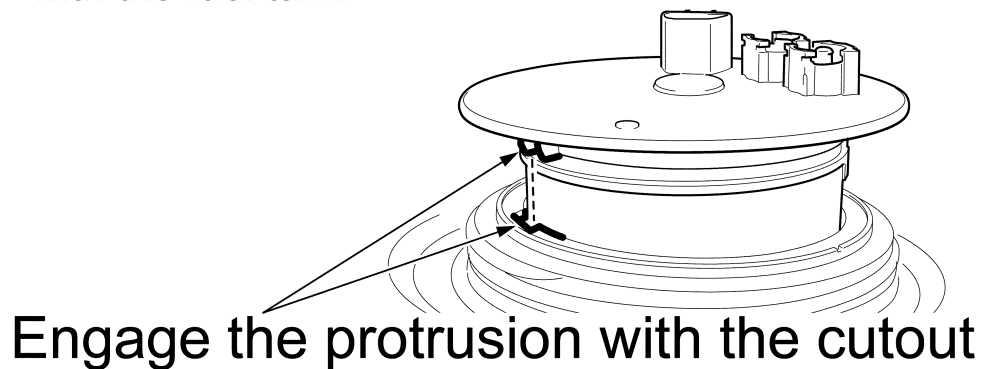
NOTE: The top of the fuel pump assembly has 2 tabs that engage the fuel tank.

The reference mark ensures that the fuel pump assembly will be reinstalled in the correct position.

Apply match marks



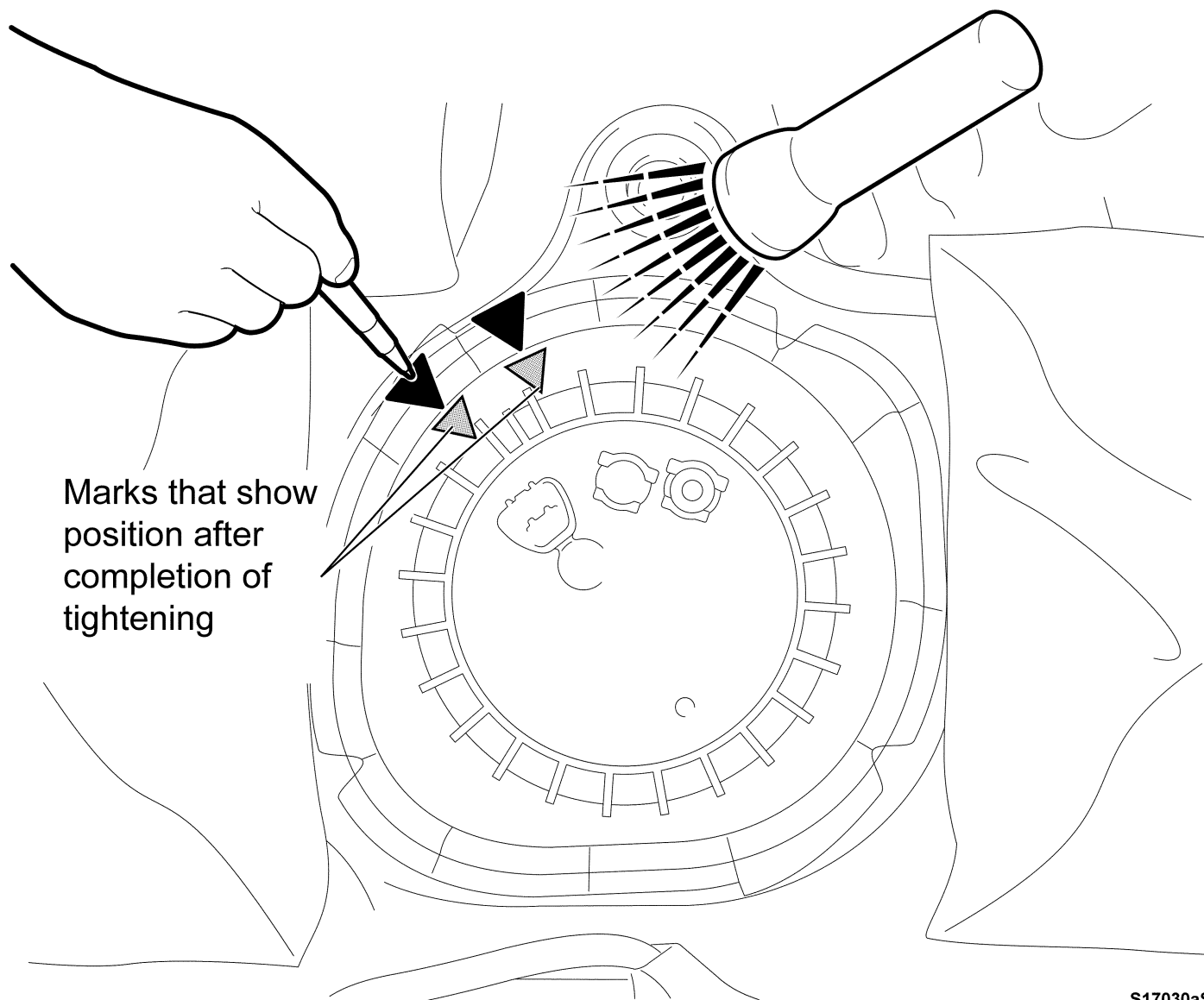
Reference: Engagement of the fuel suction tube assembly with the fuel tank



S17029aS

- h) Place two reference marks on the floor as shown.
NOTE: Reference marks are need for reinstallation.

Make 2 ▲ marks on floor



S17030aS

4. **RELEASING THE BOND BETWEEN THE FUEL PUMP ASSEMBLY AND RETAINING RING**

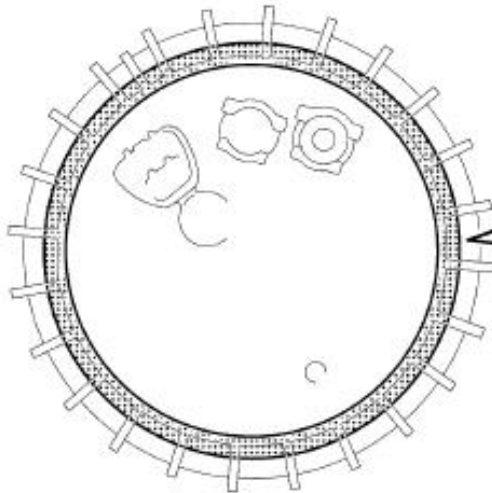
- a) Using the pliers provided, release the adhesion between the retaining ring and the top of the fuel pump assembly.

NOTE: Ensure that you release the adhesions all the way around the retaining ring.



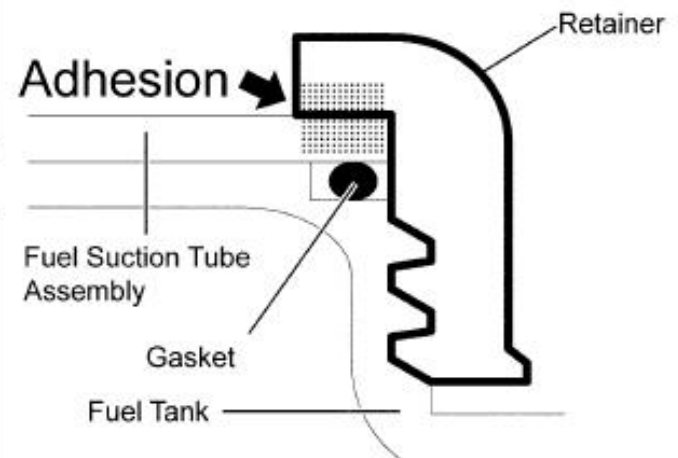
DO NOT try to remove the retaining ring prior to releasing the bond, due to the high torque required to remove the ring the tank could be damaged.

[Retainer Adhesion]



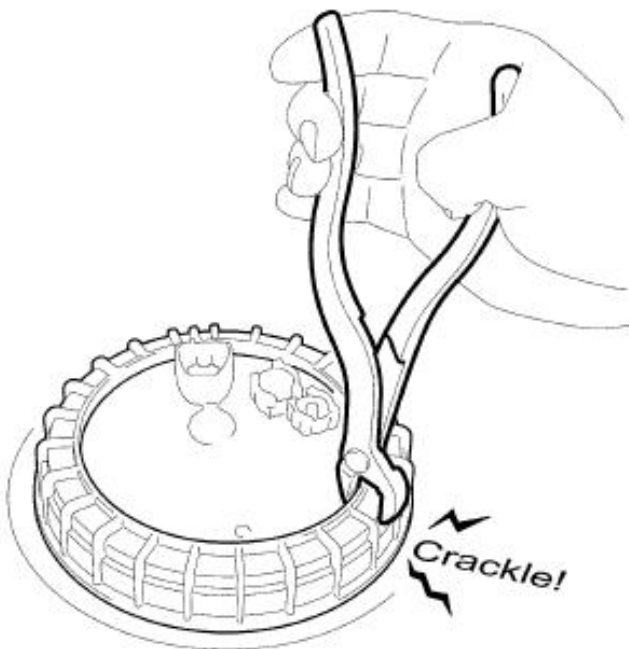
[Cross sectional view]

Entire inner circumference of retainer is adhered

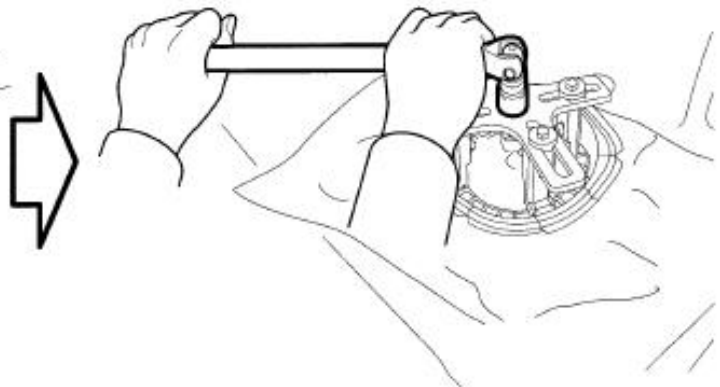


[Retainer Removal]

- (1) Separate retainer adhesion



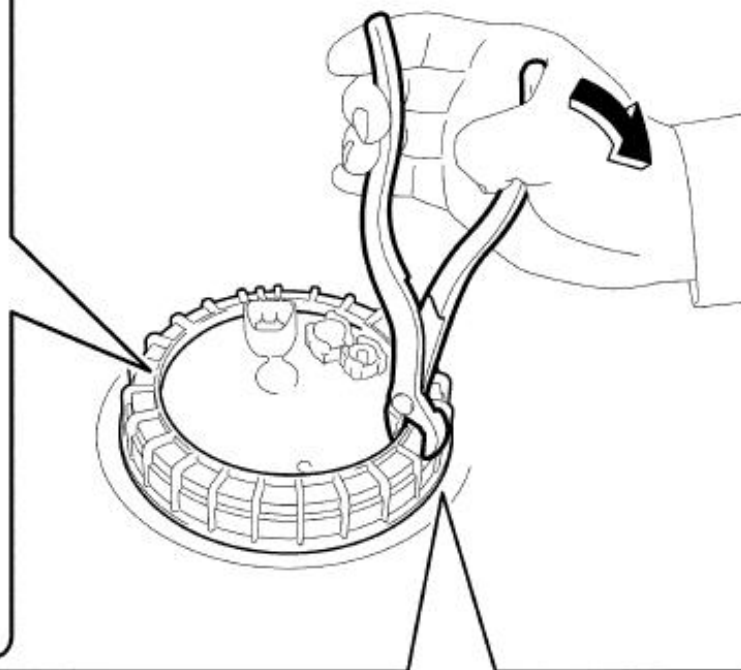
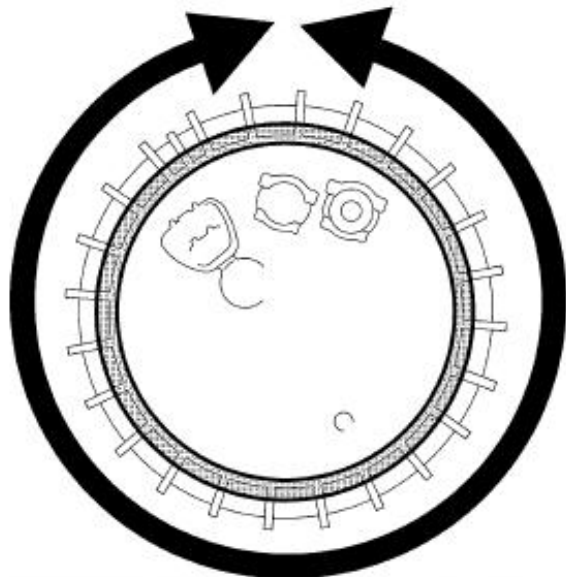
- (2) Loosen retainer



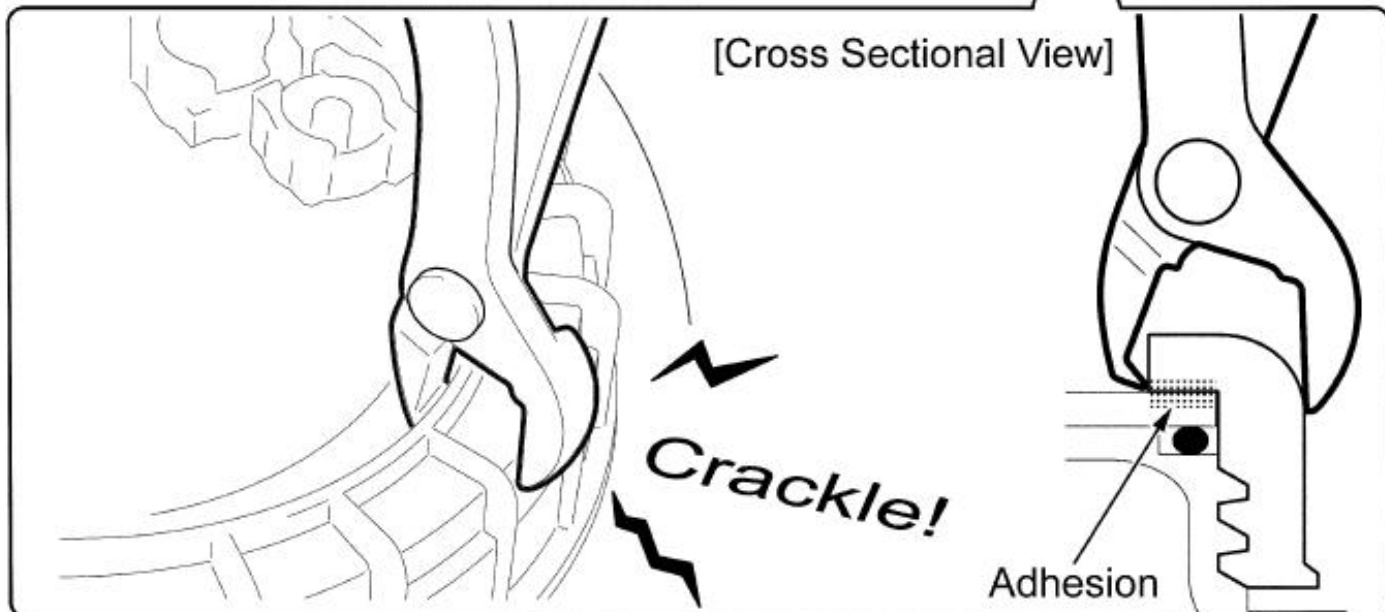
S17145bS

[Retainer Adhesion]

Be sure to separate adhesion
around entire circumference

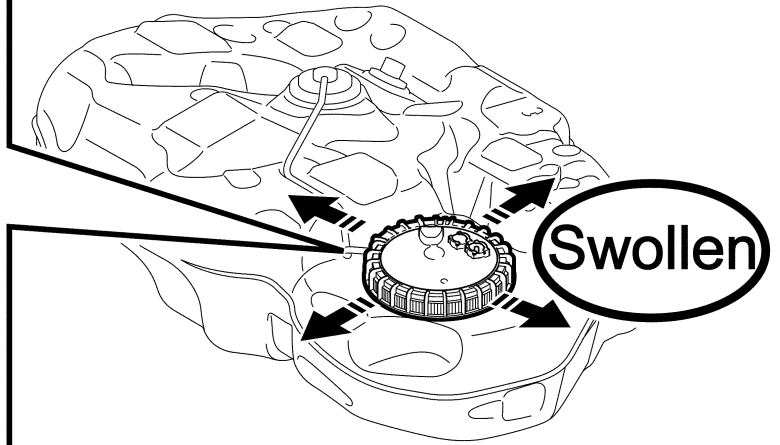
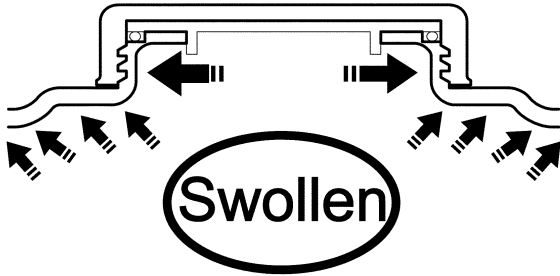


[Cross Sectional View]

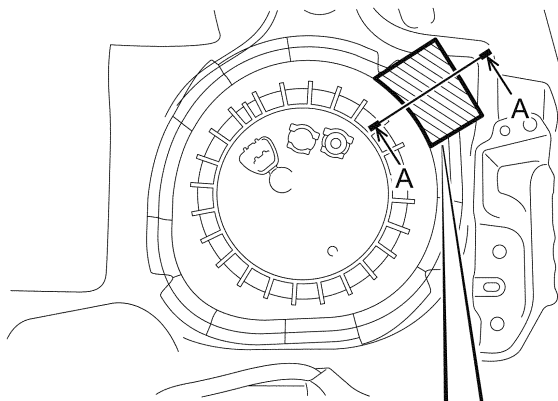


S17143bS

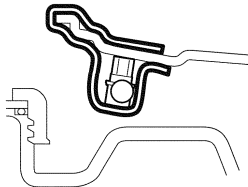
A torque of up to 200 N*m is necessary for removal of the retainer due to swelling of the fuel tank.



S17034aS



A-A cross section

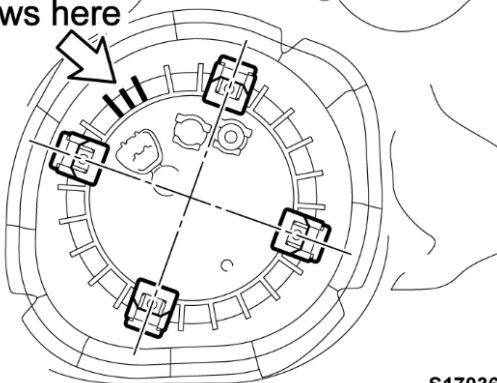


S17027aO

5. REMOVE THE RETAINING RING

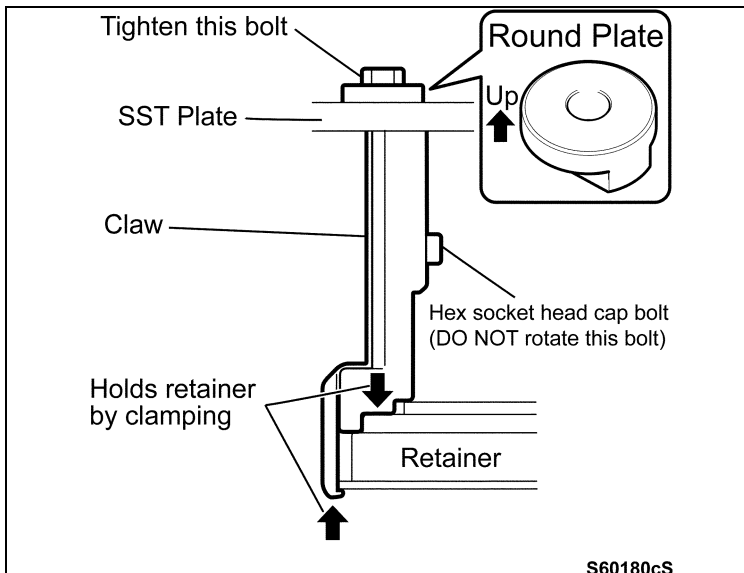
- Ensure that the fuel line is secured and out of the way.

