CUSTOMER SERVICE PROGRAM CSP12 – DENSO LOW PRESSURE FUEL PUMP EXTENDED WARRANTY

A. VEHICLE INSPECTION PROCEDURE – IDENTIFY THE VEHICLE GROUP FOR REPAIR

1. Verify that the vehicle is within the following ranges: Click this link to see the VIN ranges in "Additional Vehicles" or "Recalled Vehicles". **Not all vehicles in the VIN ranges qualify for CSP12, only those listed as "WARR EXT" and have CSP12 in eMDCS Warranty Vehicle Inquiry.**

- If the vehicle is one of the above listed, proceed to Step 2.
- If the vehicle is not within the above ranges, return vehicle to the customer or inventory.

2**. eMDCS System - Warranty Vehicle Inquiry Results – THE VEHICLE GROUP MUST BE IDENTIFIED BEFORE MOVING FORWARD. PLEASE IDENTIFY WHICH GROUP THE VEHICLE IS IN, "ADDITIONAL VEHICLES" OR "RECALLED VEHICLS", CLICK HERE FOR THE LINK:**

If eMDCS displays:	Action to perform:
CUSTOMER SERVICE PROGRAM CSP12 is displayed as **"WARR EXT"**	**"Recalled Vehicles":** If Safety and Emissions Recall 5321K is **"OPEN",** STOP and perform 5321K. **"Recalled Vehicles":** If Safety and Emissions Recall 5321K is **"CLOSED",** Verify the concern is directly related to the Denso Low-Pressure fuel pump in CSP12. If verified as a low-pressure fuel pump concern, then proceed with the repair. **"Additional Vehicles"**: Verify the concern is directly related to the Denso Low-Pressure fuel pump in CSP12. If verified as a low-pressure fuel pump concern, then proceed with the repair.
CUSTOMER SERVICE PROGRAM CSP12 is not displayed	Customer Service Program CSP12 does not apply to this vehicle.

B. REPAIR PROCEDURE

The correct fuel pump must be installed or you will not be paid for the claim and the vehicle could return at the dealers expense, and with great inconvenience for the Mazda customer.

The fuel pump is always the PNMC on the warranty claim**.** The gasket is NOT to be written or entered in the warranty claim as the PNMC. ***If the part you received is incorrect, and does not match the powertrain (engine and/or transaxle) combination, notify your service and parts managers and return the part immediately to obtain the correct part.***

Take care in removing customer personal items from the vehicle interior or trunk. Any damage to vehicles, or customer items will be the responsibility of the Mazda dealership.

Continue to Page 2 below

B. REPAIR PROCEDURE

1. **Determine model, then choose the correct procedure. Remove the Fuel Pump Unit per MGSS. Click below for the links to the standard procedure. For MX-5 Refer to 5321K MX-5 Repair Supplement – for the specific procedure to remove from the vehicle.**

Be very careful with handling the Fuel and Gauge Unit (FDM) unit as the hoses and fittings can break. Hoses and fittings damaged by the technician will not be reimbursed by Mazda and will need to be repaired at the dealership expense. If replacing a FDM, do not replace the inner Denso Low Pressure Fuel Pump as it is updated with any Mazda genuine FDM obtained from the Mazda PDC.

Fuel Tank and Fuel Tank Screws – Rusted/Sheared. If fuel pump assembly mounting screws need to be replaced, it is required to use Mazda part # 9983-30-408.

If you need a Fuel Pump or Fuel Tank assembly, you must fill out Dealer Recall Help on OneMazda with photos of the tank and parts needed to repair. **Replacement of screws or the harness only does not require contact to Dealer Recall Help.**

CX-5, CX-9, MAZDA6, CX-3, MAZDA2, 2018 MAZDA3 (BN - ONLY)

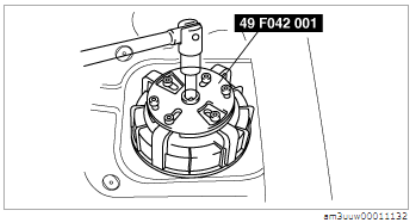
TURBO MODELS - VIN 8TH DIGIT WILL BE "Y" AND ENGINE IN WARRANTY INQUIRY WILL SAY "ENGINE – 2.5L SKYACTIV TURBO":
TURBO ENGINE – CX-5, MAZDA6, CX-9 FUEL PUMP REMOVAL

NON-TURBO MODELS:
A VEHICLE WITH CYLINDER DEACTIVATION WILL HAVE THE 8TH DIGIT ENGINE CODE OF "M" AND STATE IN WARRANTY INQUIRY "ENGINE – SKYACTIV G 2.5".
A VEHICLE WITHOUT CYLINDER DEACTIVATION WILL HAVE THE 8TH DIGIT ENGINE CODE OF "L" AND STATE IN WARRANTY INQUIRY "ENGINE – SKYACTIV G 2.5". 2.0L engines have the 8th digit as "7"

CX-5, MAZDA6 WITHOUT CYLINDER DE-ACTIVATION - FUEL PUMP REMOVAL
CX-5, MAZDA6, WITH CYLINDER DE-ACTIVATION – FUEL PUMP REMOVAL

2018 MAZDA3 (BN) FUEL PUMP REMOVAL
CX-3 AND MAZDA2 FUEL PUMP REMOVAL

NOTE: FUEL PUMP CAP REMOVAL – All CX-3 & Mazda2 (US Territory and Mexico) only. To remove the pump, you must use SST 49 F042 001 which is a required SST for all Mazda dealerships.

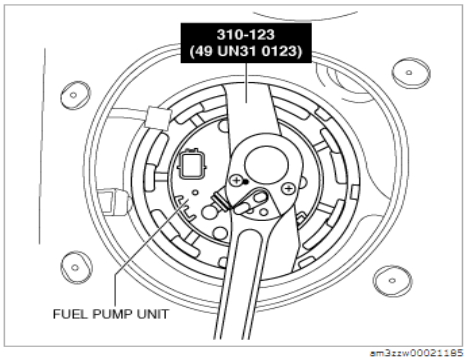


CX-30 AND MAZDA3 (BP – 2019-2021) MODELS: A VEHICLE WITH CYLINDER DEACTIVATION WILL HAVE THE 8TH DIGIT ENGINE CODE OF "Y" AND STATE IN WARRANTY INQUIRY "ENGINE – SKYACTIV G". ALL OTHER 8TH DIGIT VIN CODES ARE CONSIDERED WITHOUT CYLINDER ACTIVATION.

CX-30 WITHOUT CYLINDER DE-ACTIVATION - FUEL PUMP REMOVAL
CX-30 WITH CYLINDER DE-ACTIVATION – FUEL PUMP REMOVAL

MAZDA3 (BP) WITHOUT CYLINDER DE-ACTIVATION - FUEL PUMP REMOVAL
MAZDA3 (BP) WITH CYLINDER DE-ACTIVATION – FUEL PUMP REMOVAL

NOTE: FUEL PUMP CAP REMOVAL – All CX-30 & Mazda3 BP only. To remove the pump, you must use SST 49 UN31 0123 which is a required SST for all Mazda dealerships.



NOTE: RETAINER REPLACEMENT AND FUEL LINE QUICK DISCONNECT REPLACEMENT – All CX-30 & Mazda3 BP only will need retainer PN# GP9B-42-693 replaced (Quantity 1). To remove the quick disconnect line, you must use SST 49 N013 103A which is included in SST 49 N013 10AD a required SST for all Mazda dealerships.

Special Service Tool (SST)

49 N013 103A Remover (Part of 49 N013 1A0D)	

2. Fuel pump disassembly/assembly procedure

This repair procedure has combined both Type A and Type B fuel pumps which has the same removal/ installation procedure. It is also the same in the supplemental VIDEO's below which must be reviewed prior to repair.

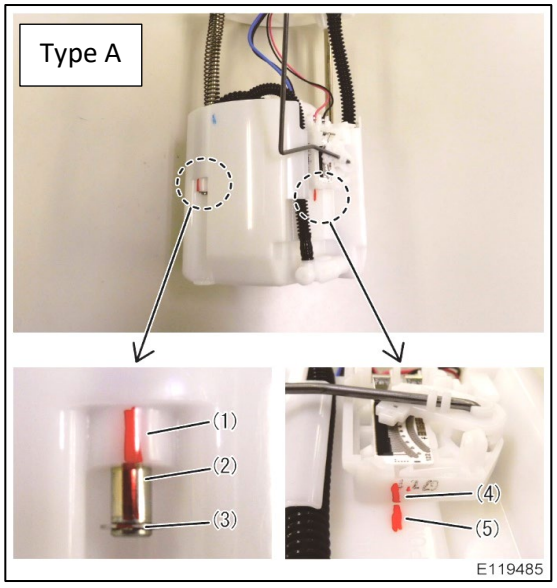
Please watch both videos prior to repairing:

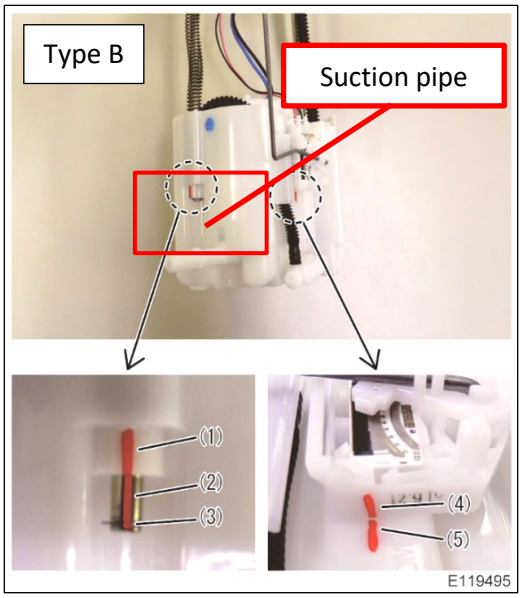
Type A Repair video link
Type B Repair video link **NOTE: This link shows a CX-5 Non-turbo AWD pump removal**

Be very careful with handling the Fuel and Gauge Unit (FDM) unit as the hoses and fittings can break. Hoses and fittings damaged by the technician will not be reimbursed by Mazda and will need to be repaired at the dealership expense. If replacing a FDM, do not replace the inner Denso Low Pressure Fuel Pump as it is updated with any Mazda genuine FDM obtained from the Mazda PDC.

