

DSX Flex Fuel Sensor Kit for ATS-V

JES/SAC – 7/21/2020

This is a top quality, plug and play flex fuel kit. It taps into your coil pack for power and the white wire is connected to the ECM connector x1, pin #38. Use this kit to add the ability to run anywhere from straight gasoline to straight ethanol as well as reveal the true power potential of your ATS-V setup. Installation is straight forward and there are two different ways to go about installing this. Option one is to remove the wiper cowl to gain access to the fuel feed line. Option two would be to remove the charge air cooler plenum. These instructions follow the first option, as its fairly easy and less intrusive to remove the wiper cowl.

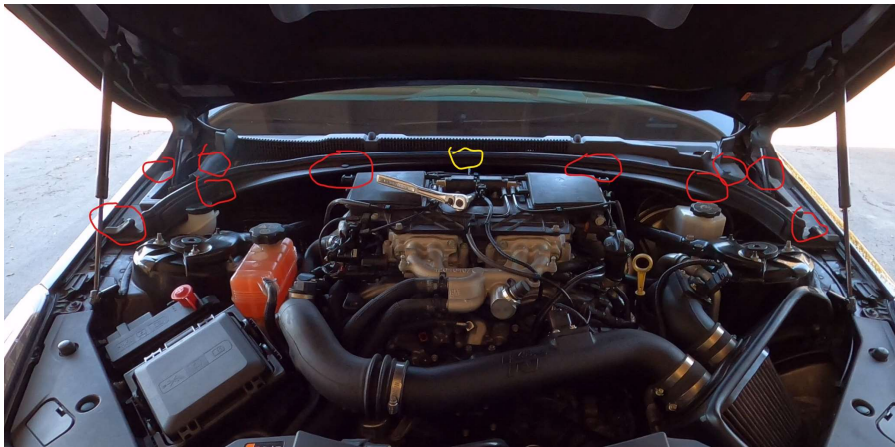
Kit Contents

- DSX flex fuel sensor with 45-degree union fitting
- Jumper harness with long wire and ECM terminal
- Orange fuel line disconnect tool

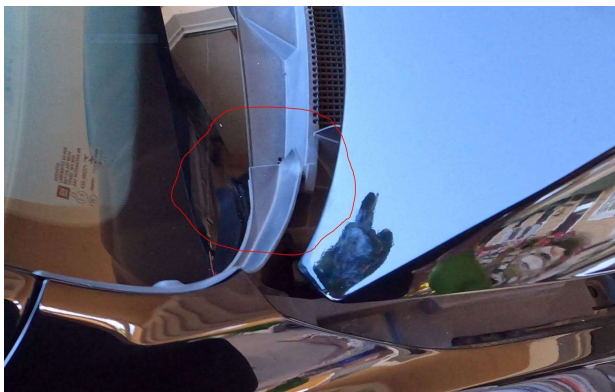
Tools Required

- 15 mm. socket and wrench
- 10 mm. deep socket and shallow
- Push pin or trim removal tool (can use flat head screwdriver)
- Small/pocket flat head screwdriver
- Paper clip or something of similar size that is straight to push out ECM connector plug

1. Disconnect negative battery cable in the trunk.
2. Remove both windshield wiper arm covers with small pocket screwdriver to expose the 15 mm. nuts that secure them.
3. Remove both 15 mm. nuts and then remove the wiper arms. You don't need a puller. Just lightly wiggle the wipers up and down to loosen them from their conical seats.
4. Remove the ten push-in fasteners securing the wiper cover to the cowl, circled in red in the below photo. The yellow circle is a regular Christmas tree faster that can be pried up when removing the cowl.



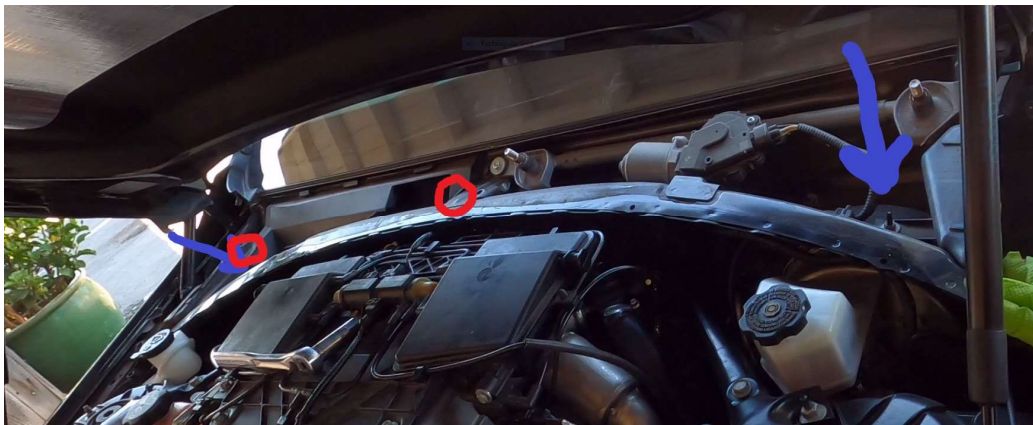
5. Disconnect the upper windshield trim from the cowl. It has a clip and it also pushes into the windshield channel. You don't have to remove it from the upper fender, just the wiper cover.