DO NOT set
any claws here

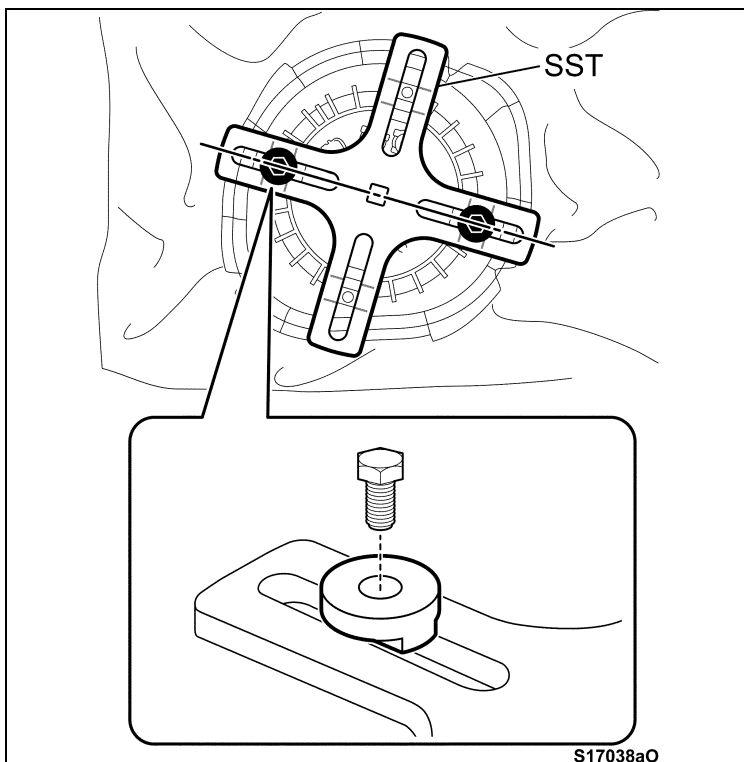


S17036aO

- Place the 4 supplied claws evenly around the circumference of the retaining ring as shown.



NOTE: Ensure the claw engages the retaining ring as shown.
The claws may need to be tilted to engage the ring.
DO NOT loosen or tighten the hex bolt on the claws.
DO NOT use any other tool to remove or install the retaining ring.

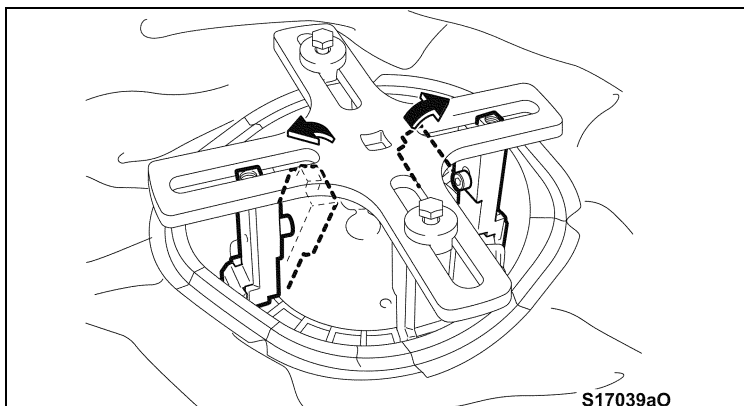


c) Install the SST plate to engage 2 of the claws as shown.

SST: Component of SST kit 09808-14030

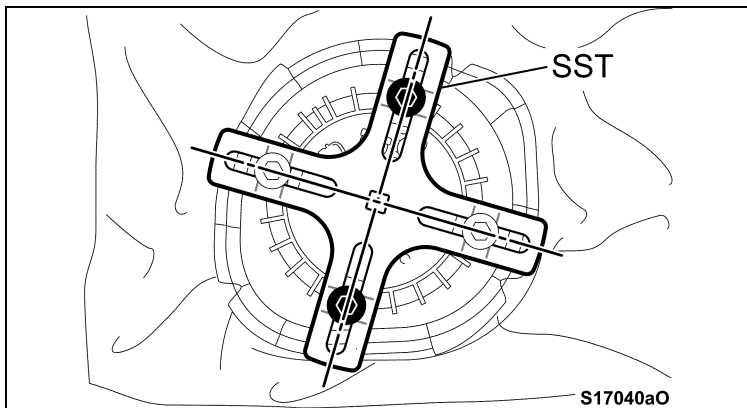
d) Loosely install the 2 round plates and bolts.

NOTE: Ensure the round plates are properly installed into the SST.

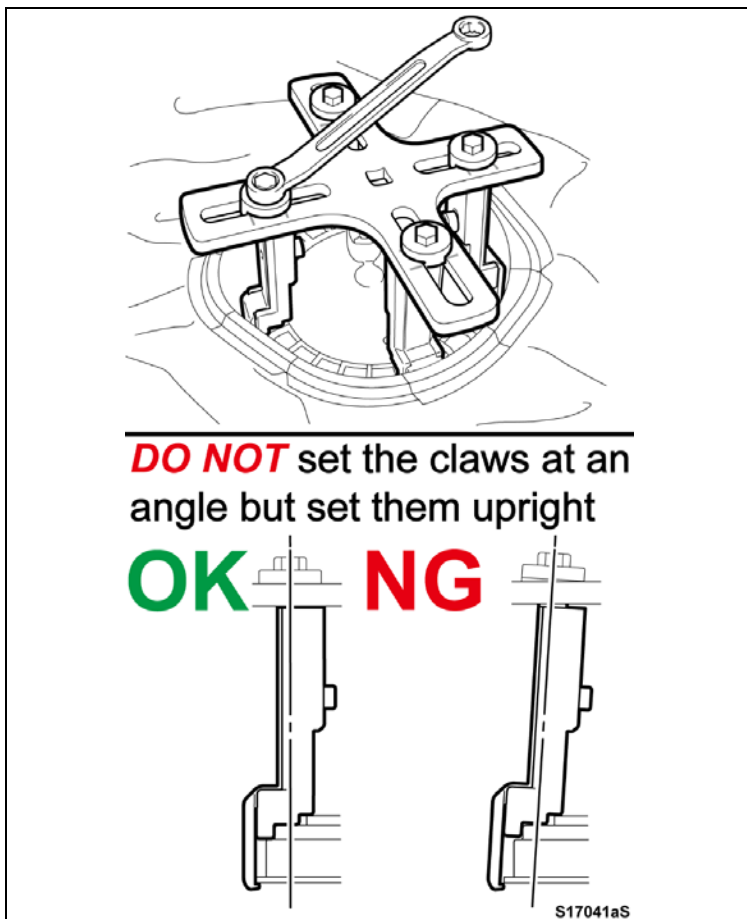


e) Loosely install the other 2 round plates and bolts.

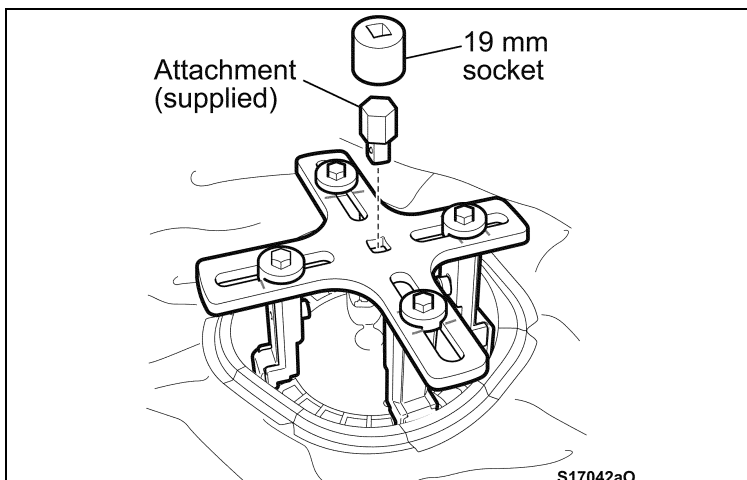
NOTE: The claws may need to be tilted.



- f) Ensure that the center of the SST plate is centered on the fuel pump assembly.
NOTE: Ensure that the round plates are correctly engaged into the SST plate.

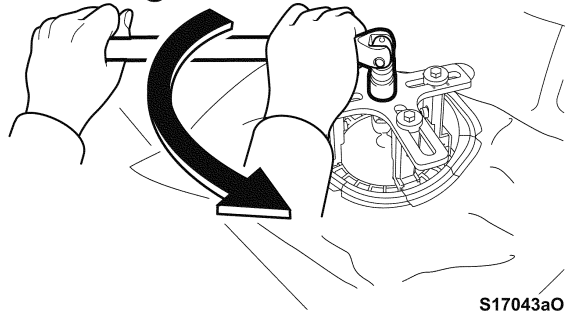


- g) Tighten the 4 bolts that attach the claws to the SST plate.
NOTE: Ensure that the claws are perpendicular to the SST plate.



- h) Insert the supplied attachment into the SST plate.
NOTE: Using a 19mm 12 point socket will allow more angles for the drive handle.

Rotate the retainer only
90 degrees



S17043aO

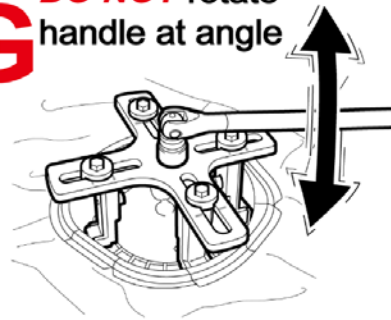
i) Slowly loosen the ring 90 degrees.

NOTE: DO NOT press down or tilt the SST as this could damage components.
If the ring does not come loose repeat releasing the bond between the ring and fuel pump assembly.

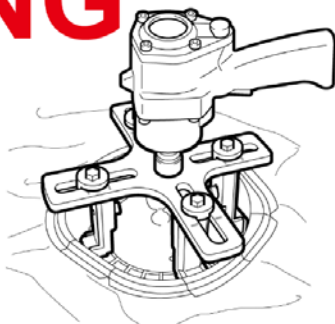
NG **DO NOT** lean or press
on the tools



NG **DO NOT** rotate
handle at angle

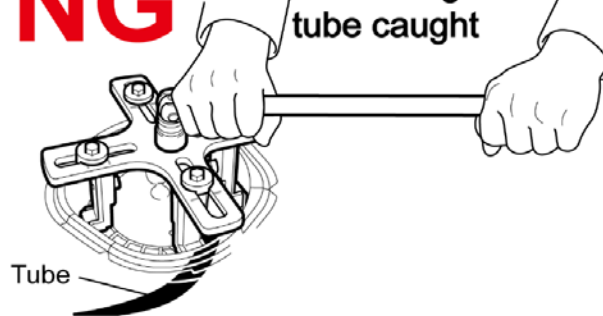


NG



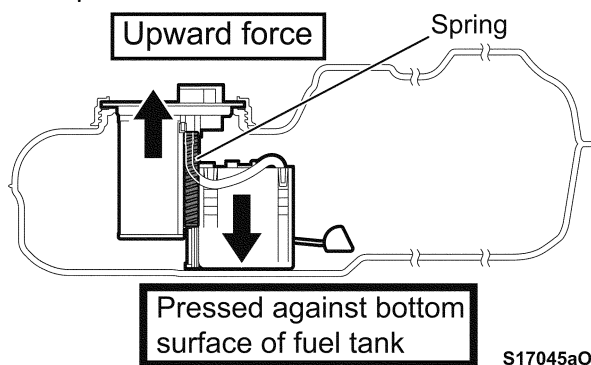
NG

DO NOT get the
tube caught



S17044aS

<Simplified cross sectional view>



S17045aO

Note the following cautions while loosening the ring:

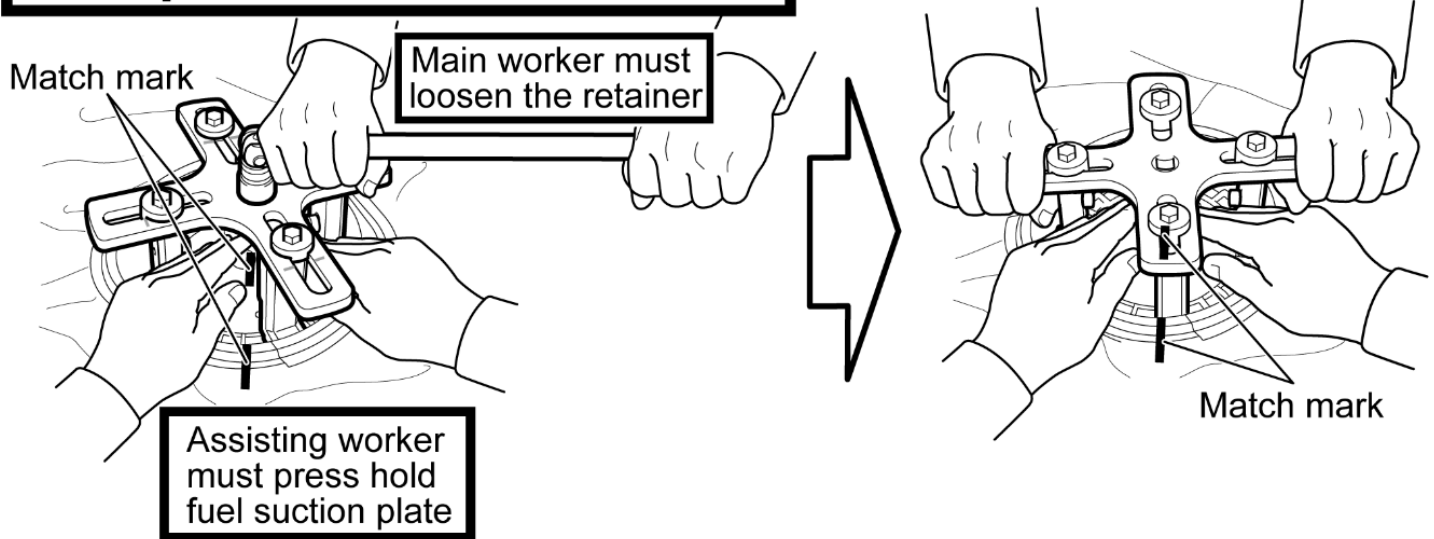
- A spring inside the fuel pump assembly will exert upward force on the ring.
- To prevent damaging components ensure that the top of the fuel pump assembly is fully engaged into the fuel tank when rotating the retention ring.

- j) While another worker holds the top of the fuel pump assembly down slowly turn the retaining ring until the ring disengages from the threads.

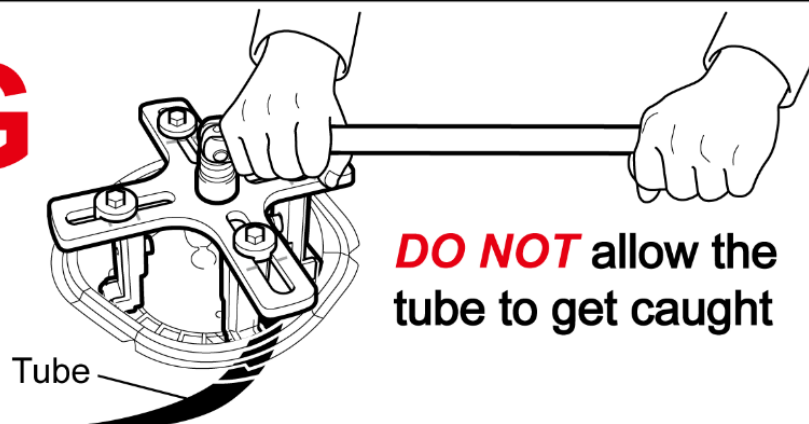
NOTE: Ensure the reference marks say aligned.

The ring needs to be turned approximately 1 ½ turns to disengage the threads.

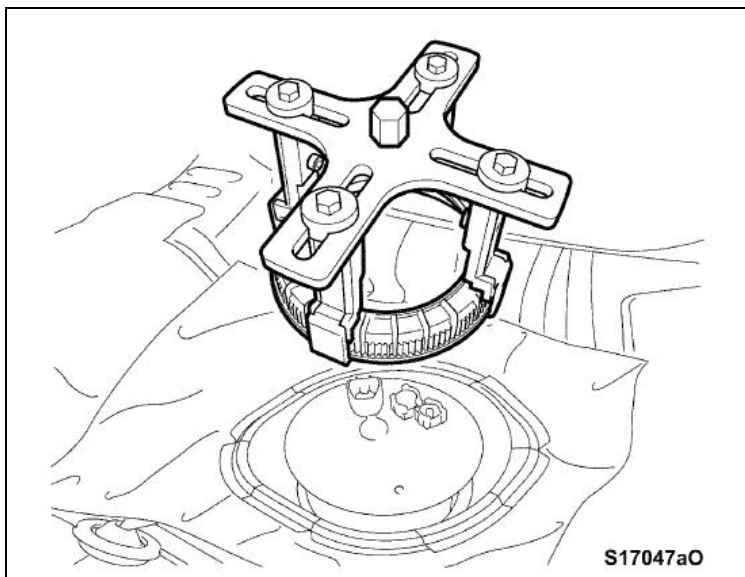
Requires 2 workers



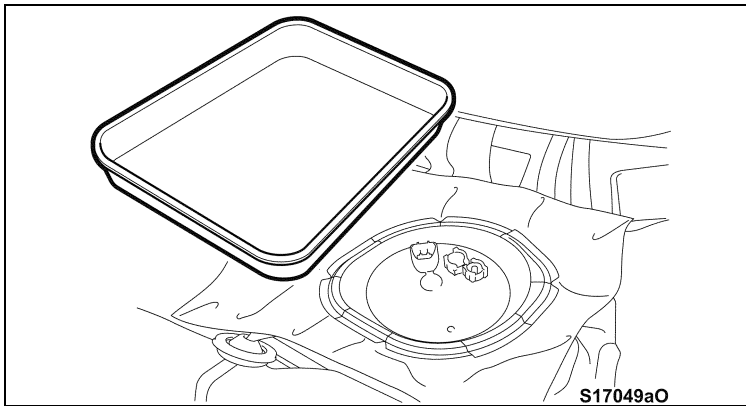
NG



S17046aS



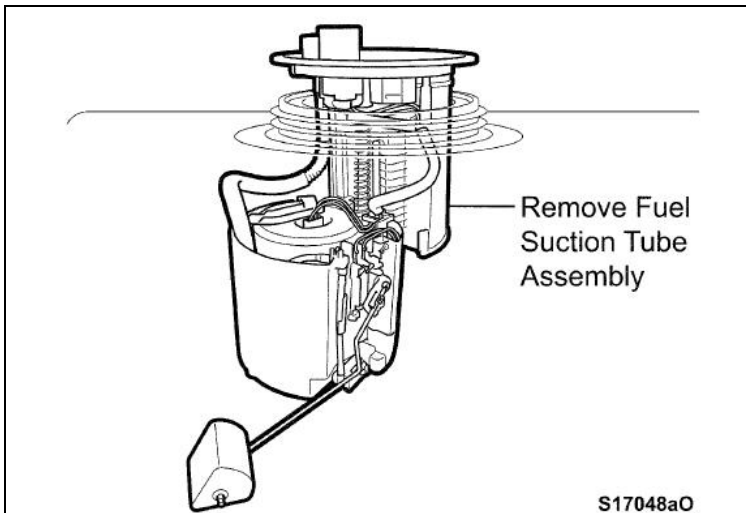
- k) Remove the retaining ring and SST.
l) Separate the ring from the SST.