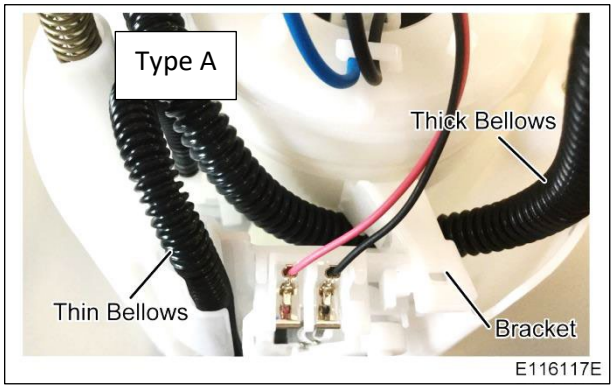
However, there are two structural differences, which is explained below.

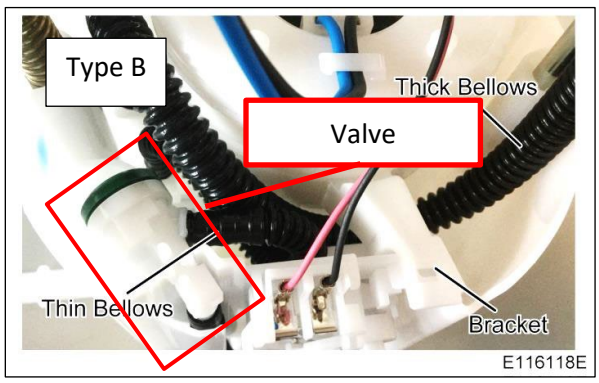
- 'Type B' has applied suction pipe.





Type B has the valve referred to in the tube routing diagram.

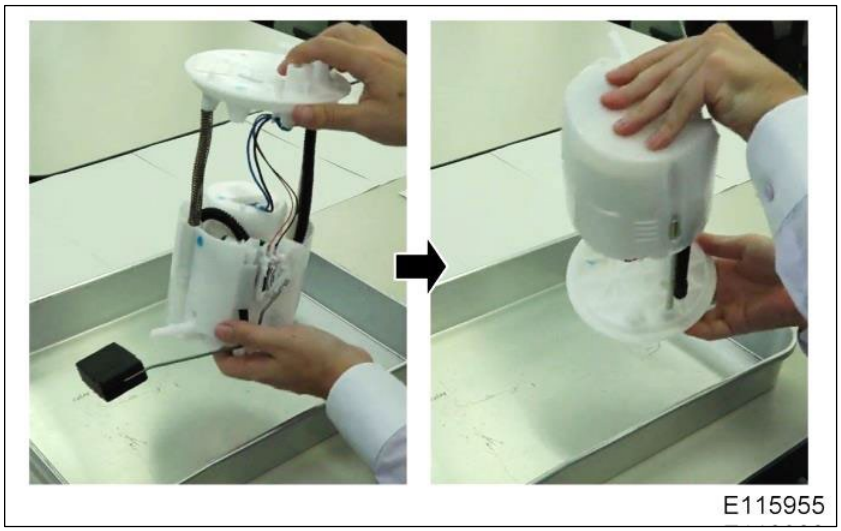




Fuel pump disassembly procedure

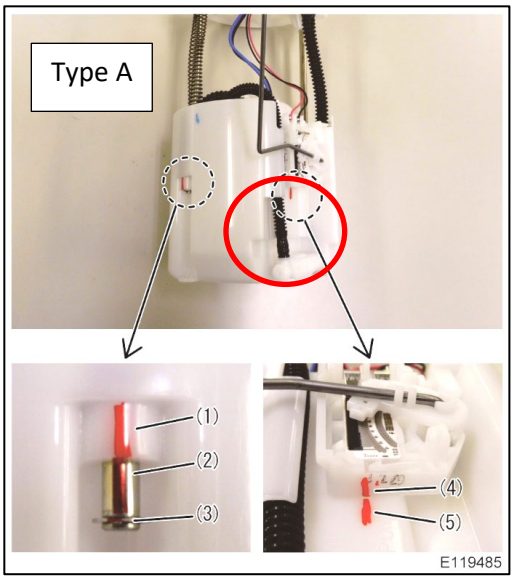
Discharge the fuel inside the fuel pump. If all the fuel does not come out with a single discharge, repeat discharging two or three times.

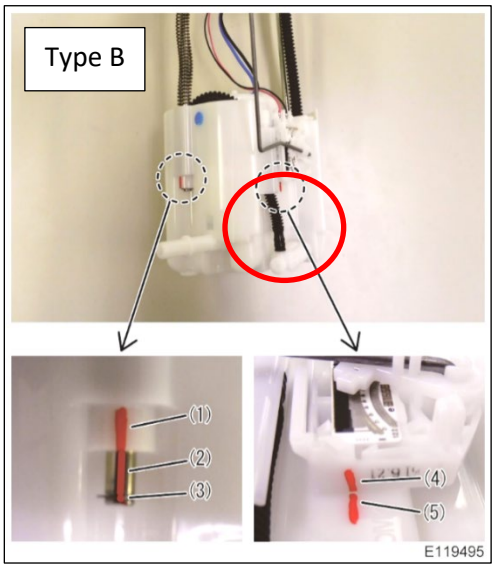
CAUTION: Fuel that remains in the filter or pump may spill, always discharge the fuel over a tray or other container.



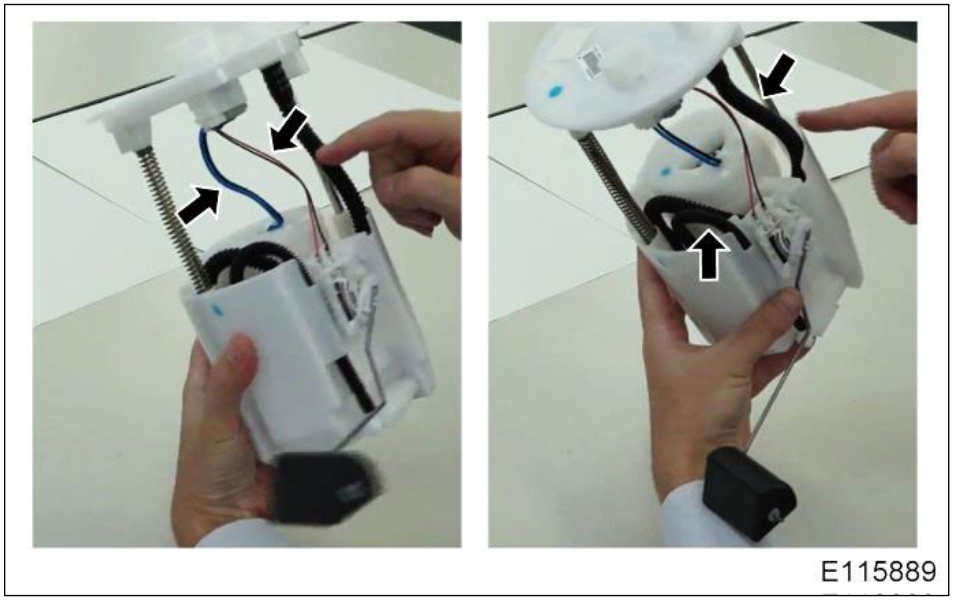
1. Mark the (1) rod guide, (2) rod, (3) E-ring, (4) fuel gauge sender and (5) reservoir cup with a marker before disassembly to avoid re-assembling incorrect.

CAUTION: Be careful with pump disassembly as you could damage the body pump hose (Red Circle Type A and B). Breaking this fitting(s) will not be reimbursable under the Customer Service Program.



