



INSTALLATION INSTRUCTIONS

Mitsubishi Lancer Evolution VIII / IX

Fuel Surge Tank Kit

Document# 19-0077

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CAUTION: Exercise extreme caution when working with the fuel system of any vehicle. Keep flame and sparks away. Clean up all spilled fuel immediately and safely dispose of cleaning supplies. Work in a well-ventilated area. **To release fuel pressure, remove fuel pump fuse and start the engine. The engine will stall. Turn off car and remove negative battery terminal.**

1. Open the trunk.

Remove the carpet and hard board.

Gently disengage the 2 plastic fasteners located near the top of the seat rear panel (shown).



2. Remove the panel attached to the back of the rear seat from the vehicle, as shown.



3. Lineup the large flat brace included in the kit to the support beams. Confirm the brace is horizontal using a level.

Trace the 6 outer bolt holes (3 on each side) using a marker and drill 15/64" (6mm) holes.

Using the 6 included M5 stainless steel bolts and nuts, secure the brace to the support beams, as shown.



4. Remove the rear seat bench by pulling the 2 levers underneath.

Find the fuel pump access panel on the left hand side under the lower seat cushion (shown).

Unscrew the 4 Phillips head screws and remove the fuel pump access panel.

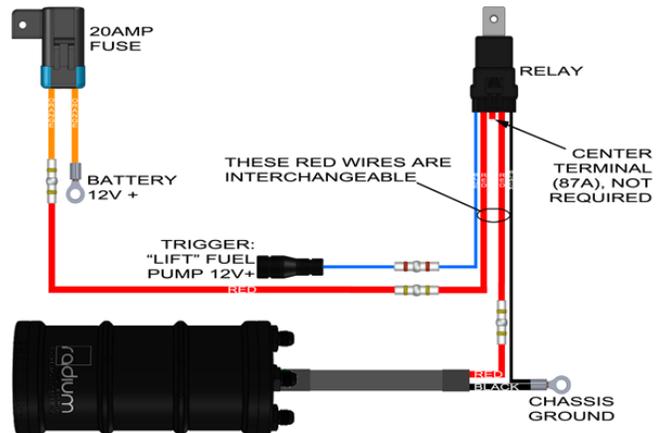


5. Release the fuel pump connector by squeezing the lock with your thumb and simultaneously pulling upwards.



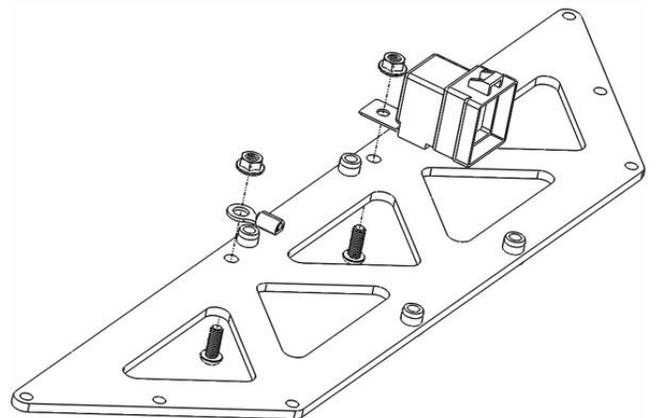
6. This schematic shows the wiring for the fuel surge tank kit. Use it as a guide to make the proper connections using the parts supplied in the kit.

The center wire in the relay (terminal 87a) is not used, so the wire can be removed from the connector, or it can be cut short and left installed.



7. Permanently mount the relay and temporarily mount the grounding ring terminal of the large brace using the hardware included in the kit, as shown. Note: Both components mount on the front side of the brace (closest to the rear seat).

Lengthen the blue wire found in the relay's flying lead connector by splicing the included blue wire. Cut wire to length. Use a heat gun to melt the included crimp-less butt connector's solder for a solid connection. Temporarily plug in the flying lead connector to the relay.



8. Locate the Posi-Tap wire connector in the kit and unscrew the large end piece.

Slide the fuel pump's white power wire into the slotted area of the Posi-Tap end connector, as shown.



9. Screw in the opposing side of the Posi-Tap connector to lock the white wire in place, as shown.

Next, run the blue wire from the relay installed in the previous step to this connector and cut it to length.

Strip a small section off the end of the wire and insert it into the Posi-Tap connector.