6. REMOVE FUEL PUMP ASSEMBLY

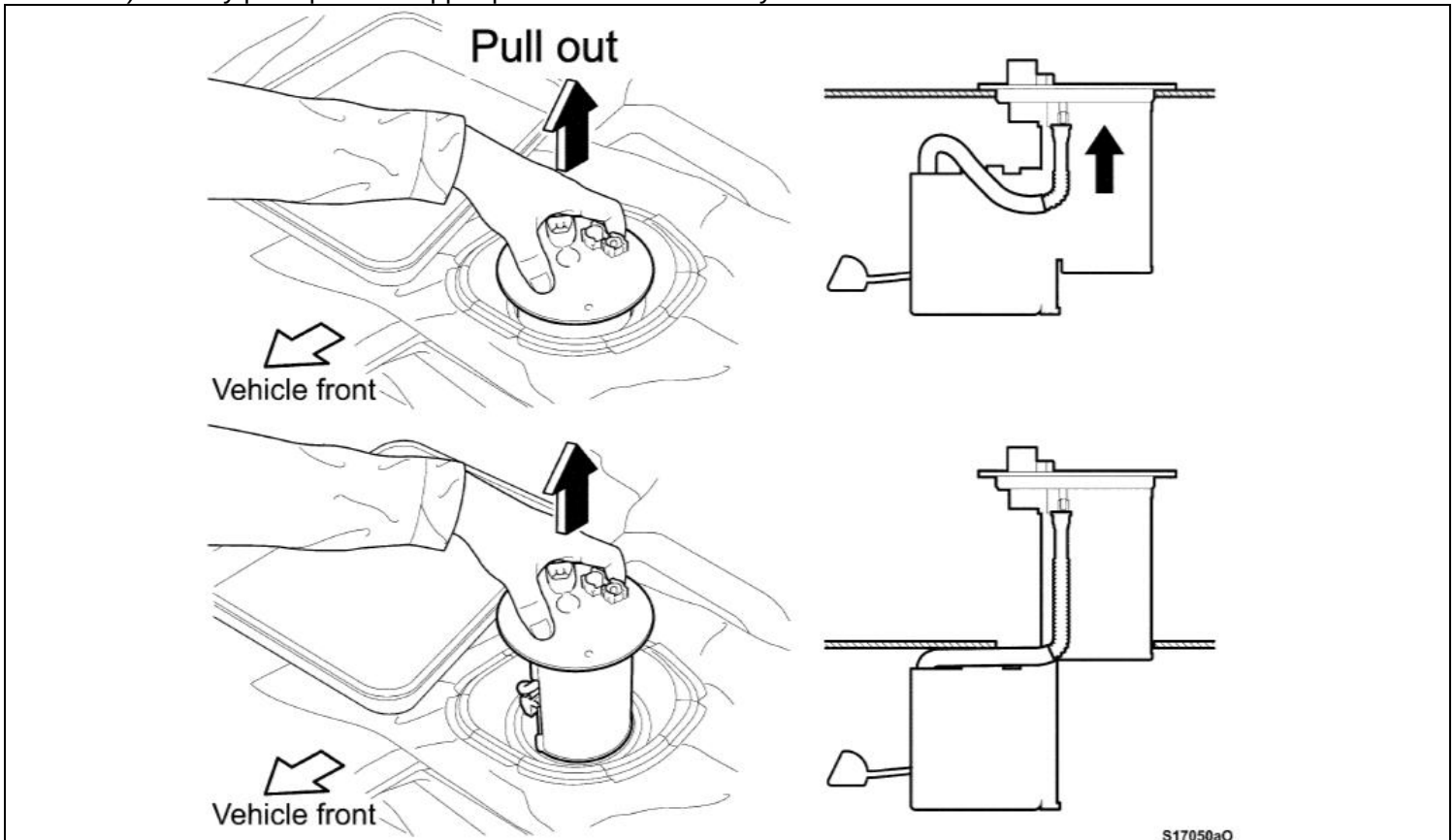
- a) Place a container next to the service hole for the fuel pump assembly to be placed into.

NOTE: Ensure the container is large enough to hold the fuel pump and any fuel it may contain.

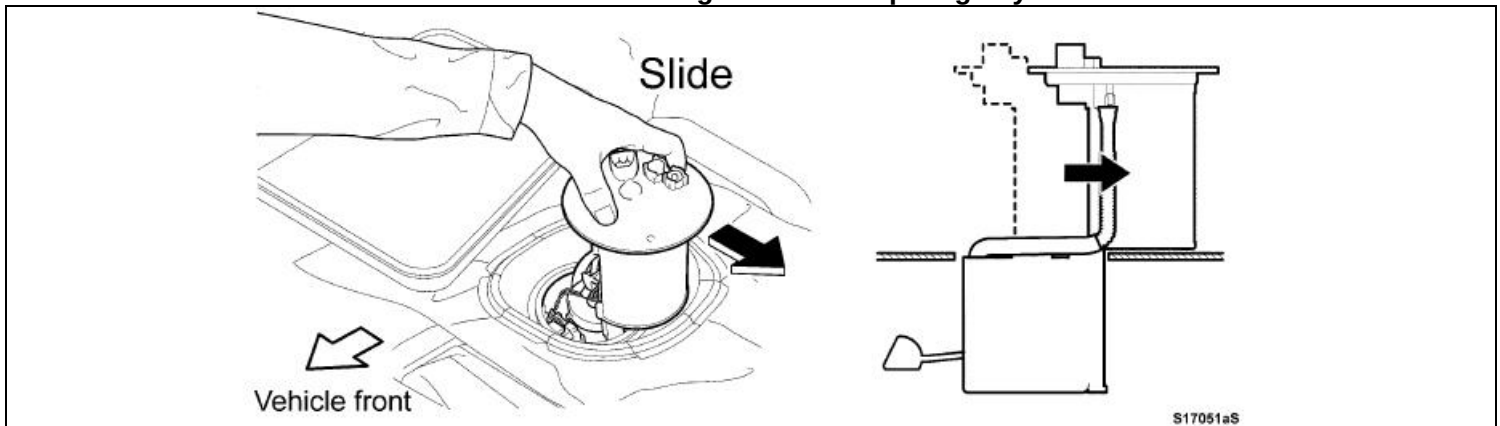


STOP Due to the design of the fuel pump assembly it must be carefully removed so it will not be damaged.

- b) Slowly pull up on the upper portion of the assembly until it clears the tank.

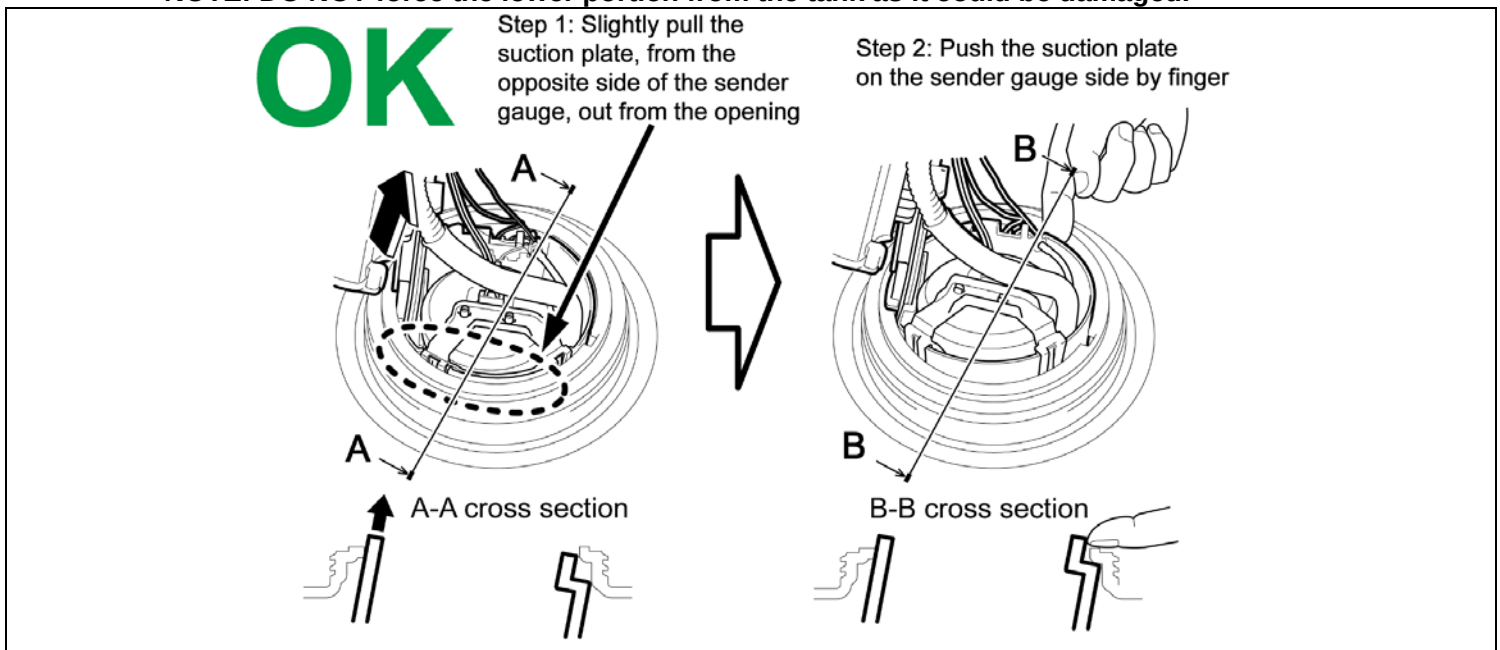


- c) Slide the upper portion to the left until the lower portion of the assembly is centered in the service port.
NOTE: DO NOT bend the arm for the sending unit. Avoid spilling any fuel.

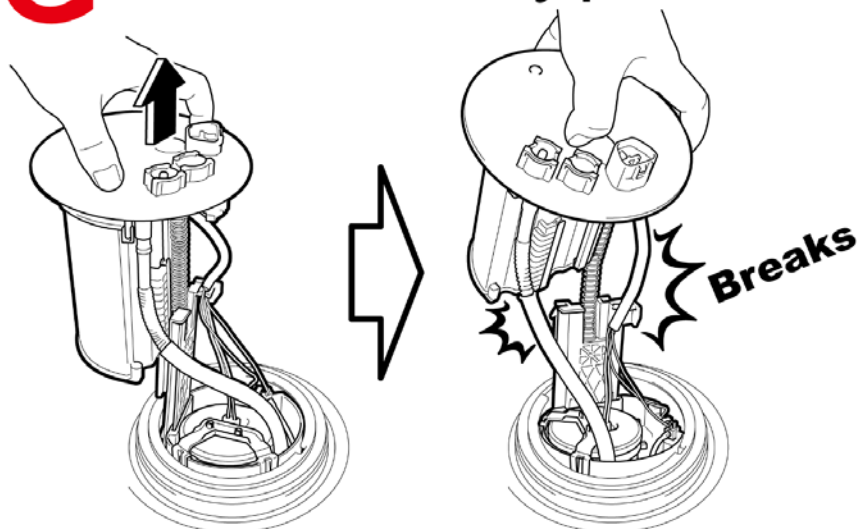


- d) Pull out the lower portion of the assembly as shown.

NOTE: DO NOT force the lower portion from the tank as it could be damaged.

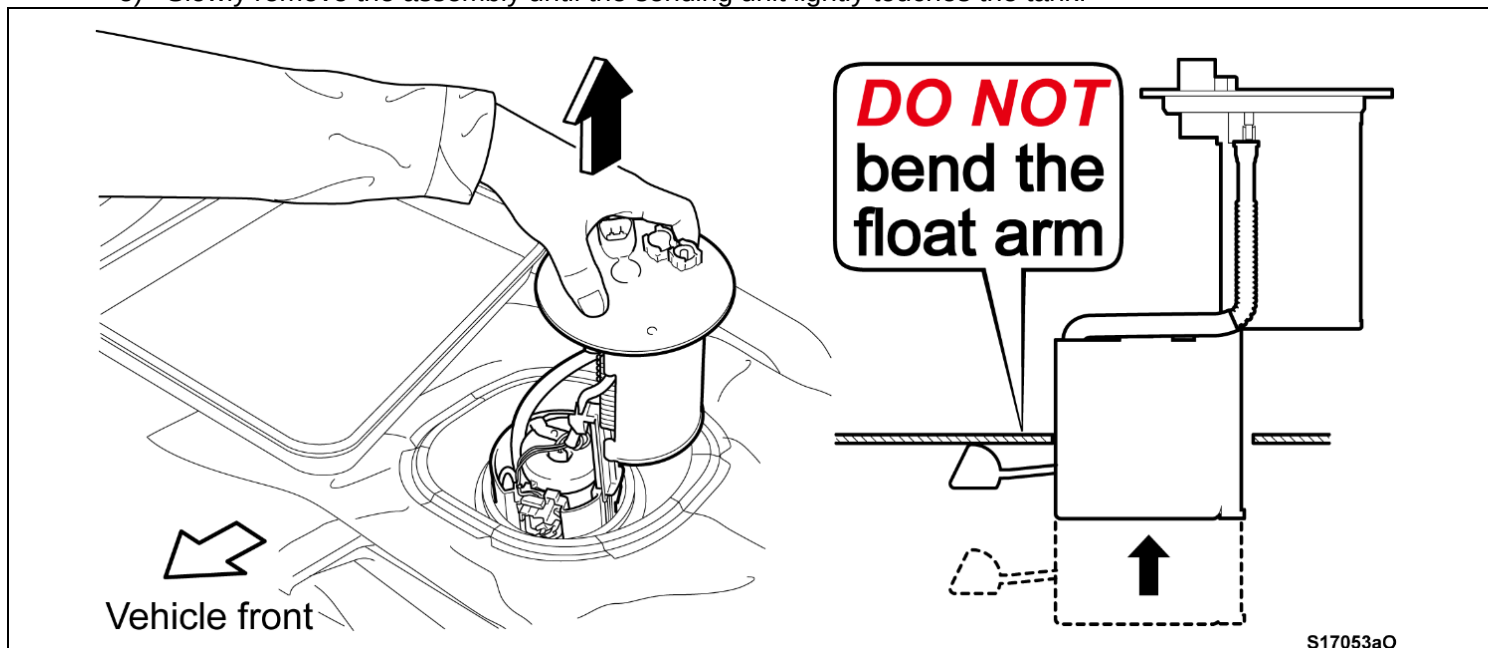


NG DO NOT forcibly pull out



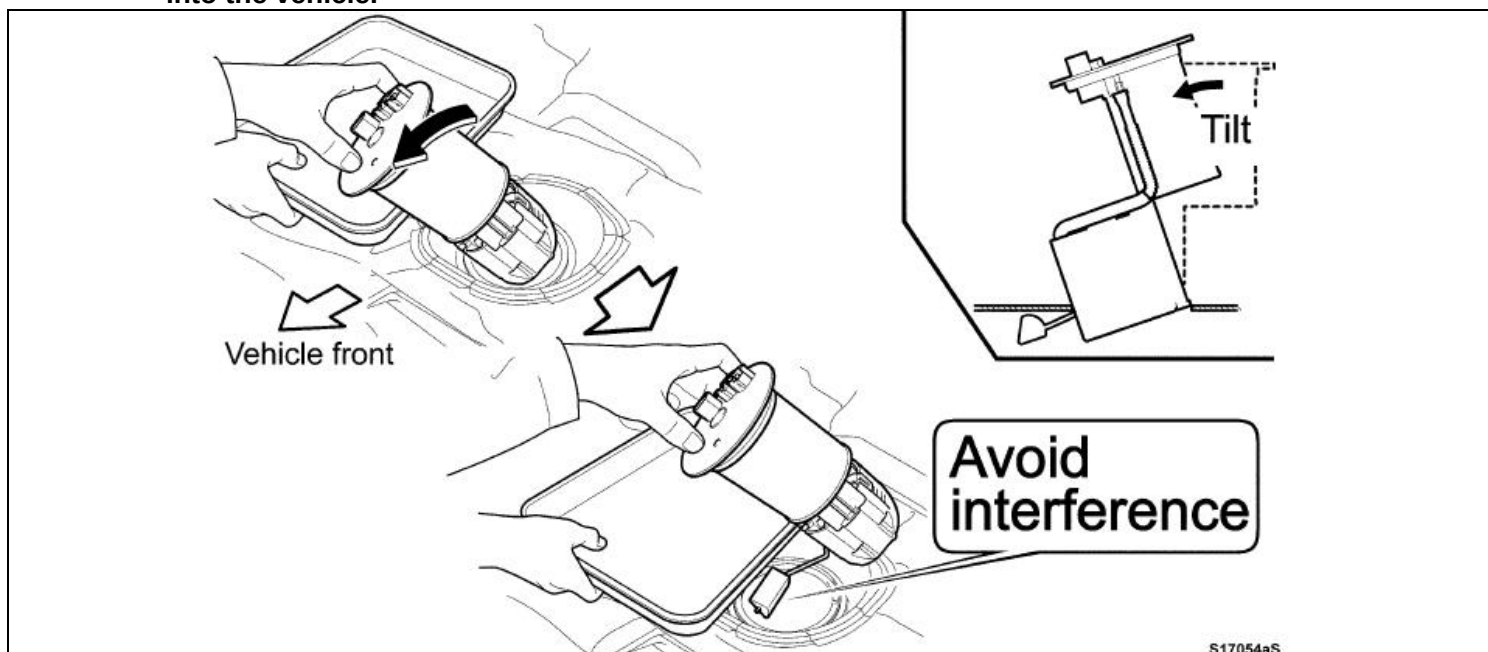
S17052aS

- e) Slowly remove the assembly until the sending unit lightly touches the tank.

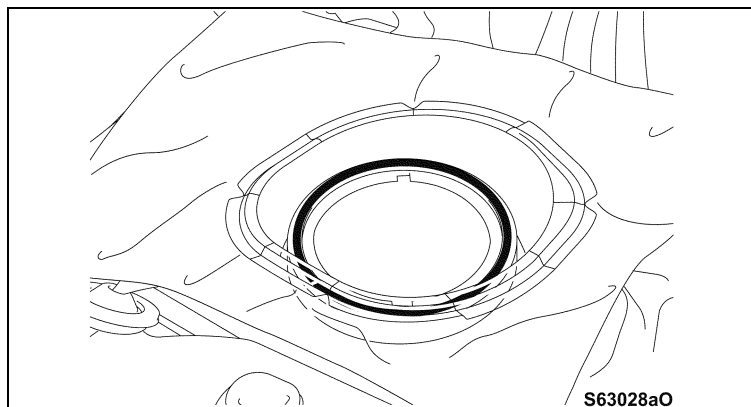


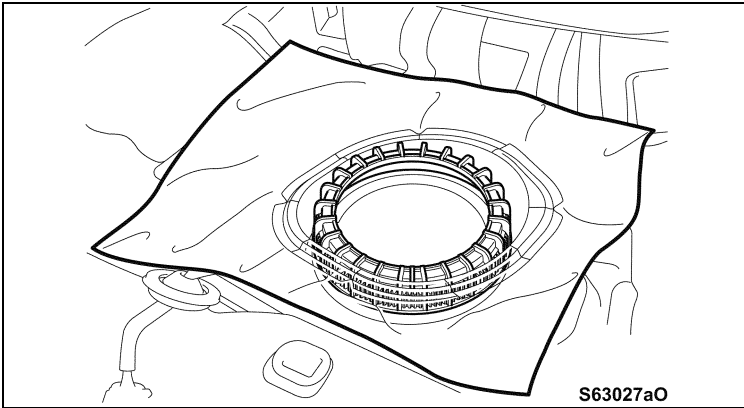
- f) Tilt the assembly to remove it from the tank and place it in the container.

NOTE: Place the assembly in the container immediately after removal to prevent leakage of fuel into the vehicle.

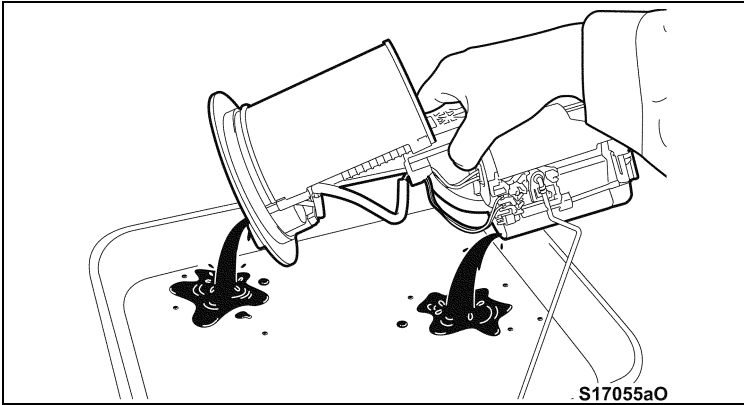


- g) Remove and discard the tank O-ring.





- h) Place a plastic bag over the fuel tank opening and secure with the original retaining ring.