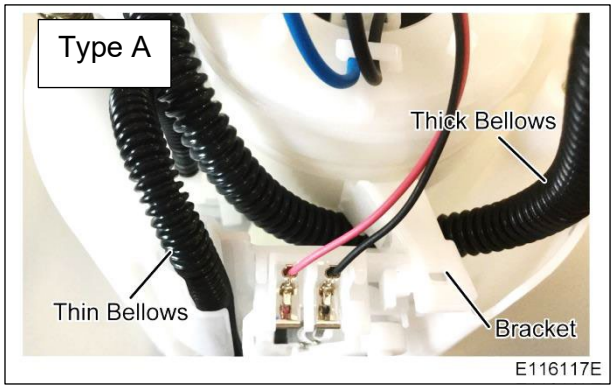


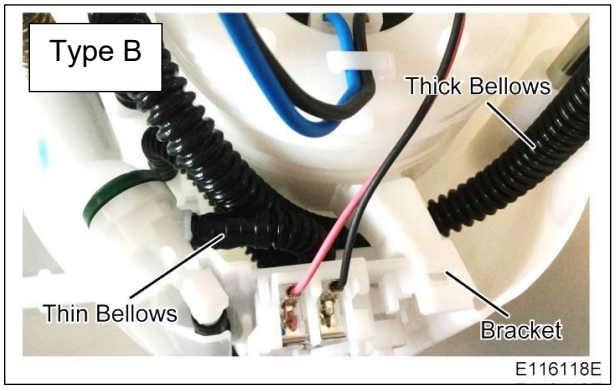
2. Check the routing condition of the wire harness and tube. The routing is the same during reassembly.



NOTE: Check carefully because the routing may differ by type.

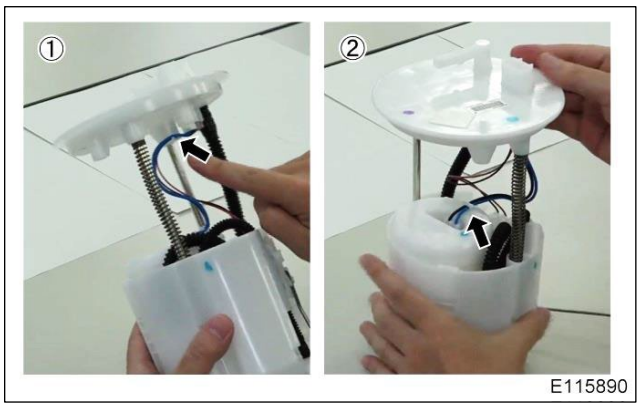
- Thick bellows tube routing (either over or under the bracket)
- Thin bellows tube routing (bend position)
- Wire harness routing (clamp position)

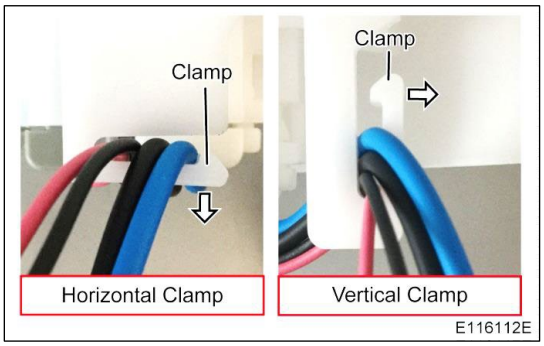


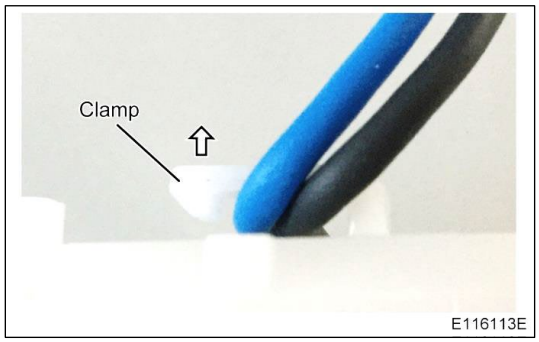


3. Remove the wire harness from the clamp. Spread the clamp and remove the wire while ensuring that the wire harness is not damaged.

CAUTION:
Be aware that if the clamp is pulled out on an angle without opening the clamp, the coating may rip, the wire harness may be disconnected, or the fuel pump or fuel gauge sender may not run. Also, be aware that the clamp may be damaged if the clamp is spread too wide.







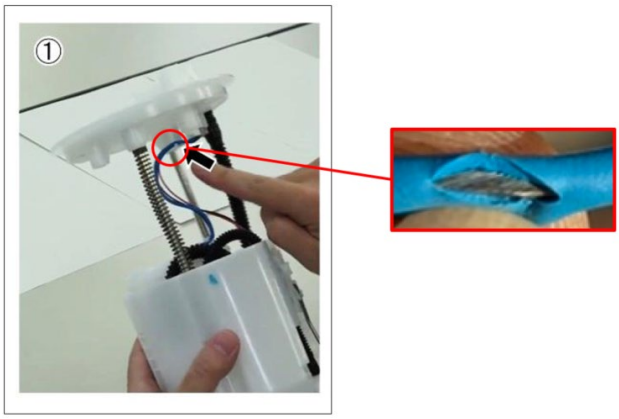
IMPORTANT NOTE: Check for broken, cut, frayed or chafed wire on FDM units as in the photo (1) below.

- If found to be damaged, the harness must be replaced. ***Be very careful with the harness as it can easily be damaged.***
- Part ordering: **Order the harness from the Restricted Parts Ordering (RPO) Screen through the Dealer Assistance Group (DAG)**. You must have an open RO and the vehicle must be down. Depending on the model, there are different harnesses and the Parts & Warranty information has been updated with the correct part numbers.

Harness Part Number (Harness Length in red)	Model
No Harness	CX-30, Mazda3 (BP)
292135-0021 (20CM)	CX-5
292135-0321 (17.5CM)	CX-3 (2WD), Mazda6, CX-9, Mazda3 (BN), Mazda2*
292135-1074 (25CM)	MX-5
292135-0181 (22.5CM)	CX-3 (AWD)

*Mexico, Canada or US Territory vehicles only

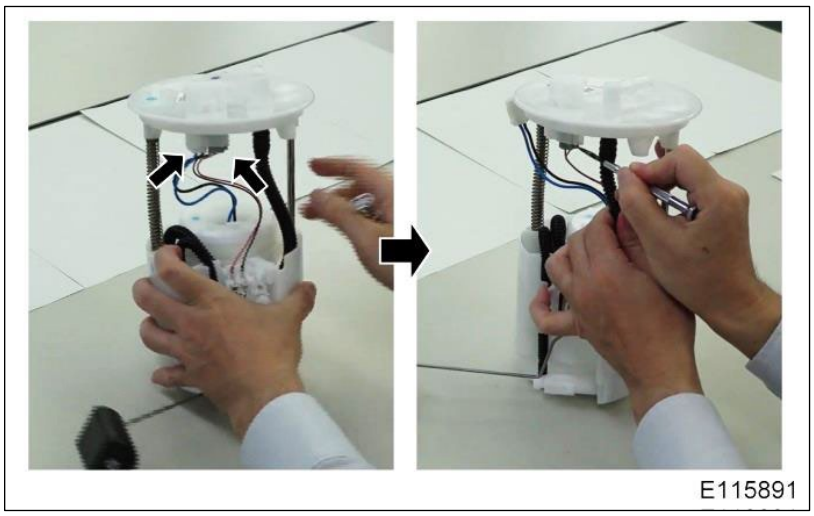
- While waiting for the countermeasure part to arrive please continue the repair and install the new harness on page 19 at repair step 7.



4. Remove the connector of the wire harness (with the flange).

CAUTION:
- Pull out the connector with the lock pushed.
- Do not grasp the wire harness and pull out.
- Be aware that if the wire harness is grasped and pulled out, the wire harness may be disconnected, or the fuel pump or fuel gauge sender may not run.

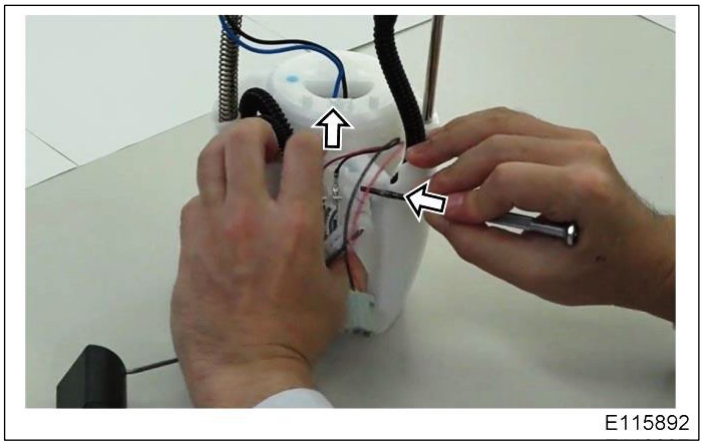
NOTE:
Use a flathead screwdriver wrapped in protective tape for removal. While pushing the lock with a screwdriver, pull out the connector straight down.