6. Carefully pull up on the cowl on the windshield side sliding it up and out of the windshield trim tray. Next pull up on the Christmas tree fastener marked in yellow in the previous photo. Lift up on the passenger side and disconnect the washer hose by squeezing the two tabs together.



7. Next slide the cover trim out through one side of the car.
8. With the wiper cowl exposed now, remove the two push in fasteners for the cabin air filter deflector and remove (marked in red below). Remove the two 10 mm. nuts that secure the side baffles and remove them (marked in blue below).

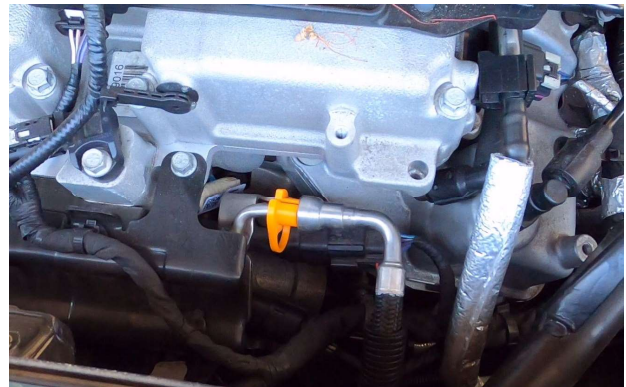
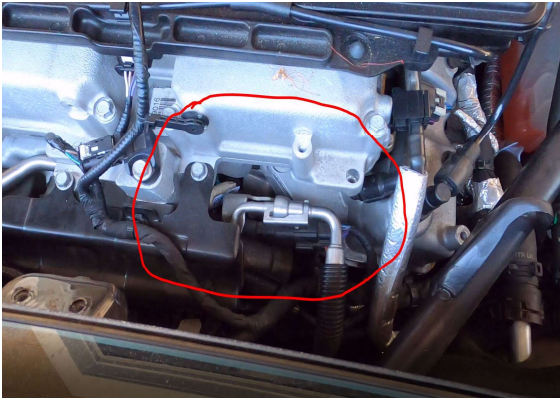


9. Disconnect wiper assembly electrical connector and remove harness retainers from the cowl. Pull the harness through the cowl and into the engine bay.
10. Remove all the 10 mm. nuts and bolts securing the wiper tray into the car. Remove the two 10 mm. nuts securing the wiper arm assembly. Remove the two 10 mm. bolts that secure the wiper cowl to the strut bar braces that come off each shock tower.

11. Double check to make sure all the bolts are out. If this is the first time the cowl has been out it is glued to the chassis from the factory, so you will need to do some prying and wiggling to break the adhesive loose. Working from one side pry up and break the adhesive bead. Once it is broken free push the wiper assembly away from the engine to disengage to the locating pin from the rubber grommet and remove wiper arm assembly. Then the cowl can be lifted up and slid out to one side. **NOTE: It might be easier to support the hood and remove the hood struts from the hood and lay them down towards the front of the engine to give you more room to remove the cowl. Take extra precaution to properly support the hood if you choose to remove the hood struts.**



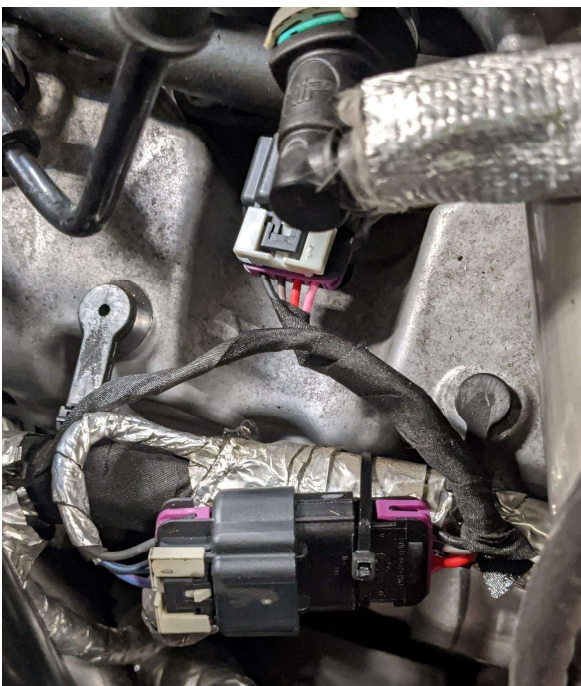
12. With the cowl removed you will have perfect access to the fuel feed line. Remove the securing clip from the line by lifting up and sliding it off. Next using the supplied fuel line disconnect tool remove the factory fuel line by pushing in on the fuel line, pushing in on the disconnect tool, and then sliding the line off.