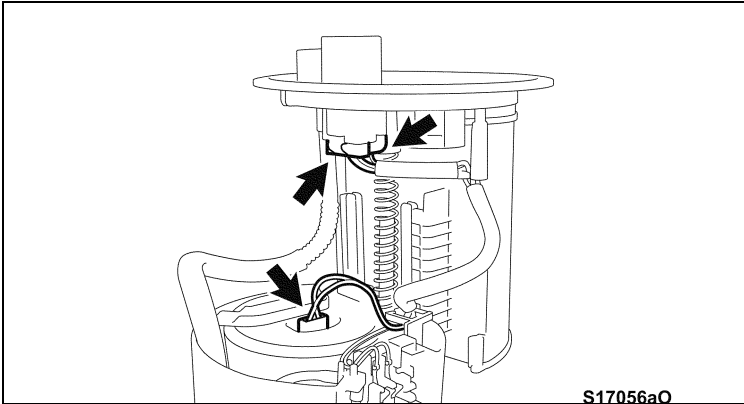


7. REPLACING THE PUMP

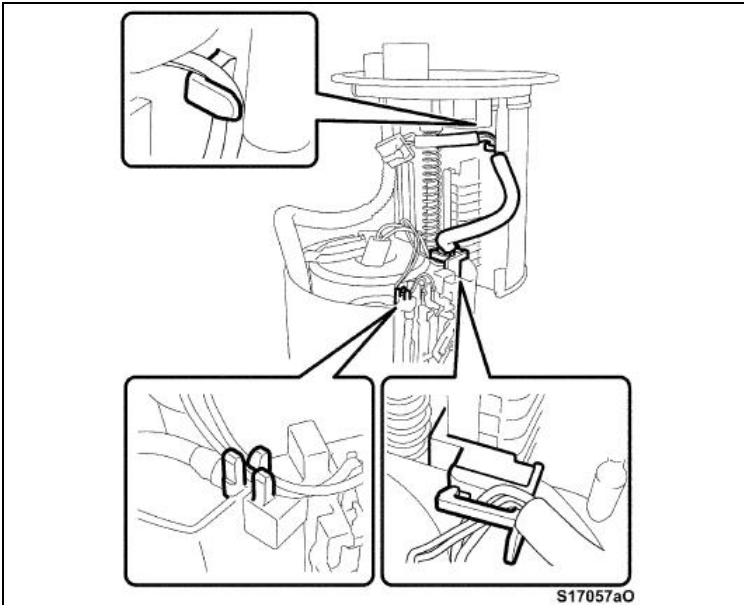
- a) Tilt the assembly and drain the fuel into the container.

NOTE: Dispose of the fuel in accordance with local regulations.

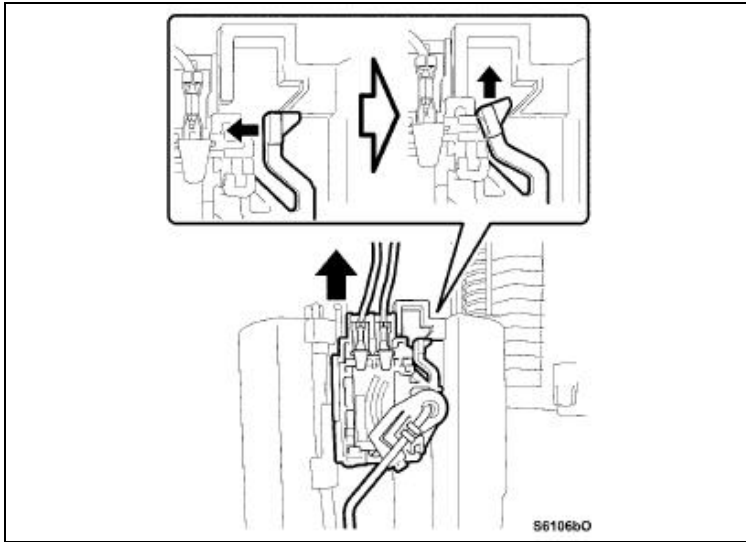
[Video](#)



- b) Disconnect the harness 3 connectors.

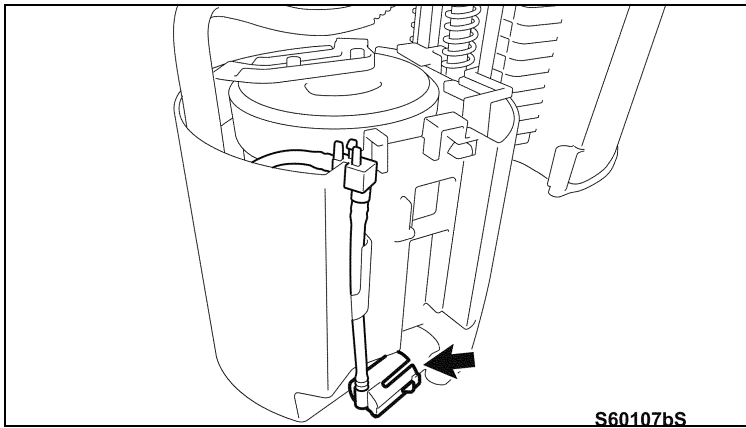


- c) Disconnect the 3 harness clamps.
NOTE: DO NOT damage the claws.
Disconnect the harness one claw at a time so that the harness cover is not damaged.

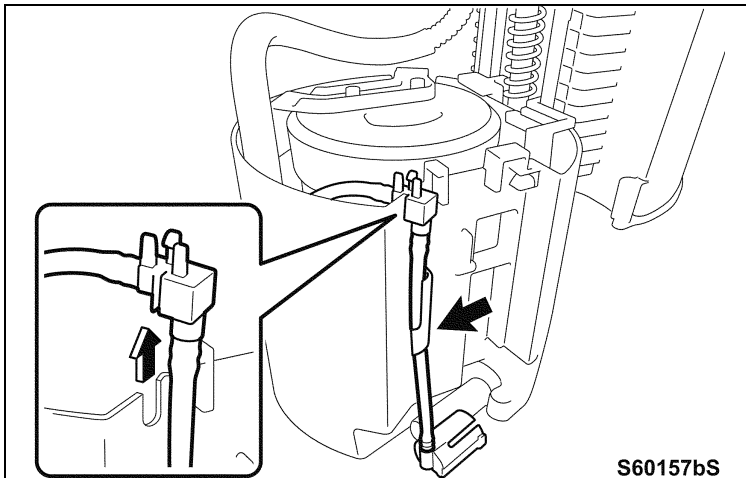


- d) Disengage the claw and slide the fuel sender upward with the harness.

NOTE: DO NOT bend the fuel sender arm



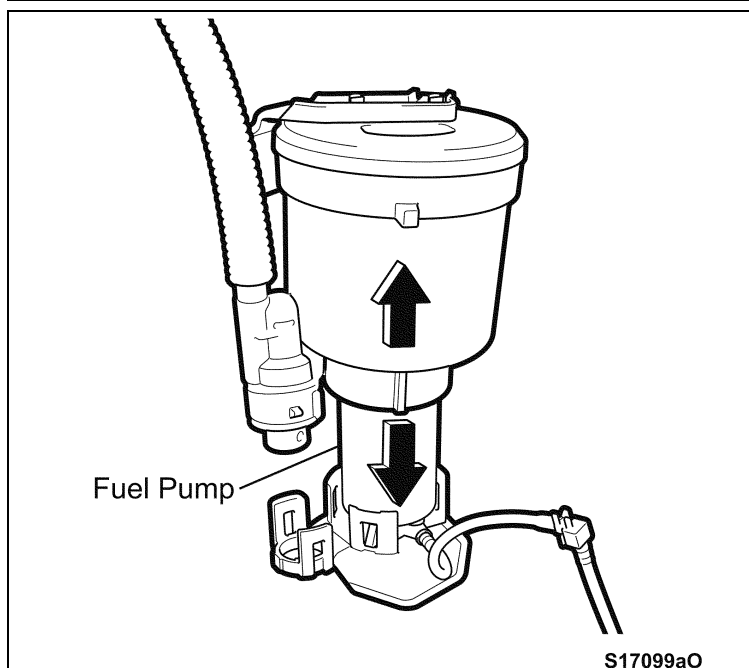
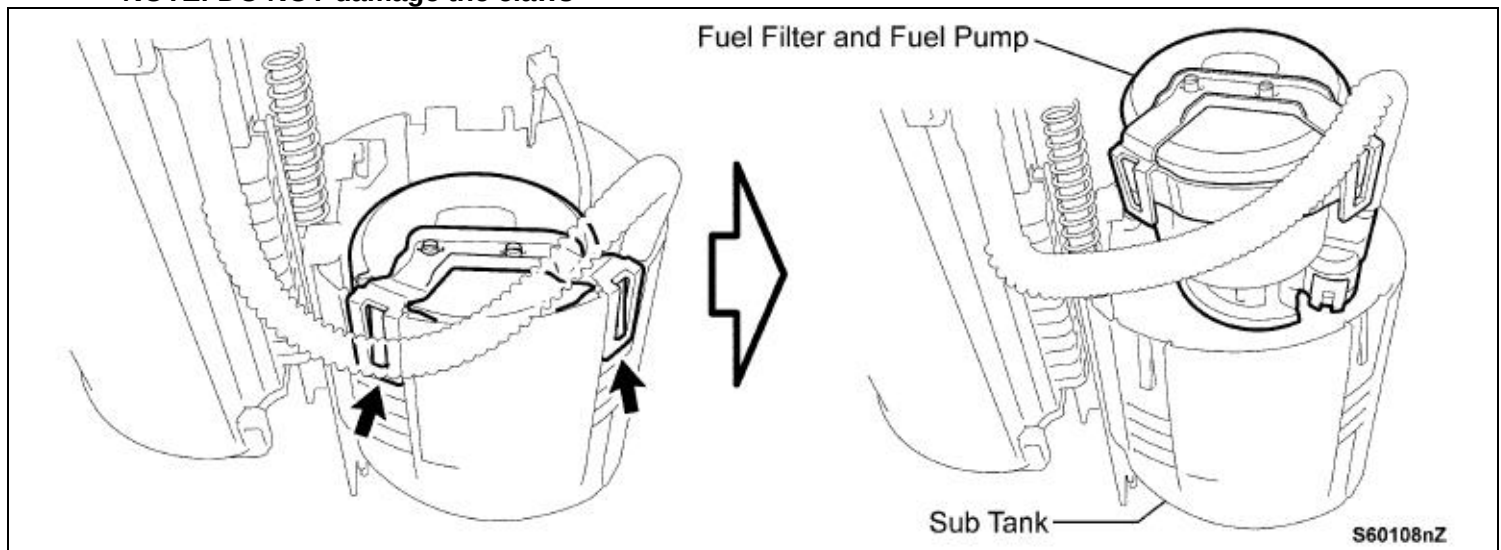
- e) Disengage the claws to disconnect the hose from the sub-tank.



- f) Disengage the hose support from the claw.
g) Disengage the hose from the sub-tank by pulling it upward.

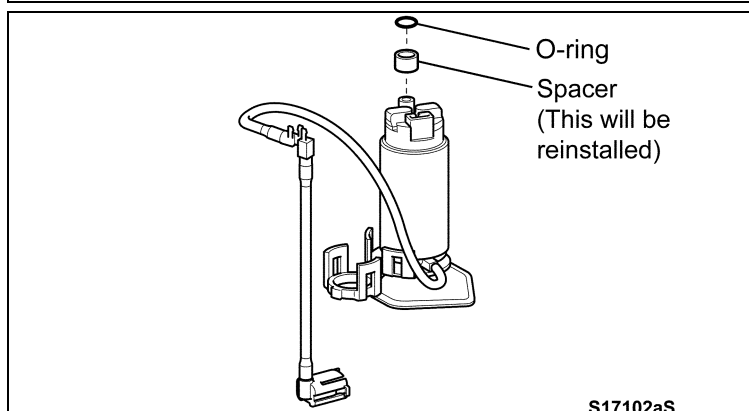
h) Disengage the 2 claws and remove the fuel filter and pump.

NOTE: DO NOT damage the claws



i) Disengage the 5 claws and separate the pump from the suction plate.

NOTE: DO NOT damage the claws



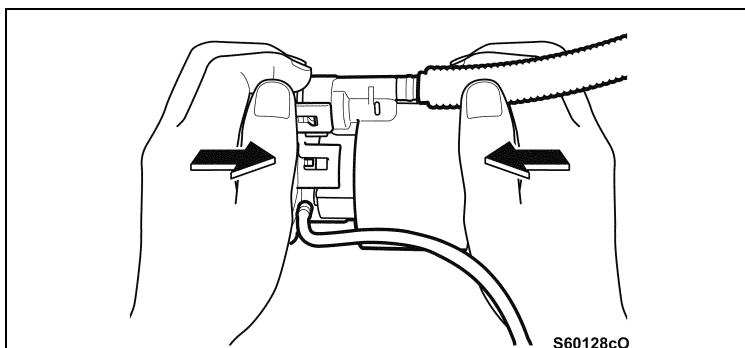
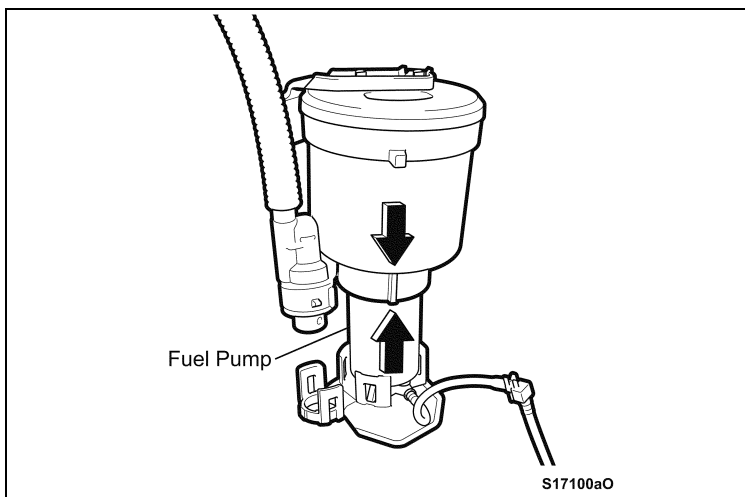
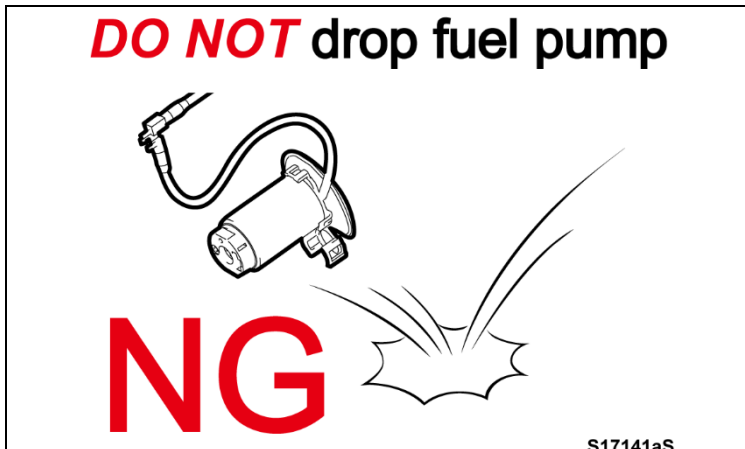
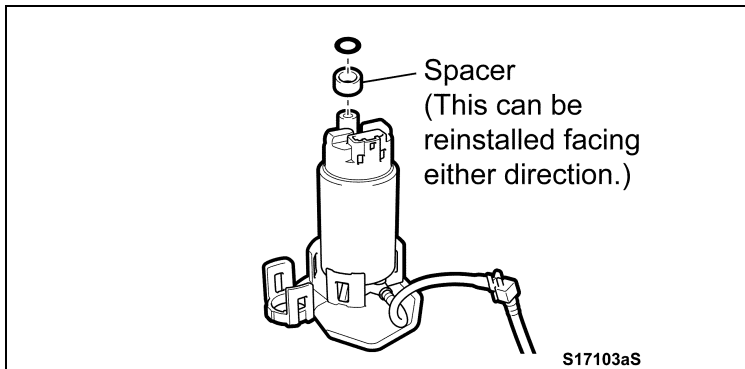
j) Remove and discard the O-ring.

k) Remove the spacer.



DO NOT discard the spacer it will be reused

l) Discard the fuel pump in accordance with local regulations.



8. INSTALL THE NEW FUEL PUMP

a) Reinstall the spacer.

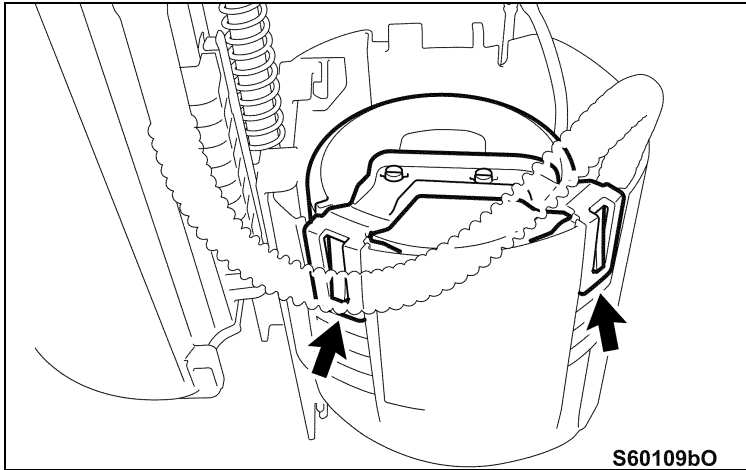
NOTE: The spacer is non-directional.

b) Lubricate the new O-ring with gasoline and install it on the convex portion of the new pump.

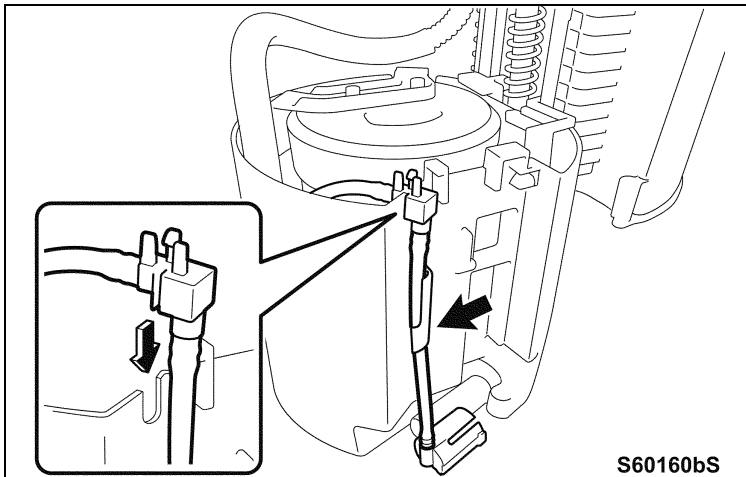
NOTE: DO NOT drop the new pump. If dropped replace it with a new one. Always use a new O-ring to prevent starting issues. DO NOT install the O-ring on the concave area of the pump.

c) Rubricate the new O-ring and install the new pump onto the lower suction plate.

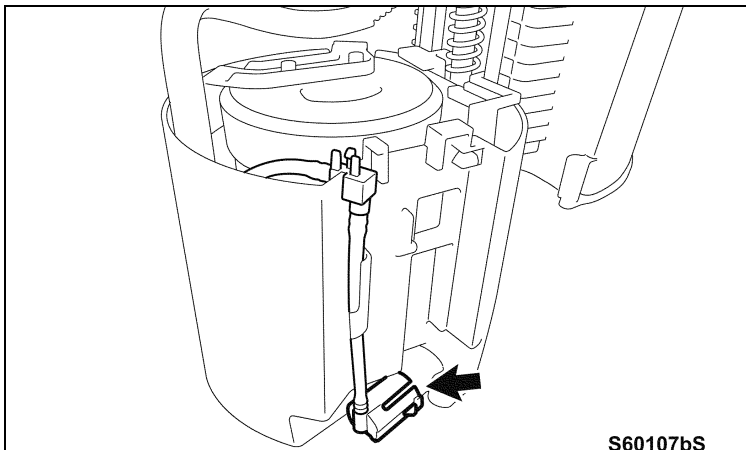
d) Reengage the 5 claws by pushing the pump and suction plate together as shown.



