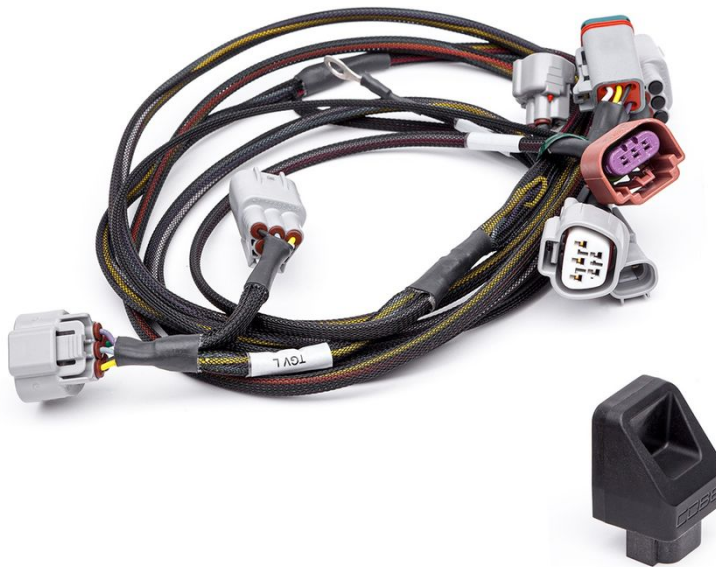




VA STI NexGen Flex Fuel Installation Instructions



325650 (315260, 315670)- **NexGen Flex Fuel**

2015-2021 Subaru WRX STI (VA)

Congratulations on your purchase of the COBB Tuning NexGen Flex Fuel Kit! The following instructions will assist you through the installation process. Please read them **BEFORE** beginning the install to familiarize yourself with the steps and tools needed. If you feel you cannot properly perform this installation, we **HIGHLY** recommend you take the vehicle to a qualified and experienced automotive technician.

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Parts List

315260 - Flex Fuel Sensor to Fuel Rail Line Kit

- ▼ Fuel Pressure Regulator to Ethanol Content Sensor Line



- ▼ -6 AN Male to 3/8 Quick Connect



- ▼ Ethanol Sensor to Fuel Line Kit



Tools Needed

Sockets

3/8"

- 3/8" ratchet
- 3/8" 12" extension
- 3/8" 6" extension
- 3/8" Socket Swivel
- 3/8" 10mm socket
- 3/8" 11mm socket
- 3/8" 12mm socket
- 3/8" 10mm deep socket
- 3/8" 12mm deep socket

Hand Tools

- Phillips head screwdriver
- Flathead screwdriver
- 3mm Allen Key (included)

Wrenches

- 10mm combination wrench

▼ Fuel Injection Line Clamp



▼ Ethanol Content Sensor and Bracket



315670 - Ethanol Sensor

▼ Nex Gen Flex Fuel Harness



▼ Nex Gen Module



▼ Module Bracket



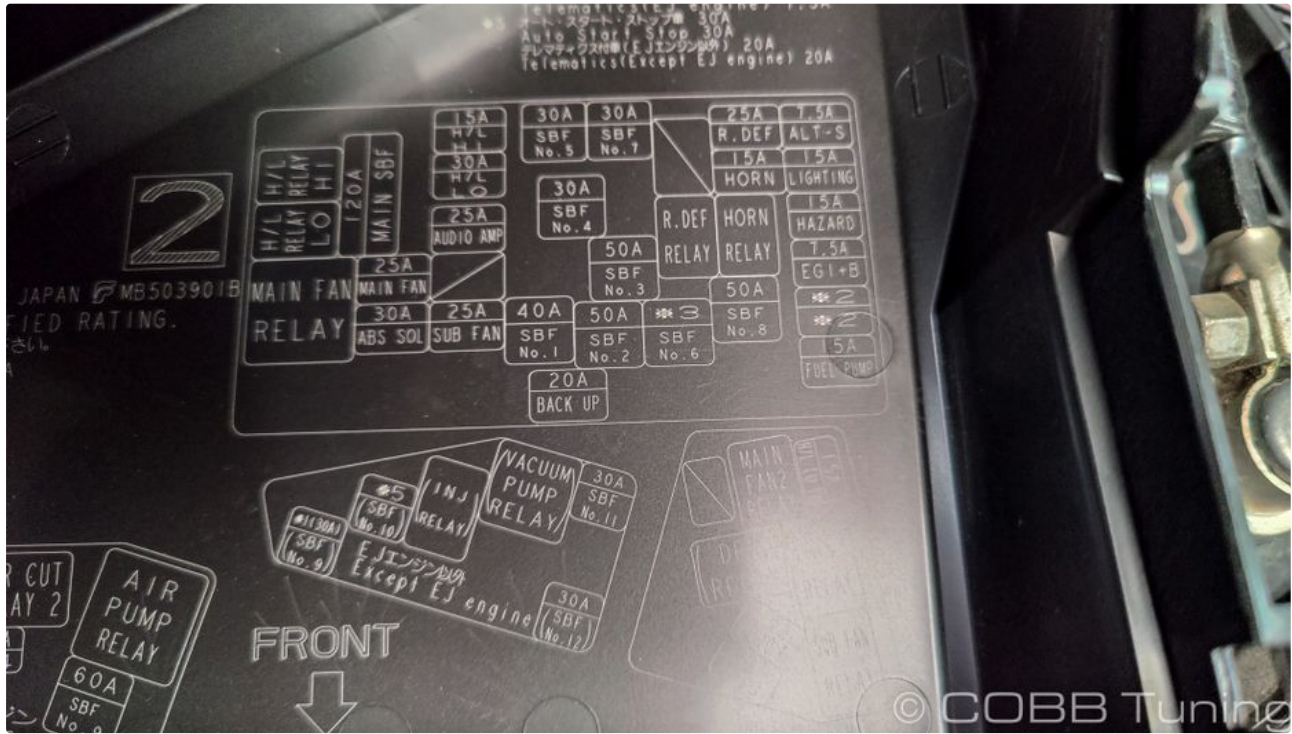
▼ (2) m5x8.0x10mm Stainless Flat head Cap Screws



