

IMPORTANT UPDATE

TECHNICAL INSTRUCTIONS FOR SAFETY RECALL 20TA02

VEHICLE MAY STALL DURING DRIVING AT HIGHER SPEED

2018 – 2019 Sequoia	2018 – 2020 Camry	2018 – 2020 Avalon
2018 – 2020 Tundra	2014 FJ Cruiser	2014 – 2015 4Runner
2018 – 2020 Corolla	2018 – 2019 Highlander	2017 – 2020 Sienna**
2018 – 2019 Tacoma	2014 – 2015 Land Cruiser	2019 RAV4 (Japan Produced)
2019 Corolla Hatchback		

The remedy for this campaign is being launched in phases. Confirm remedy eligibility on each VIN in TIS before starting any repairs.

****Sienna Mobility Vehicles**

Sienna's that have floorboard modifications, such as a wheelchair ramp or lift, for mobility use will be featured in separate instructions. Please reference the [20TA02 Sienna Mobility Vehicle Technical Instructions](#) for details.

Update 3/2/2021: Update to the Corolla and Corolla Hatchback Component diagrams

Update 3/1/2021: Update to the Camry A25A 2.5 Component diagrams

Update 2/25/2021: 2020 Tundra and 2020 Camry added

Update 2/18/2021: 2019 RAV4 and Corolla Hatchback; 2020 Corolla models added
Details provided for removing the seat cushion on RAV4

Update 2/10/2021: Instructions added for use of Retainer Ring Pilers

Update 1/28/2021: 2018-2019 Camry A25A; 2020 Avalon and Sienna AWD has been added

Update 1/28/2021: Tips added for Removal, Disassembly and Reassembly

Update 10/22/2020: Land Cruiser repair procedure has been added

Update 9/30/2020: Tacoma repair procedure has been added

Update 9/3/2020: Highlander repair procedure has been updated

Update 8/7/2020: Instructions added for rear seat removal on Highlander

Update 7/29/2020: Details updated for Sienna Mobility Vehicles

Update 7/10/2020: Instructions provided for Corolla Retainer Ring Removal

Update 7/1/2020: Sienna, 2015 4Runner and 2018 Avalon have been added

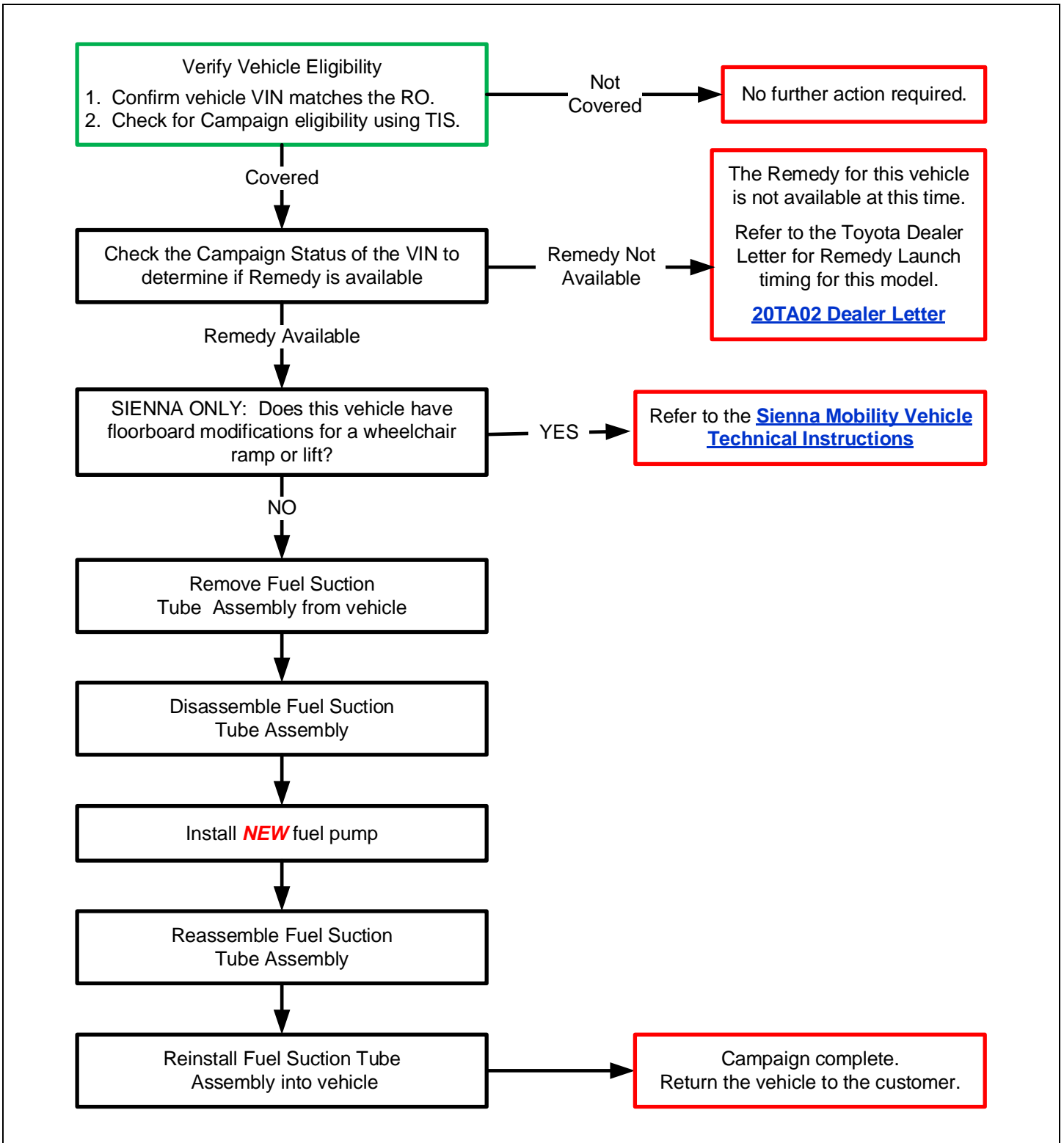
Update 6/25/2020: Corolla and Highlander have been added

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 currently hold at least one of the following certification levels:

- **Certified (any specialty)**
- **Expert (any specialty)**
- **Master**
- **Master Diagnostic Technician**

It is the dealership's responsibility to select technicians with the above certification level or greater 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

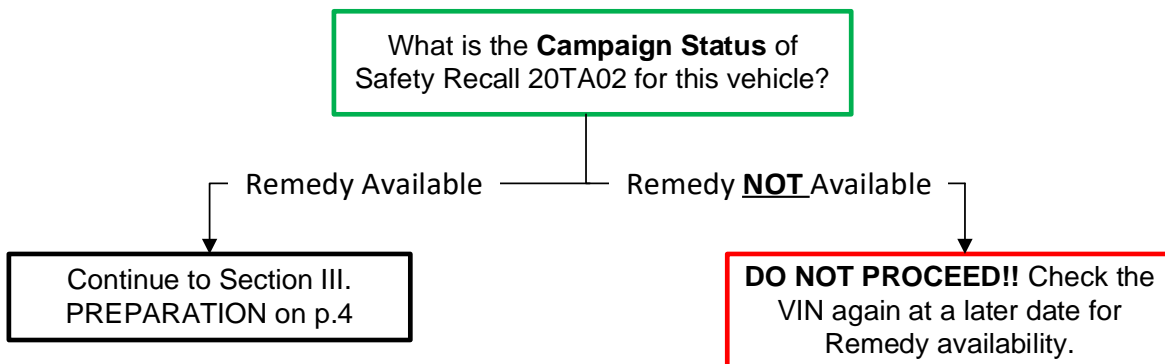


II. IDENTIFICATION OF AFFECTED VEHICLES

1. CHECK VEHICLE FOR CAMPAIGN ELIGIBILITY

- Compare the vehicle's VIN to the VIN listed on the Repair Order to ensure they match.
- Check the TIS Vehicle Inquiry System or Service Lane to verify this vehicle is eligible for Safety Recall 20TA02.
- Determine the **Campaign Status** for Safety Recall 20TA02.

Campaign Description: Safety Recall 20TA02 (Remedy Notice), Multiple
Campaign Status: ??????????
Completion Status: **Not Completed**



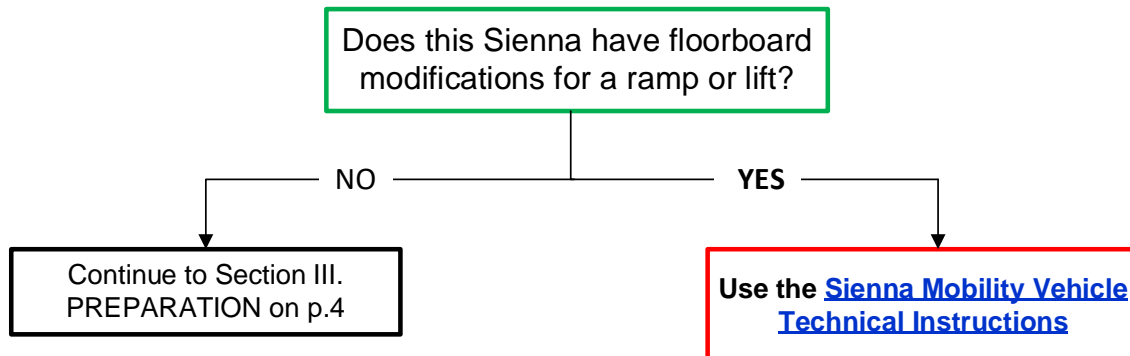
DO NOT PROCEED with these instructions if the Campaign Status shows Remedy Not Available!

The remedy for this campaign is being launched in phases. Confirm remedy eligibility on each VIN in TIS before starting any repairs. Launch timing specific to each model is available in the [20TA02 Dealer Letter](#).

Note: Warranty will not reimburse dealers for repairs completed on vehicles that are not affected or were previously completed, even by another dealer. In addition, warranty claims will not be processed for vehicles that are not yet eligible for the remedy.

2. CHECK FOR FLOORBOARD MODIFICATIONS (SIENNA ONLY)

- Inspect the vehicle to determine if modifications have been made to the floorboard of the vehicle to accommodate a ramp or lift for wheelchair use. Such modifications typically require the relocation and/or modification of the fuel tank. If the fuel tank has not been modified or relocated, it will not be necessary to use the Sienna Mobility Vehicle Technical Instructions.



III. PREPARATION

A. PARTS

Because of the extensive list of parts for the numerous models affected by this Safety Recall, a website has been created to detail the required parts for each vehicle. Reference the following website for a detailed parts list for **each specific VIN**:

<https://20ta02.imagespm.info>

To log into the website:

- a. Enter your dealer code in the Dealer Code field.
- b. Enter XXXXX (5 Capital X's) for the Password.

Note: Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

B. TOOLS & EQUIPMENT

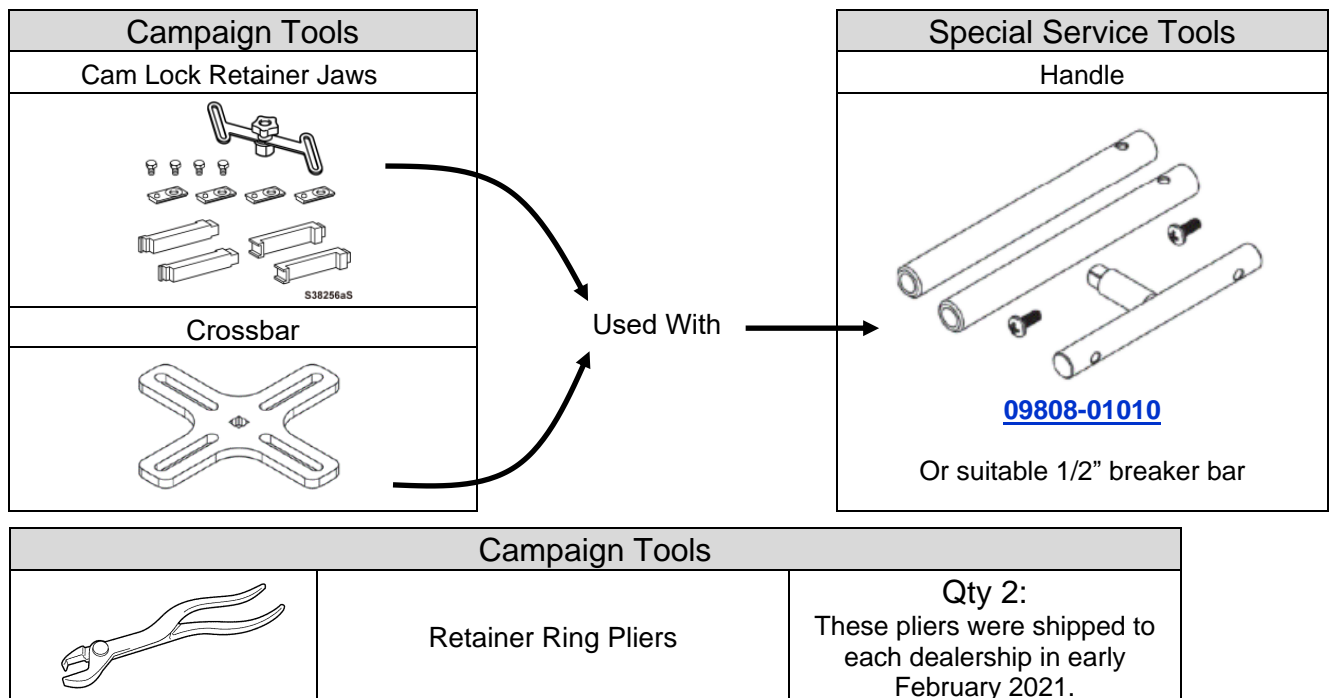
- Standard Hand Tools
- Torque Wrench
- Air Blow gun
- Gas Caddy (minimum 25 gallon capacity)

C. MATERIALS

- Brake Cleaner






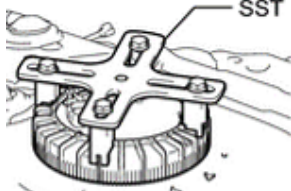
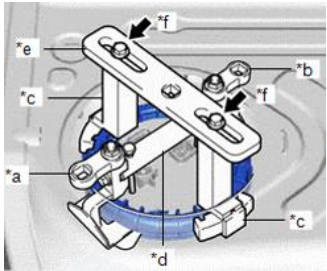
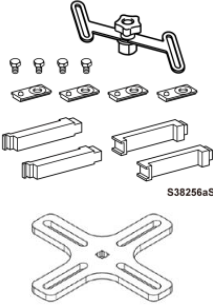

D. CAMPAIGN TOOLS

Prior to the launch of this Campaign, each dealership will receive a Crossbar and a set of Cam Lock Retainer Jaws for removing the Cam Lock type retainer rings. These jaws will be used with the dealerships existing Handle set from the Fuel Sender Lock Nut Wrench Set (09808-14031). A 1/2" breaker bar can also be used. This set of tools will supplement the SST kit that each dealership currently has. The Campaign tools were sent directly to the dealership's Service Manager. Additional SST's can be purchased through the [Toyota Special Service Tools \(SST\)](#) website.