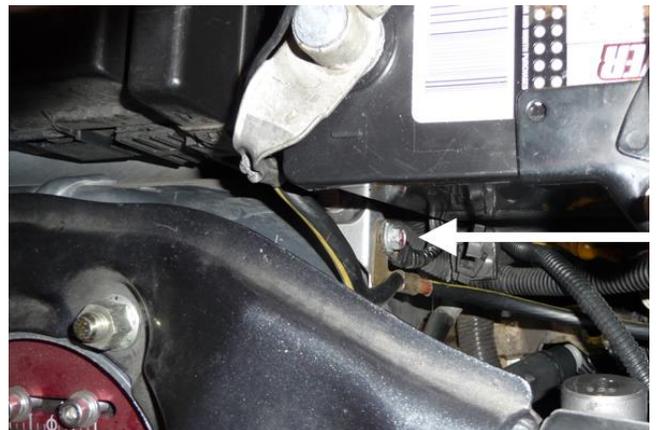
Tighten the plastic Posi-Tap nut.



10. Find the fuse holder in the kit and confirm there is a 20A fuse installed. Using a 1/4" drill bit, enlarge the plastic fuse holder mounting bracket's hole.

If not already, unlatch and open the front hood. Using a 10mm wrench, unscrew and remove the M6 bolt pictured. Install the fuel holder mounting bracket at this location by reusing the OEM bolt.

Next, pop-off both front and rear left side door sills.



11. Route the large 10AWG red wire along the left side of vehicle connecting 1 fuse lead to the relay in the trunk. This wire is hot so stay clear of chaffing areas and secure appropriately. Use the crimp-less solder butt connectors and a ring terminal to secure to the battery 12V+ terminal.

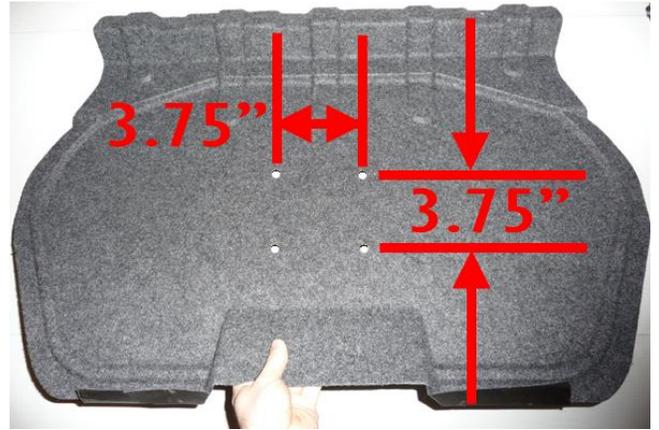
In trunk, pull wire slack and cut wire to length at relay. Use included solder butt connectors to make proper connections. Crimp both the relay ground and fuel surge tank pump ground wires to the ring terminal on the Radium brace.



12. Temporarily mockup the rear seat panel. Hold up the small black fuel surge tank mounting bracket to the panel and lineup where the 4 rivet nuts are located on the Radium brace on the opposite side of the panel.

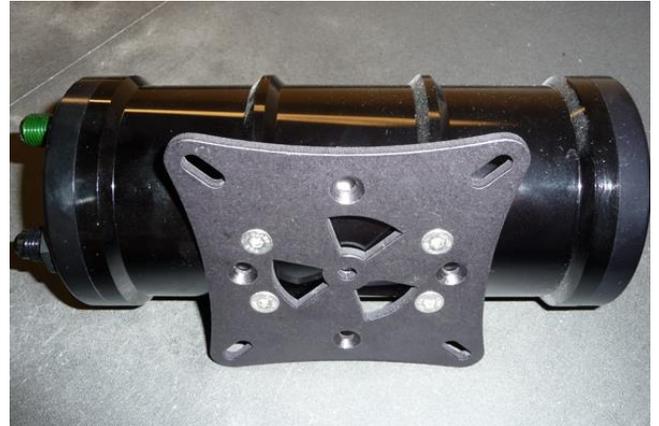
Make 4 dots on the panel using a marker. It may take a few tries, but eventually cut 4 holes (as shown). Note: The small fuel surge tank mounting bracket slots are 3.75" apart on-center (as depicted).

The FST wire harness can come over the topside of the panel.



13. Fasten the small fuel surge tank mounting bracket to the side of the fuel surge tank using the four M6 countersink screws included in the kit. The rotation is not important.

Tighten using a 4mm Allen wrench.