Pre-Installation Steps

1. Inspect the new components included with the COBB kit. If anything appears out of place, please contact COBB immediately and do not proceed with the installation.
2. Park your car in a flat, level area and allow it to cool down all the way.
3. Discharge the existing fuel pressure from the system. It's a good idea to consult the factory manual for OEM methods. One potential route if you feel it can be done safely, is to let the car idle, and then remove the 15a fuse for the fuel pump. (Consult your owners

manual or fusebox for which fuse this is) This will allow the car to run for a few moments longer and then stall. While there will still be some residual fuel in the system, it won't be under pressure so you won't cause AS big of a mess. Set the fuse and fusebox lid somewhere safe for the time being. Make sure to turn the car off after it stalls!



4. Disconnect the vehicle's negative battery terminal first, then the positive battery terminal with a 10mm wrench or socket. Ensure no sources of spark or flame are present. **Remove the battery from the vehicle.**

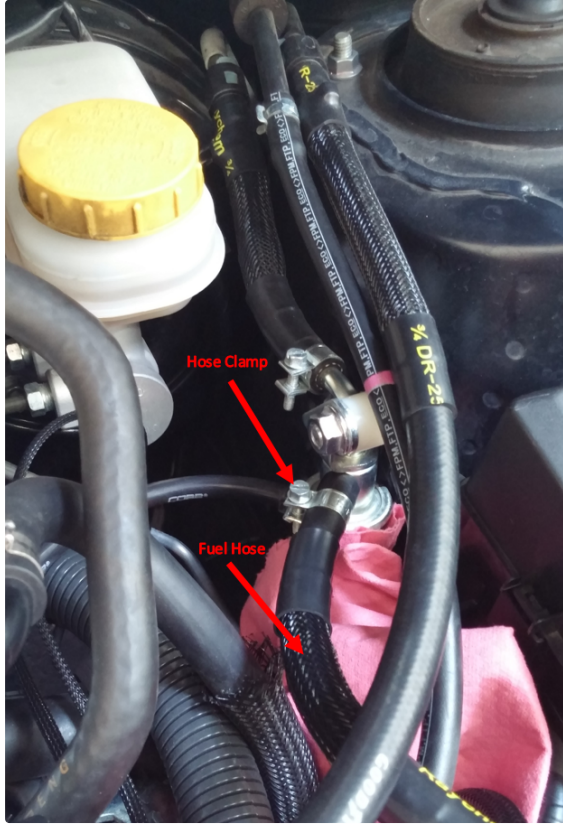


5. With that you can loosen the two 10mm nuts on the hooks holding the battery in place, and remove the battery from the car to have more space available and access to where we're going to make changes later.

6. If Equipped with a top mount intercooler, you'll want to remove it at this time to get to the fuel lines behind it.

WRX & WRX STI TMIC Removal

7. Remove the existing fuel line that goes from the fuel pressure regulator over to your fuel lines. Use a screwdriver or 7mm socket to undo the fuel injection clamp from the regulator and the quick connect fitting adapter from the other (engine side) end. (This may need to wait until removal of the intercooler)



8. Using two -6 AN wrenches, remove the female to female adapter and quick connect fitting from the fuel rail lines. (This may need to wait until removal of the intercooler)



9. Some of your intake will need to be removed. If using a COBB SF intake, you can get by with just removing the silicon piece going from the maf housing, to the turbo inlet.



Bench Pre-Assembly

1. Using the two supplied flat head screws and allen key, attach the flex fuel module to the bracket.



2. Install the supplied 3/8 → -6AN adapter fitting on to the 130° end of the AN line. It should come with the green retaining clip preinstalled. Snug it down with two -6 AN wrenches



3. To remove the fitting from the ethanol content sensor in the future, all you'll need to do is squeeze the green part where it sticks out the back and pull the AN portion outwards. The green portion will stay on the ethanol sensor for reinstallation and the AN fitting will pop off. When re-seating the clip, make sure the tabs line up with the squared off holes. The tabs lining up is what retains the fitting when under pressure.



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Flex Fuel Module Installation

1. Locate the bracket holding the power steering reservoir to the strut tower. You'll loosen the bolt (and on some cars the nut on the right) holding the bracket to the strut tower using a 12mm socket.



- Slide the right hand side of the module bracket over the stud on the engine side, then rotate it downwards until it's behind the bolt on the outside.