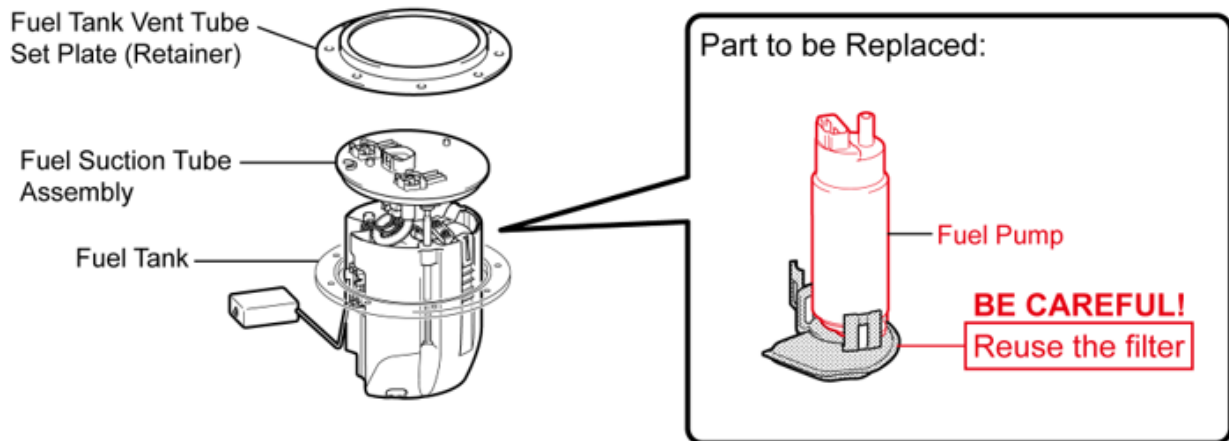
C. Special Service Tools

In the affected models, there are three different types of Fuel Pump Retainer Rings. Reference the following chart to determine the proper SST or campaign tool for each model and retainer type.

RETAINER TYPE				
Type:	 <p>Bolt In</p>	 <p>Cam Lock</p>	 <p>Plastic Ring</p>	 <p>Plastic Ring w/ Holding Tool</p>
SST:	No SST Required	 <p>Fuel Sender Lock Nut Wrench Kit (09808-14031)</p> <p>Claw: 105mm Jaw Set (09808-01070)</p> <p>Crossbar (09808-01030)</p>	 <p>Fuel Sender Lock Nut Wrench Kit (09808-14031)</p> <p>Option 1: Claw: 50mm Jaw Set (09808-01040)</p> <p>Option 2: Claw: Sliding jaw (09808-01080)</p> <p>Crossbar (09808-01030)</p>	 <p>Fuel Pump Retainer Tool (*e) (09808-14040)</p> <p>Fuel Pump Holding Tool (*d) (09808-14050)</p>
Special Notes:		<p>Campaign Tool:</p> <p>Cam Lock Retainer Jaws</p>  <p>Requires use of the Handle from the Fuel Sender Lock Nut Wrench Kit, or a 1/2" breaker bar.</p>	<p>Aftermarket alternative:</p> <p>CTA Tools 1044 Fuel Tank Lid Wrench</p>  <p>This tool is available from Autopart.com</p> <p>Or contact CTA Tools at info@ctatools.com for purchasing inquiries</p>	<p>Additional SST's can be purchased from the Toyota Special Service Tools (SST) website</p>
Models	Avalon (2018)	Avalon (2019) Camry RAV4 Corolla (2020) Corolla Hatchback	4Runner Sequoia Tundra FJ Cruiser Sienna Tacoma Corolla (2018-2019) Land Cruiser	Highlander

IV. BACKGROUND

The subject vehicles are equipped with a low-pressure fuel pump which may stop operating. If this were to occur, warning lights and messages may be displayed on the instrument panel, and the engine may run rough. This may result in a vehicle stall, and the vehicle may be unable to be restarted. If a vehicle stall occurs while driving at higher speeds, this could increase the risk of a crash.



*The configuration of the parts will differ depending on the specification.

S38182aSU

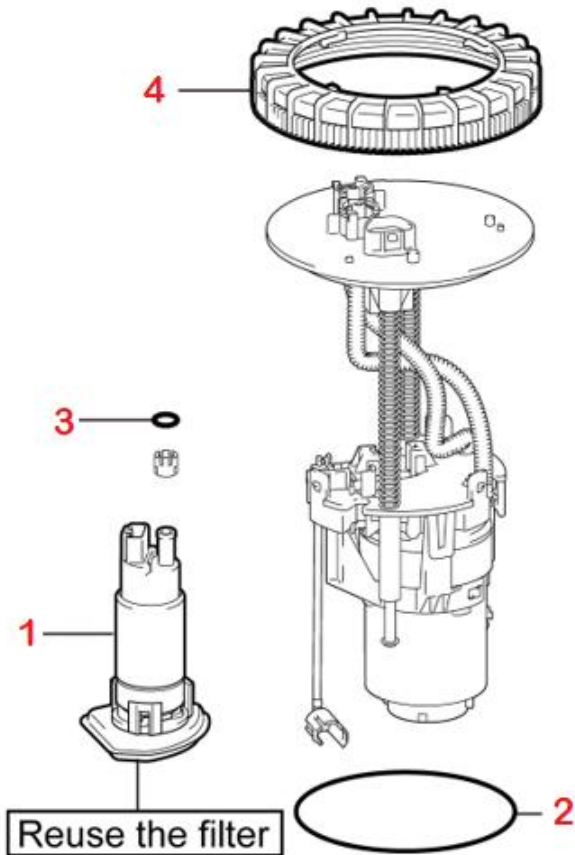
V. SAFETY PRECAUTIONS

CAUTION:

- When installing/uninstalling the fuel system components, keep safety first in mind and carefully observe the following instructions to avoid accidents:
- a. When working on the fuel system, display a Flammable - Keep Fire Away sign.
 - b. Smoking is prohibited nearby.
 - c. Perform this work in an area where there are no sparks nearby from the operation of welders, grinders, drills, electric motors, stoves, etc.
 - d. **DO NOT** use electrical devices nearby because they can become hot and the operation of power switches can generate sparks.
 - e. **DO NOT** use iron or steel hammers while working, because they may generate sparks.
 - f. **DO NOT** start engines even in adjacent stalls.
 - g. Prepare fire extinguishers before starting any work.
 - h. Perform this work in a well-ventilated area (natural ventilation). **DO NOT** use exhaust fans or electric fans, because their motors might generate sparks.
 - i. Since it is possible for fuel vapor to build up, **DO NOT** work in or near a pit.
 - j. If fuel is spilled, use shop towels or similar material to quickly wipe it up and then use compressed air to diffuse the fuel vapor.
 - k. Shop towels and other materials that have come into contact with fuel should be dried in a well-ventilated area and then disposed of as appropriate.

VI. COMPONENTS

4Runner

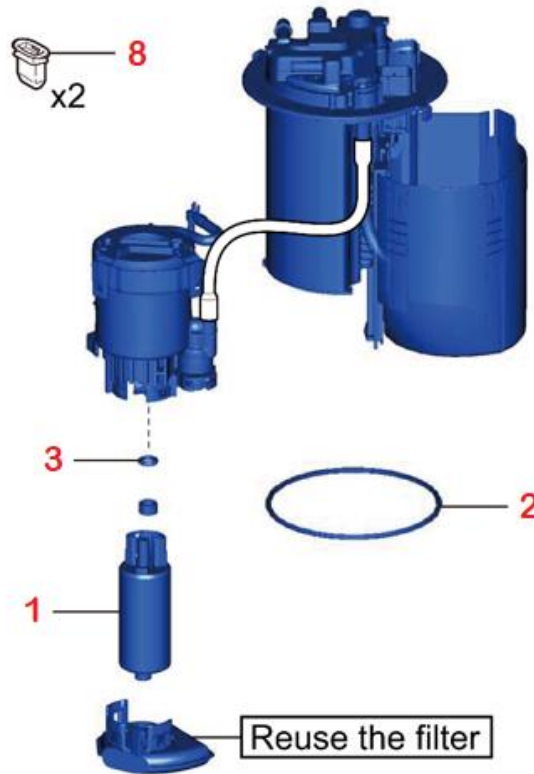


Replacement Items in red

No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	1	Yellow	15.2mm
4	FUEL PUMP GAUGE RETAINER	1		

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

AVALON 2018



Replacement items in red

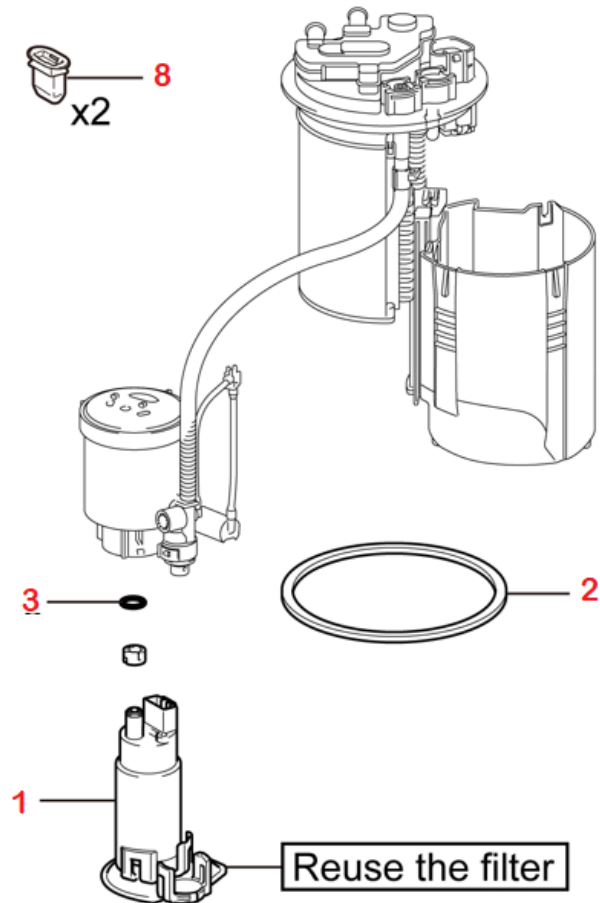
No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	1	Yellow	15.2mm
4	O-RING	1	Red	Not used
5	O-RING		Sky Blue	Not used
6	O-RING	1	Green	Not used
7	FUEL TANK PIPE SETTING HOLDER	1	White	Not used
8	REAR SEAT CUSHION LOCK HOOK	2		

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Note: Some items in the Fuel Pump Replacement Kit will not be used.

Dispose (Not used)
 4—● 5—● 6—● 7—● S38348aS

AVALON 2019 - 2020



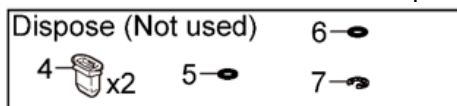
Replacement items in red

No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	2*	Gold	15.2mm
4	REAR SEAT CUSHION LOCK HOOK (included in the gasket kit)	2		Not used
5	O-RING	1	Red	Not used
6	O-RING	1	Green	Not used
7	FUEL TANK PIPE SETTING HOLDER	1	White	Not used
8	REAR SEAT CUSHION LOCK HOOK (part # 04009-95106)	2		

*only 1 O-Ring will be used. Discard the 2nd O-Ring.

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

Note: Some items in the Fuel Pump Replacement Kit will not be used.



CAMRY
2GR-FSE 3.5



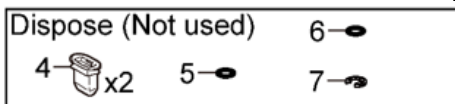
Replacement items in red

No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	2*	Gold	15.2mm
4	REAR SEAT CUSHION LOCK HOOK (included in the gasket kit)	2		Not used
5	O-RING	1	Red	Not used
6	O-RING	1	Green	Not used
7	FUEL TANK PIPE SETTING HOLDER	1	White	Not used
8	REAR SEAT CUSHION LOCK HOOK (part # 04009-95106)	2		

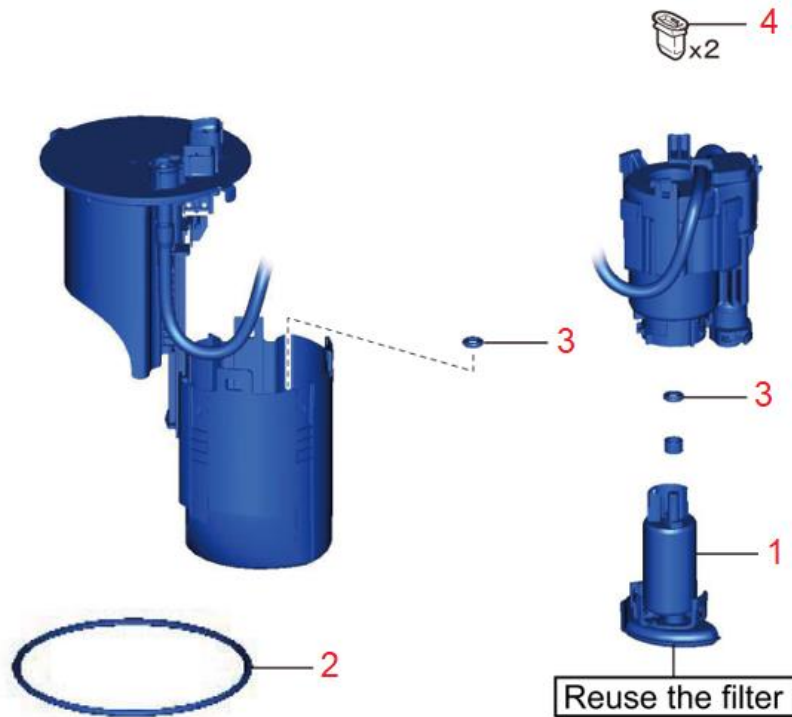
*only 1 O-Ring will be used. Discard the 2nd O-Ring.

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

Note: Some items in the Fuel Pump Replacement Kit will not be used.



CAMRY
A25A-FSE 2.5 (VIN JTN)

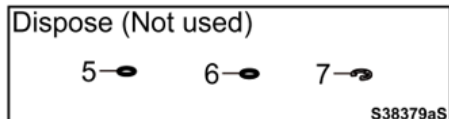


Replacement items in red

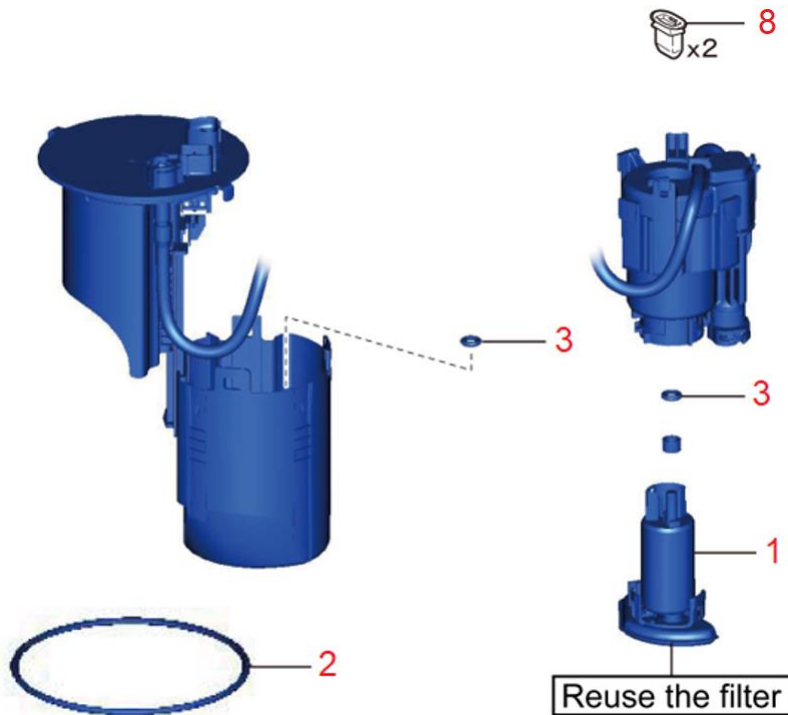
No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	2	Gold	15.2mm
4	REAR SEAT CUSHION LOCK HOOK (included in the gasket kit)	2		
5	O-RING	1	Red	Not used
6	O-RING	1	Green	Not used
7	FUEL TANK PIPE SETTING HOLDER	1	White	Not used

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

Note: Some items in the Fuel Pump Replacement Kit will not be used.