14. Reinstall the rear seat panel and mount the fuel surge tank assembly to the brace using the 4 included M6 bolts.

Fuel surge tank mounted (shown with PTFE hoses which are installed in later steps).



15. Now looking at the top of the exposed fuel pump hanger, it may be a good time to clean the area.

Note the position of the 2 important OEM hose connections.

The high pressure fuel pump outlet (top) that routes to the fuel rail uses a 3/8" OEM quick disconnect fitting.

The low pressure hose (bottom) from the fuel pressure regulator return uses a 1/4" ID hose with a spring clamp.



16. Remove the high pressure line from the fuel pump hanger fitting by first squeezing the 2 opposing tabs and then pulling away from the fuel pump hanger fitting.

Be careful not to side-load the white plastic fitting which could result in it breaking off.

Use a rag to clean up any spilled fuel.



17. Loosen the spring clamp on the return hose with a pair of pliers, as shown.

Carefully twist the hose to dislodge it from the 1/4" return barb on the fuel pump hanger.



18. Locate the hose in the kit that doesn't have a hose end on one end. Using the included hose clamp, install the female quick disconnect fitting found in the kit, as shown.

Snap the quick disconnect end onto the fuel pump pressure fitting on the factory fuel pump housing.

Route the hose along the floor, under the rear upper seat cushion and connect it to any of the 3 ports on the top of the surge tank that are black (not green).



19. Locate one of the 41" long PTFE hoses that has 90 degree hose end and a straight hose end. First, install the quick-connect male adapter into the straight hose end, as shown.

Next, connect the male adapter to the mating female OEM quick connect fuel line.

Connect the other end to the FST fuel pump outlet (green fitting on top of fuel surge tank).



20. Locate the 40" long PTFE hose with 90 degree hose ends on both sides. Secure one of the included adapter fittings (hose barb to -6AN male) to one of the ends of the PTFE hose.

Next, install the barbed side into the OEM fuel return hose, as shown. Re-use the spring clamp already on the fuel hose.

Route this hose to one of the "black fitting" ports on the fuel surge tank.



21. Locate the non-permeating ¼" ID rubber Barricade hose and the other -6AN male to barb adapter fitting in the kit.

Install the rubber hose on the adapter fitting's barb and secure with the included hose clamp. Slide the other included clamp on the opposite end, as shown. Next, slide the rubber hose onto the fuel return fitting on the fuel pump housing. To secure, tighten the hose clamp.

This hose may need to be trimmed later for best fitment.



22. Locate the last remaining PTFE hose in the kit which has a 90 degree and a straight hose end that is 41" long.

Screw the straight hose end onto the -6AN side of the barb adapter fitting from the previous step. An exploded view of the connections is shown.

Route this hose to the last remaining "black" port on the fuel surge tank.



23. If necessary, the FST can be disassembled and the top and bottom caps can be rotated for optimal hose routing. Furthermore, the OEM fuel pump hanger can be rotated clockwise slightly for best hose routing.

Note: Due to the restrictive return port on the OEM fuel pump housing, a slightly higher static fuel pressure is normal when using a high flow pump. To alleviate the issue, the OEM pump housing return port can be modified (enlarged) to alleviate the restriction and promote fuel flow back into the OEM fuel tank.



24. With the four hoses routed, test fit the OEM fuel pump access cover. Make a mark on the cover to cut away a section for the hoses and trigger wire to pass through, as shown.

As shown, cut out roughly a 3" x 1.2" (75mm x 30mm) passageway using any tool capable of cutting thin sheet metal. The cleaner the cut, the easier it will be to re-seal the cover. Do not permanently install the cover yet.



25. Use the included cable zip ties to secure the 4 hoses and trigger wire in place.

Starting at the FST, bundle the hoses together. As they come down and are routed underneath the seat, secure the hoses in a side by side sequence to make them flat, as shown.

Confirm the hoses will not interfere with lower seat cushion.



26. The hose routing will look similar to what is shown. Notice how the hoses go around the backside of the V-brace.

Next, reconnect the battery. Note: When first starting the engine, it may take longer than usual due to air pockets being bled out of the system. Confirm the pumps are operating properly. Check for leaks at all connections and correct any that occur.



27. Reinstall fuel pump cover, door sills (shown), rear seats, trunk paneling, etc.

Install Tip: To help seal around where the PTFE hoses and trigger wire pass through the fuel pump access cover, an adhesive strip caulking may be used such as the 3M product shown here.