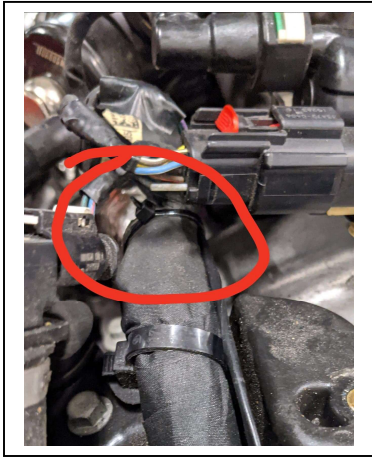
13. Install 45 degree fitting onto new alcohol content sensor and slide the sensor onto the factory line with the bottom of the flex fuel sensor facing up as shown in the photo below.



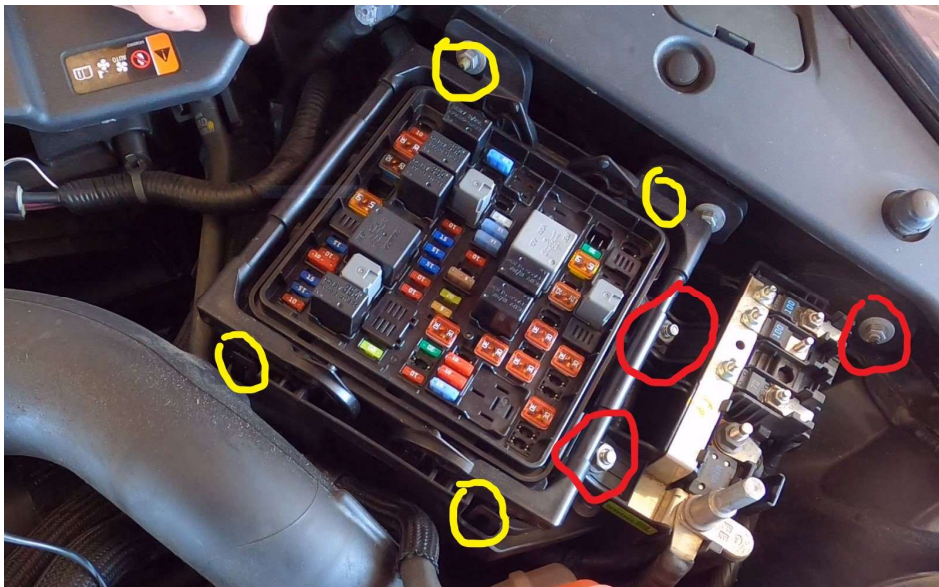
14. Connect the factory fuel line to sensor and clip the electrical connector into the sensor and begin routing it towards the cylinder #5 (rear cylinder on passenger side) ignition coil connector. Disconnect the cylinder #5 ignition coil and install the jumper harness in between it.



15. Run the white signal wire up towards the front fuse block where the ECM is located. Secure it to harness with cable ties as you go.

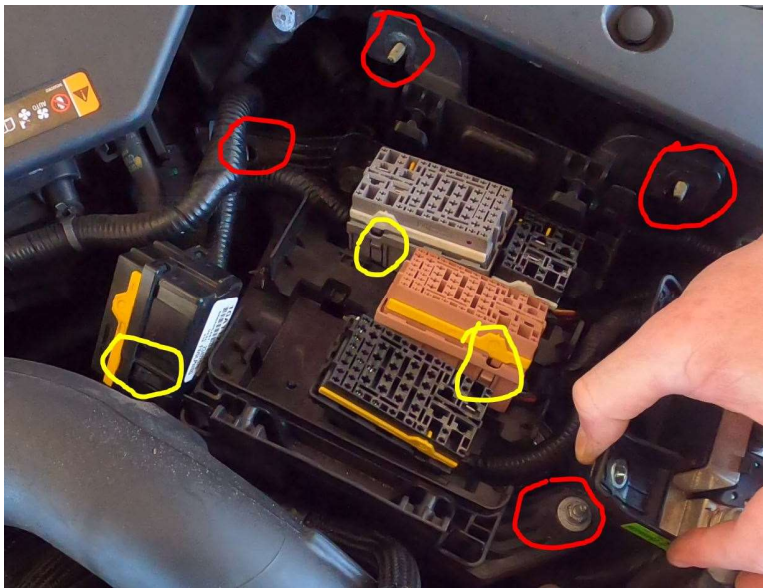


16. You will need to remove the underhood fuse block to gain access to ECM connector x1 to install the additional pin. Start by removing both covers to the fuse block. Remove the 10 mm. nut circled in red and the two 13 mm. nuts circled in red. Move the auxiliary fuse block out of the way. Next, circled in yellow are the release tabs for the arms that secure the fuse block onto the connectors. Release these tabs while lifting up on the arms and remove the fuse block.