- e) Reengage the 2 claws for the pump to the sub-tank.
NOTE: DO NOT damage the claws

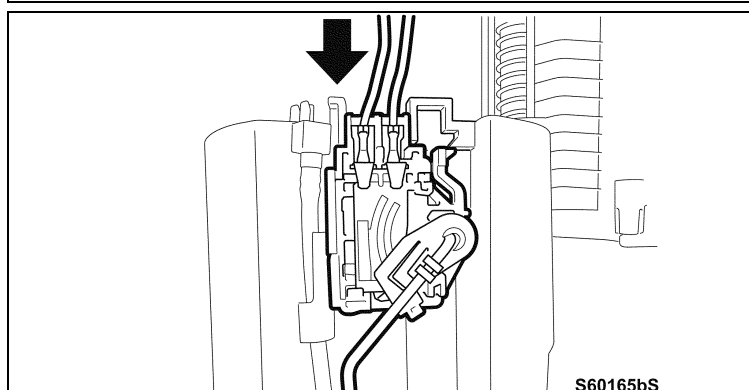
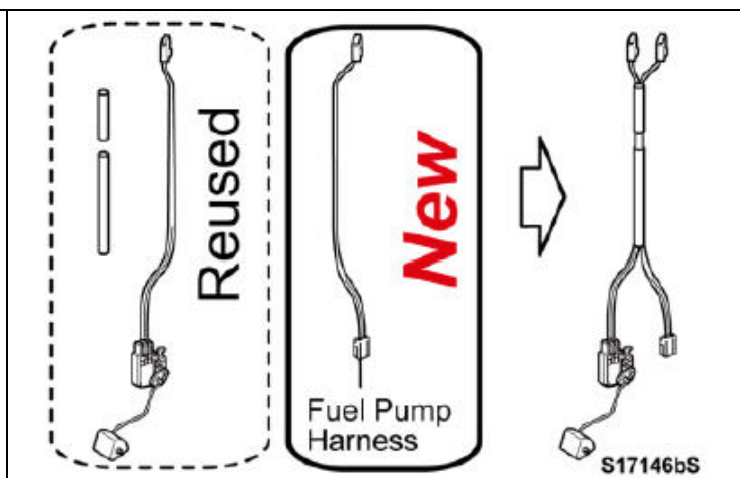
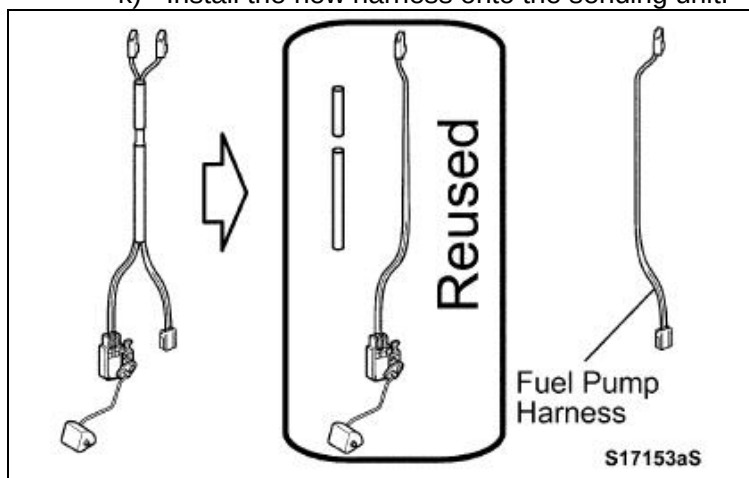


- f) Connect the hose support to the sub-tank by pushing down.
g) Fasten the hose to the claw.

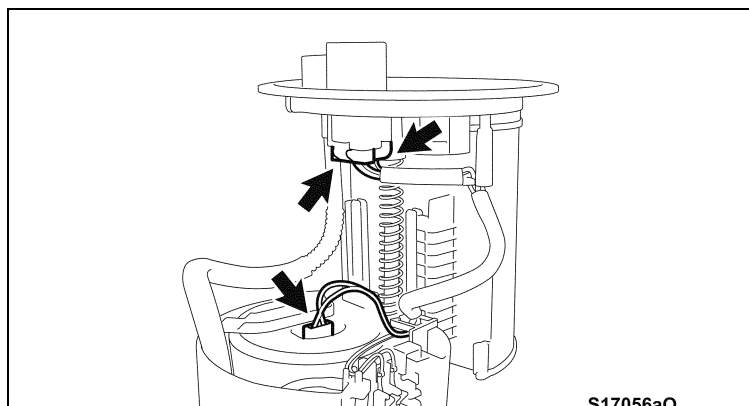


- h) Connect the hose connection to the sub-tank.

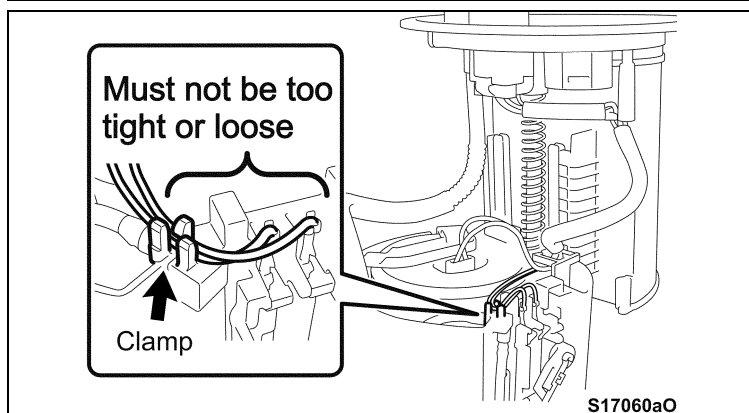
- i) Remove the covers from the sending unit.
- j) Remove and discard the harness.
- k) Install the new harness onto the sending unit.



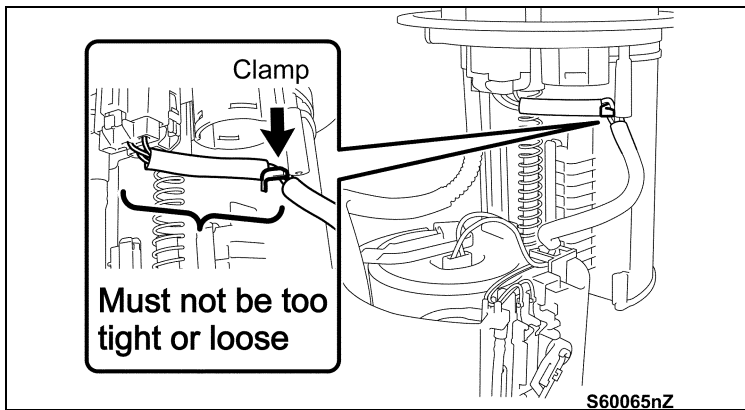
- l) Reinstall the sending unit by sliding the unit down onto the sub-tank and reengaging the claw.
NOTE: DO NOT bend the sending unit arm



- m) Reconnect the 3 connectors.



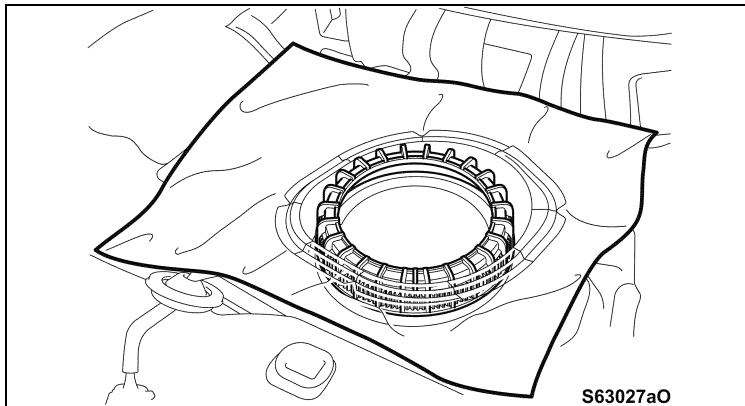
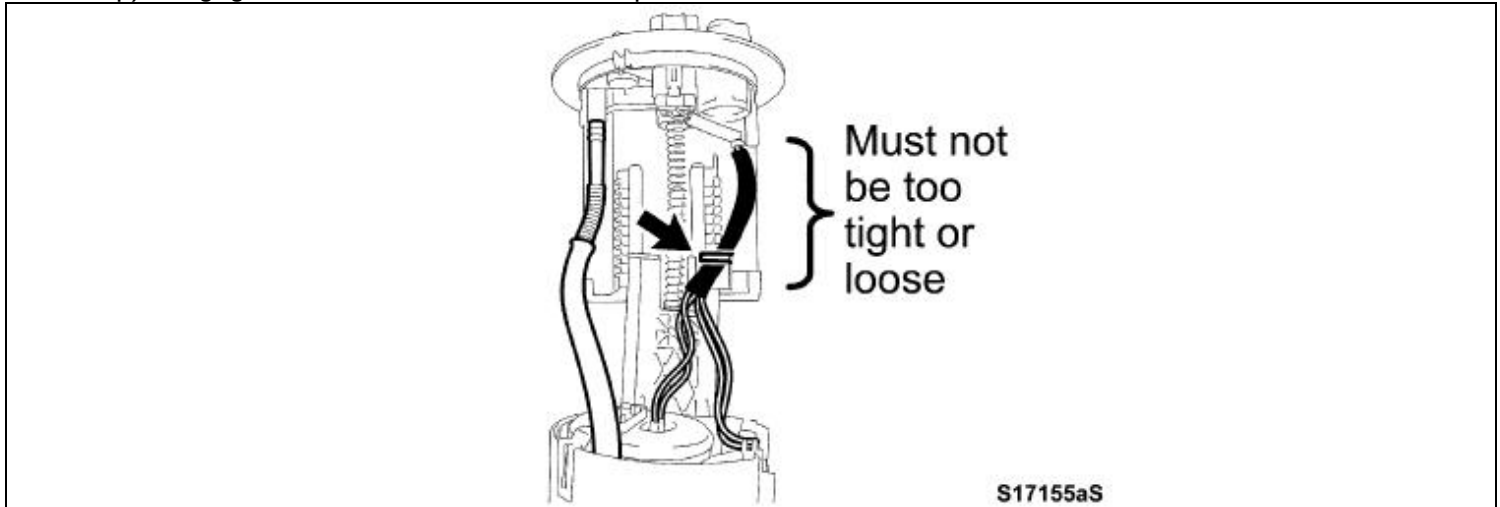
- n) Engage the 2 harness's for the sending unit with the clamp and ensure that they are not too tight or loose at the terminals.
NOTE: DO NOT damage the claws
Engage the harness one by one to avoid damaging the covers



- o) Engage the 4 harness's with the clamp and ensure that the harness is correctly tensioned at the upper connection as shown.

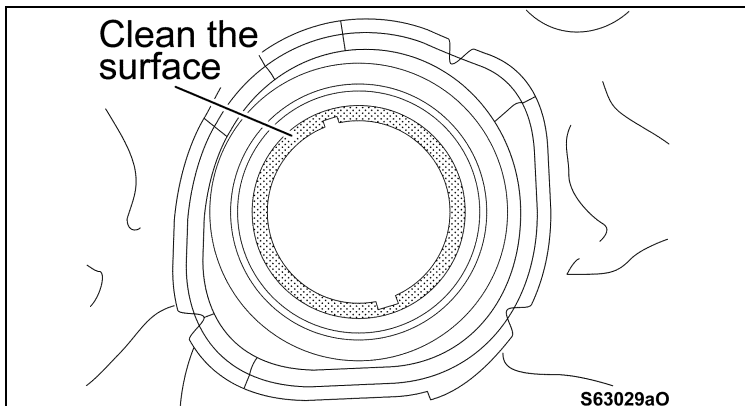
NOTE: DO NOT engage the harness cover into the clamp.

- p) Engage the 4 harnesses into the clamp and ensure that the harness has the correct tension.



9. REINSTALL THE FUEL PUMP ASSEMBLY

- Remove the ring and plastic bag from the tank.
- Discard the old retaining ring.

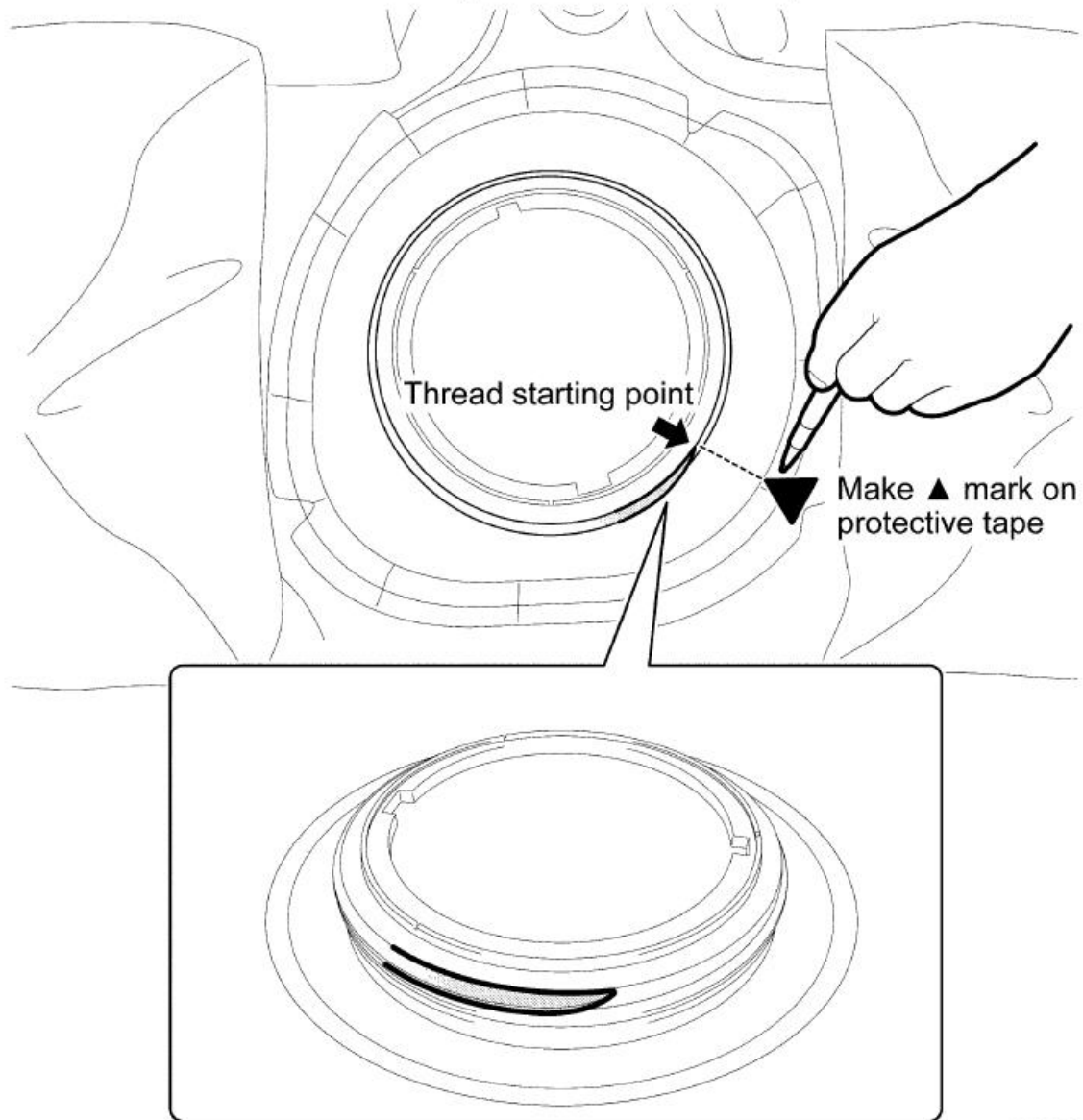


- Clean the area of the tank where the new gasket will be installed.

[Video](#)

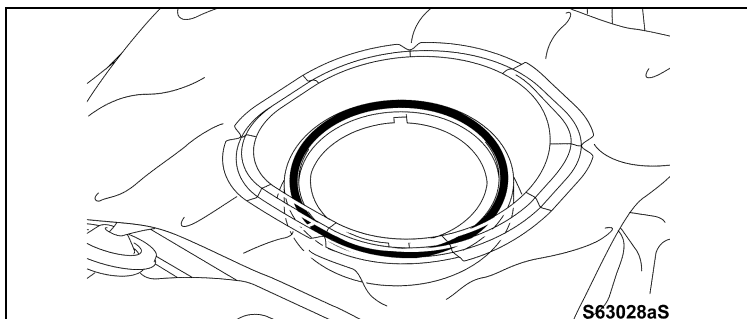
d) Mark the starting point of the threads, on the fuel tank on the floor as shown.

Make ▲ mark on protective tape on floor



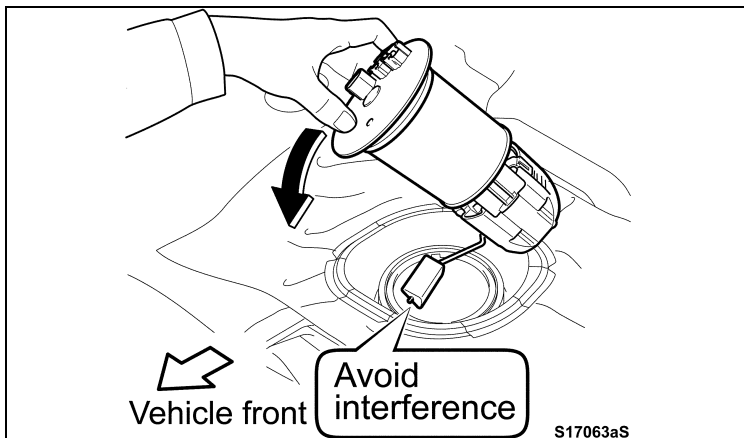
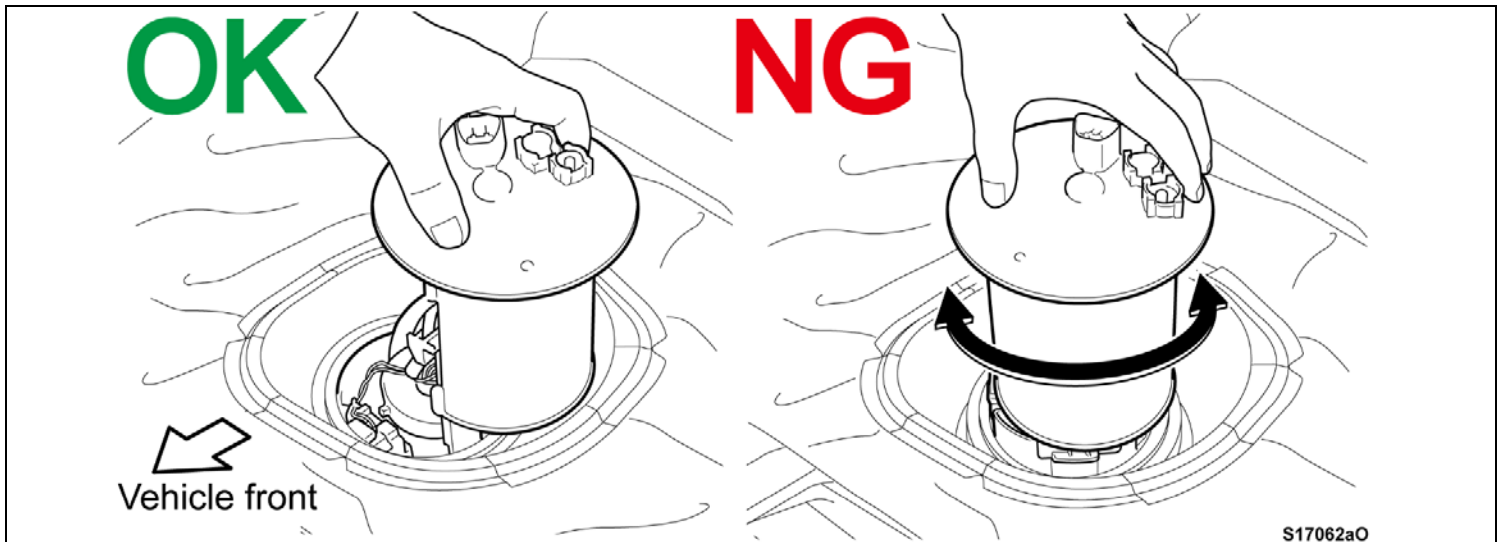
S63330cS

e) Install the new gasket.



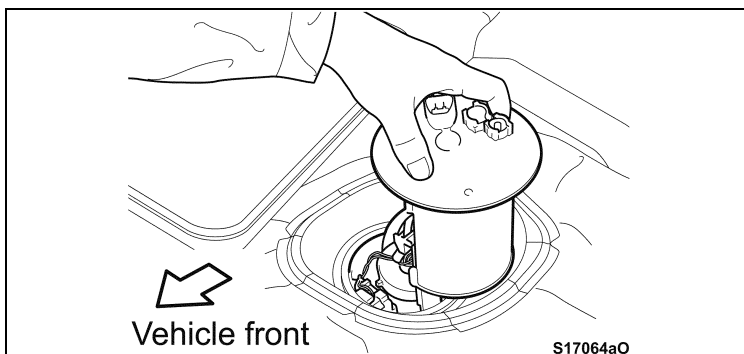
- f) Reinstall the pump assembly.

NOTE: Ensure that the pump assembly is correctly oriented. **DO NOT** twist the assembly during installation.