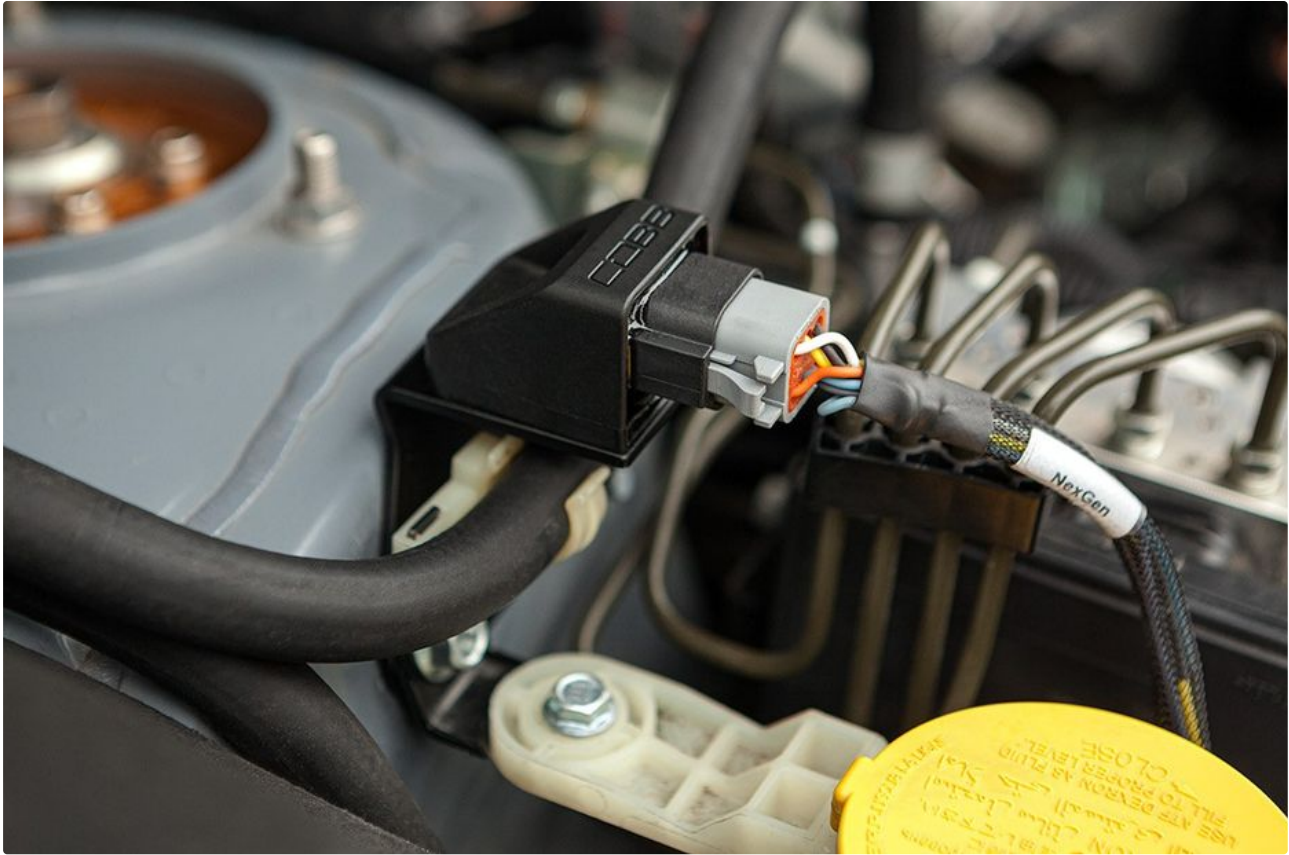




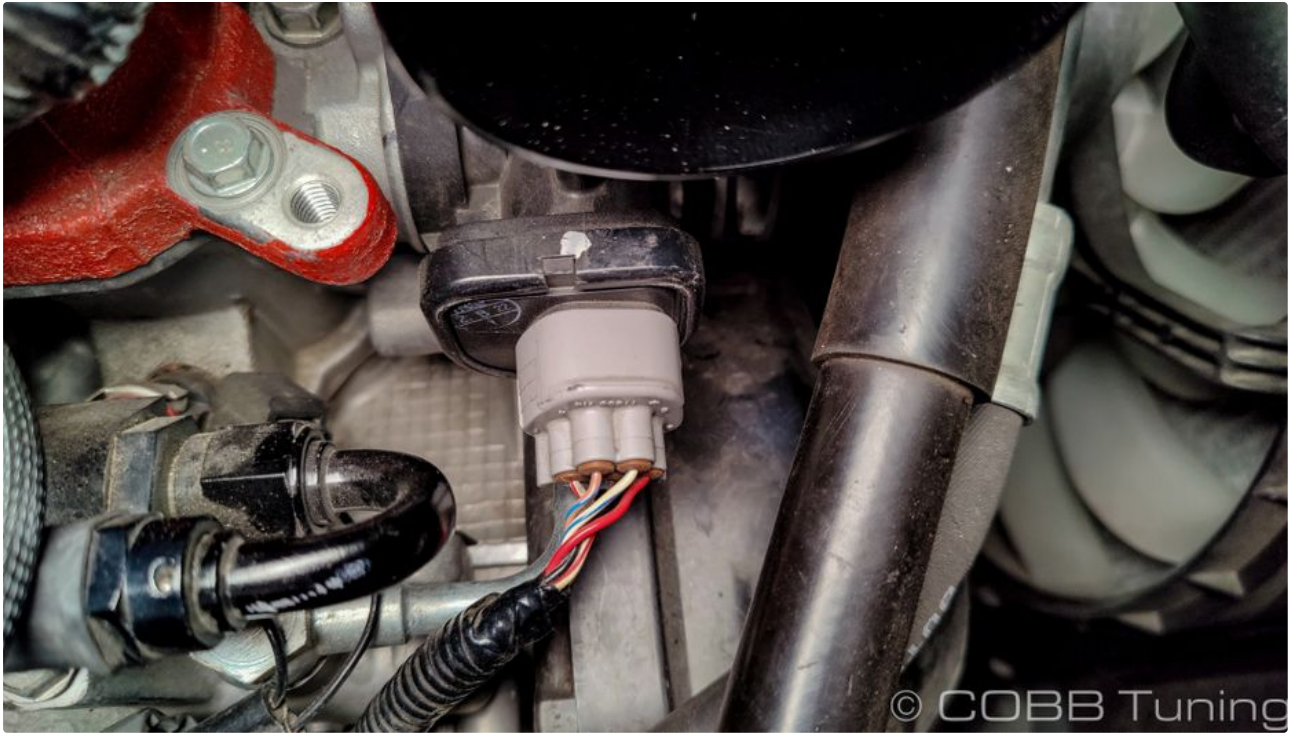
3. Once the module bracket is snug behind the stock bracket, you can snug the bolts back down.