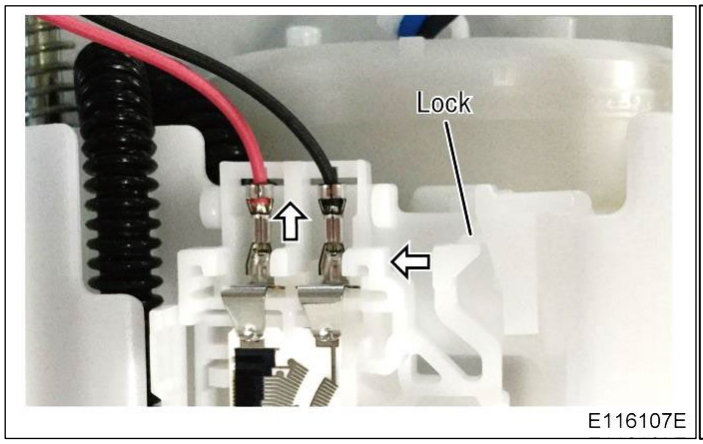


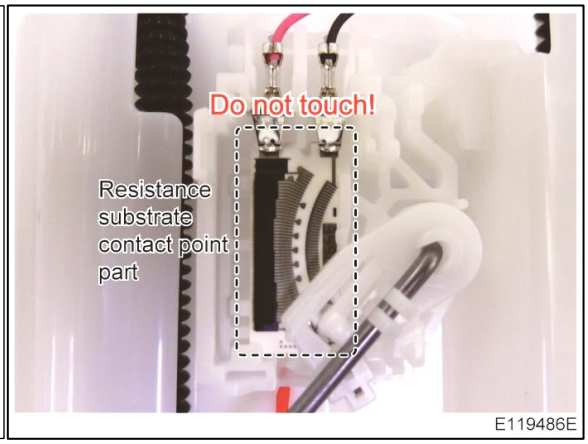
5. Remove the fuel gauge sender.

CAUTION:
While working, do not bend the arm of the fuel gauge sender, and do not touch resistance substrates or contacts to prevent problems.

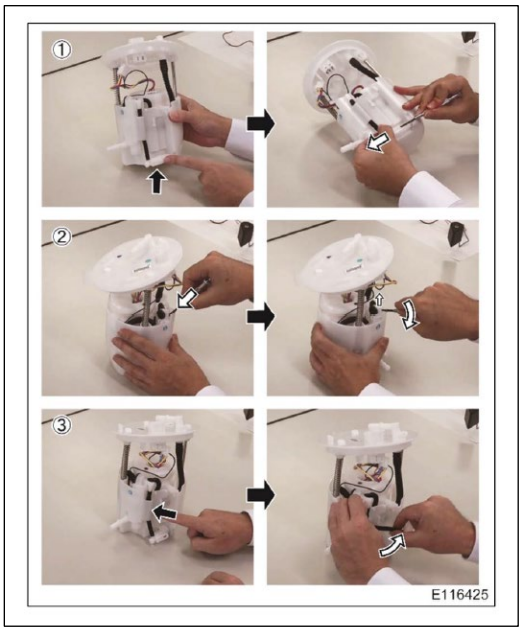
NOTE:
Use a flathead screwdriver wrapped in protective tape to release the lock, push up from below, and then remove.







NOTE: Use a flathead screwdriver wrapped in protective tape for removal.
CAUTION: Be aware that the clamp may be damaged if the clamp is spread too wide.



① Remove the jet pump for pumping.

② Remove the transfer jet pump.

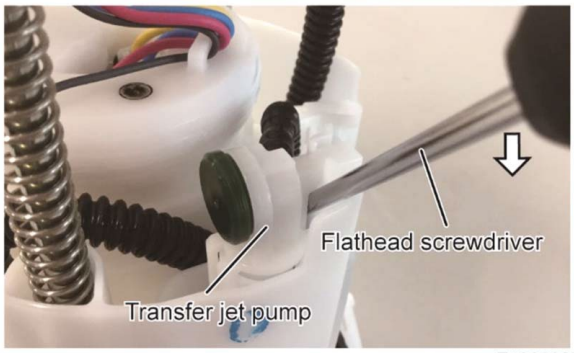
③ Remove the bellows tube from the

CAUTION:

All AWD models (referred to as "Type B" fuel pump) have a transfer jet pump, however, only the AWD with 2.5L Turbo engine requires removal of the transfer jet pump and black O-ring replacement. When repairing the CX-5 AWD Non-Turbo and CX-3 AWD, the transfer jet pump is not removed and therefore the black O-ring is not required.

Remove the jet pump from the reservoir cup, (do this on the CX-9 & CX-5 Turbo engine AWD only) for Pump Part PYY2-13-350.

Take care not to damage the reservoir cup.



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6. Remove the E-ring. Use combination pliers or similar tool for removal.


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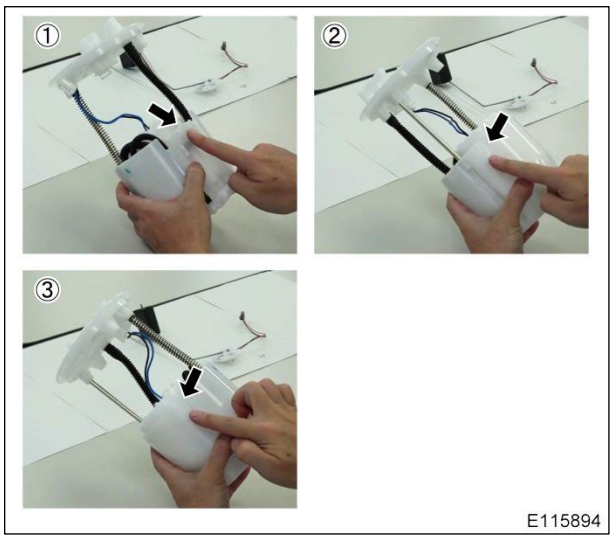
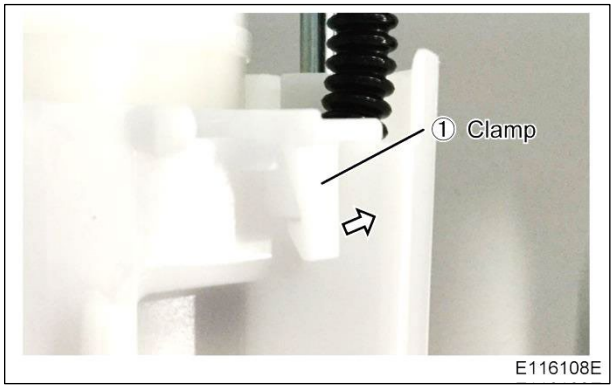
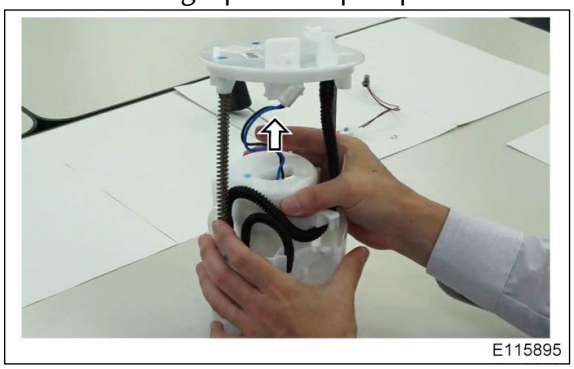
NOTE:
The E-ring cannot be reused.

7. Remove the bracket. Use a flathead screwdriver wrapped in protective tape for removal of the three locations.
   CAUTION: Be aware that the clamp may be damaged if the clamp is spread too wide.

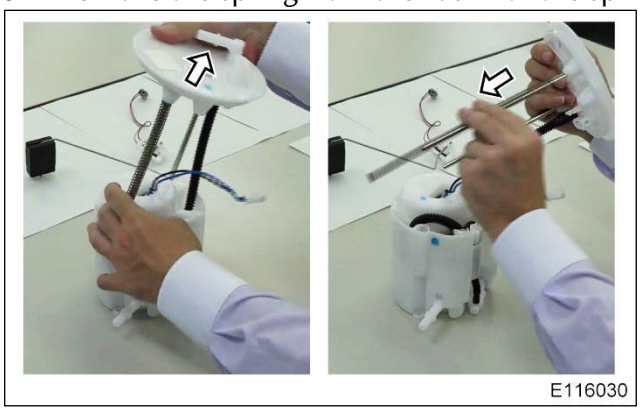




8. Pull out the high-pressure pump from the reservoir cup.



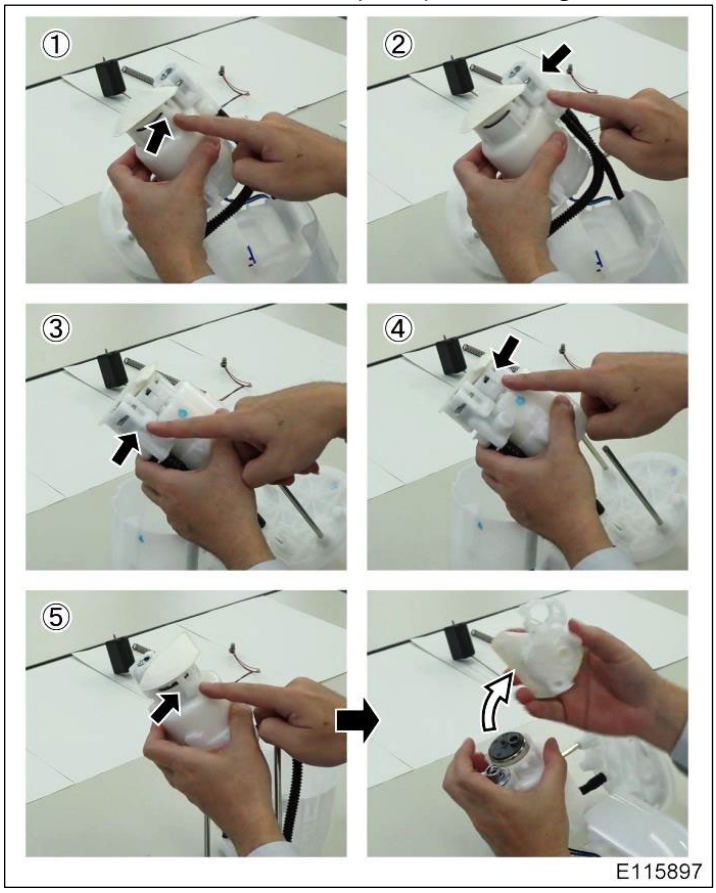
9. Remove the spring from the rod with the spring on it.