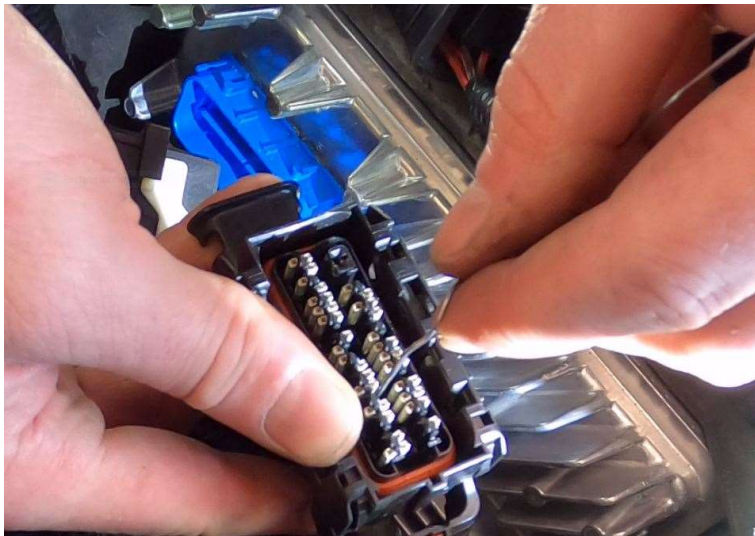
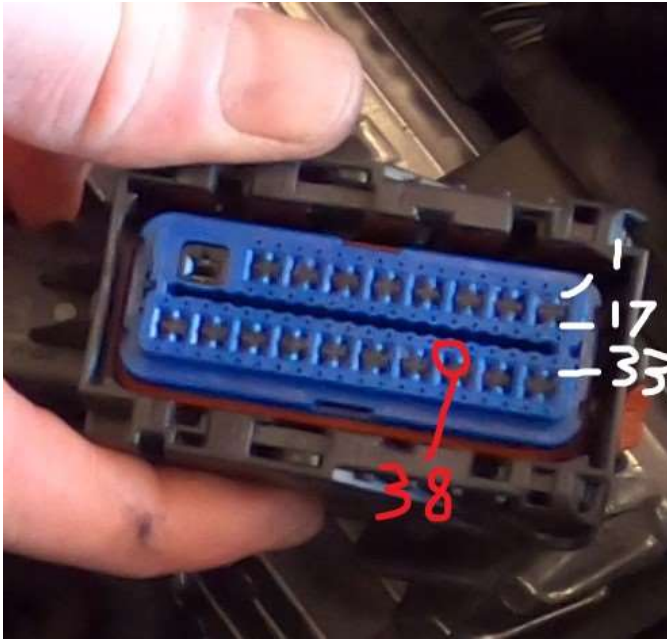




17. Remove all five connectors from the tray. There are two release tabs on each connector (circled in yellow below) which are best accessed by using a pocket or small flat head screwdriver. Once released, the connector will slide up and out. Once all five are removed, next remove the four 10 mm. nuts circled in red and then remove the fuse block tray. There is a wire harness running on the back that has one Christmas tree fastener secured to the fuse block tray.



18. Remove the top ECM connector which has a blue CPA on the pins side. Remove the back cover to the connect by releasing the two tabs to expose the wires in the connector. Next remove the blue connector CPA by lifting up on each side slowly until it slides out exposing all the terminals. You will then find terminal 38 and using a paper clip or thin straight object, insert it into the hole and press the plug out. This will take patience and a lot of pushing back and forth but it will eventually come out.



19. Install DSX alcohol content sensor pin into terminal 38. Fully insert it and try to pull it out. If it comes out rotate pin 180 degrees and retry. Once inserted in the proper orientation it should not come out. At this point verify that you inserted it into the correct location and then reinstall blue CPA onto the exposed pins. Reinstall the connector back cover, and reinstall x1 onto ECM. Cable tie any excess wire up out of the way. Reinstall all components in reverse order. **Note for the fuse block:** Make sure that all five connectors are properly located in the tray and laying completely flat before inserting the fuse block on top of them.
20. Reinstall wiper cowl in reverse order from removal.