Flex Fuel Harness Installation

1. Starting on the passenger's side, plug the supplied 6 pin deutsch connector to the module.



2. Working down the harness making sure not to route it too tightly between things as the engine will move. Unplug the factory connection from the TGV. There is a release to squeeze on the bottom side of the connector.



3. Plug the Flex Fuel harness into the TGV directly.



4. Now if you're running it without the fuel pressure sensor, plug the flex fuel harness into the stock engine harness.



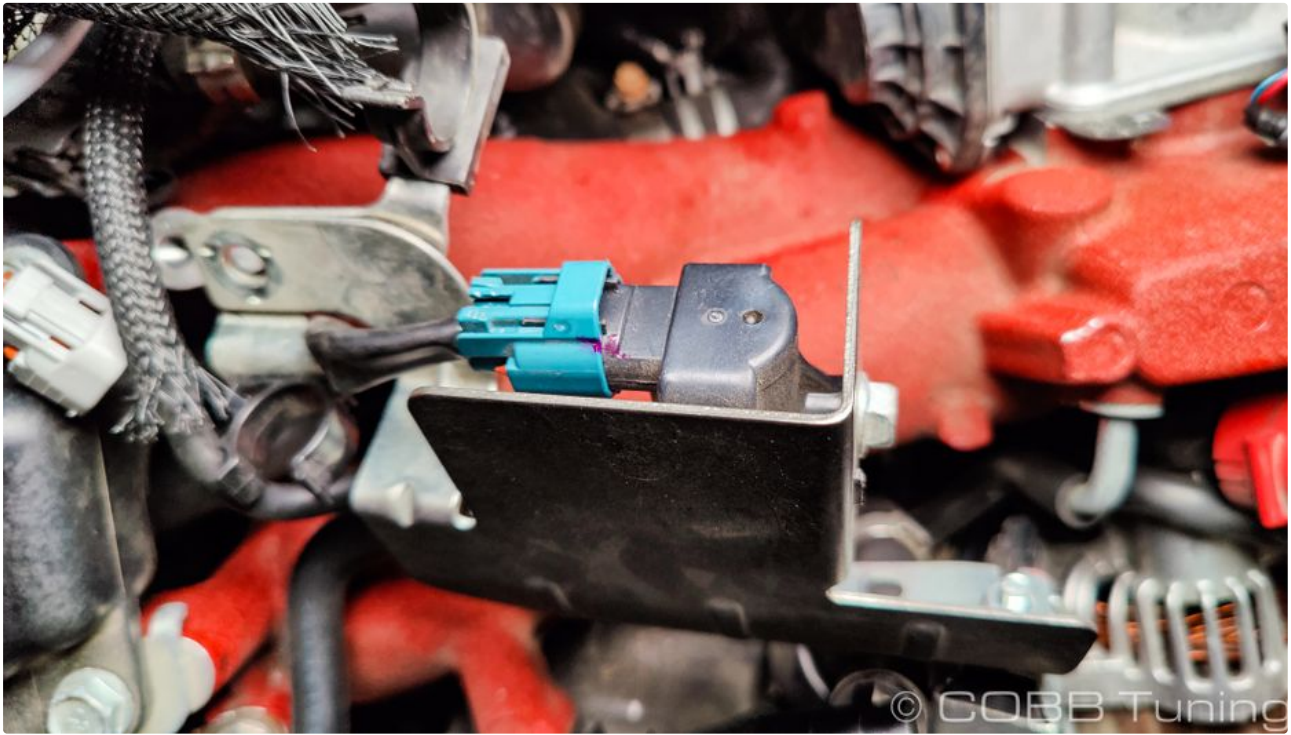
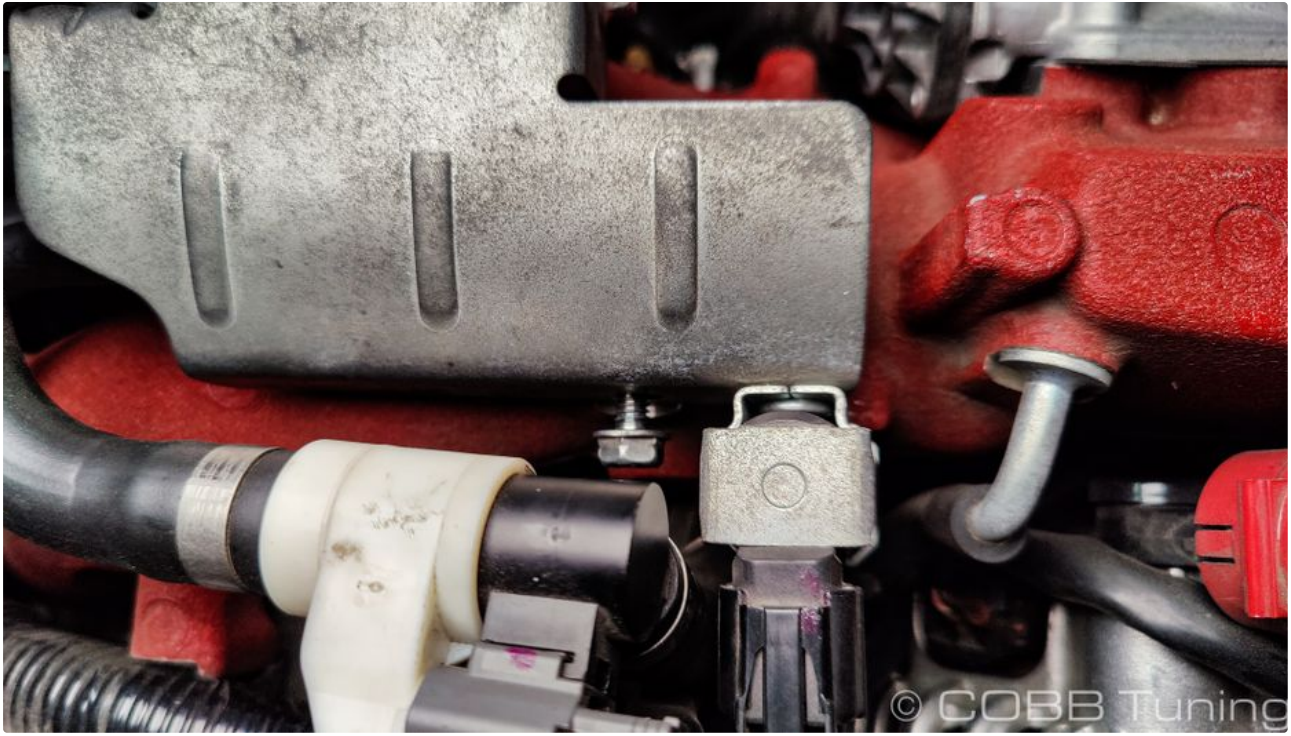
5. If you're using the fuel pressure sensor kit, plug the flex fuel harness into the fuel pressure sensor harness, then the fuel pressure harness into the engine harness. If these are not done in the correct order you will end up getting error codes pop up.