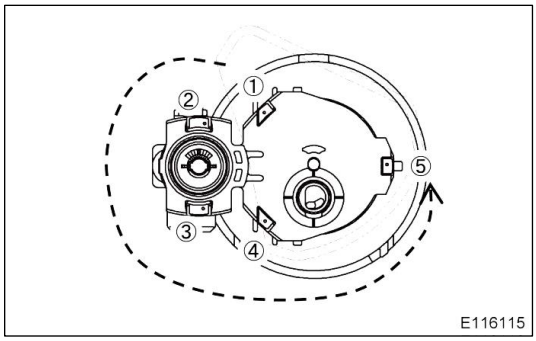
10. Remove the suction filter. Use a flathead screwdriver wrapped in protective tape for removal of the five locations.

CAUTION:

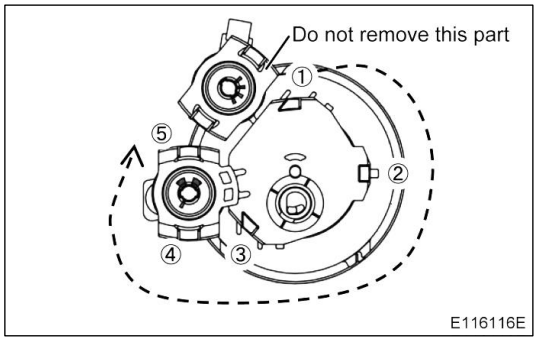
- To prevent dirt and damage of the suction filter.
- Cover so that foreign debris does not get inside the suction filter.
- Be aware that the clamp may be damaged if the clamp is spread too wide.



One-valve type



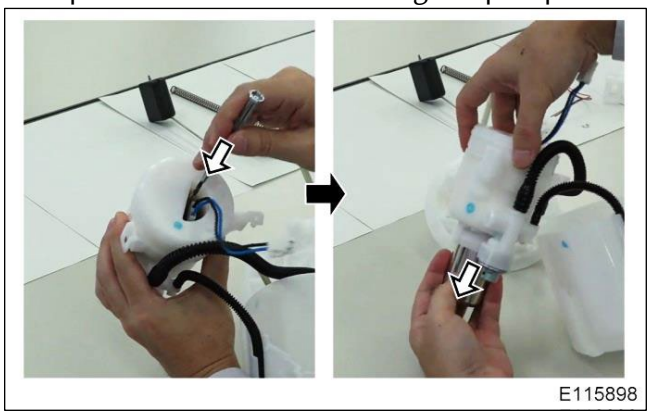
Two-valve type



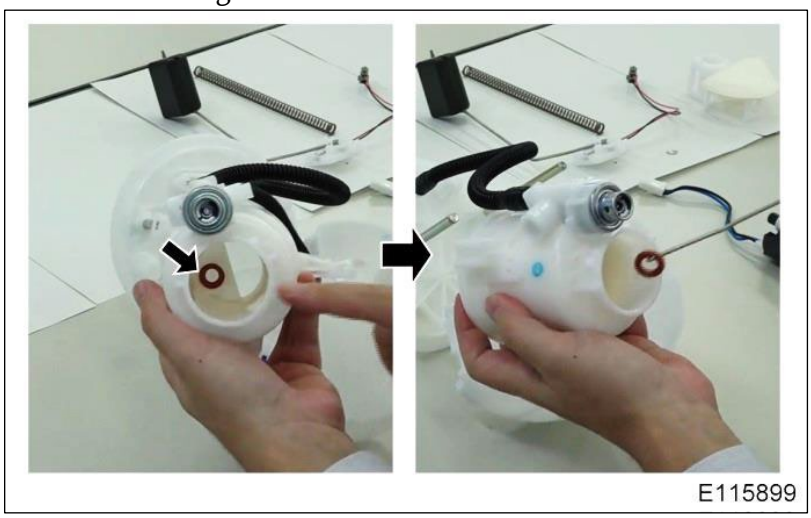
11. Push out the fuel pump using a flathead screwdriver wrapped in protective tape.

CAUTION:

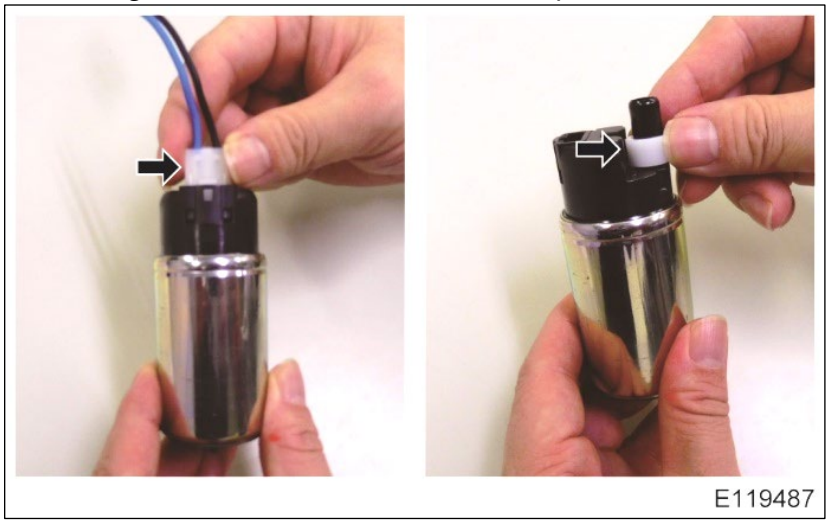
- When the suction filter is reinstalled again, make sure there is no dirt or damage of the filter.
- Make sure that the connector is not damaged.
  - ➢ Take precautions when removing the pump as leftover fuel may spill.



12. If the O-ring remains on the high-pressure pump, use a long hook-like rod to remove it while ensuring that the O-ring seal is not damaged.
    CAUTION: Be aware that if the O-ring is not removed, insufficient fuel flow occurs, and due to the double installation of O-rings will cause poor drivability, acceleration problems, engine stalling, and hard start issues.
    - O-rings cannot be reused.


E115899

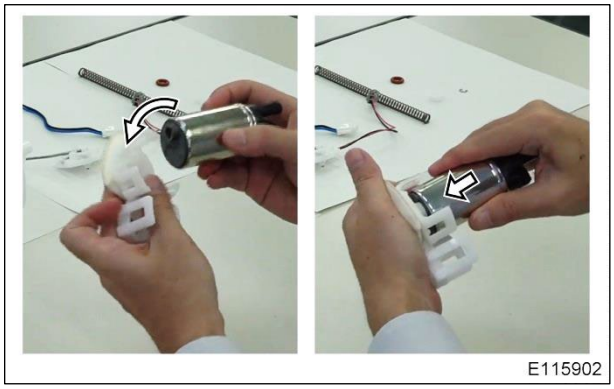
13. Remove the wire harness and spacer from the fuel pump.
    CAUTION: Fuel pump and spacer cannot be reused. Mark parts with permanent marker to distinguish reusable and non-reusable parts.

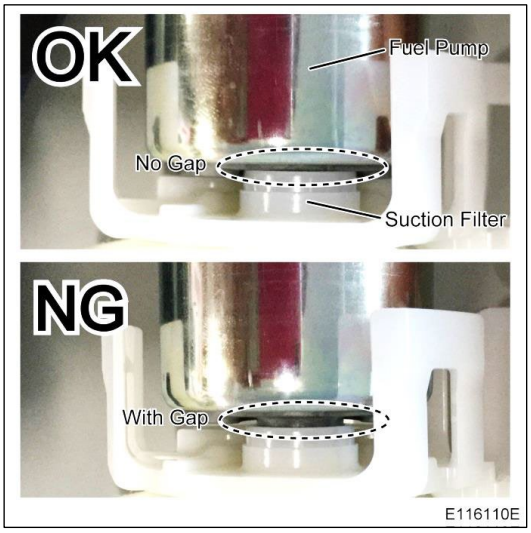

E119487

Fuel pump assembly procedure

CAUTION: Make sure that there is no dirt/foreign objects or scratches on the connection parts such as O-ring, spacer, and suction filter etc. before assembling.