CAMRY
A25A-FSE 2.5 (VIN 4T1)

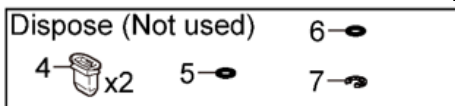


Replacement items in red

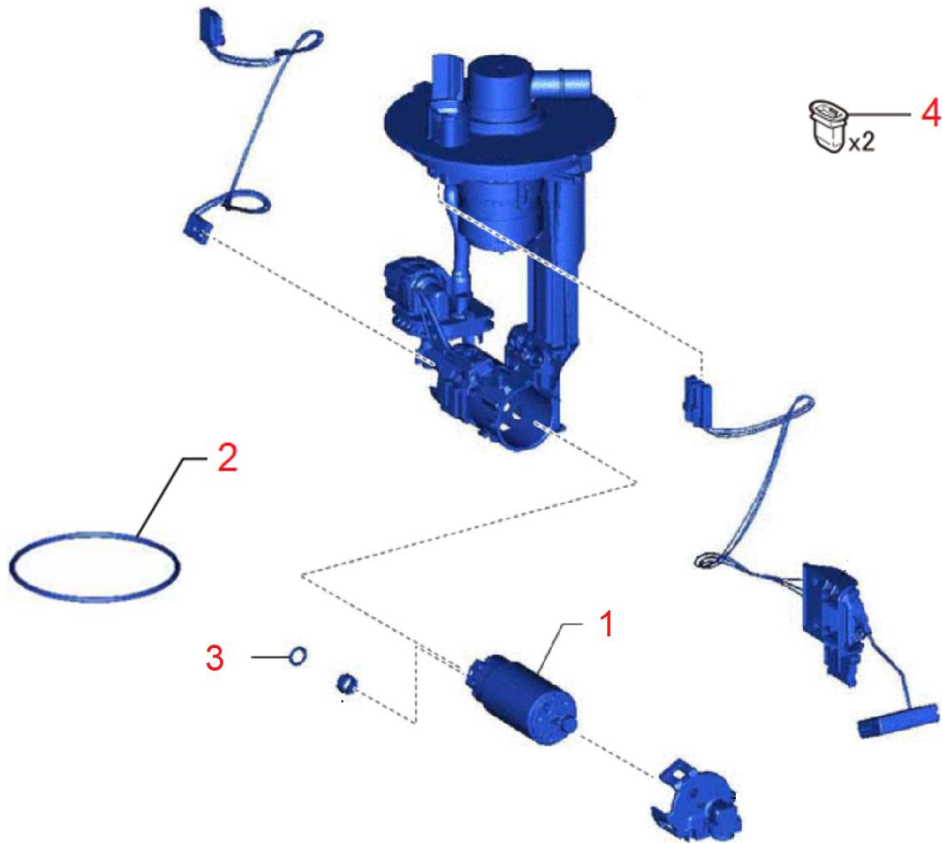
No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	2	Gold	15.2mm
4	REAR SEAT CUSHION LOCK HOOK (included in the gasket kit)	2		Not used
5	O-RING	1	Red	Not used
6	O-RING	1	Green	Not used
7	FUEL TANK PIPE SETTING HOLDER	1	White	Not used
8	REAR SEAT CUSHION LOCK HOOK (part # 04009-95106)	2		

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

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COROLLA (2020)
COROLLA HATCHBACK

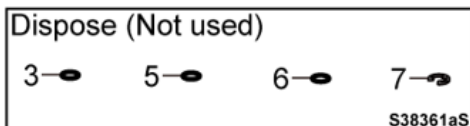


Replacement items in red

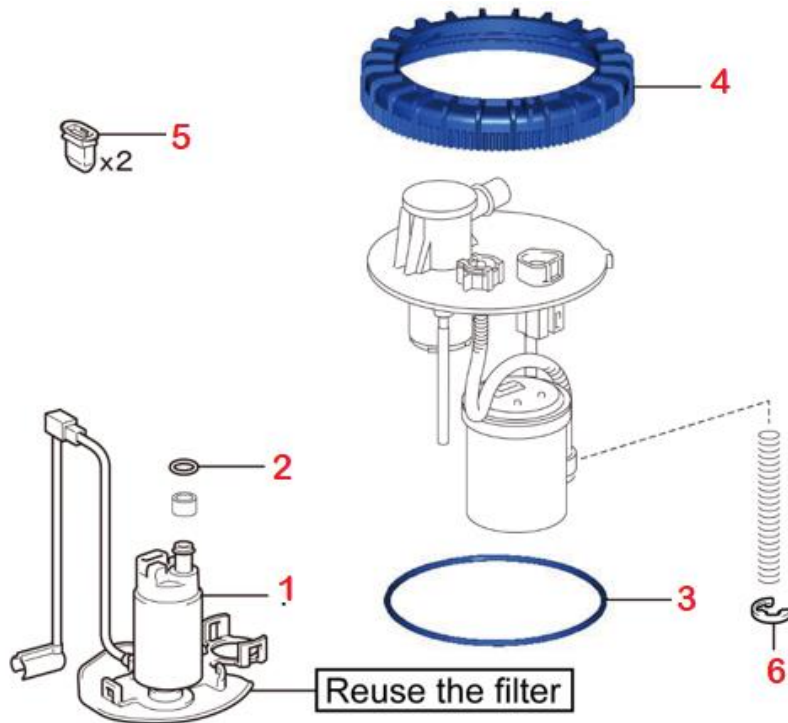
No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	2*	Gold	15.2mm
4	REAR SEAT CUSHION LOCK HOOK	2		
5	O-RING	1	Red	Not Used
6	O-RING	1	Green	Not Used
7	FUEL PIPE SETTING HOLDER	1	White	Not Used

*only 1 O-Ring will be used. Discard the 2nd O-Ring.

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.



COROLLA (2018-2019)

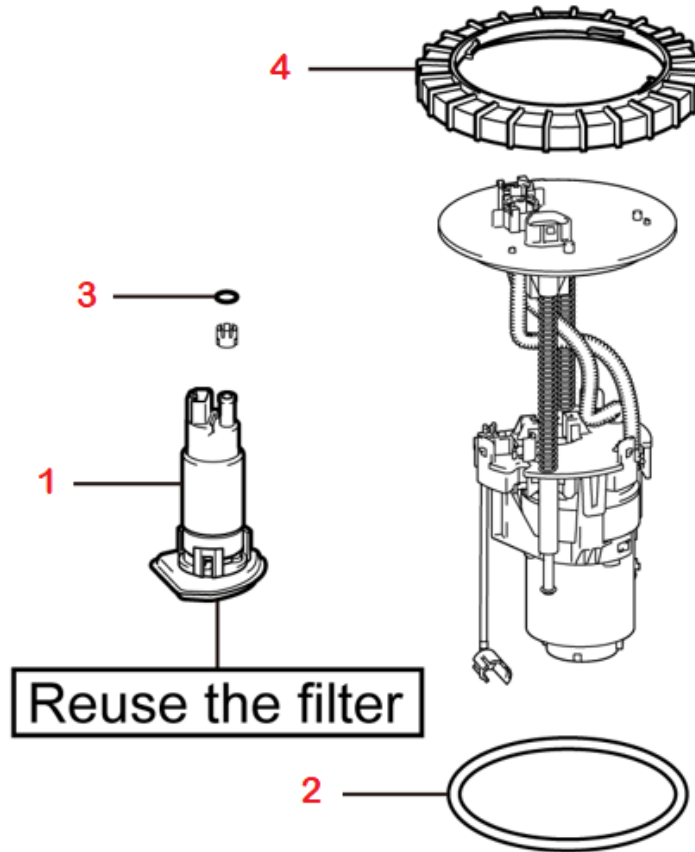


Replacement items in red

No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	O-RING	1	(not labeled)	13.2mm
3	FUEL SUCTION TUBE SET GASKET	1		
4	FUEL PUMP GAUGE RETAINER	1		
5	REAR SEAT CUSHION LOCK HOOK	2		
6	FUEL PIPE SETTING HOLDER	1		

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

FJ CRUISER

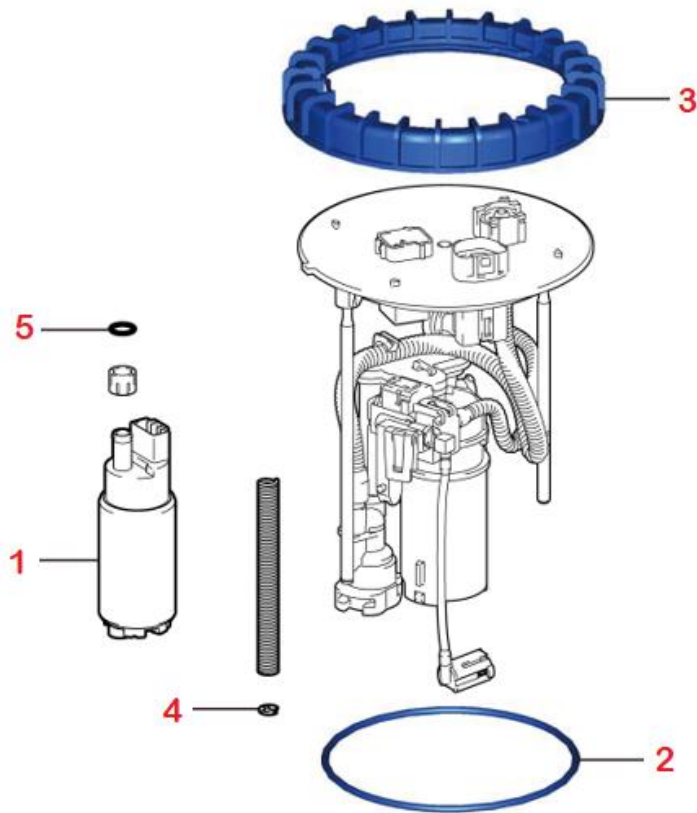


Replacement items in red

No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	1	Yellow	15.2mm
4	FUEL PUMP GAUGE RETAINER	1		

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HIGHLANDER

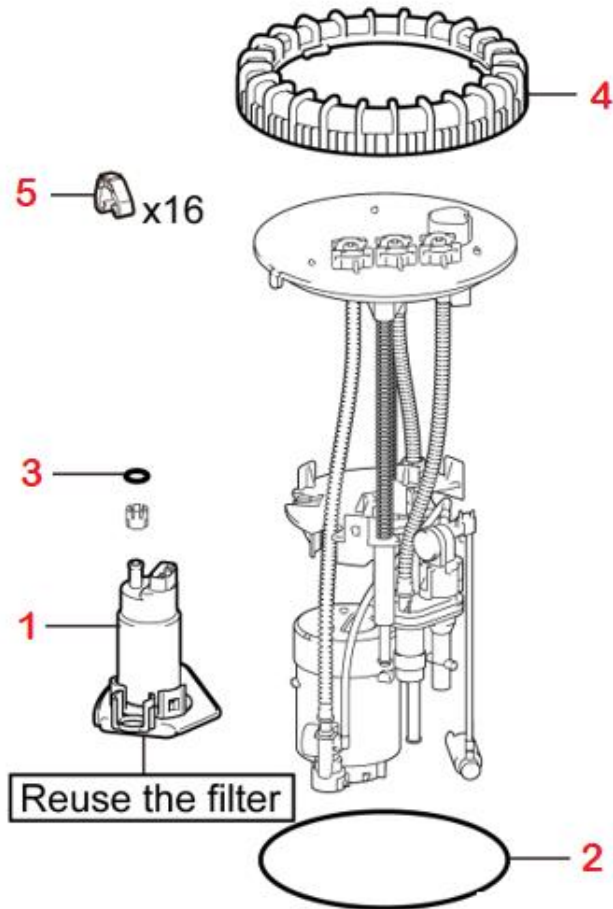


Replacement items in red

No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	FUEL PUMP GAUGE RETAINER	1		
4	FUEL TANK PIPE SETTING HOLDER	1		
5	O RING	1	(not labeled)	

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LANDCRUISER

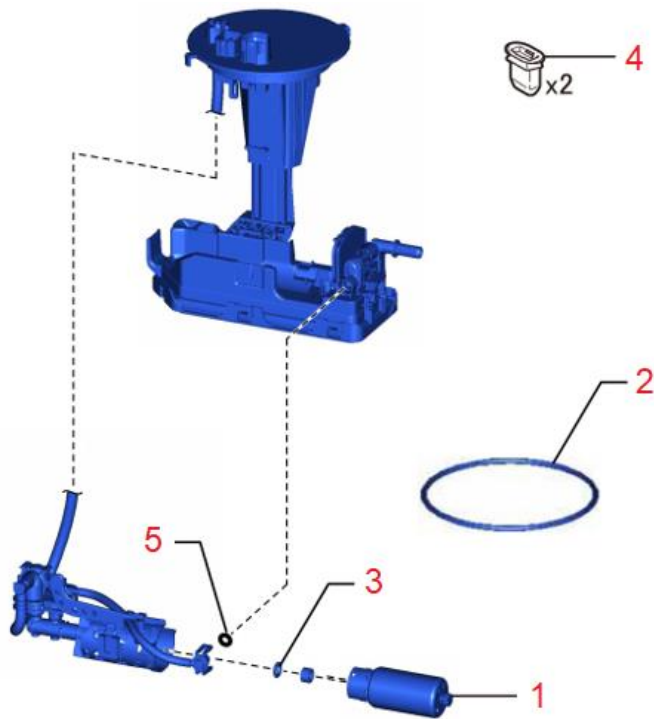


Replacement items in red

No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	1	Yellow	15.2mm
4	FUEL PUMP GAUGE RETAINER	1		
5	TUBE JOINT CLIPS	16		

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RAV4

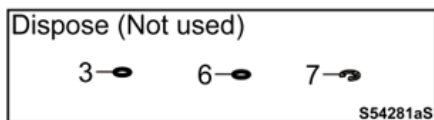


Replacement items in red

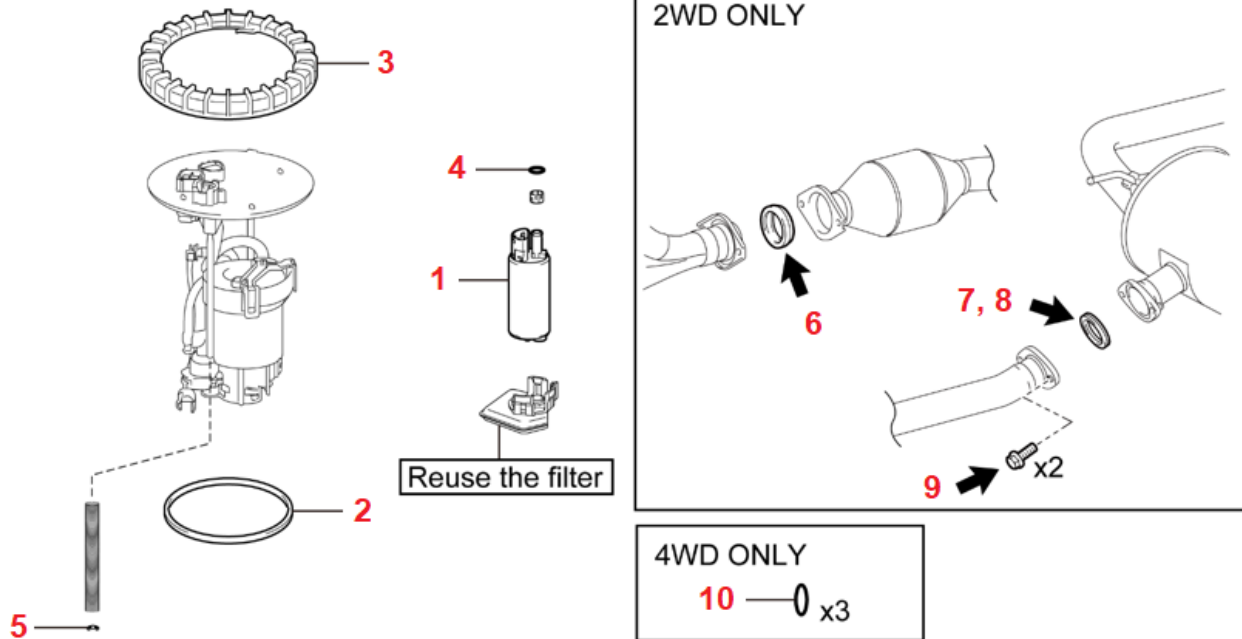
No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	2*	Gold	15.2mm
4	REAR SEAT CUSHION LOCK HOOK	2		
5	O-RING	1	Red	13.2mm
6	O-RING	1	Green	Dispose
7	FUEL PIPE SETTING HOLDER	1	White	Dispose

*only 1 O-Ring will be used. Discard the 2nd O-Ring.