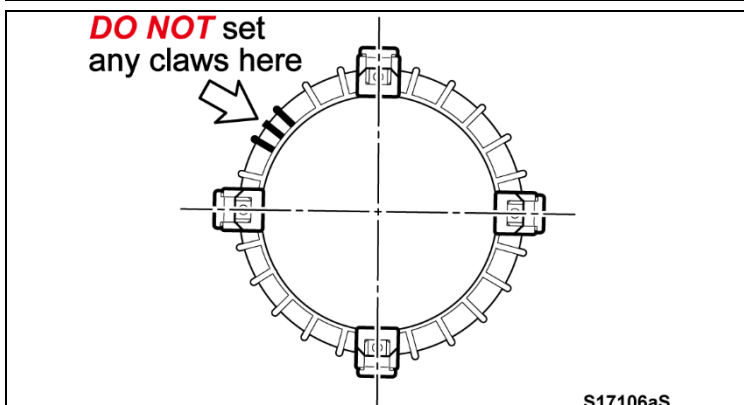


- g) Insert the lower portion of the pump assembly.

NOTE: **DO NOT** bend the sender arm



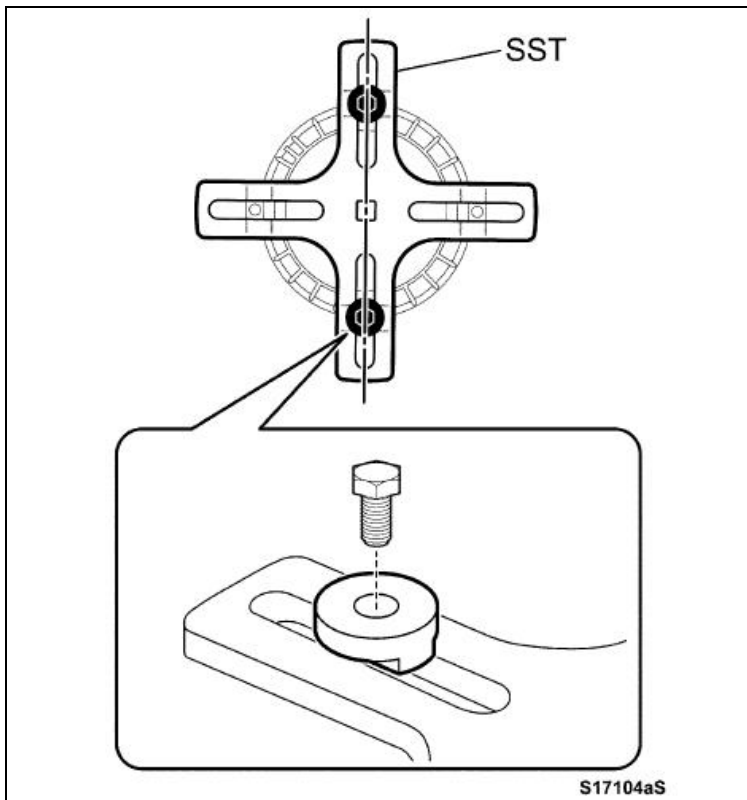
- h) Slide the assembly to the left and insert the upper portion into the tank.



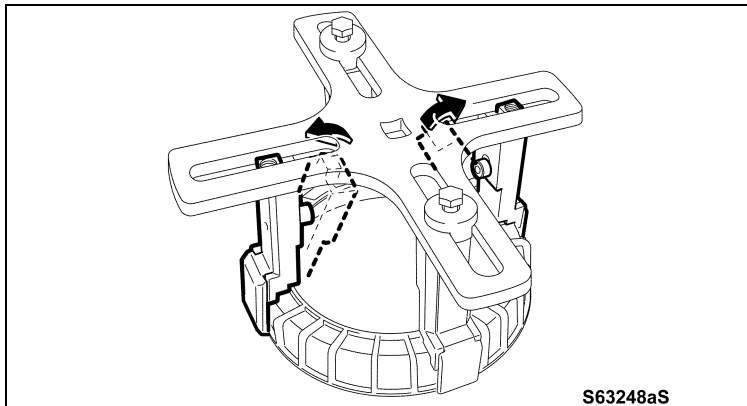
10. INSTALL THE NEW RETAINING RING

- a) Temporarily place the claws evenly around the **NEW** retaining ring.

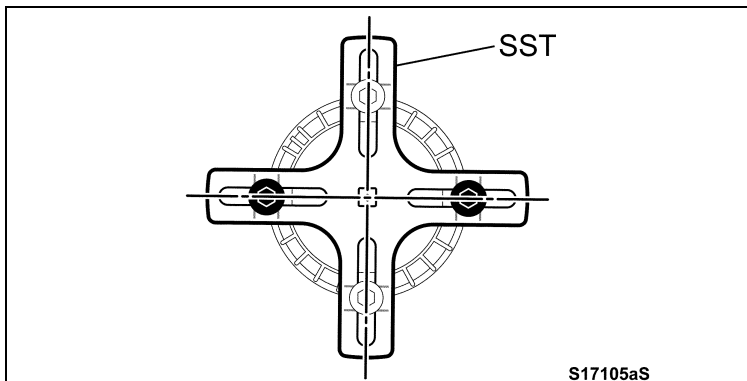
NOTE: Ensure that a new ring is used. **DO NOT** place the retaining ring on the tank prior to preforming steps. Ensure that the lower edge of the claw is under the retainer.



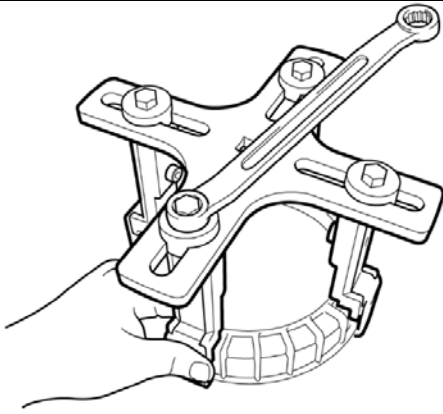
- b) Place the SST on 2 of the claws as shown and temporarily install the round plates and bolts.



- c) Temporarily install the other 2 round plates and bolts.



- d) Ensure that the center of the SST plate is centered on the fuel pump assembly.
NOTE: Ensure that the round plates are correctly engaged into the SST plate.



DO NOT set the claws at an angle but set them upright

OK

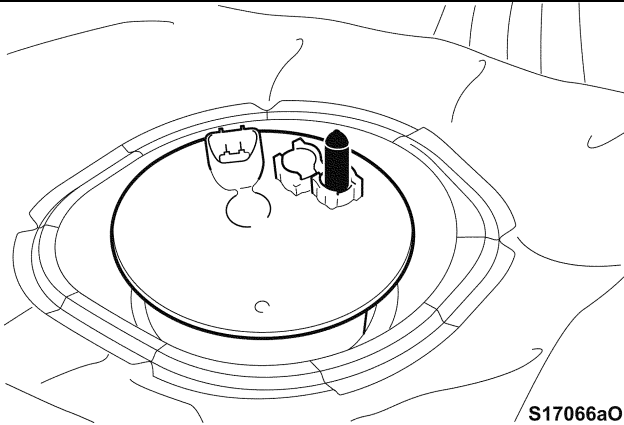
NG



S17107aS

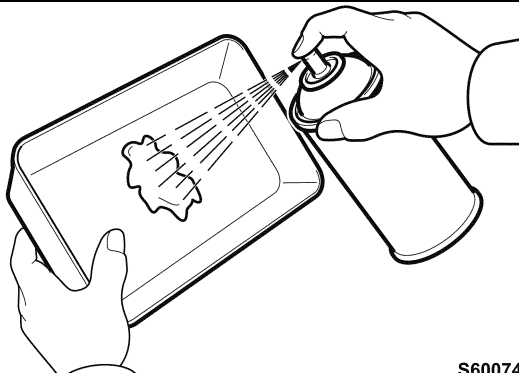
- e) Tighten the 4 bolts that attach the claws to the SST plate.

NOTE: Ensure that the claws are perpendicular to the SST plate.



S17066aO

- f) Remove the protective cap for the fuel line if equipped.



S60074bO

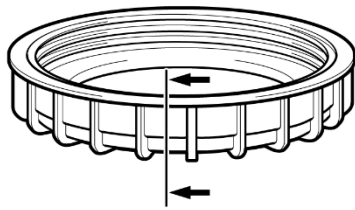
- g) Spray a small amount of silicon into a tray.
NOTE: Ensure you spray the silicon into the tray outside of the vehicle so the vapors are not distributed in the cabin.

- h) Carefully apply the silicon to the inner lip of the new retaining ring.

NOTE: DO NOT lubricate the threads.

The silicon is applied to lubricate the contact area between the ring and the pump assembly.

[Retainer cross sectional view]



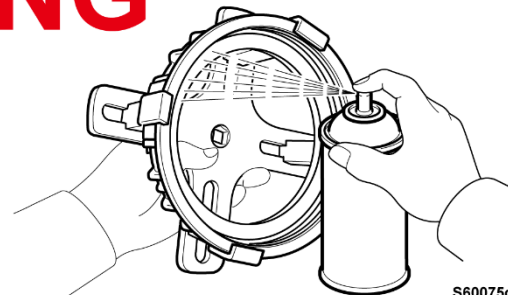
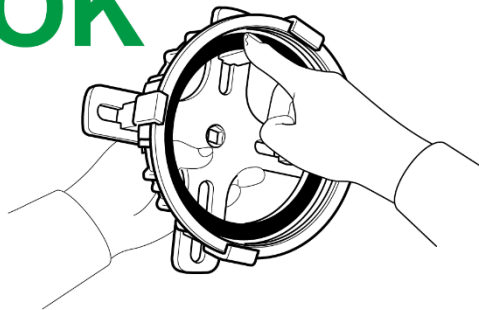
OK

NG



OK

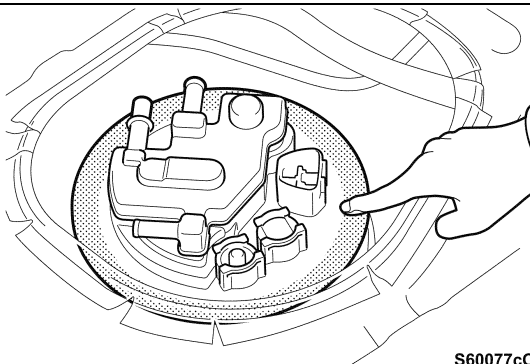
NG



S60075dS

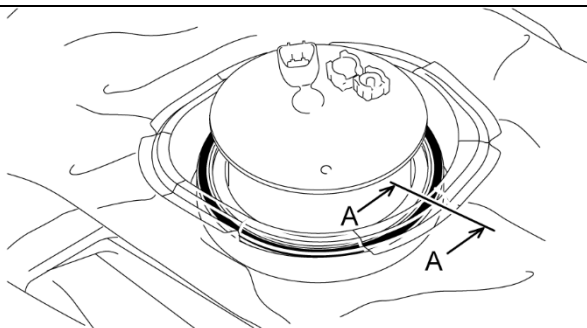
- i) Apply silicon to the top of the pump assembly in the area shown.

NOTE: DO NOT spray silicon on top of the pump assembly.



S60077cO

- j) Check that the gasket is in the correct position.

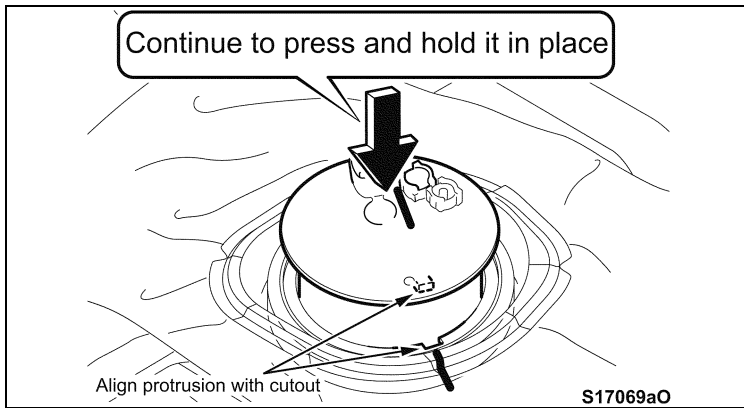


A-A cross section

OK

NG

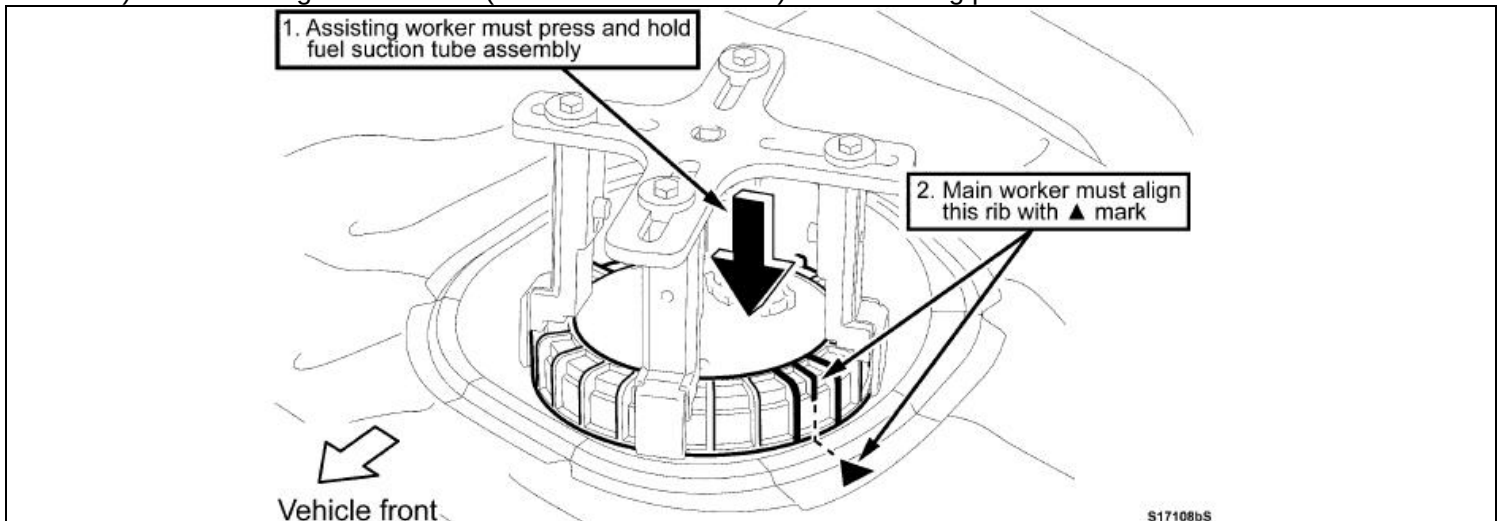
S17068aS



- k) Align the tabs of the pump assembly and the fuel tank. Then push down and hold the pump assembly in place.

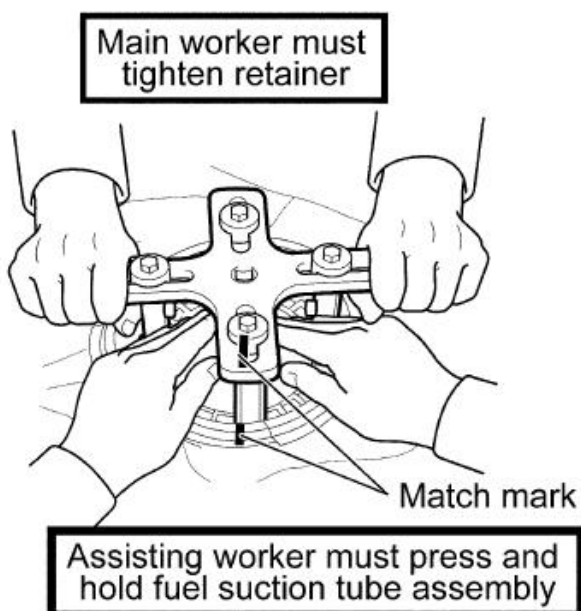
NOTE: A second person may be needed to tighten the ring.

- l) Set and align the retainer (area with the short ribs) to the starting point of the tank threads as shown.

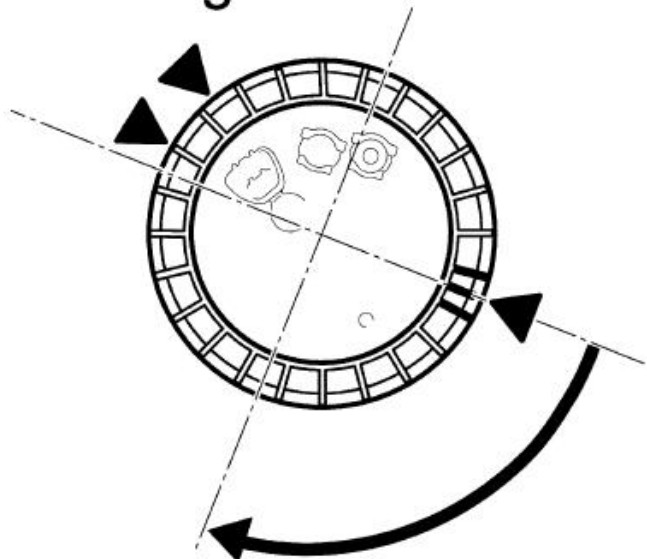


- m) While pressing down on the pump assembly tighten the retaining ring approximately 90 degrees.