1. Install the suction filter in the fuel pump.
   CAUTION: During assembly, be careful that the suction filter and fuel pump are not damaged.


E115902



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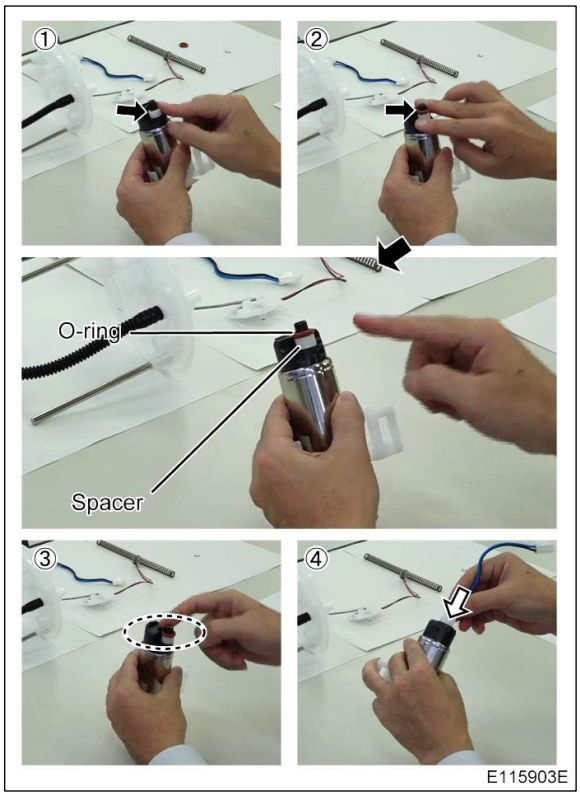
2. Install the new spacer, new O-ring, and wire harness to the new fuel pump.

   CAUTION: Be aware that if the O-ring is installed incorrectly or poorly, there will be insufficient fuel flow which will cause poor drivability, acceleration problems, engine stalling, and hard start issues.



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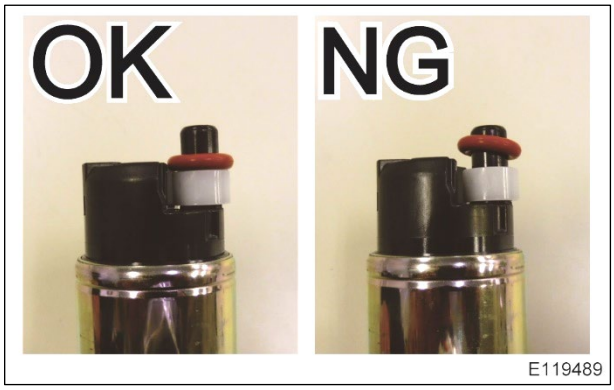
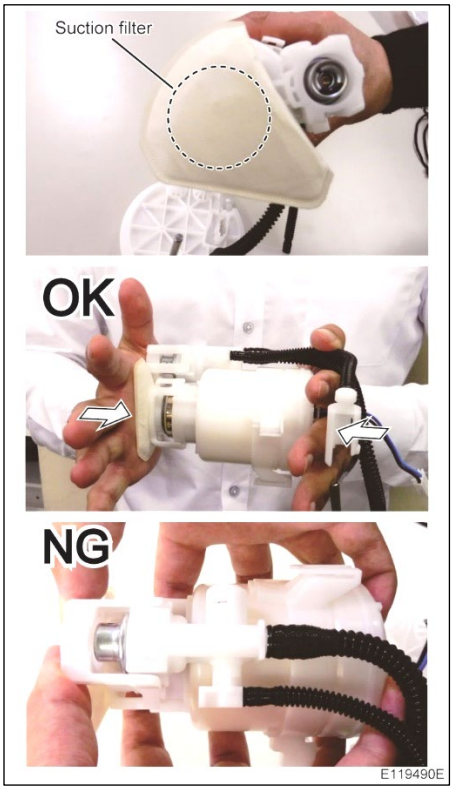
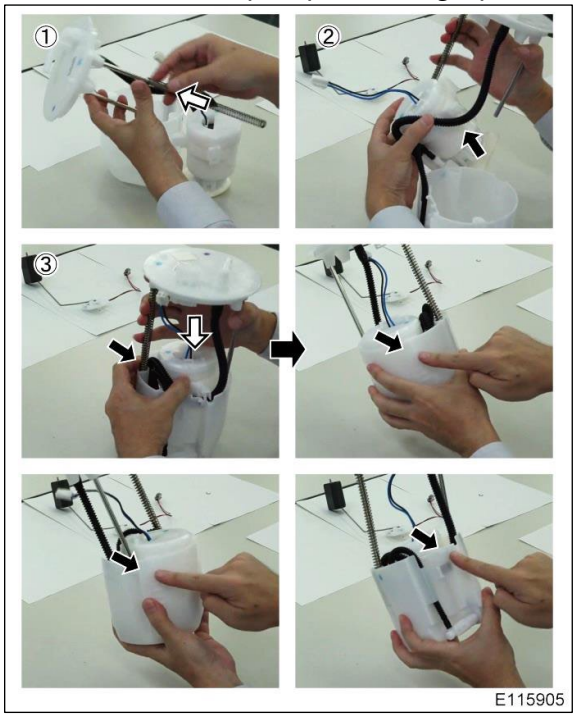


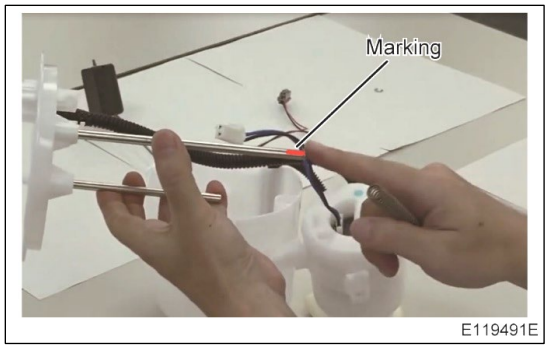
E119489

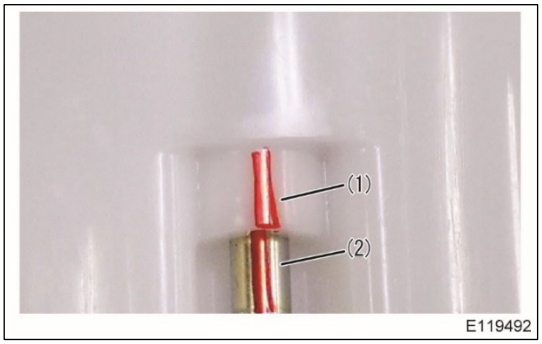
- Be careful as to the pushing location so that the suction filter is not broken. Use the palm of your hand to push in the entire surface of the suction filter straight forward.
- Be careful that the flange does not contact anything as damage will lead to a fuel leak.