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.



SIENNA



Replacement items in red

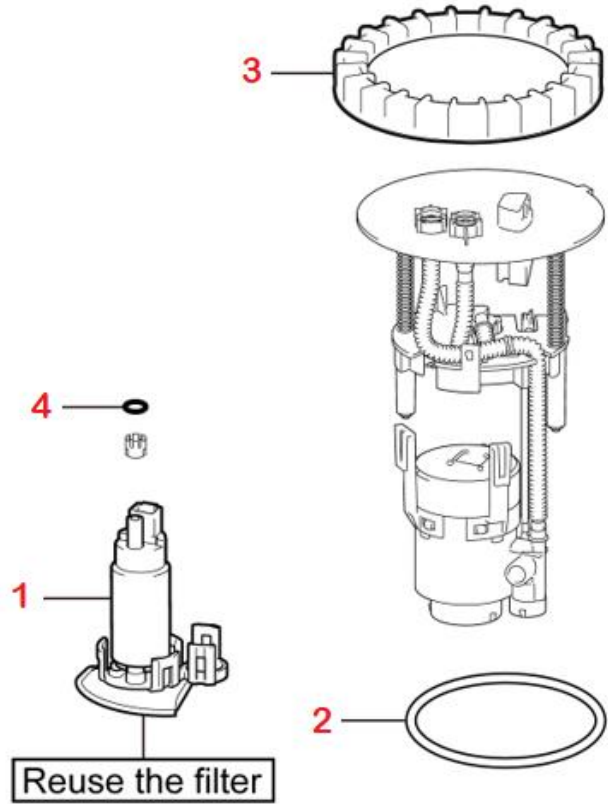
No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	FUEL PUMP GAUGE RETAINER	1		
4	O-RING	1	(not labeled)	
5	FUEL TANK PIPE SETTING HOLDER	1		
6	EXHASUT PIPE GASKET (2WD)	1		16.4mm
7	EXHASUT PIPE GASKET (2WD)	1		
8	EXHASUT PIPE GASKET (2WD)	1		
9	FLANGE BOLT (2WD)	2		
10	DRAIN PLUG GASKET (4WD)	3		

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Sienna Mobility Vehicles

Sienna's that have floorboard modifications, such as a wheelchair ramp or lift, for mobility use will be featured in separate instructions. Please reference the [Sienna Mobility Vehicle Technical Instructions](#) for details.

SEQUOIA
TUNDRA

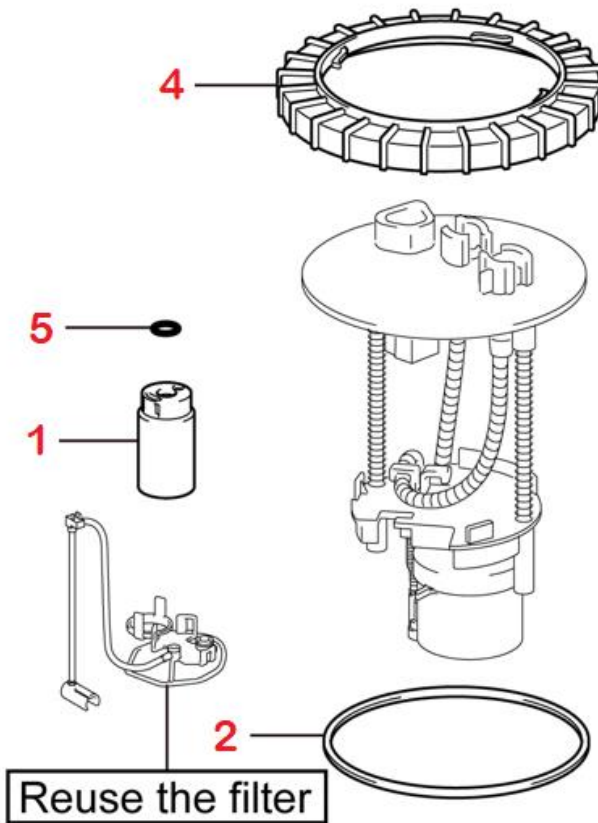


Replacement items in red

No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	FUEL PUMP GAUGE RETAINER	1		
4	O-RING	1	(not labeled)	

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

TACOMA
2TR-FE 2.7

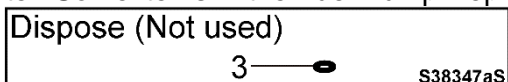


Replacement items in red

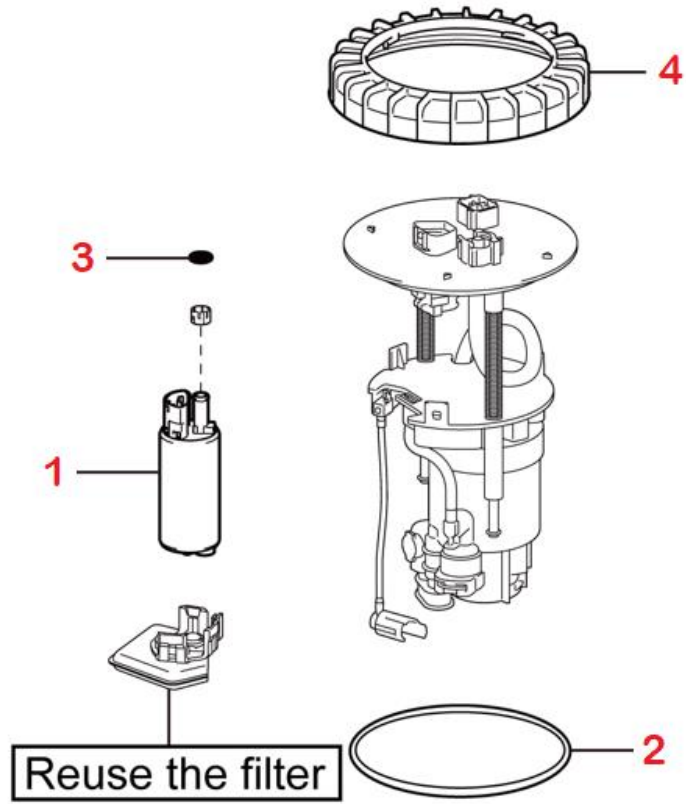
No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	1	Yellow	15.2mm (not used)
4	FUEL PUMP GAUGE RETAINER	1		
5	O-RING	1		13.2mm

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

Note: Some items in the Fuel Pump Replacement Kit will not be used



TACOMA
2GR-FKS 3.5



Replacement items in red

No.	Contents of Part Kit's	Quantity	Tape Color	Remarks
1	FUEL PUMP	1		
2	FUEL SUCTION TUBE SET GASKET	1		
3	O-RING	1	Yellow	15.2mm
4	FUEL PUMP GAUGE RETAINER	1		

DO NOT order the individual parts listed here. It is provided as a reference to assist in the correct installation. Order the parts kit's specific to each VIN, as detailed in the parts lookup website (p. 4). Warranty will only reimburse dealers for the part numbers listed on the website. Any other part numbers will not be accepted on the campaign claim.

VII. REMOVE FUEL TUBE ASSEMBLY



Use TIS to confirm that this vehicle is eligible for the campaign before proceeding (p. 3). Warranty will not pay claims on ineligible vehicles.



1. CHECK FOR DTC'S

- a. Using a Techstream, perform a Health Check to check for Diagnostic Trouble Codes.

Note: This Safety Recall covers only the replacement of the fuel pump and associated parts. It does not cover the diagnosis or replacement of any other parts on the vehicle.

REMOVAL TIP: FUEL LEVEL

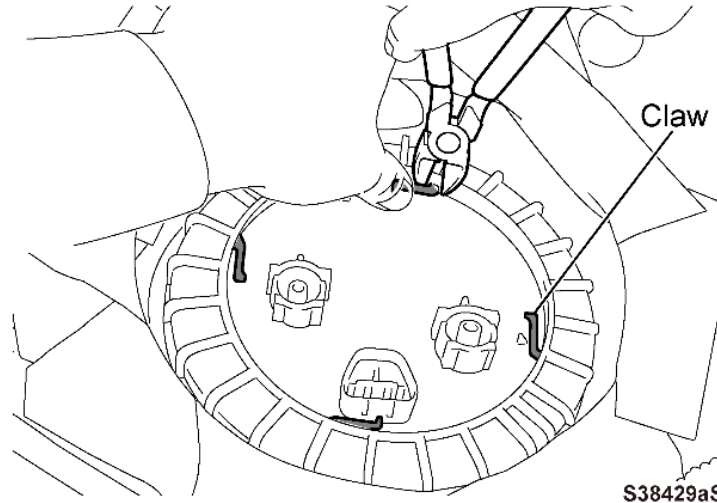
If the fuel level inside the fuel tank is above the specified level, fuel may overflow from the fuel tank during the removal of the fuel suction tube assembly. Confirm the fuel level in the vehicle is below the specified level before proceeding. If necessary, drain fuel from the tank.

Model	FUEL LEVEL RECOMMENDATIONS			
	Less than full	3/4 or less	1/3 or less	Empty
4Runner Avalon Camry Corolla Corolla Hatchback FJ Cruiser Highlander Tacoma Land Cruiser	✓			
Sequoia Tundra		✓		
RAV4			✓	
Sienna				✓

Note: If fuel needs to be removed from the tank, be sure to recover it into an approved fuel recovery system. Suitable systems are available from the [Toyota Approved Dealer Equipment](#) website.

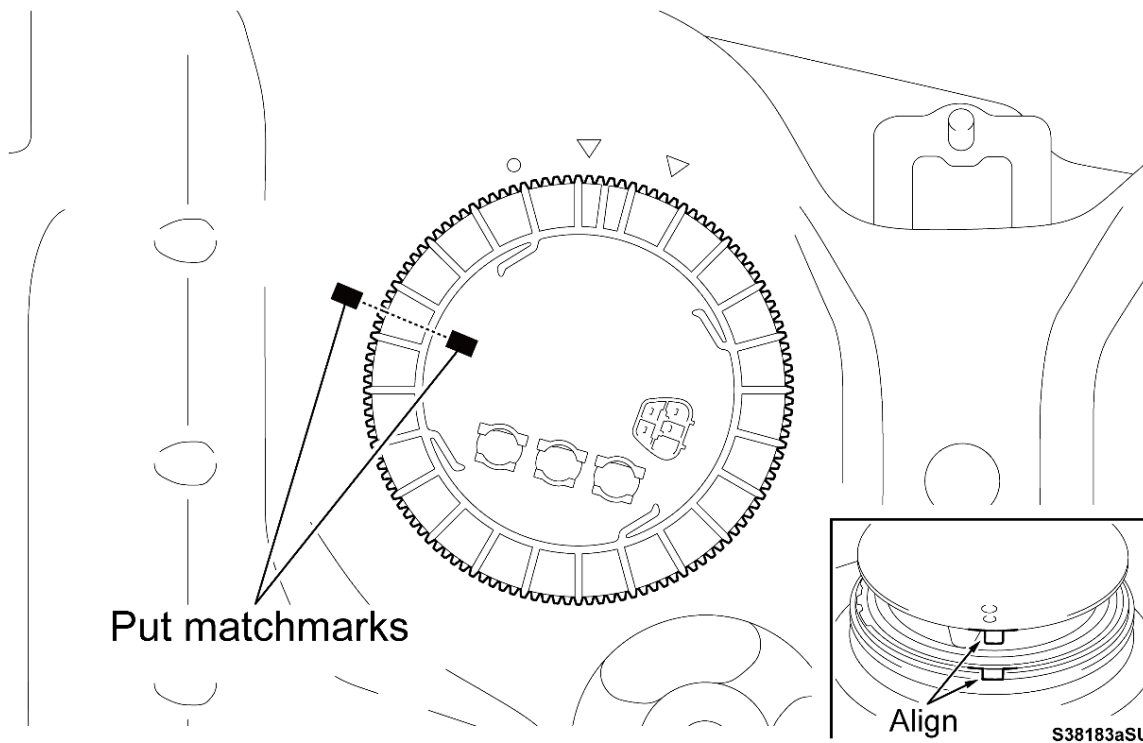
REMOVAL TIP: PLASTIC RING RETAINERS

If removing the Plastic Ring type retainers, cut the 4 internal claws to prevent the Fuel Tube assembly from rotating during removal. This could cause damage to the fuel level sender, fuel tank, or fuel tube assembly.



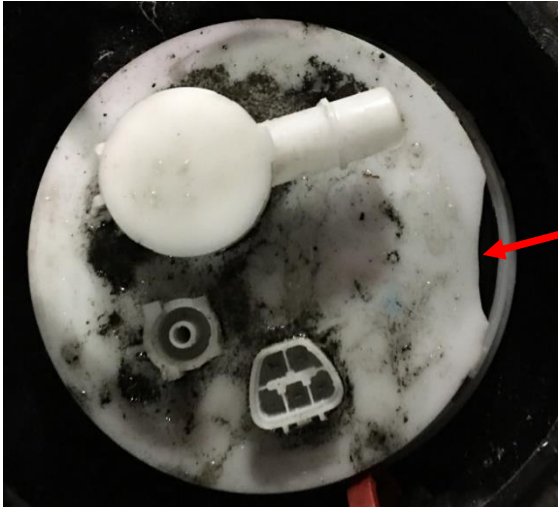
REMOVAL TIP: TUBE ASSY ALIGNMENT

For vehicles with the plastic retainer rings, place matchmarks on both the Fuel Tube Assembly and the fuel tank. During disassembly, confirm that the Fuel Tube Assembly does not rotate. During reassembly, this will aid in aligning the locating tabs for proper installation.