Requires 2 workers

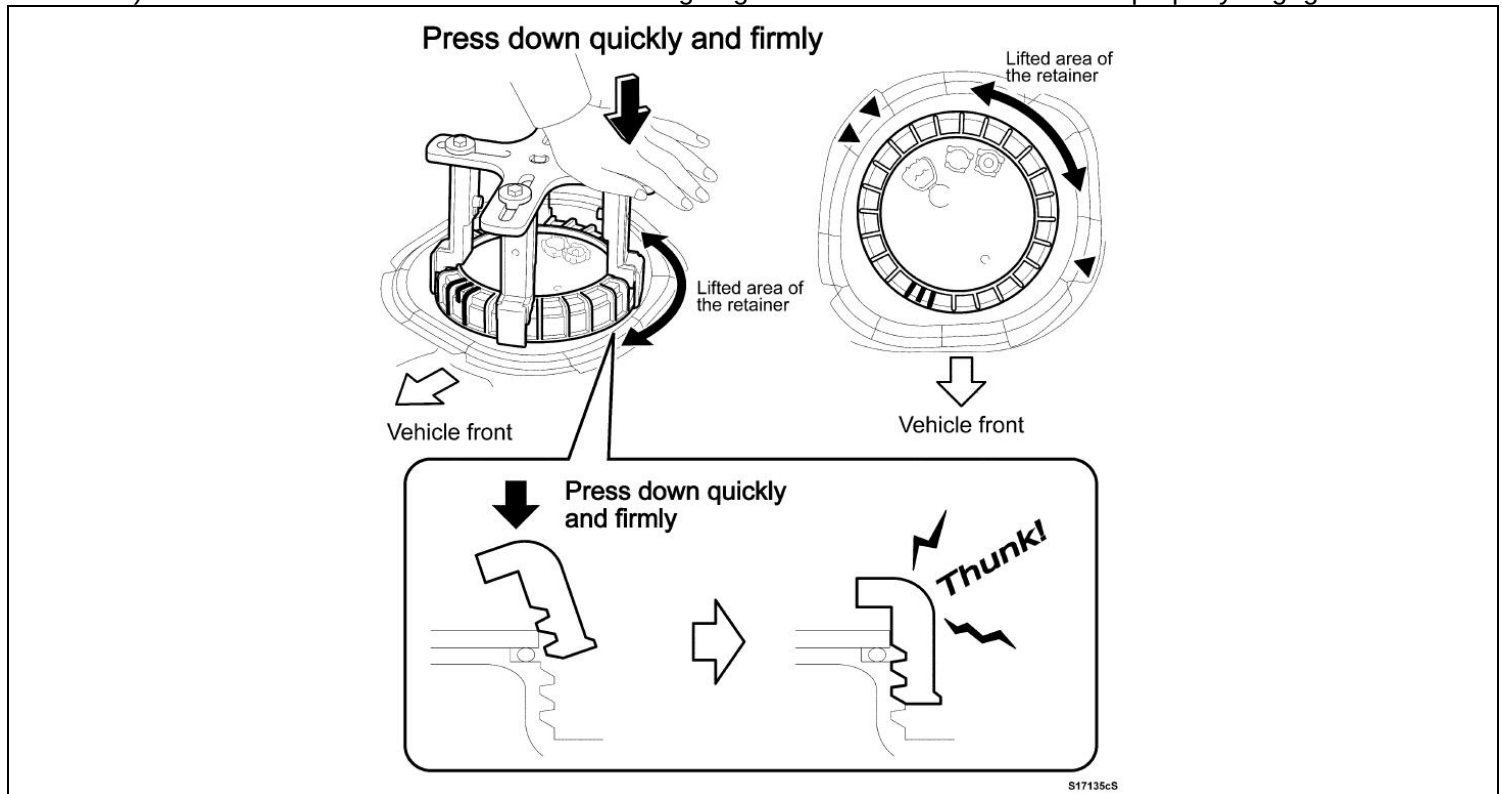


Turn approximately 90 degrees

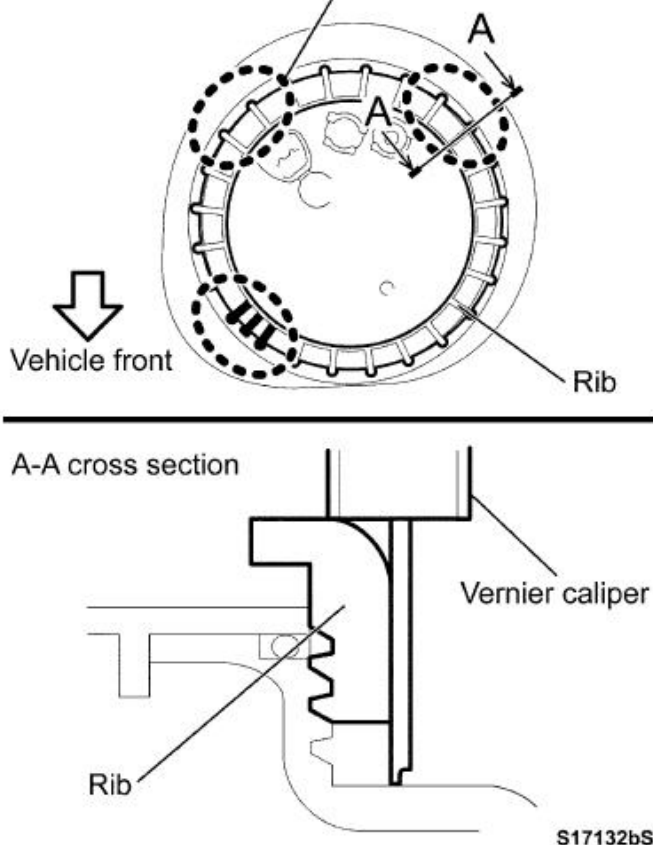


S17134bS

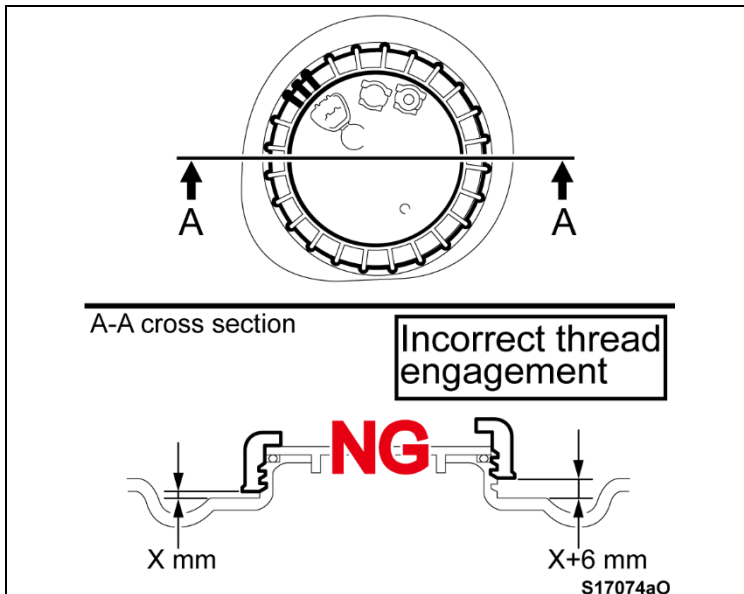
n) Press down on the left rear of the retaining ring to ensure that the threads are properly engaged.



Take measurements on retainer circumference at 3 locations, near indicated areas



- o) Use a vainer caliper to verify that the ring is properly engaged.
1. Place the caliper on the top of the ring and measure to the top of the tank as shown.
 2. Take measurement at 3 different points around the ring.



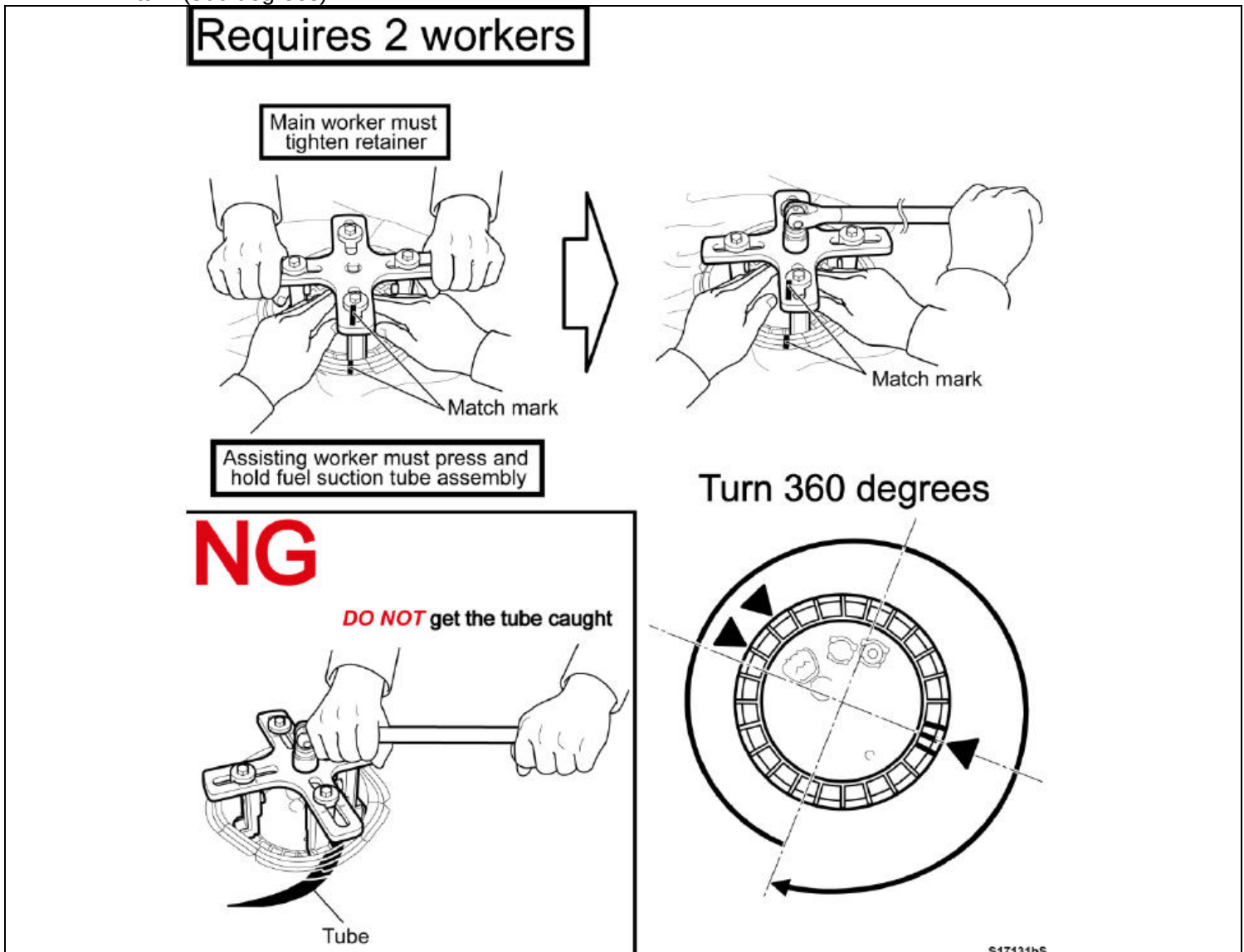
3. Compare the 3 measurements.

If the difference between the 3 measurements is less than 3 mm the ring is properly set.

If the difference between measurements is approximately 6 mm then the ring is NOT properly set.

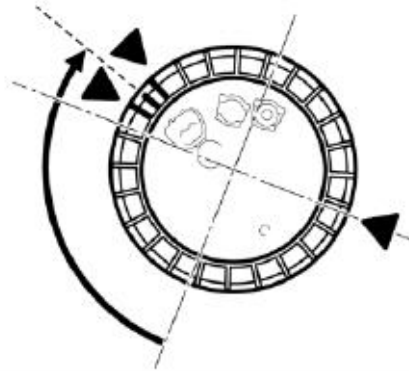
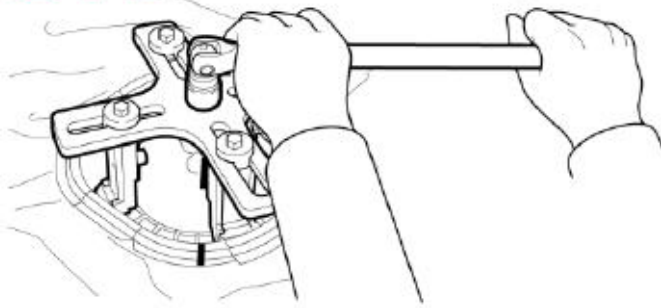
NOTE: If the ring is not properly set remove ring and return to install the retaining ring.

- p) After ensuring that the ring is properly set. Push down on the top of the pump assembly and turn the ring 1 turn (360 degrees)



- q) Release the top of the pump assembly and slowly rotate the ring approximately 90 degrees, until the ring lines up with the marks on the tank as shown.

OK Rotate slowly



NG *DO NOT* lean or press on the tools



NG *DO NOT* rotate handle at angle

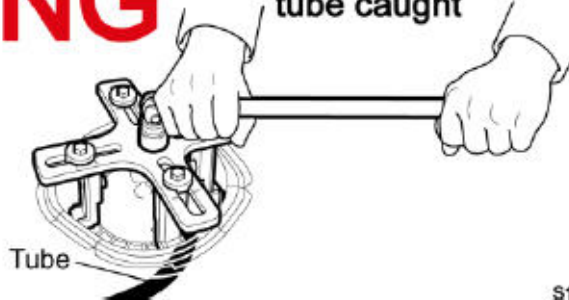


NG

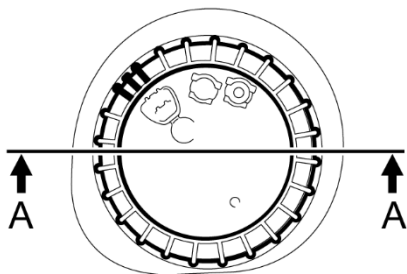


NG

DO NOT get the tube caught

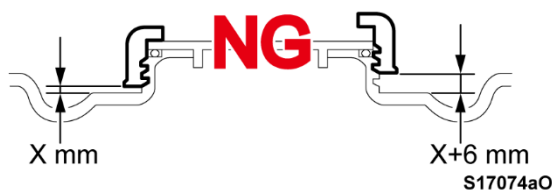


S17130bS



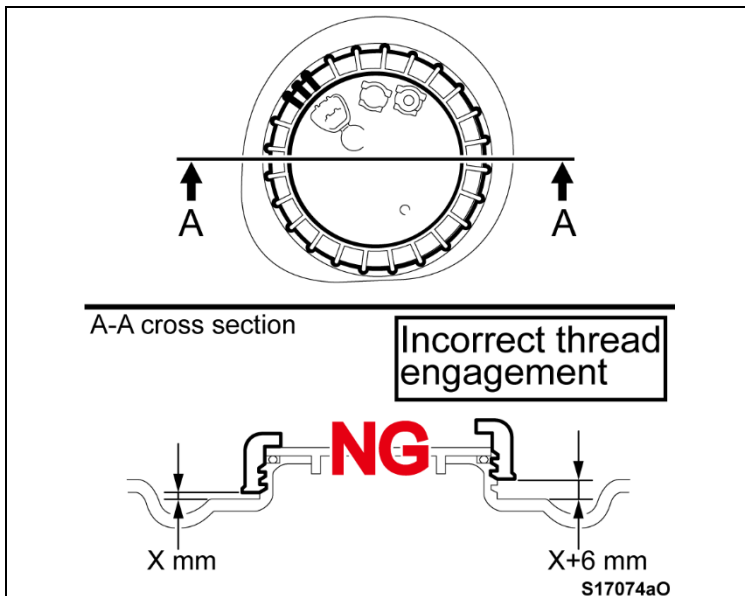
A-A cross section

Incorrect thread engagement



S17074aO

- r) Use a vernier caliper to verify that the ring is properly seated.
1. Place the caliper on the top of the ring and measure to the top of the tank as shown.
 2. Take measurement at 3 different points around the ring

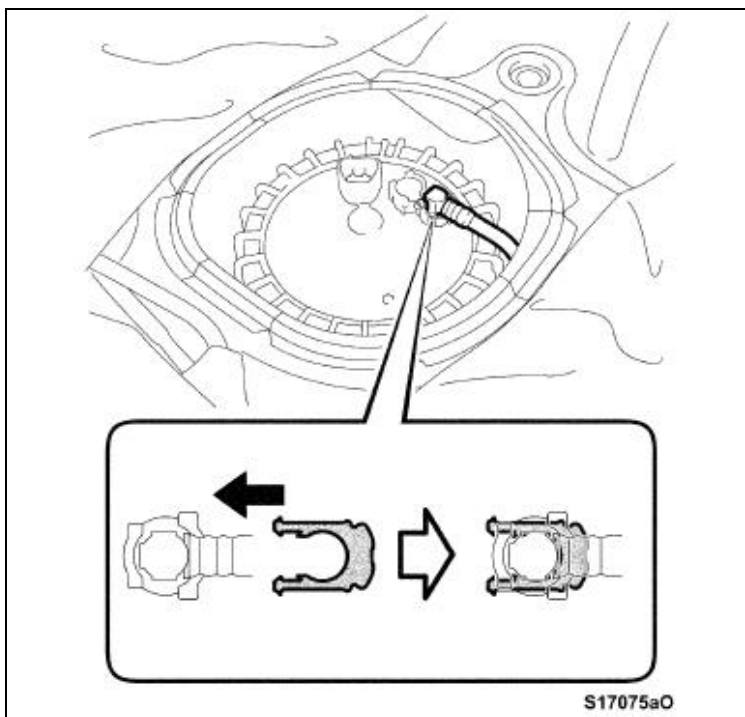


3. Compare the 3 measurements.

If the difference between the 3 measurements is less than 3 mm the ring is properly set.

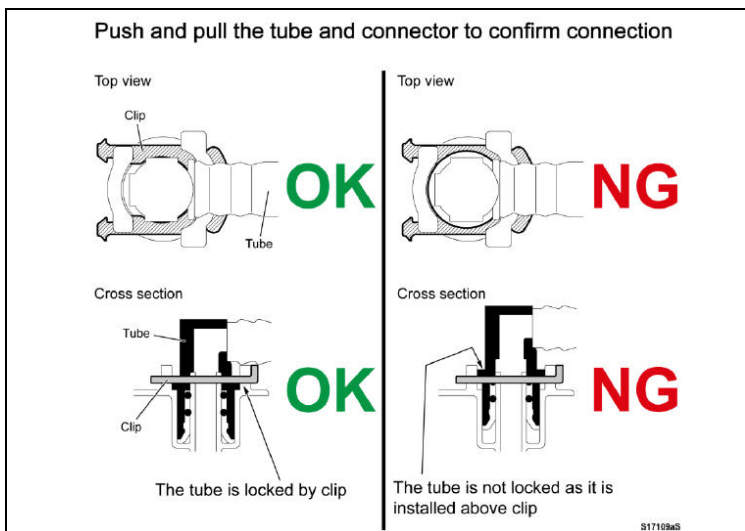
If the difference between measurements is approximately 6 mm then the ring is NOT properly set.

NOTE: If the ring is not properly set remove ring and return to install the retaining ring.

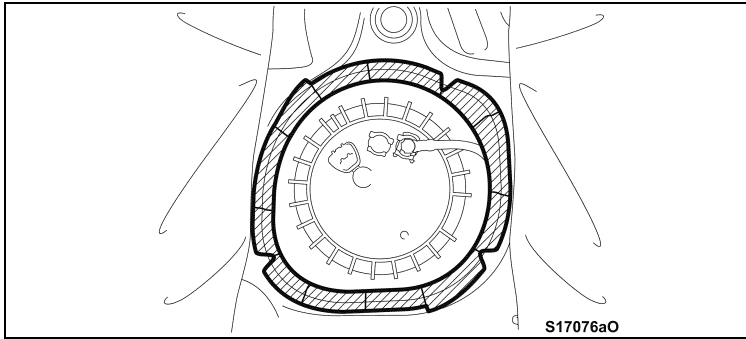


11. RECONNECT THE FUEL LINE

- Remove the bag from the fuel line.
- Check that the line is clean and not damaged.
- Reconnect the line by pushing straight down.
- Reinstall the clip.

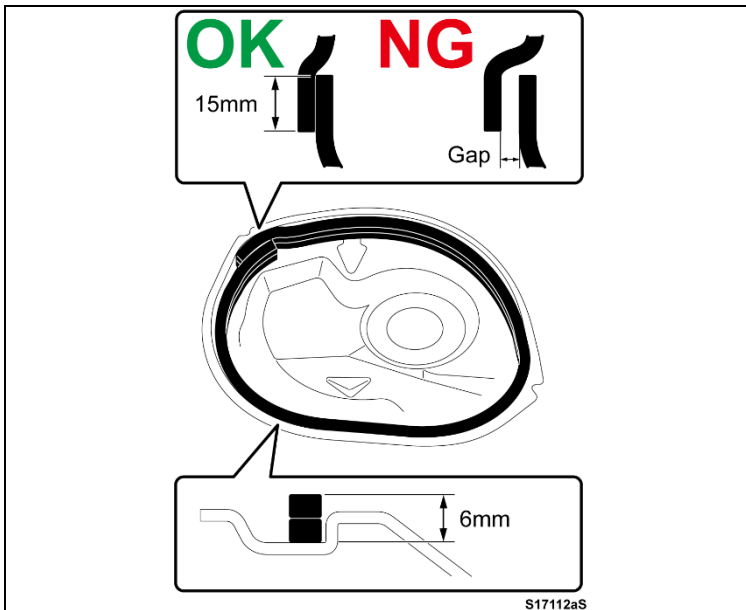


- Push and pull on the line to ensure it is securely connected.



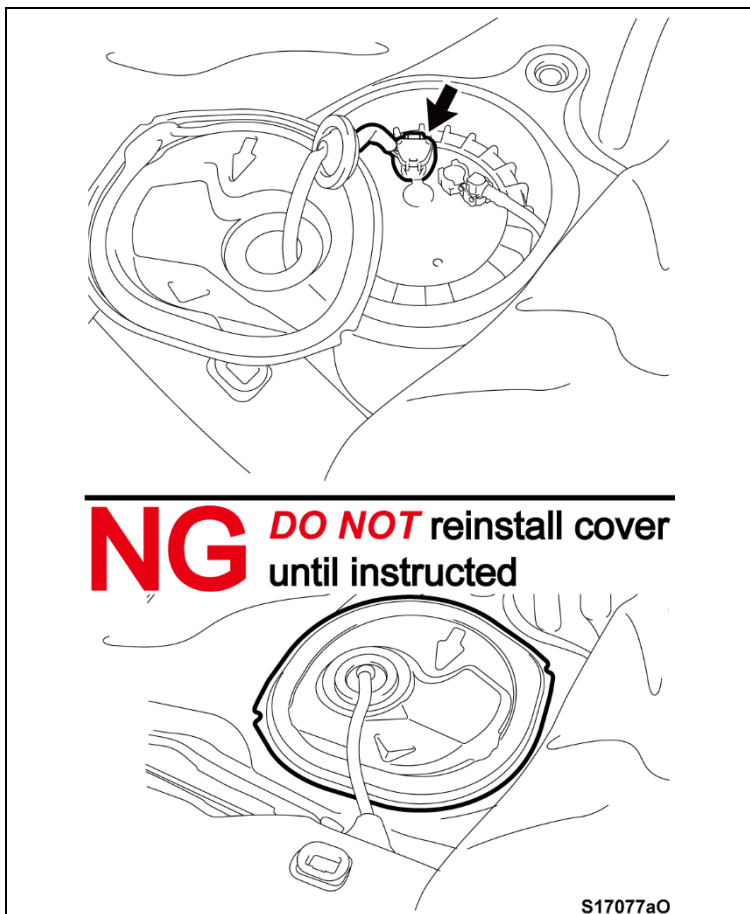
12. REPLACE BUTYL TAPE

- Remove any tape from around the service port.
- Remove the old butyl tape from around the service port.