3. Install the fuel pump in the high-pressure pump.

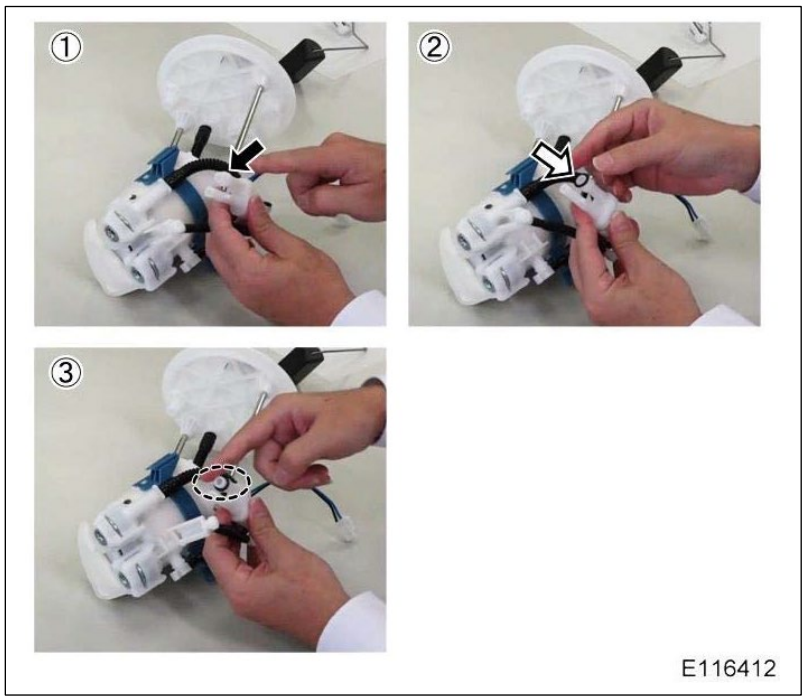


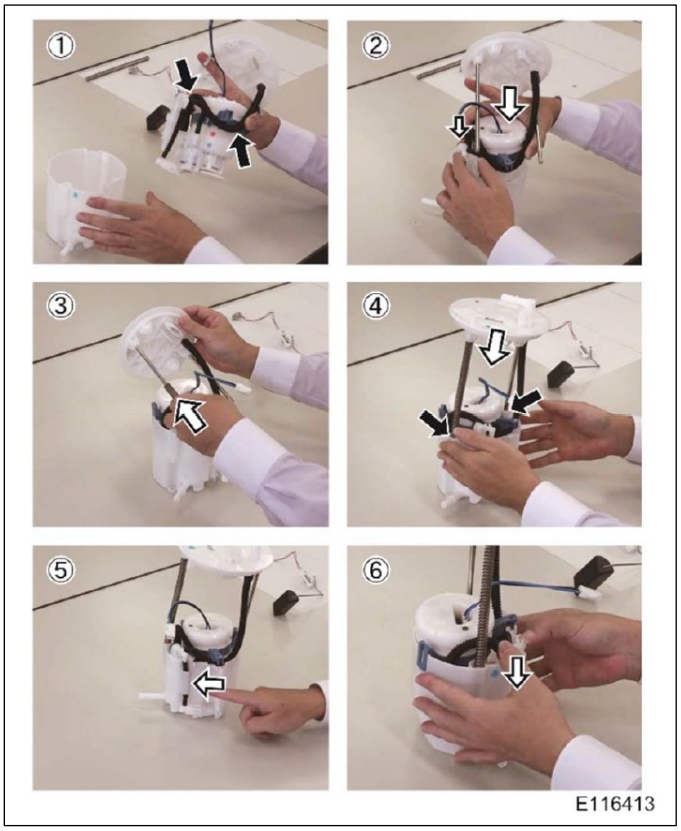




NOTE: Only 4WD that has fuel pump # PYY2 has transfer jet pump O-ring

Install the O-ring with the thin wire diameter on the transfer jet pump.





Install the strainer in the reservoir

① Set the fuel tube so that the routing is the as was noted before disassembly.

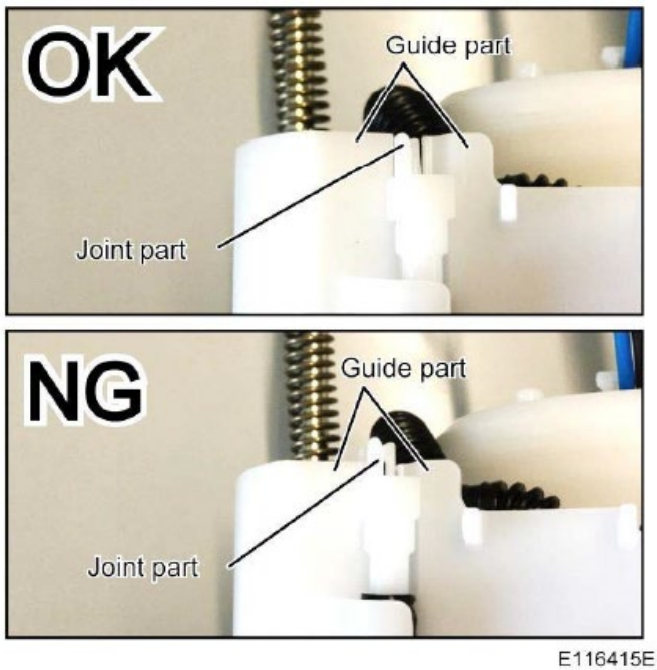
② While placing the strainer in the reservoir, insert and provisionally install the transfer jet.

③ Insert the spring in the sliding shaft.

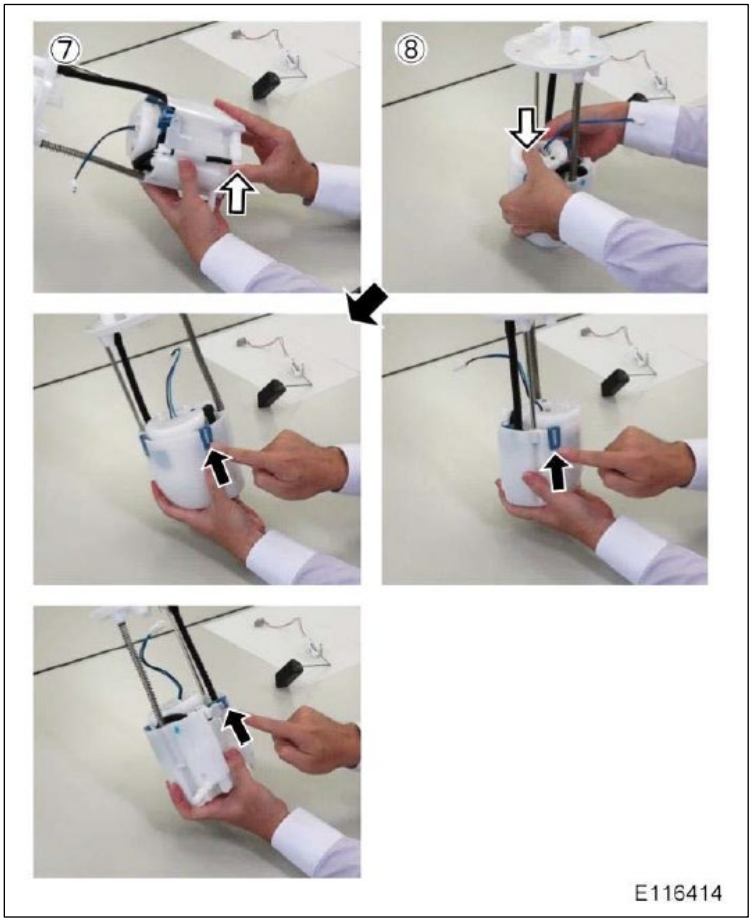
④Insert the sliding shaft in the sliding opening Of the reservoir.

⑤Install the bellows tube of the jet pump on The guide part of the reservoir.

⑥Install the transfer jet pump.
Align the joint part with the fitting position of reservoir, push on the upper surface of the jet pump, and push in until the joint part is below the guide part.



Check the joint part is in the correct position.



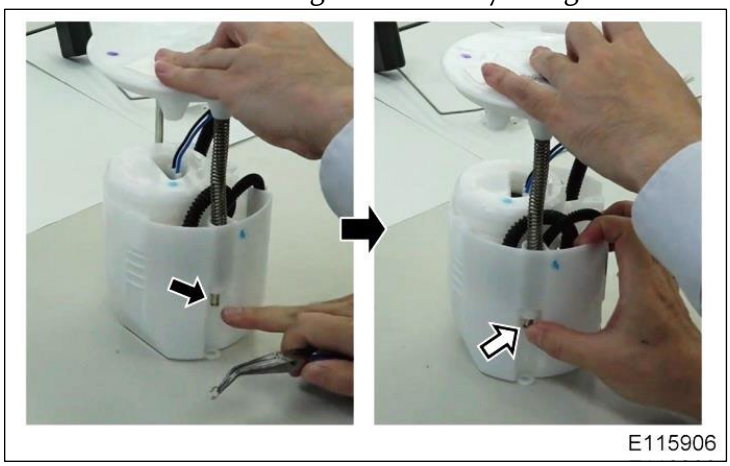
⑦Install the jet pump on the reservoir.
Make sure that the lock has been checked and secure.

⑧Push the strainer, and then make sure that the three joints have been installed correctly.

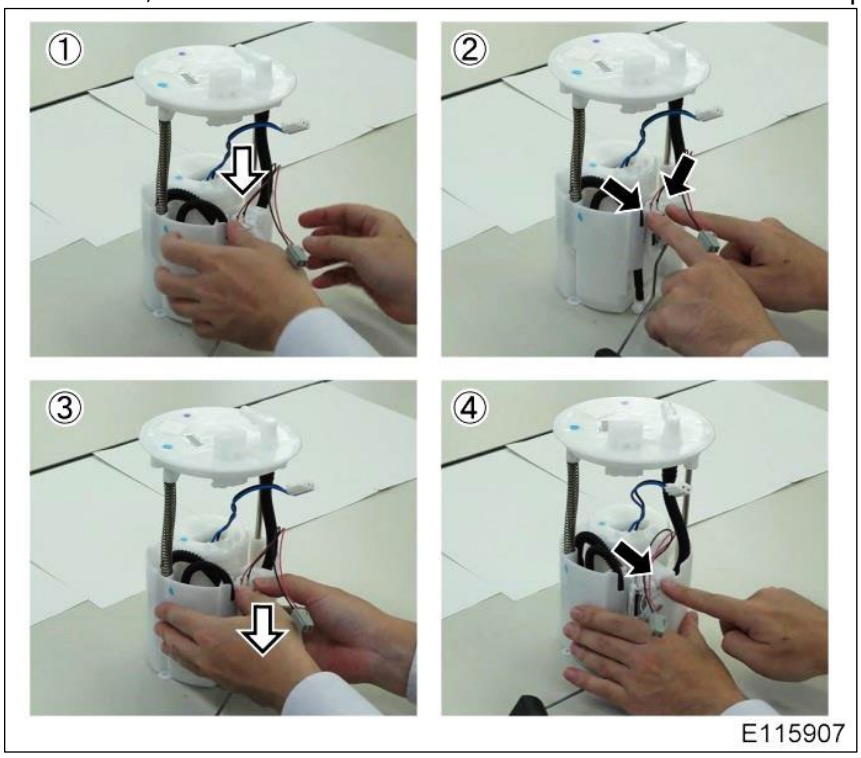
CAUTION:
Be careful when arranging the ground wire so

it does not come out of the sliding shaft.