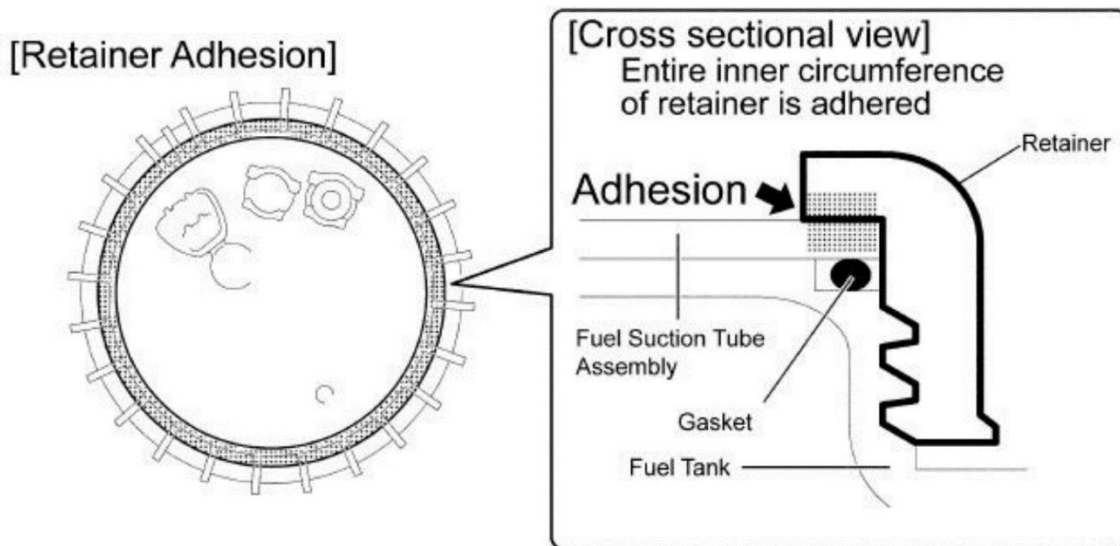
REMOVAL TIP: COROLLA RETAINER RING REMOVAL Option #1

Corolla models have been identified to experience breakage of the Fuel Tube Assembly during disassembly. In order to prevent damage to the Fuel Tube Assembly during removal, perform the procedure detailed in the following steps.



Example of Damaged Fuel Tube Assembly

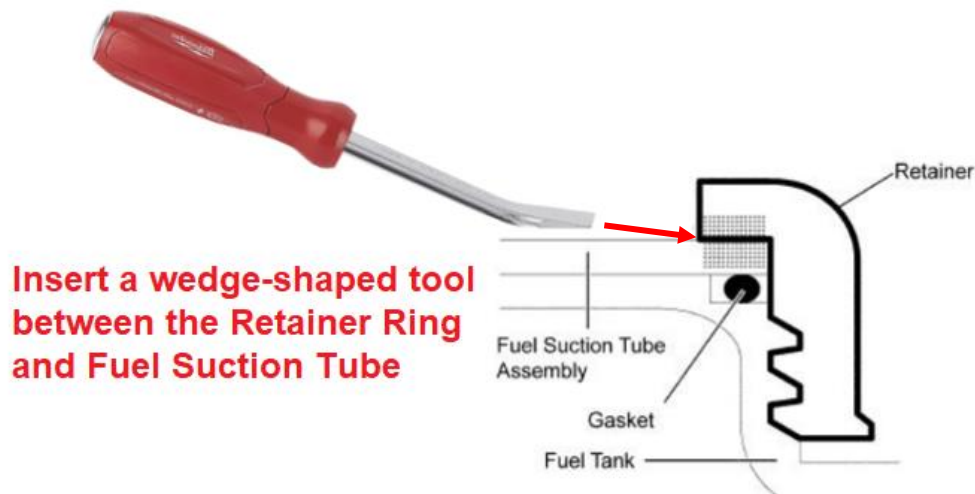
The damage during disassembly is caused by adhesion, or “sticking”, of the Retainer Ring and the Fuel Tube Assembly. When the Retainer Ring is rotated on the stationary Fuel Tube assembly, the portions that are “stuck” together are under a very high load and may break off.



(continued next page)

REMOVAL TIP: COROLLA RETAINER RING REMOVAL Option #1 (cont.)

It will be necessary to separate the bond between the Retainer Ring and Fuel Tube Assembly before starting to remove the Retainer Ring. An effective method to separate this bond is the insert a wedge-shaped tool between the two pieces.



Tool selection is critical for this procedure. The tool needs to be able to slide flat across the surface of the Fuel Tube Assembly without digging into the Fuel Tube Assembly and causing damage. The tool tip also needs to have a wedge shape so that it can push upward on the Retainer Ring. The handle needs to be angled from tip to provide clearance of the electrical and fuel line connections. Metal trim tools and small pry bars are good examples of tools that work well. A screwdriver will not be acceptable.

REMOVAL PROCEDURE

1. Using the proper tool as described above, place the tool at the junction between the Retainer Ring and the Fuel Tube Assembly.
2. Using a small hammer, gently tap inward on the tool to force the Retainer Ring to flex enough to create the separation between the two pieces.
3. Gently rotate the tool upward a small amount to confirm the separation.
4. Remove the tool from under the Retainer Ring.
5. Continue this same process at 8 to 10 additional points around the Retainer Ring.
6. Remove the Retainer Ring using the appropriate tools.
7. Inspect the top of the Fuel Tube Assembly for cracking or damage on both sides. Do not reuse the Fuel Tube Assembly if it is damaged.

[Example Video of Retainer Ring Separation](#)

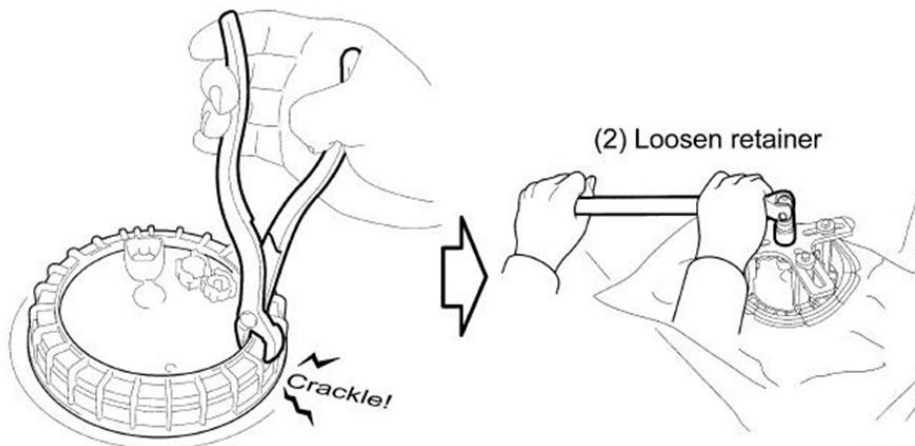
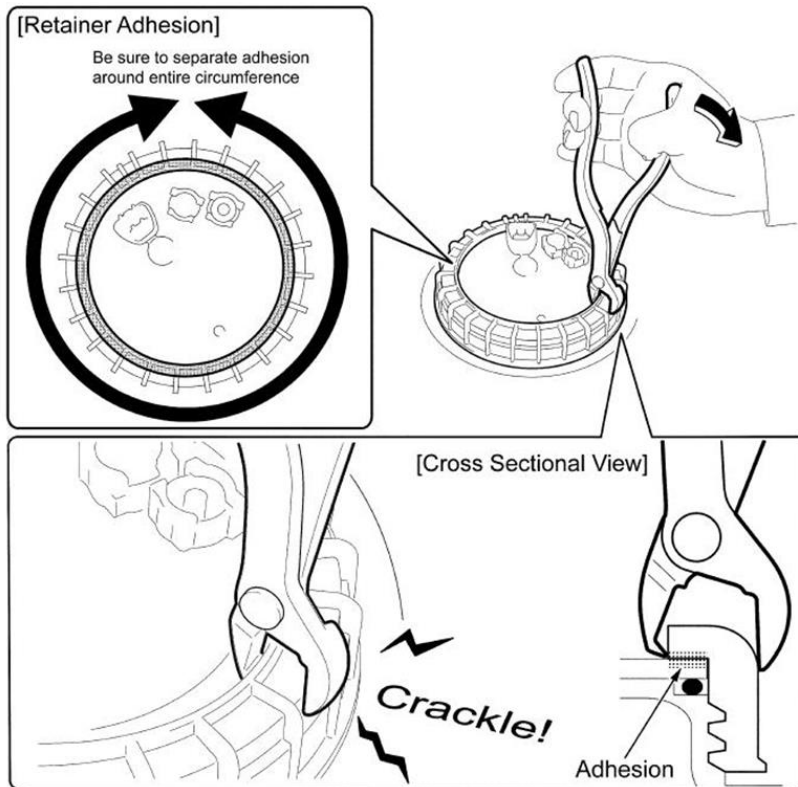
Break-away Torque of Retainer Ring: Corolla's built at the Canada assembly plant (Vin: 2T) have been identified to require a very large amount of force (200+ ft.lbs) to remove the Retainer Ring. The Mississippi built vehicles (VIN: 5Y) generally require much lower amounts of force. When removing the retainer rings on the Canada-built vehicles, it may be necessary to have one person stabilize the tool on the top of the Retainer Ring while a second person uses a breaker bar to loosen the Retainer Ring.

REMOVAL TIP: RETAINER RING REMOVAL Option #2

In early February 2021, each dealership was sent two (2) pairs of Retainer Ring Plier's. These tools can be used in place of the wedge-shaped pry bar detailed above on the Corolla ,and other models so equipped, that are experiencing excessive adhesion between the Plastic Retainer Ring and Fuel Tube assemblies.

REMOVAL PROCEDURE

1. Using the pliers provided, release the adhesion between the Retaining Ring and the Fuel Tube Assembly around the entire circumference.
2. Using the SST, loosen the Retainer Ring.

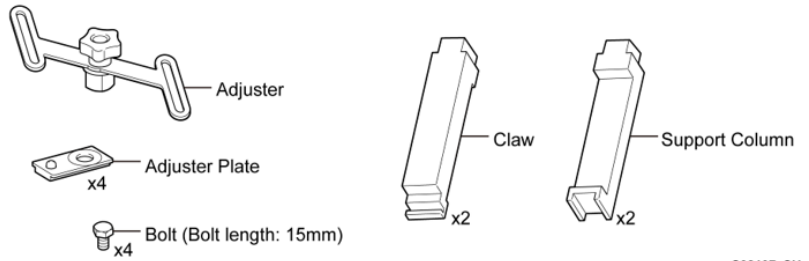


S17145bS

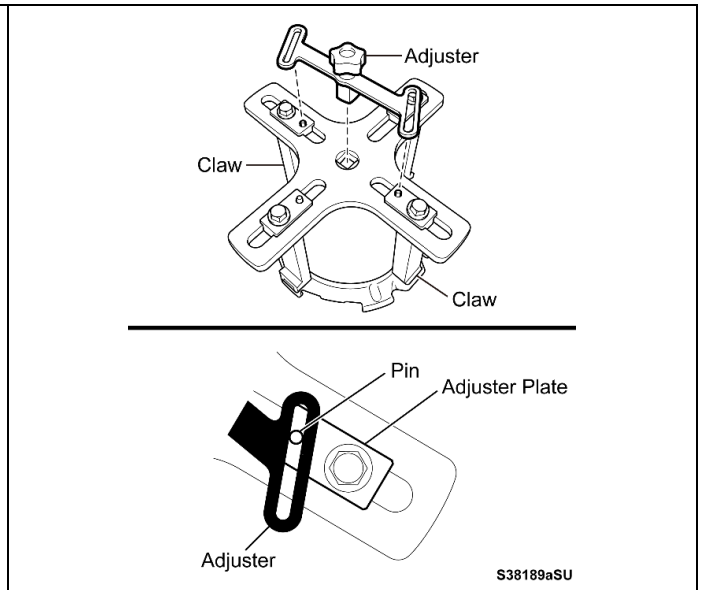
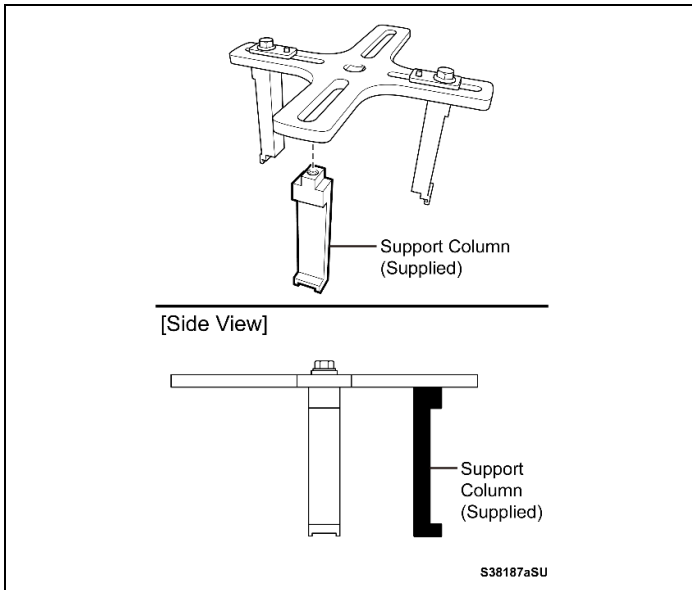
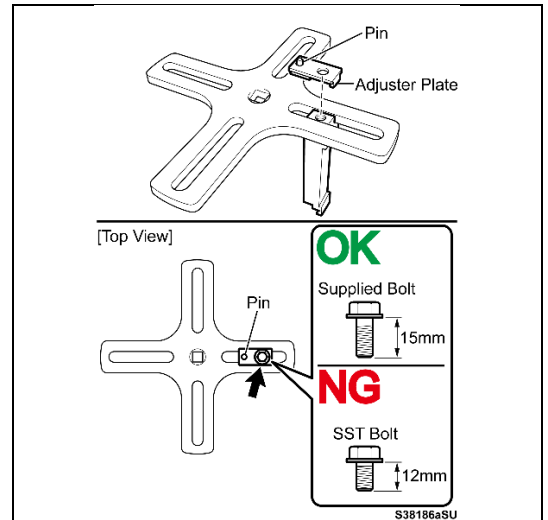
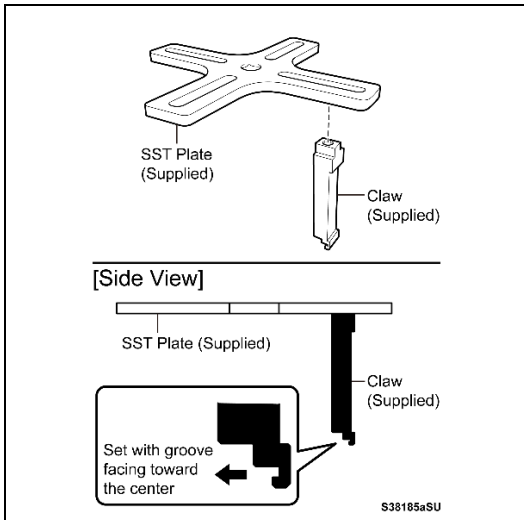
REMOVAL TIP: CAM LOCK RETAINER TOOL

An updated set of Cam Lock Claws and Support Columns are being supplied to each dealership for this campaign. The configuration of the retainer engagement sections of the claws have been modified from the SST that is referenced in the repair manual. The **NEW** claws have an improved design that enables a firm attachment to the retainer. In addition, 2 support columns are provided which will support the retainer more securely during installation and removal. Be sure to assemble and use the tools using the following procedures:

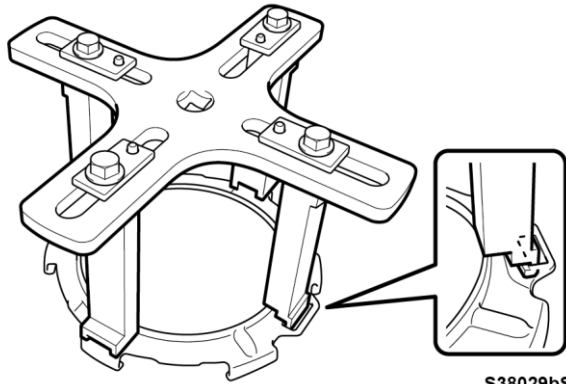
Campaign Tool Cam Lock Set:



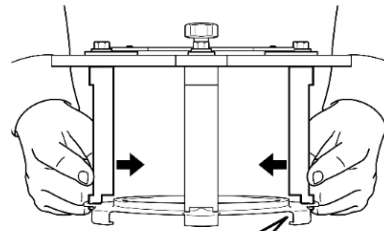
S38197aSU



REMOVAL TIP: CAM LOCK RETAINER TOOL (cont.)