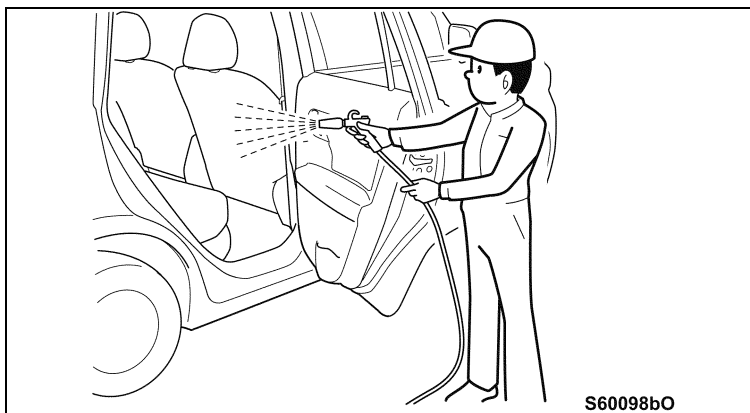


- Apply new butyl tape around the service port as shown ensuring that the end overlapped by 15mm.

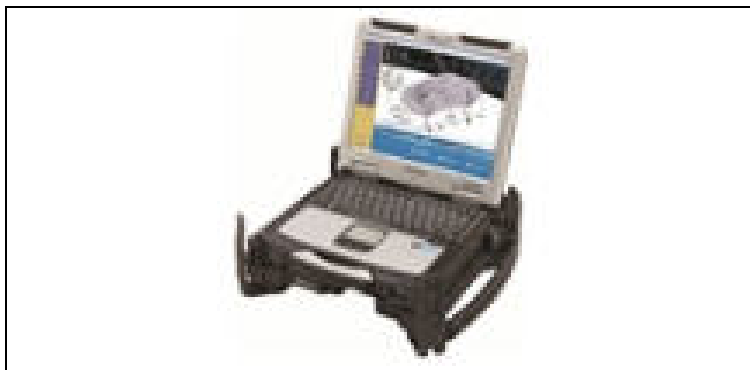
NOTE: Ensure that the height of the tape is at least 6mm



- d) Reconnect the fuel pump connector.
NOTE: DO NOT install the cover until the vehicle has been leak checked
- e) Reinstall the fuel tank cap



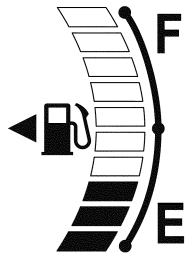
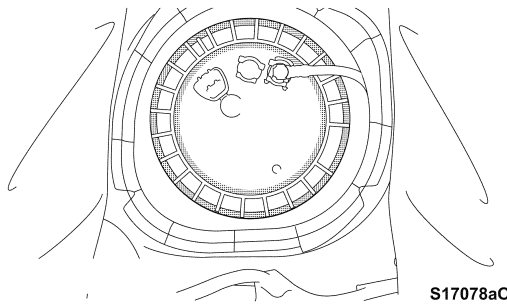
- f) Use compressed air to clear the cabin of fuel vapors.
- g) Reconnect the negative battery cable.



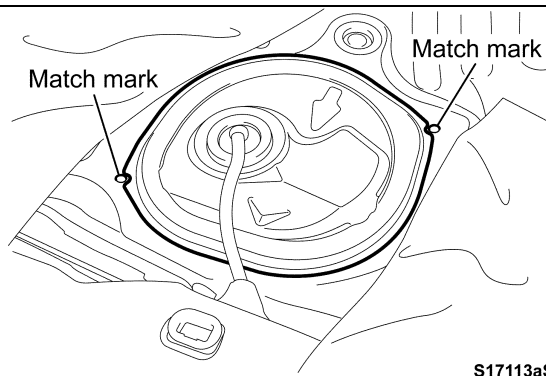
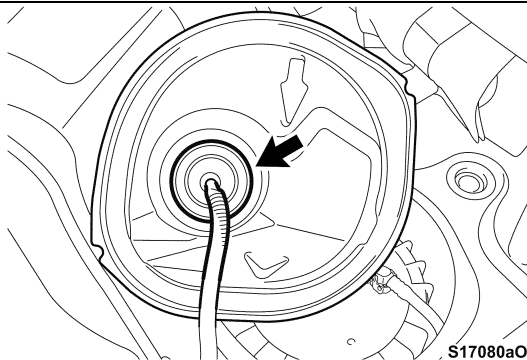
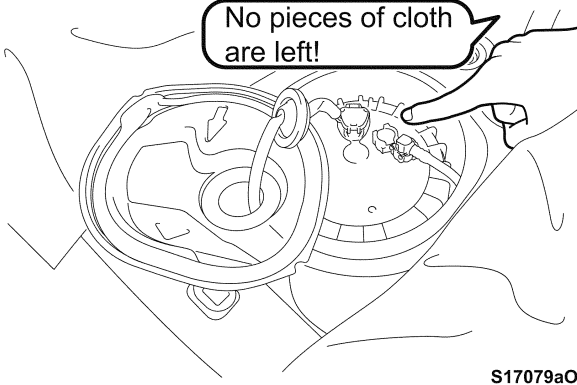
13. CHECK FUEL PUMP OPERATION

- a) Connect Techstream
- b) Turn IG on (engine off)
- c) Using Techstream go to
 Powertrain
 Engine and ECT
 Active Test
 Control the Fuel Pump Speed

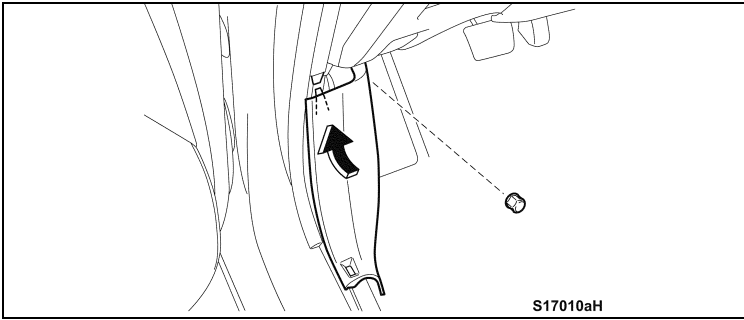
Confirm no fuel leaks



No pieces of cloth
are left!

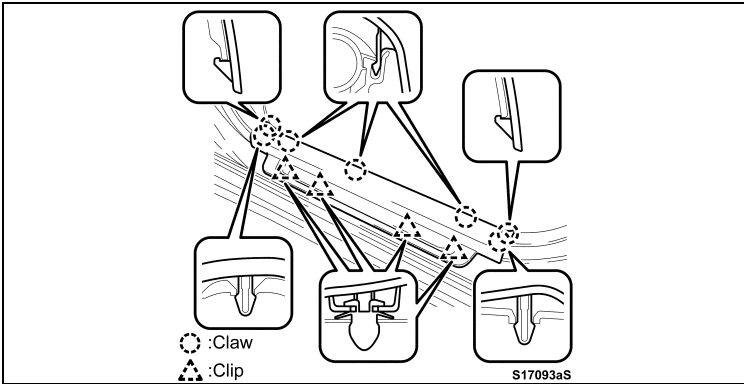


- d) Check that the fuel pump is operating.
NOTE; If the fuel pump is inoperative recheck connections
- e) Check the fuel line and area around the retaining ring for leaks.
NOTE: Repair any leaks found
- f) Check that the current fuel gauge reading matches the recorded value from:
Section VII step 3.
- g) Check and clear DTC's
- h) Shut down vehicle.
- i) Check that the area around the service port is clean.
- j) Reinstall the harness grommet if needed.
- k) Align the match marks for the service port cover and reinstall the cover by pressing it onto the floor.

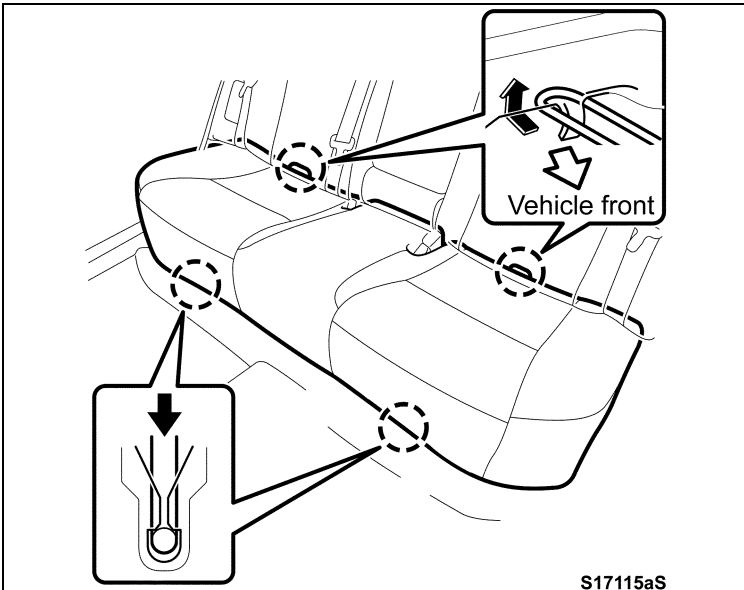


14. REINSTALL INTERIOR TRIM

- Reinstall the LF cowl trim board by reengaging the claw and clip.
- Reinstall the plastic nut.



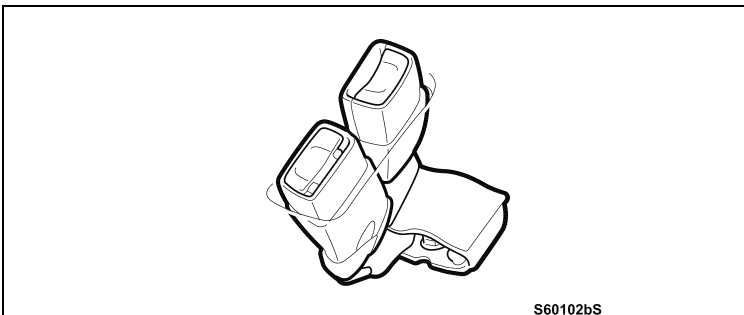
- Reinstall the LF scuff plate by reengaging the 7 claws and 4 clips.



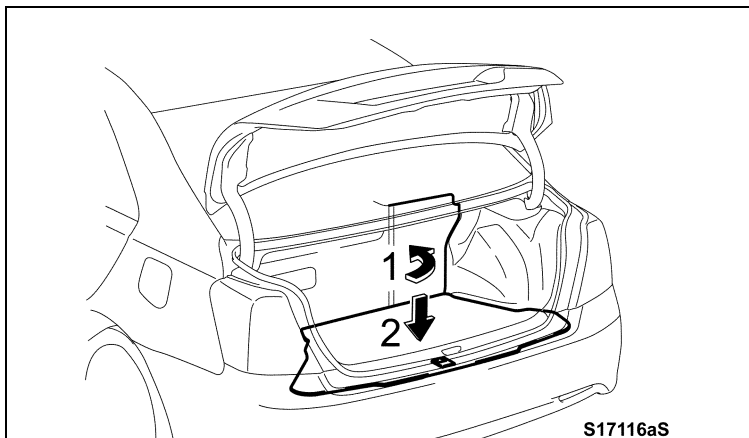
15. REINSTALL REAR SEAT CUSHION

- Reengage the 2 hooks into the seat back.
- Insert the seat belts through the openings in the cushion.
- Reengage the 2 hooks on the front edge of the cushion.

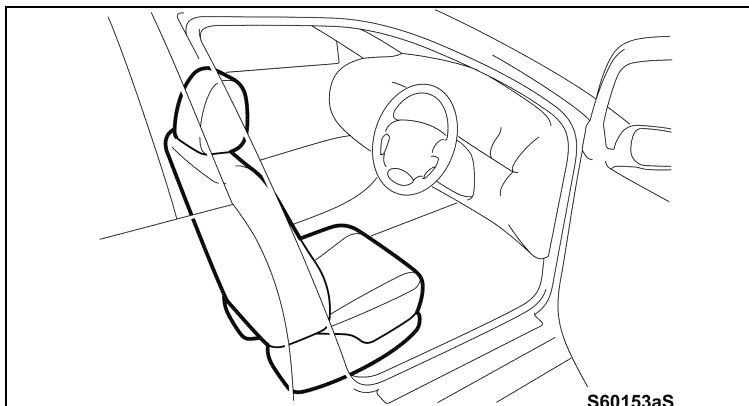
STOP If the plastic locks for the front hooks come out of the floor pan they will need to be replaced.



- Check that the seatbelts operate and lock into the buckles correctly.



- e) Close the access door for the battery.
- f) Reinstall the truck mat.



- g) Return the front seats to their original position.
- h) Perform any needed system initializations.

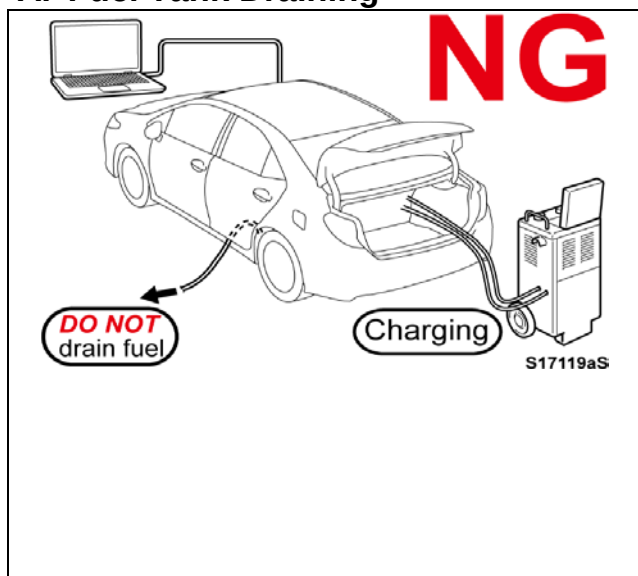
◀ VERIFY REPAIR QUALITY ▶

- Confirm that there are no fuel leaks
- Confirm that there are no DTC's

If you have any questions regarding this update, please contact your area representative.

X. APPENDIX

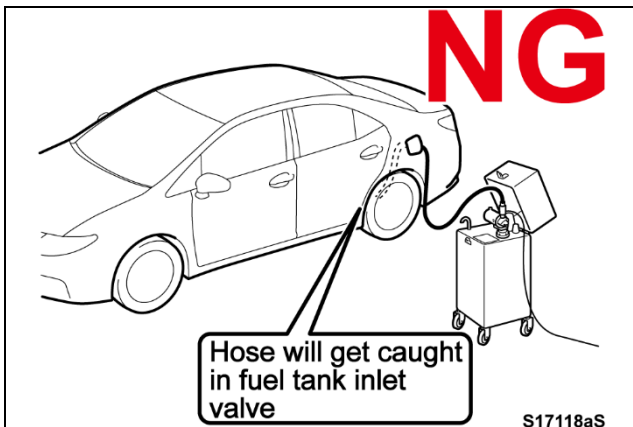
A. Fuel Tank Draining



1. DRAINING THE FUEL TANK

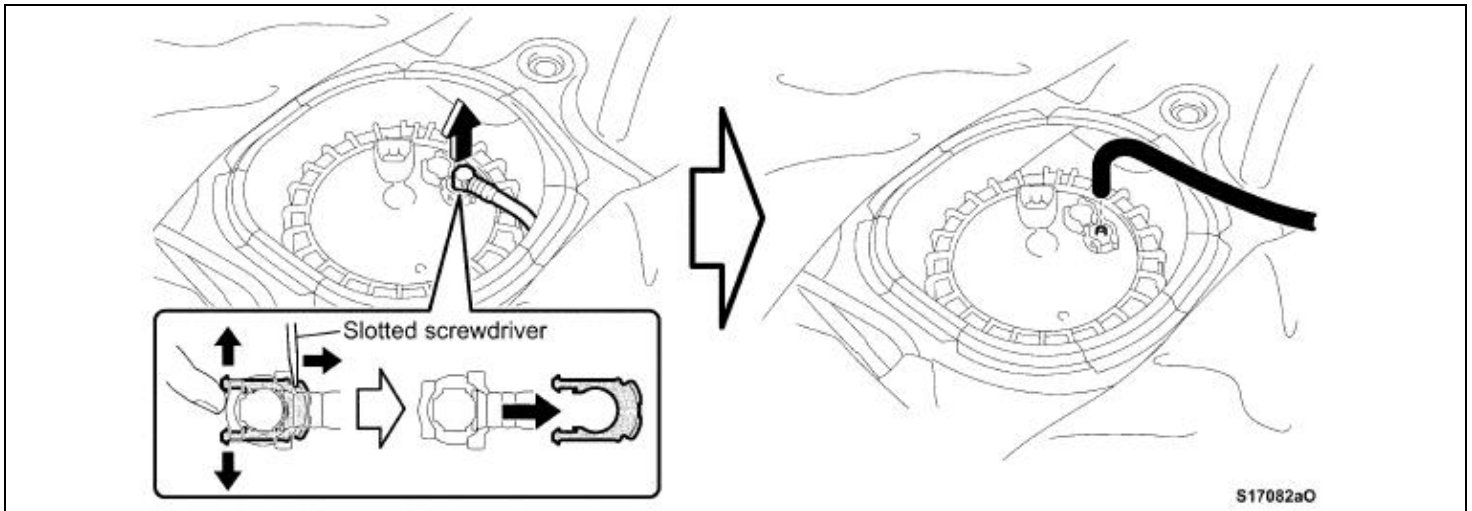
NOTE: Ensure that the battery is fully charged. **DO NOT** charge the battery while draining fuel. **DO NOT** drain from the filler neck the hose could become stuck in the tank inlet valve.

- a) Remove the rear seat cushion see:
Section VII Step 2
- b) Remove the service port cover see:
Section VII Step 5
- c) Disconnect the fuel line see:
Section IX Step 3

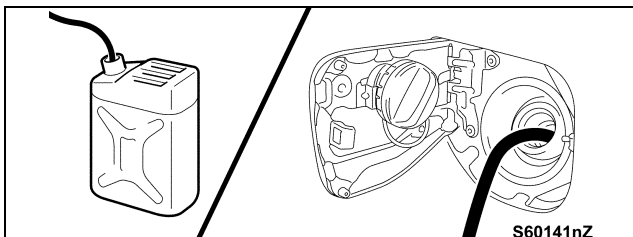


d) Connect a hose to the fuel pump outlet.

NOTE: Hose ID 6mm

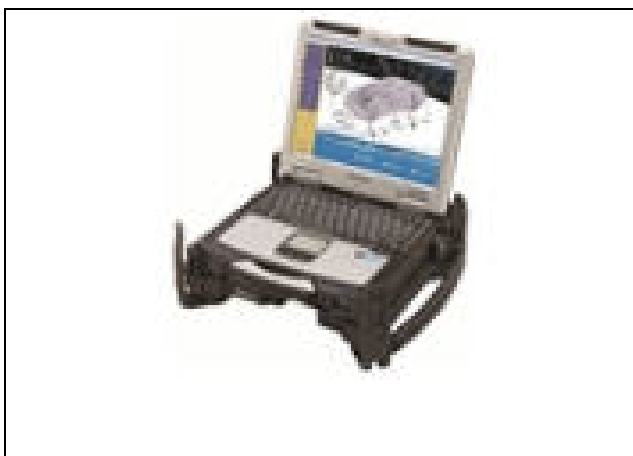


e) Connect the other end of the hose to an appropriate fuel container or into the filler neck of another vehicle.

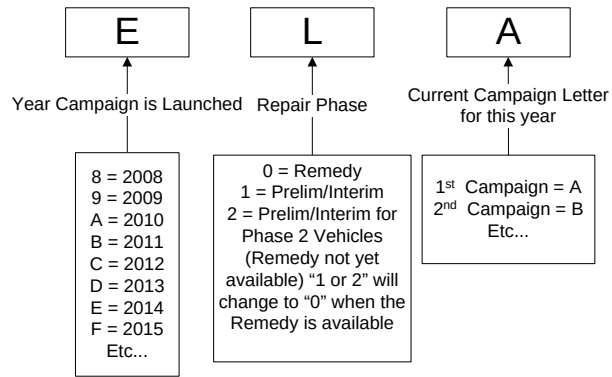


- f) Connect Techstream
- g) Turn IG on (engine off)
- h) Using Techstream go to
 - Powertrain
 - Engine and ECT
 - Active Test
 - Control the Fuel Pump Speed

NOTE: The fuel tank capacity is 55 liters.
Fuel pump output is depended upon battery charge and is approximately 1 liter per minute.
DO NOT abandon the vehicle while draining the tank



A. CAMPAIGN DESIGNATION DECODER



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.***