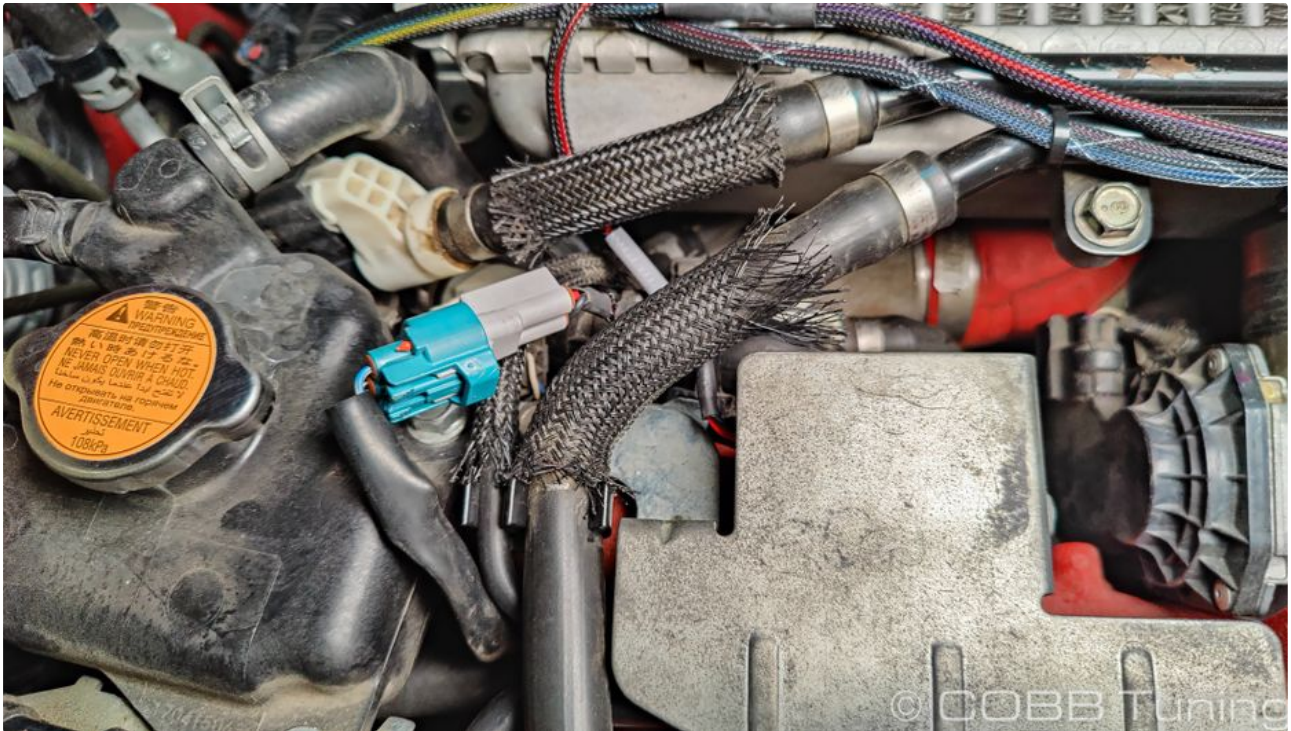
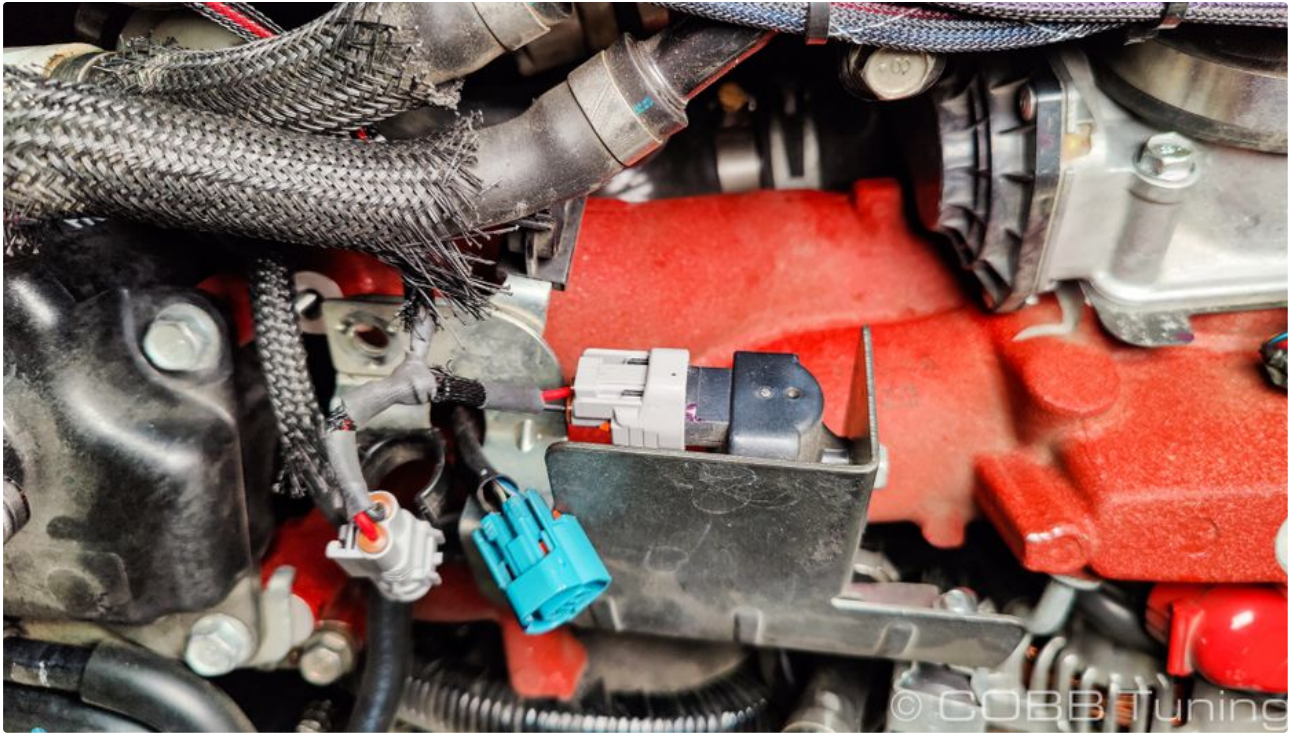