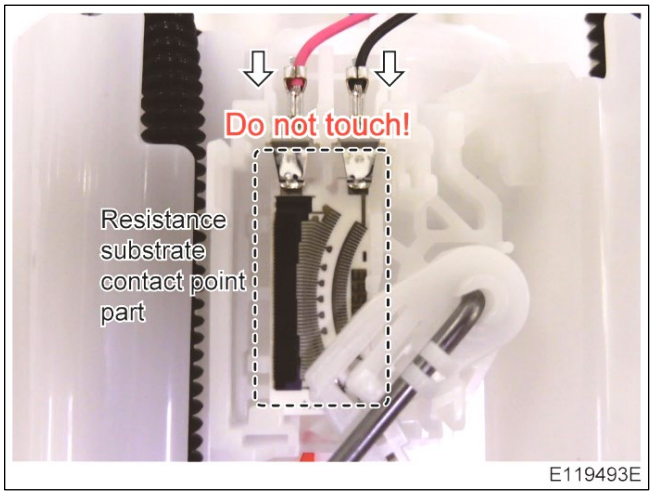
4. Install the new E-ring. Use needle-nose pliers or similar tool for installation.
   Make sure the E-ring can rotate by a finger after installation

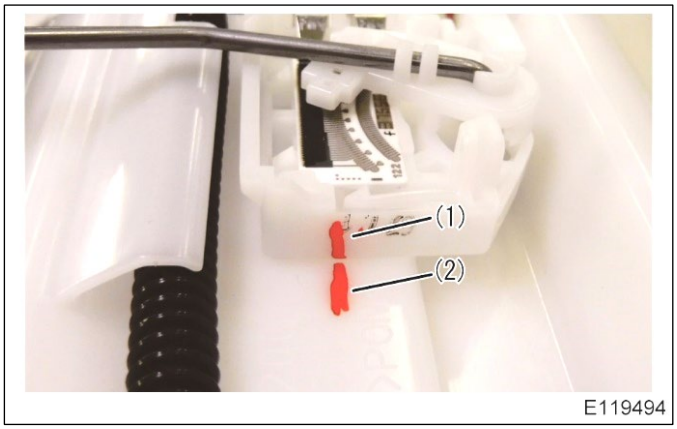


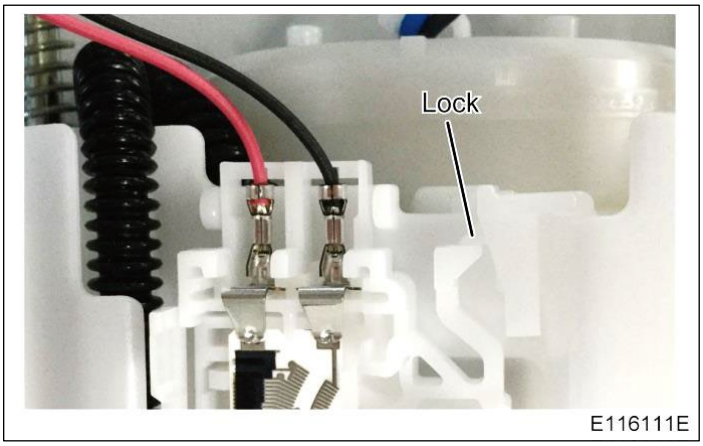
5. Install the fuel gauge sender in the reservoir cup.
   CAUTION: Push the resin part in and down, while making sure not bend the arm of the fuel gauge sender, and do not touch resistance substrates or contacts to prevent fuel problems.



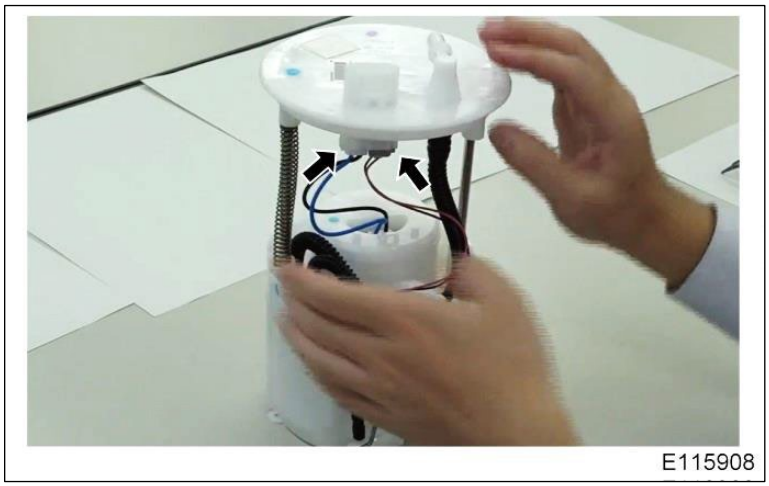
Make sure that the lock has been checked and secured.



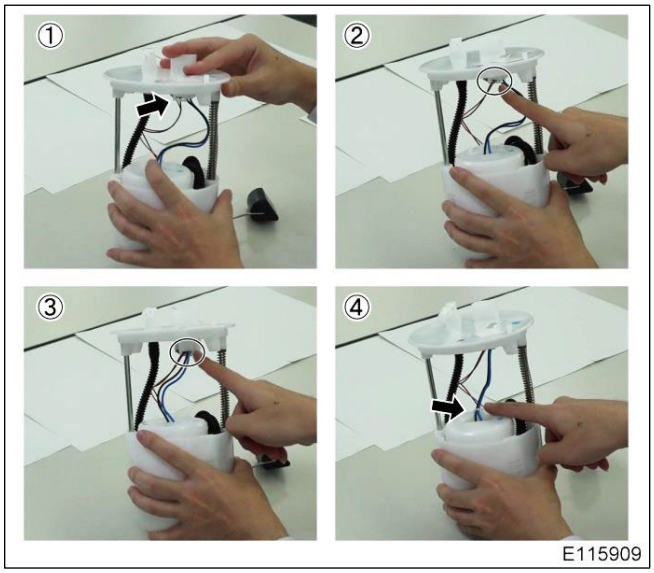


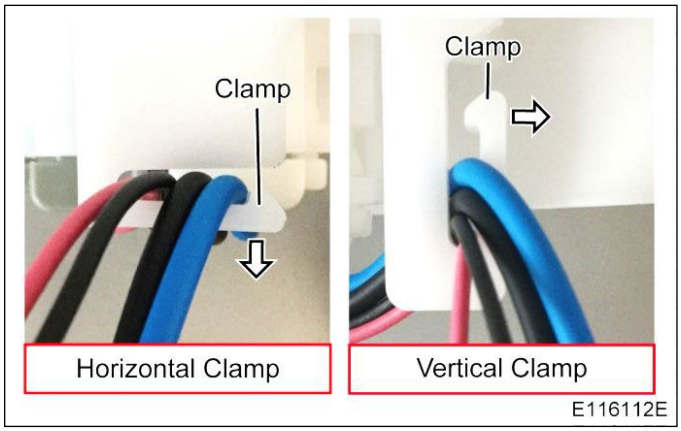


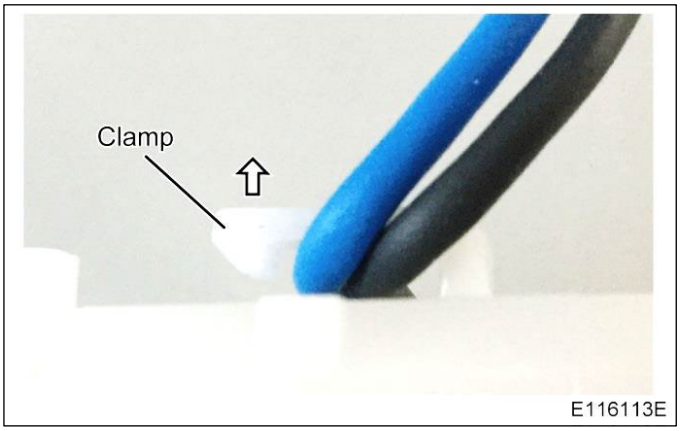
6. Install the connector of the wire harness. Make sure that the lock has been checked and is secure.



7. Install the wire harness in the clamp section. If the harness was damaged as shown in step 4, install the new harness at this time.







8. Install in the reverse order of removal.

CAUTION: Fuel Pump & Gauge (FDM) Unit Reassembly note:

i. Fill the tank with the fuel you previously drained (if drained prior to repair).
ii. Connect the battery (-) cable and start engine.
iii. Make sure there are no fuel leaks near the fuel pump unit
iv. Ensure all screws are properly fastened (models with screws). For CX-3 and Mazda2 check for any cracks in the fuel ring and do not overtighten.
v. Drive the vehicle, go, and stop suddenly 5-6 times at low speed.
vi. Stop the vehicle and check that there is no fuel leakage near the fuel pump and tank.
vii. Perform an on-board evap test to confirm no evaporative leak with IDS

END OF REPAIR PROCEDURE