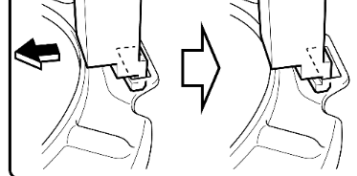


S38029bS



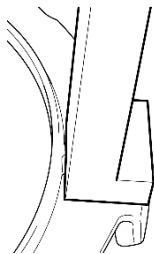
Push the claw inward firmly.

Check that the claw is engaging with the retainer.

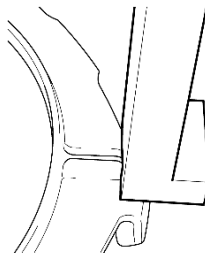


S38190aSU

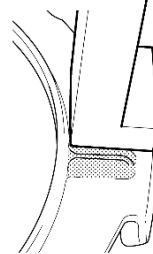
OK



NG

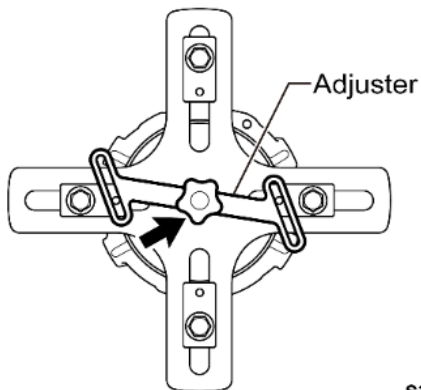


NG



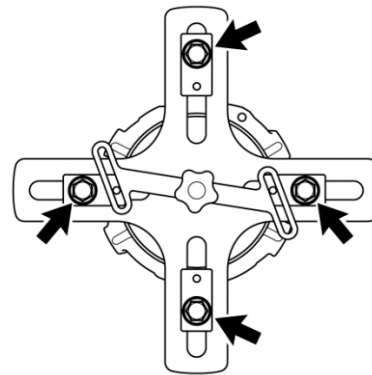
S38192aSU

Lightly tighten the adjuster



S38194aSU

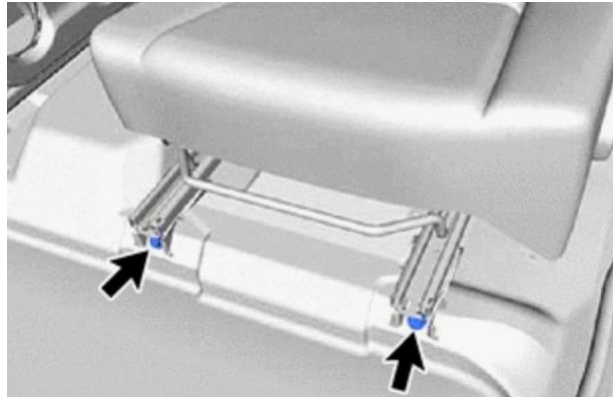
Fully tighten the 4 bolts



S38034aO

REMOVAL TIP: HIGHLANDER REAR SEATS

When removing and reinstalling the Highlander 2nd row seats, do not use an impact on the seat retaining bolts. Only use hand tools. The use of an impact may cause the welded nuts on the inside of the floorboard channel to break free of the sheet metal, causing an extensive repair. Be sure to properly torque the bolts during reassembly.



REMOVAL TIP: FUEL LEVEL SENDER

When removing and reinstalling the Fuel Level Sender from the fuel tank, take extra care with the arm of the fuel sender. It can be easily bent. Additionally, do not touch the electric circuit of the sender assembly.

Do not touch the electric circuit of the fuel sender gauge.

Do not deform the arm of the fuel sender gauge.



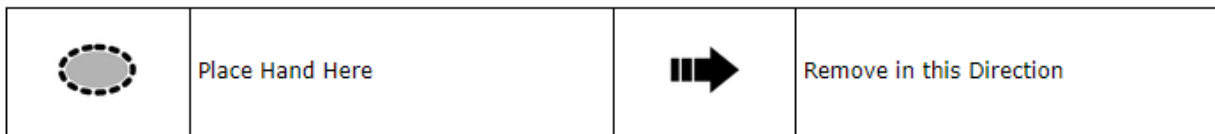
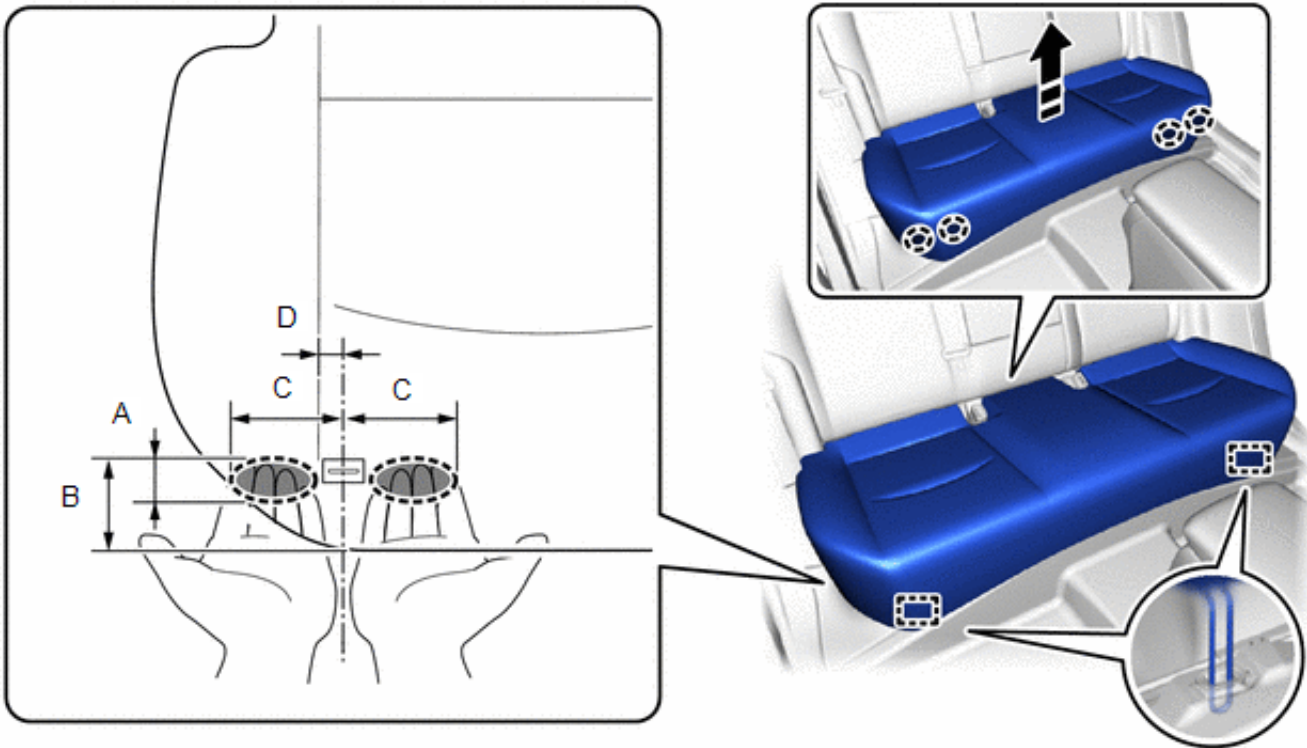
REMOVAL TIP: RAV4 REAR SEAT REMOVAL

When removing the lower seat cushion on the RAV4, it's very critical to follow the Repair Manual procedure. This procedure details the correct location of the lifting points. If the lower seat cushion is attempted to be removed by lifting at a point other than detailed, the Styrofoam backing will be damaged.

REMOVAL PROCEDURE

1. Place your hand in the position beside the hook as shown in the illustration and lift the front seat cushion assembly. This will detach the cushion wire on the front of rear seat cushion without damage to the structure.

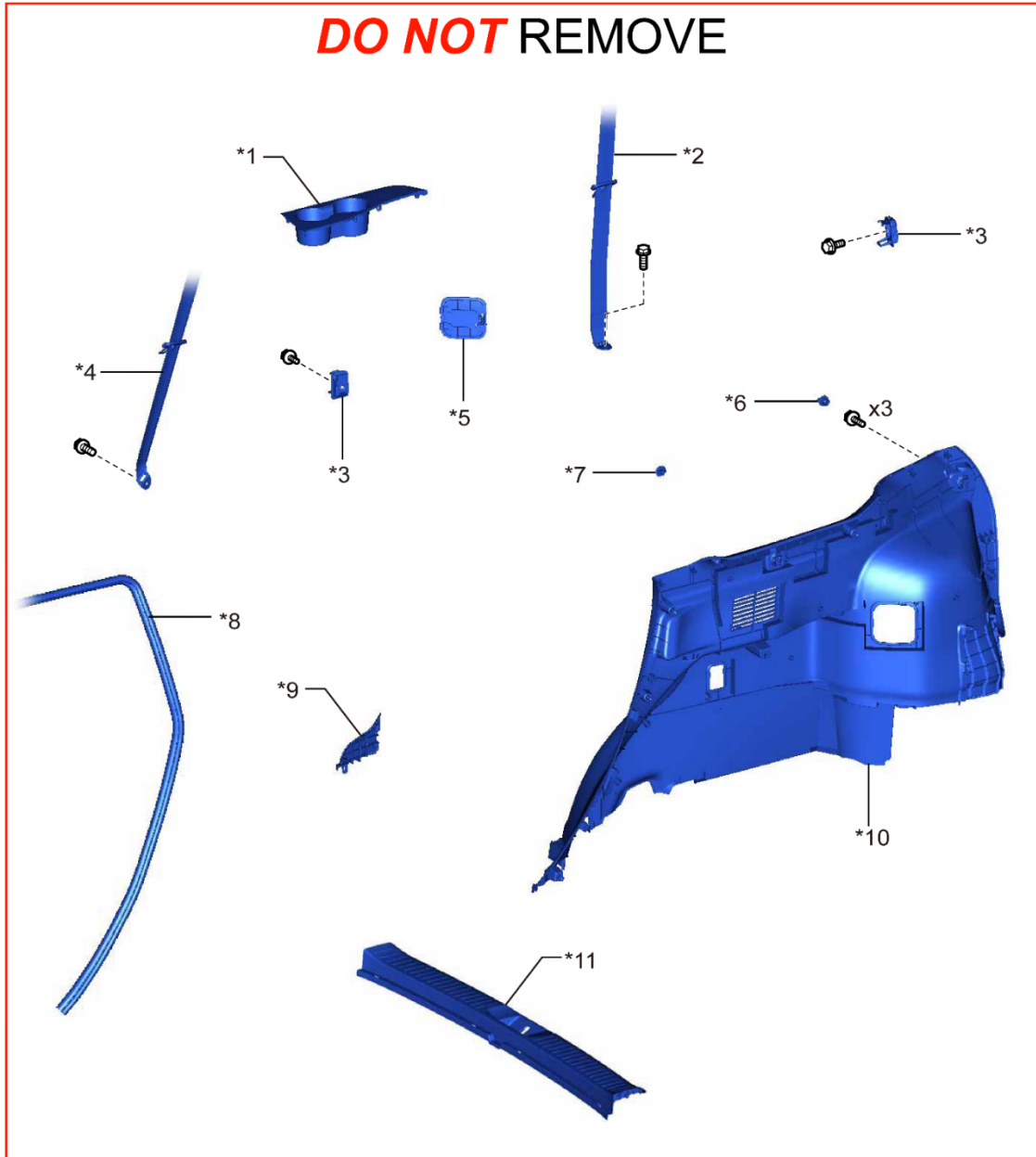
SEAT: REAR SEAT ASSEMBLY: REMOVAL; 2019 - 2021 MY RAV4 (RM100000001FE25)



AREA	MEASUREMENT	AREA	MEASUREMENT
A	30 mm (1.18 in.)	B	60 mm (2.36 in.)
C	80 mm (3.15 in.)	D	160 mm (6.30 in.)