6. The next plugs as you head down the harness will go to the electronic boost control solenoid (EBCS). These plug into the harness and EBCS to provide power for the flex fuel system. It's possible to get this unplugged without undoing the bracket from the intake manifold, but it can be easier to see what you're doing if you do remove the bracket. To do so it's a 12mm near the coolant tank, and a 10mm on the front side.

These plug in similar to the TGV in that one connector plugs into the EBCS, and the other goes to the engine harness.







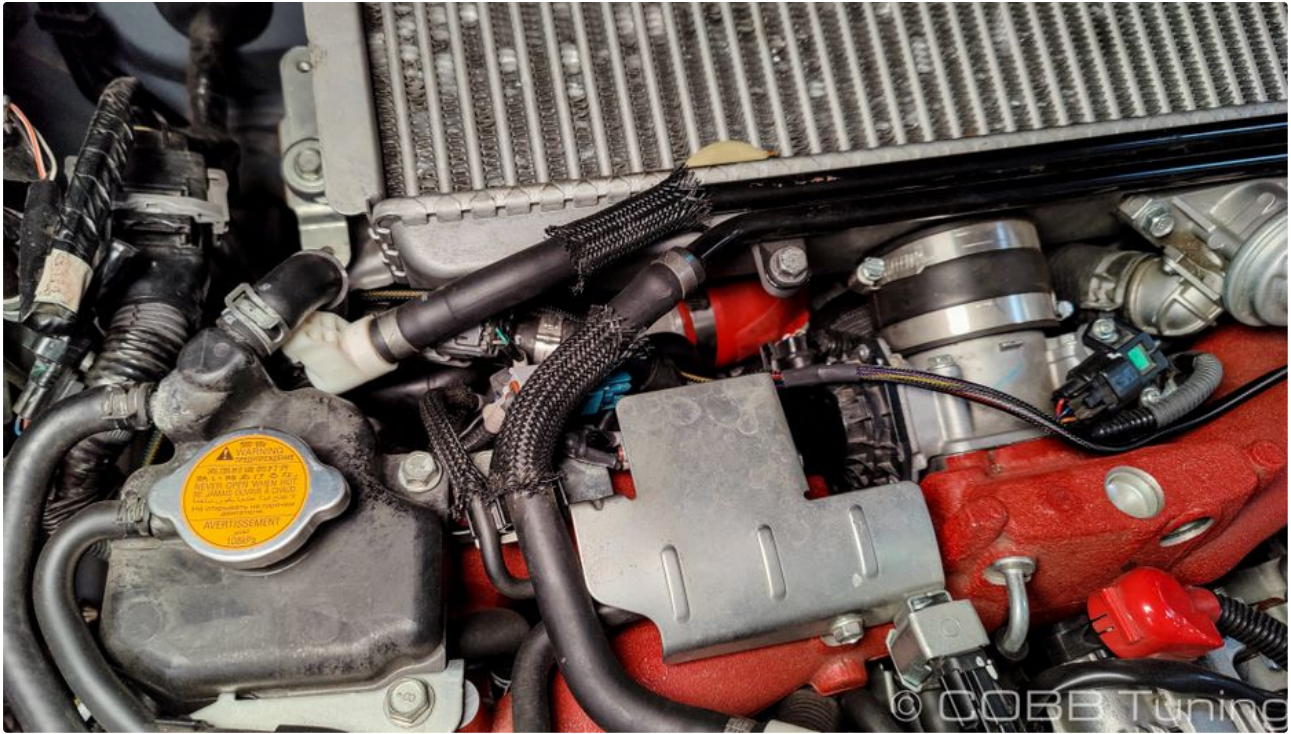
7. You can either run your wires along the pcv hoses on top of the intercooler (in which case you'll pull them out of the way for now, keep in mind you'll need to trim zip ties every time you remove the intercooler) OR along the top point of the intake manifold and meet up with the MAP sensor harness.



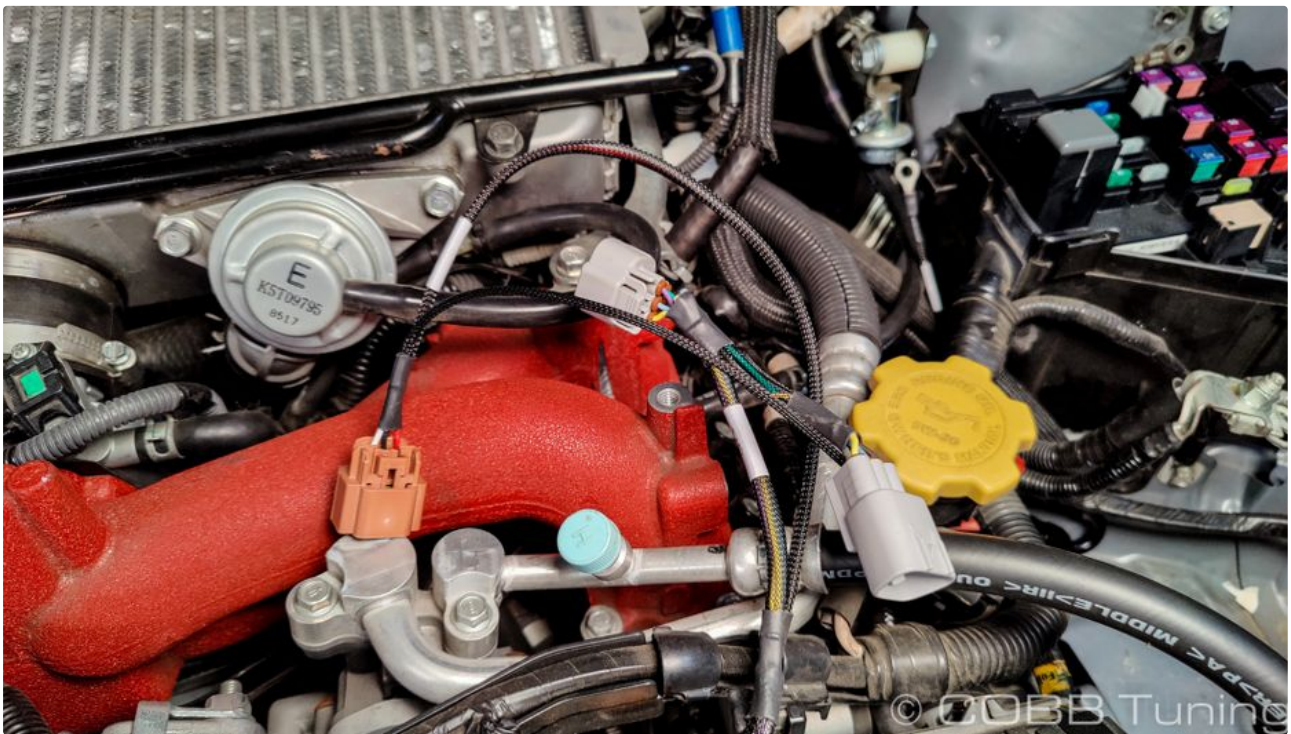
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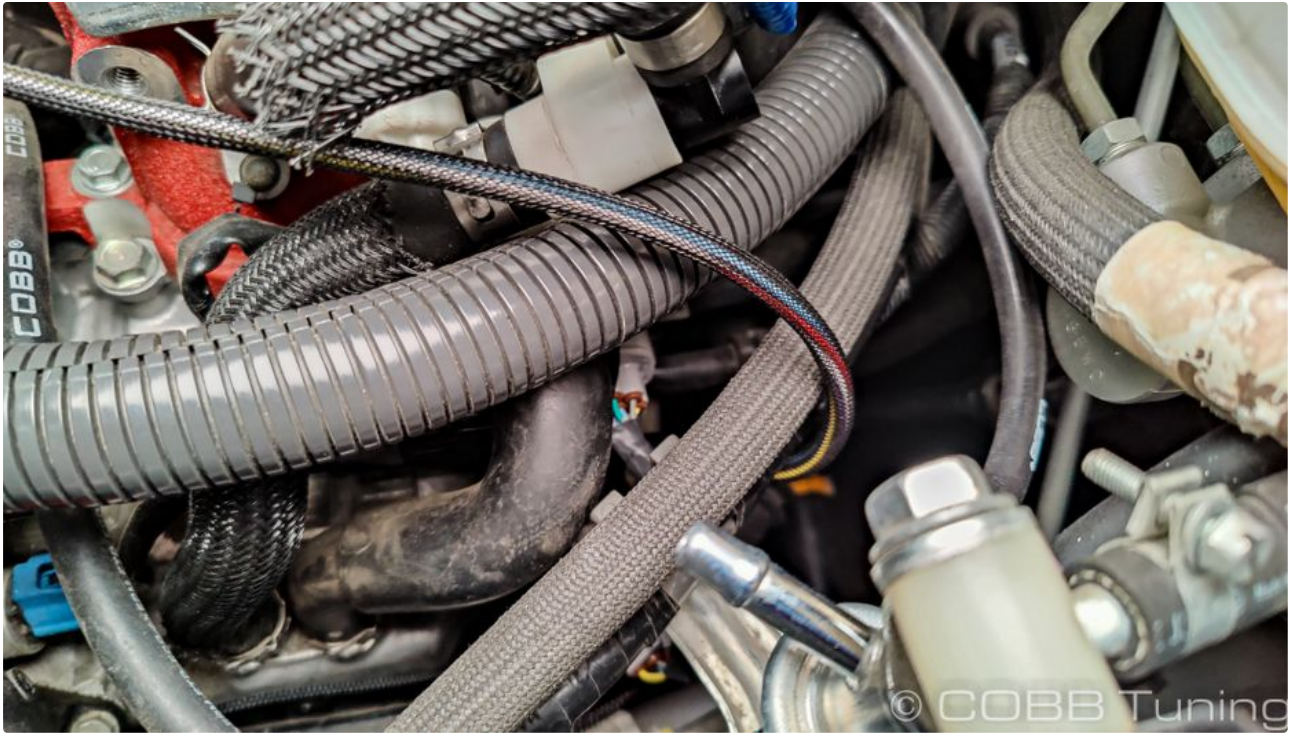


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8. Once your wires have made it to the driver's side (USDN). Take a second (or several minutes for those of us with large hands) and remove the engine harness connector from the TGV. Once again, the harness will go in-between the engine harness and TGV. It's usually easier to connect to the TGV first, and then the engine harness. You'll also want to pull the brown ethanol sensor connector down there and the ground so you can route both under the battery cables and fuel lines to prevent chafing.