REMOVAL PROCEDURE: HIGHLANDER

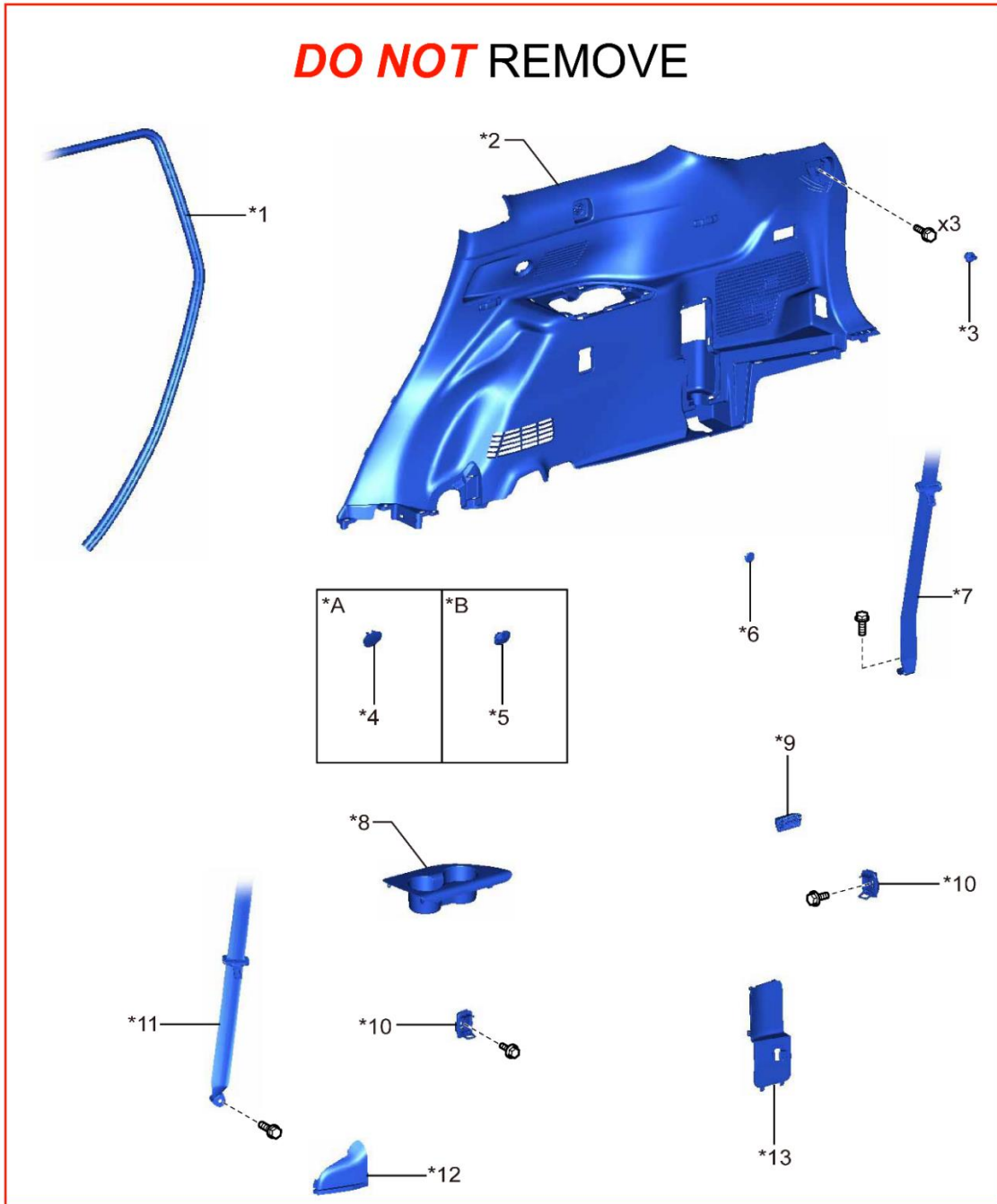
To access the Fuel Tube Assembly on the Highlander, it is not necessary to remove many of the interior Side Panel components as detailed in the Repair Manual. The following diagrams will detail the parts that are NOT NECESSARY to remove.



S54079aS

*1	NO. 2 DECK SIDE TRIM COVER	*2	REAR NO. 2 SEAT OUTER BELT ASSEMBLY LH
*3	ROPE HOOK	*4	REAR NO. 1 SEAT OUTER BELT ASSEMBLY LH
*5	DECK TRIM SIDE SERVICE HOLE COVER	*6	NO. 1 LUGGAGE COMPARTMENT TRIM HOOK
*7	DECK TRIM POCKET COVER	*8	REAR DOOR OPENING TRIM WEATHERSTRIP LH
*9	FRONT DECK SIDE TRIM COVER LH	*10	DECK TRIM SIDE PANEL ASSEMBLY LH
*11	REAR FLOOR FINISH PLATE	-	-

REMOVAL PROCEDURE: HIGHLANDER (cont.)

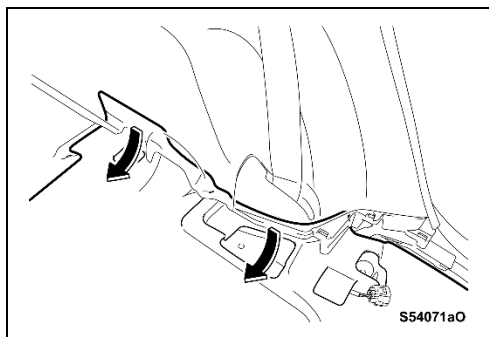


S54080aS

*A	w/o Rear Automatic Air Conditioning System	*B	w/ Rear Automatic Air Conditioning System
*1	REAR DOOR OPENING TRIM WEATHERSTRIP RH	*2	DECK TRIM SIDE PANEL ASSEMBLY RH
*3	NO. 1 LUGGAGE COMPARTMENT TRIM HOOK	*4	SIDE TRIM COVER RH
*5	COOLER (NO. 2 ROOM TEMP. SENSOR) THERMISTOR	*6	DECK TRIM POCKET COVER
*7	REAR NO. 2 SEAT OUTER BELT ASSEMBLY RH	*8	NO. 1 DECK SIDE TRIM COVER
*9	NO. 1 LUGGAGE COMPARTMENT LIGHT ASSEMBLY	*10	ROPE HOOK
*11	REAR NO. 1 SEAT OUTER BELT ASSEMBLY RH	*12	FRONT DECK SIDE TRIM COVER RH
*13	DECK TRIM SIDE BELT HOLE COVER RH	-	-

REMOVAL PROCEDURE: HIGHLANDER (cont.)

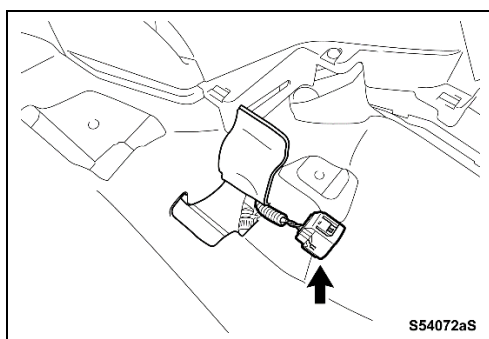
To access the Fuel Tube Assembly, use the following steps to fold the carpet:



1. FOLD CARPET FOR FUEL TUBE ACCESS

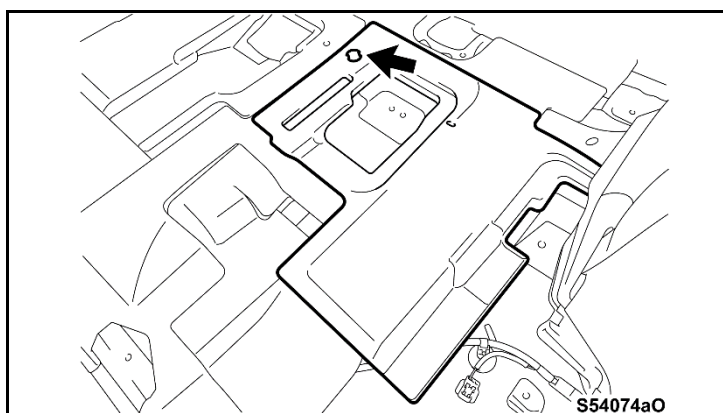
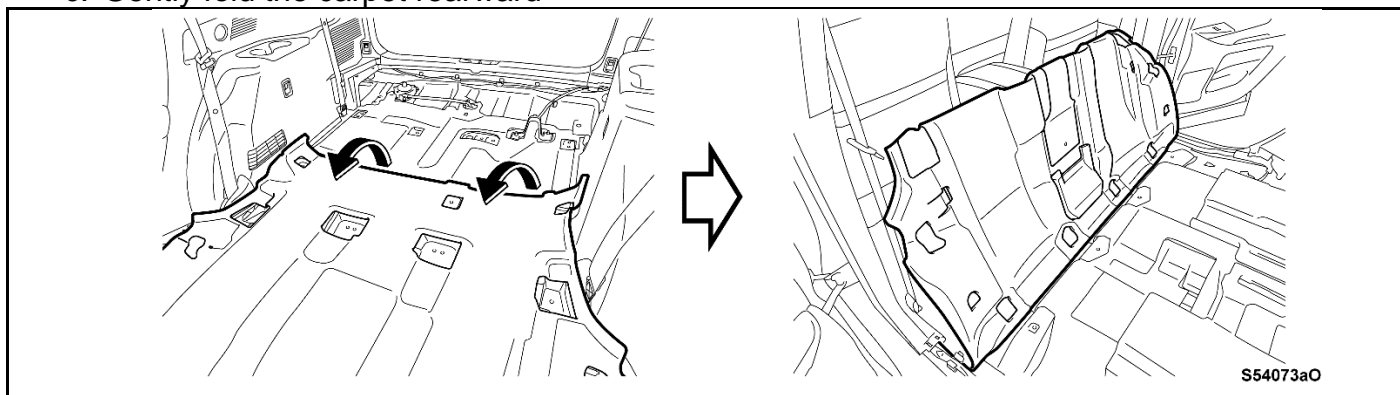
- Pull out the front floor carpet from the inside of deck trim side panel as shown in the illustration.

Note: Use the same procedures for LH and RH sides.



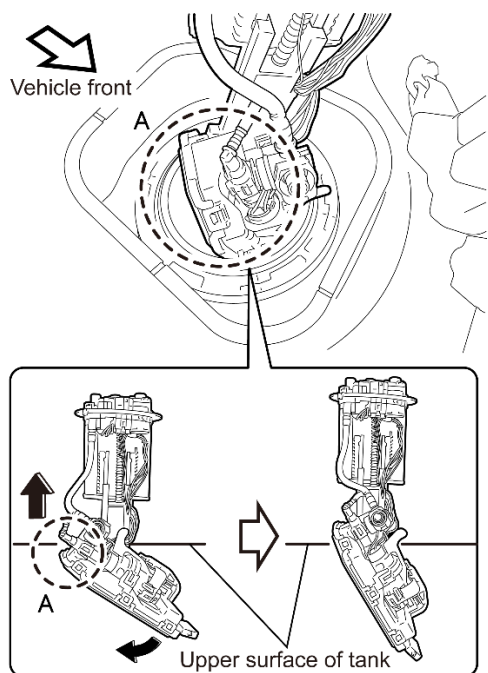
- w/ Rear Seat Heater only:** Push out the harness from the opening of front floor carpet. (Use the same procedures for the LH side and RH side.)

c. Gently fold the carpet rearward



- Remove the rear floor silencer pad No.2.

REMOVAL TIP: TUBE ASSY REMOVAL



- 1) Slightly raise the fuel suction tube assembly during this operation to make sure that the sender gauge does not interfere with the inside of tank.
- 2) Pull up the fuel suction tube assembly to the position indicated in the illustration. Pull portion (A) by hand to swing the lower part of fuel suction tube assembly downward, and then remove the fuel suction tube assembly from the tank.



- **DO NOT** bend the arm of fuel sender gauge assembly.
- **DO NOT** damage the wire harness at edges of service hole when removing the fuel suction tube assembly.

Illustration shows an image, and the shape of parts may differ with that of actual ones. S70006aS

2. REMOVE FUEL TUBE ASSEMBLY FROM VEHICLE

- a. Follow the Repair Manual instructions to remove the Fuel Tube Assembly from the vehicle.

REMOVE FUEL TUBE ASSY.

Tundra 1UR-FE 4.6	2018	2019		Sienna**	2017	2018	2019	2020
Sequoia	2018	2019		Tundra 3UR-FE 5.7	2018	2019	2020	
Camry A25A-FKS 2.5	2018	2019		Camry 2GR-FKS 3.5	2018	2019	2020	
Tacoma 2GR-FKS 3.5	2018	2019		Highlander***	2017	2018	2019	
Tacoma 2TR-FE 2.7	2018	2019		Avalon	2018	2019	2020	
Corolla Hatchback	2019			Corolla	2018	2019	2020	
FJ Cruiser	2014			4Runner	2014	2015		
RAV4	2019			Land Cruiser	2014	2015		

**Sienna Mobility Vehicles

Sienna's that have floorboard modifications, such as a wheelchair ramp or lift, for mobility use will be featured in separate instructions. Please reference the [Sienna Mobility Vehicle Technical Instructions](#) for details.

***Highlander

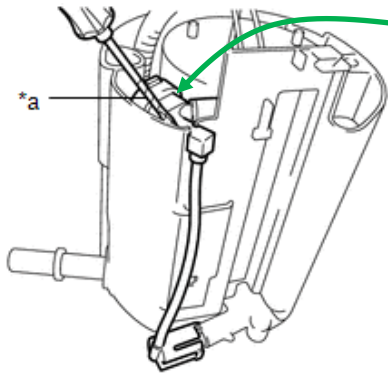
The repair procedure is modified from the Repair Manual. Follow the instructions as detailed on pages 30-32.

VIII. DISASSEMBLY OF FUEL TUBE

DISASSEMBLY TIP: FOLLOW THE REPAIR MANUAL

The Part's Kit contains the necessary O-Rings for reassembly, if the Repair Manual procedure is followed. If the pump components are disassembled in a manner other than as detailed in the Repair Manual, the Parts Kit may not contain the necessary O-Rings for proper reassembly. Please follow the procedures in the Repair Manual to ensure the correct O-Rings are available.

Example of Proper Disassembly:

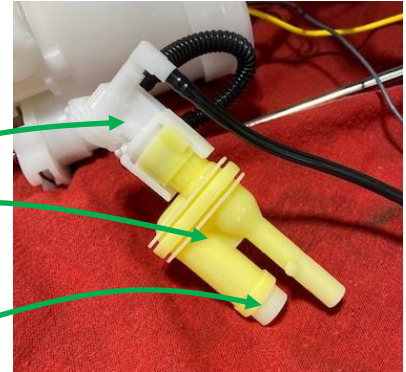


Repair Manual: Using a screwdriver (*a) with its tip wrapped in protective tape, remove the jet pump from the No. 1 fuel sub-tank.

Tube still attached

Jet pump properly removed from the No.1 fuel sub-tank.

Replacement O-Ring will be installed in this location



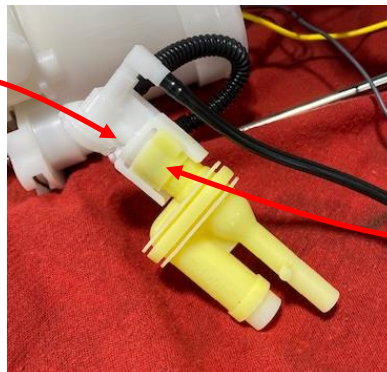
Example of Incorrect Disassembly:

Tube incorrectly removed from jet pump



Replacement O-ring is the incorrect size

DO NOT disconnect the tube from the jet pump

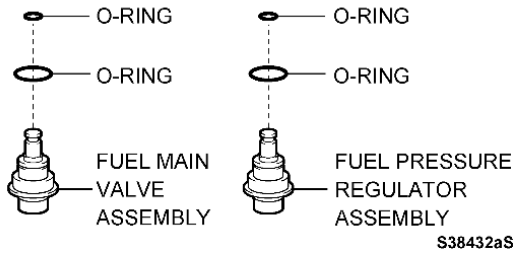


Replacement O-Ring is NOT provided for this location

DISASSEMBLY TIP: MAIN VALVE AND REGULATOR

When replacing the fuel pump, it is not necessary to remove the Fuel Main Valve or Fuel Pressure Regulator. These O-Rings are NOT included in the parts kit.