9. Pull the ethanol content sensor plug out underneath all the lines near where the battery tray was. It can get plugged into the ethanol content sensor.



10. Run the small ground wire underneath everything and up the back side of the fuse box to sit under the 10mm bolt sitting next to the main fuse box bolt. (the cover will need to be off to remove that bolt)



Ethanol Content Sensor and Fuel Line Installation

1. Remove the 10mm bolt holding the fuse box to the chassis.



2. Install the short rubber line with the blue quick connect fitting onto the fuel pressure regulator.





3. The blue end can get run down to the flex fuel sensor and the clip pushed shut. This should install to the same end as the electrical connector.

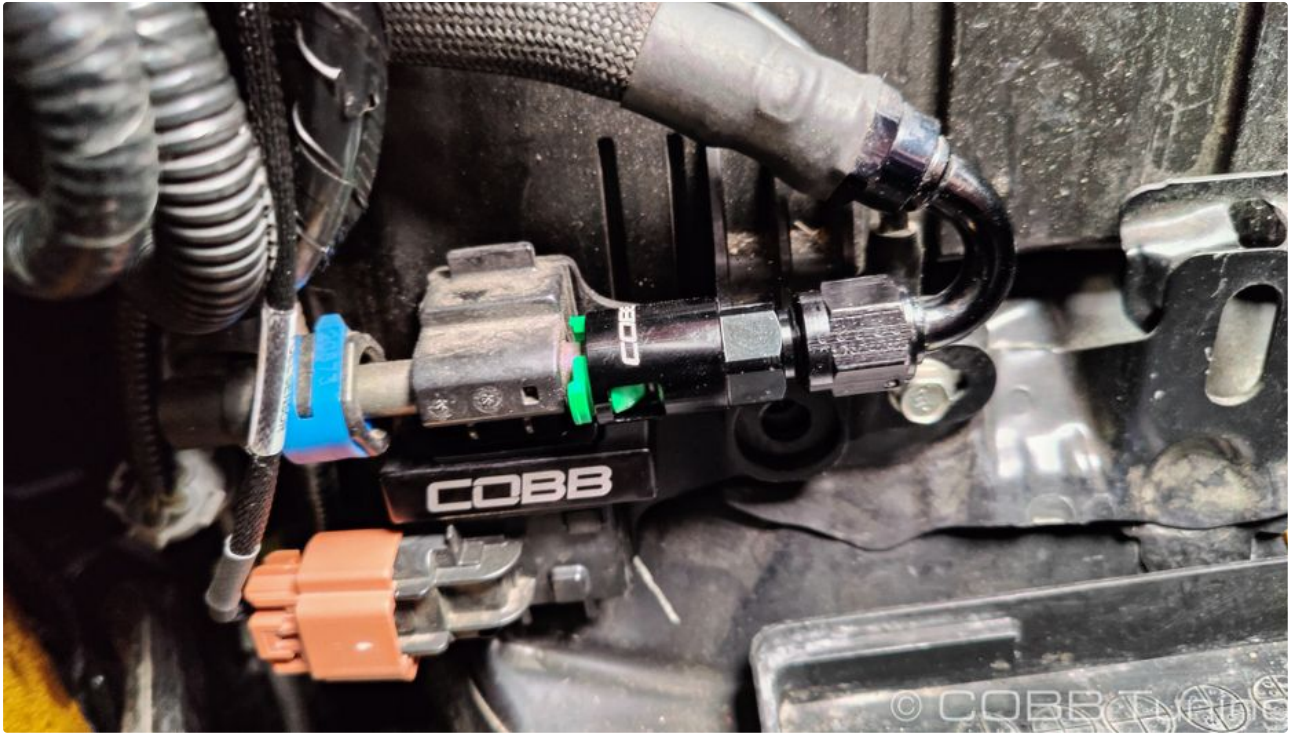


4. Now slip the ethanol content sensor with the blue fuel line and electrical connector attached, under the tab for the fuse box, and tighten it back down with the factory bolt.



5. Now you can push the fuel line with the green connector installed onto the ethanol content sensor.





6. Make sure the fuel line stays relatively close to the fuse box, and route it through the other cables and hoses over to the back of the motor, where you can re-attach it to the AN y-fitting (or fuel pressure sensor adapter)



7. Tighten down the fuel line to the return line y fitting with two -6 an wrenches.
8. Reinstall the battery at this time. Make sure it isn't rubbing or putting pressure on the fuel lines.
9. Prime the fuel system by turning the car on (without starting it) and check for leaks. Repeat this a few times to make sure nothing is going to cause issues. Or tighten as needed.
10. If you're leak free, go ahead and reinstall everything you took off in the reverse order of removal.
11. Flash an appropriate flex fuel tune and go out and enjoy!

CARB Sticker Application

(Where Applicable)

1. Apply the supplied CARB sticker in a clear, easy to find location. Typically underhood, or on the radiator core support.

Links

MAP Notes

[Map Notes for VA STI 2015 - 2018](#)

Helps to figure out which map you should be on given the parts installed to your car

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COBB Customer Support

Web Support and Tech Articles: [COBB Tuning Customer Support Center](#)

Email: support@cobbtuning.com

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