DO NOT remove

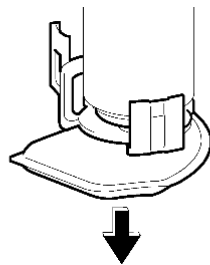


Incorrect Main Valve Assembly **Correct** Main Valve Assembly



DISASSEMBLY TIPS: FUEL FILTER

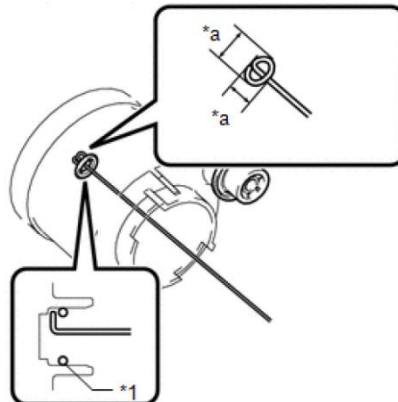
Many of the models will require the fuel filter to be reused. Be careful with the tabs when removing the filter from the original fuel pump as to not overextend them. When installing the filter on the **NEW** Fuel Pump, be sure that the clips have engaged properly.



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DISASSEMBLY TIPS: O-RING REMOVAL

During disassembly, the O-Ring may remain in the fuel pump housing. Be sure the inspect the housing after removing the fuel pump and remove the O-Ring if necessary.



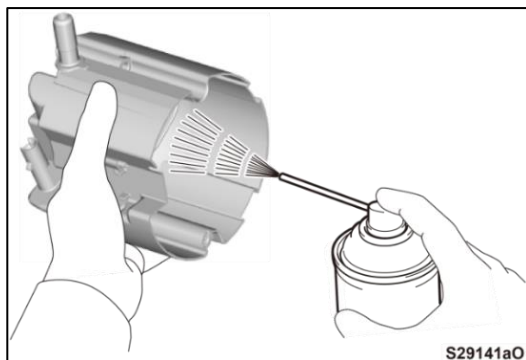
1. DISASSEMBLE FUEL SUCTION TUBE ASSEMBLY

a. Follow the Repair Manual instructions to disassemble the Fuel Suction Tube Assembly.

DISASSEMBLE								
Tundra 1UR-FE 4.6	<u>2018</u>	<u>2019</u>		Sienna	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Sequoia	<u>2018</u>	<u>2019</u>		Tundra 3UR-FE 5.7	<u>2018</u>	<u>2019</u>	<u>2020</u>	
Camry A25A-FKS 2.5	<u>2018</u>	<u>2019</u>		Camry 2GR-FKS 3.5	<u>2018</u>	<u>2019</u>	<u>2020</u>	
Tacoma 2GR-FKS 3.5	<u>2018</u>	<u>2019</u>		Highlander	<u>2017</u>	<u>2018</u>	<u>2019</u>	
Tacoma 2TR-FE 2.7	<u>2018</u>	<u>2019</u>		Avalon	<u>2018</u>	<u>2019</u>	<u>2020</u>	
Corolla Hatchback	<u>2019</u>			Corolla	<u>2018</u>	<u>2019</u>	<u>2020</u>	
FJ Cruiser	<u>2014</u>			4Runner	<u>2014</u>	<u>2015</u>		
RAV4	<u>2019</u>			Land Cruiser	<u>2014</u>	<u>2015</u>		

2. CLEAN SUB TANK ASSEMBLY

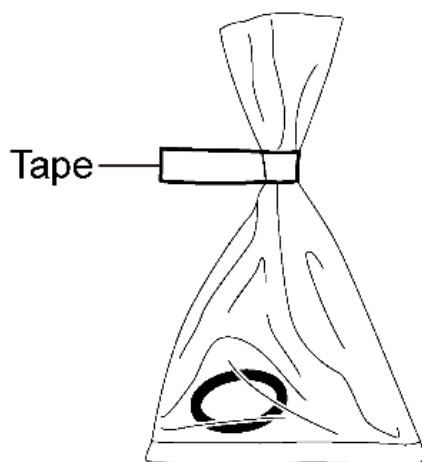
a. Using brake cleaner, clean the sub-tank assembly.



IX. REASSEMBLE FUEL TUBE ASSEMBLY

REASSEMBLY TIPS: O-RINGS

The part kits may come with O-Rings of different sizes. They are very difficult to tell apart visually. To identify the different size O-Rings, they will be wrapped in individual plastic bags with a piece of **COLORED TAPE** sealing it. The **COLOR OF THE TAPE** will identify the O-Ring size. **REFER TO THE COMPONENT DIAGRAMS TO DETERMINE TO CORRECT O-RING**, as identified by the tape color.



S38058aSU

REASSEMBLY TIPS: FUEL TUBE

When assembling the upper and lower sections of the fuel pump assembly, be certain to correctly align the upper and lower sections as to not twist the fuel tube.

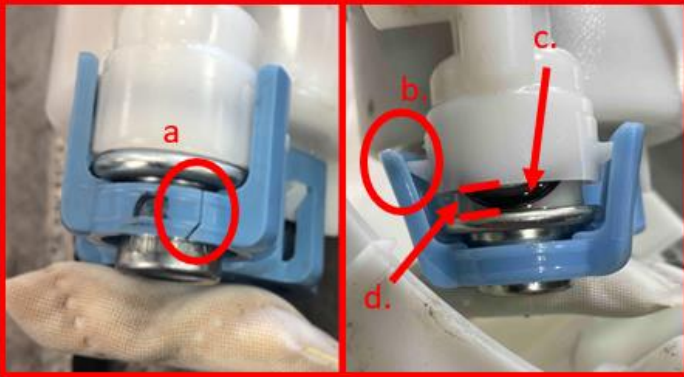


REASSEMBLY TIPS: FUEL FILTER INSTALLATION

When assembling the fuel filter retainer to pump housing on some models, there is a possibility that the main valve will unseat itself from the housing. Be sure to inspect the complete assembly for the following issues:

- Crack in the retainer
- Claws are properly engaged
- O-Ring is properly seated
- No gap between the housing and main valve

Filter Retainer Installation – Incorrect Assembly



Incorrect Conditions:

- a. Crack in retainer
- b. Retainer claw below attachment point
- c. Incorrect position of O-Ring
- d. Gap visible between housing and valve

Filter Retainer Installation – Correct Assembly



Good Condition

- e. Retainer claw secured above attachment point
- f. No visible gap or O-Ring between valve and housing

1. CONFIRM PARTS

- a. Using the part lookup website, input the VIN number to confirm that you have the proper parts for this vehicle:

<https://20ta02.imagespm.info>

To log into the website:

- a. Enter your dealer code in the Dealer Code field.
- b. Enter XXXXX (5 Capital X's) for the Password.

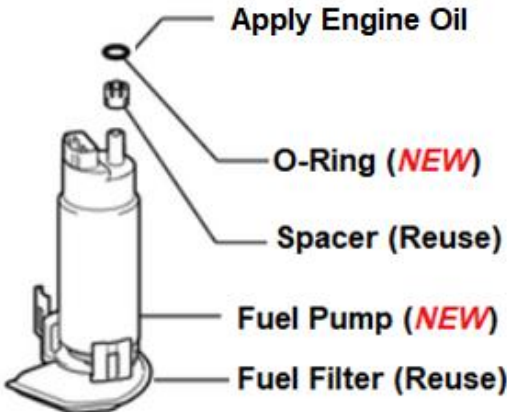
2. REASSEMBLE FUEL SUCTION TUBE ASSEMBLY WITH **NEW** FUEL PUMP

- a. Follow the Repair Manual instructions to reassemble the Fuel Suction Tube Assembly with a **NEW** Fuel Pump.



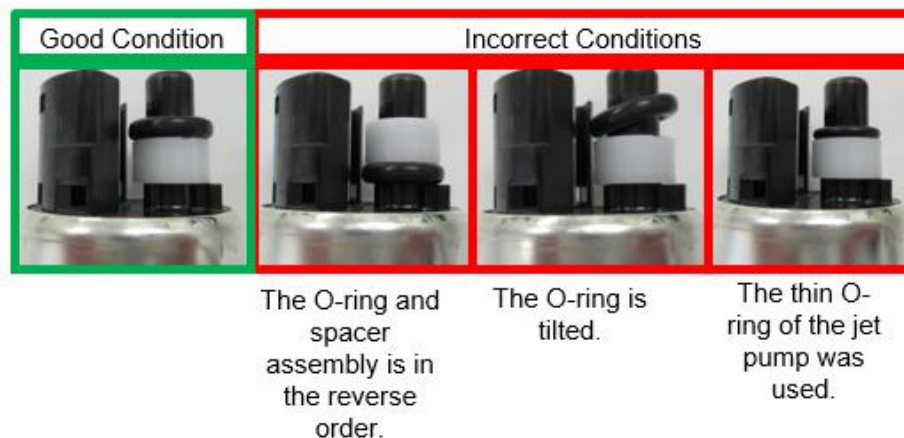
Refer to the component diagrams at the beginning of these Technical Instructions to confirm the location of each replacement part.

Example Procedure:

 <p>HINT: The reused filter may be discolored.</p>	<ul style="list-style-type: none">• Remove the original O-Ring, Spacer and Fuel Filter from the original Fuel Pump.• Discard the original O-Ring and Fuel Pump, <u>saving the Spacer and Fuel Filter.</u>• Install the original Spacer onto the NEW Fuel Pump.• Install the NEW O-Ring onto the NEW Fuel Pump. Refer to the Component Diagram to determine to proper O-Ring, as identified by the colored tape on the bag.• Apply a small amount of engine oil to the NEW O-Ring to assure correct installation into the Tube Assembly.• Install the original Fuel Filter onto the NEW Fuel Pump.• Refer to the <u>Components diagrams</u> to review the other NEW parts to install.
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- Apply engine oil to the **NEW** O-ring before assembly to assure correct installation into the Fuel Suction Tube.

Note: Fuel Pump O-Ring installation is critical to this repair. A visual inspection of the final assembly will confirm the correct installation.



3. REASSEMBLE FUEL SUCTION TUBE ASSEMBLY

b. Follow the Repair Manual instructions to reassemble the Fuel Suction Tube Assembly.

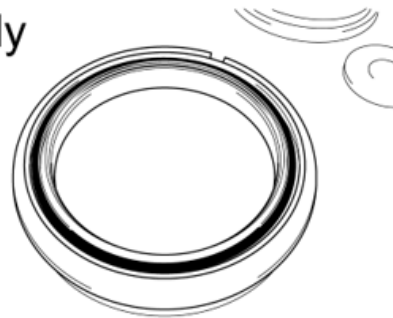
REASSEMBLE								
Tundra 1UR-FE 4.6	<u>2018</u>	<u>2019</u>		Sienna	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Sequoia	<u>2018</u>	<u>2019</u>		Tundra 3UR-FE 5.7	<u>2018</u>	<u>2019</u>	<u>2020</u>	
Camry A25A-FKS 2.5	<u>2018</u>	<u>2019</u>		Camry 2GR-FKS 3.5	<u>2018</u>	<u>2019</u>	<u>2020</u>	
Tacoma 2GR-FKS 3.5	<u>2018</u>	<u>2019</u>		Highlander	<u>2017</u>	<u>2018</u>	<u>2019</u>	
Tacoma 2TR-FE 2.7	<u>2018</u>	<u>2019</u>		Avalon	<u>2018</u>	<u>2019</u>	<u>2020</u>	
Corolla Hatchback	<u>2019</u>			Corolla	<u>2018</u>	<u>2019</u>	<u>2020</u>	
FJ Cruiser	<u>2014</u>			4Runner	<u>2014</u>	<u>2015</u>		
RAV4	<u>2019</u>			Land Cruiser	<u>2014</u>	<u>2015</u>		

X. INSTALL FUEL TUBE ASSEMBLY

INSTALLATION TIP: PLASTIC RETAINER

Set **NEW** gasket properly

DO NOT apply
silicon grease



OK

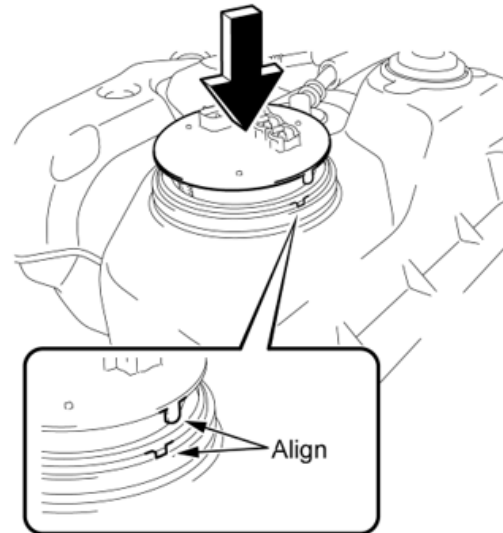
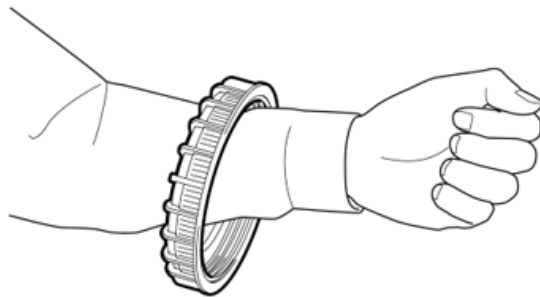


NG



Put the retainer around the
arm so that it is not necessary
to change hands to keep
pressing down the fuel
suction tube.
(Plastic Retainer)

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



S38184aSU

1. INSTALL THE FUEL SUCTION TUBE ASSEMBLY INTO VEHICLE

a. Follow the Repair Manual instructions to reinstall the Fuel Suction Tube into the vehicle.



Refer to the Component diagrams at the beginning of these Technical Instructions to confirm the location of each replacement part.

INSTALLATION								
Tundra 1UR-FE 4.6	<u>2018</u>	<u>2019</u>		Sienna	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Sequoia	<u>2018</u>	<u>2019</u>		Tundra 3UR-FE 5.7	<u>2018</u>	<u>2019</u>	<u>2020</u>	
Camry A25A-FKS 2.5	<u>2018</u>	<u>2019</u>		Camry 2GR-FKS 3.5	<u>2018</u>	<u>2019</u>	<u>2020</u>	
Tacoma 2GR-FKS 3.5	<u>2018</u>	<u>2019</u>		Highlander	<u>2017</u>	<u>2018</u>	<u>2019</u>	
Tacoma 2TR-FE 2.7	<u>2018</u>	<u>2019</u>		Avalon	<u>2018</u>	<u>2019</u>	<u>2020</u>	
Corolla Hatchback	<u>2019</u>			Corolla	<u>2018</u>	<u>2019</u>	<u>2020</u>	
FJ Cruiser	<u>2014</u>			4Runner	<u>2014</u>	<u>2015</u>		
RAV4	<u>2019</u>			Land Cruiser	<u>2014</u>	<u>2015</u>		

2. INSTALL REMOVED FUEL

a. If fuel was removed from the tank prior to disassembly, reinstall the originally recovered fuel into the tank.



3. CHECK FOR DTC'S

a. Using a Techstream, perform a Health Check to check for Diagnostic Trouble Codes.

Note: This Safety Recall covers only the replacement of the fuel pump and associated parts. It does not cover the diagnosis or replacement of any other parts on the vehicle.

◀ VERIFY REPAIR QUALITY ▶

- Confirm no fuel leaks from vehicle
- Confirm any fuel drained from the vehicle has been reinstalled
- Test drive to confirm normal operation while under load
- Confirm no DTC's are present
- Confirm that all parts listed in the Components Diagrams have been properly installed on the vehicle.

XI. APPENDIX

A. PARTS DISPOSAL

In accordance with Federal law, please make sure all recalled 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.**

B. CAMPAIGN DESIGNATION DECORDER

