



9th Gen Civic Si Flex Fuel Kit Install Guide



Install Notes: This product requires a red Hondata FlashPro, which is the race version. It will not work with the blue CARB Compliant / Exempt FlashPro.

Installation by a professional is highly recommended unless you are comfortable and experienced in working with fuel lines. When finished with installation, make sure your ECU is seeing the appropriate Ethanol Content Signal. Also, double check for leaks and if any are present do address them immediately, as fuel can easily be ignited by the smallest of sparks given the right conditions.



Emissions Information: This product is not designed for public highway or street use and is only legal for formally sanctioned race use on a racing vehicle that may never be used on a public highway or street.

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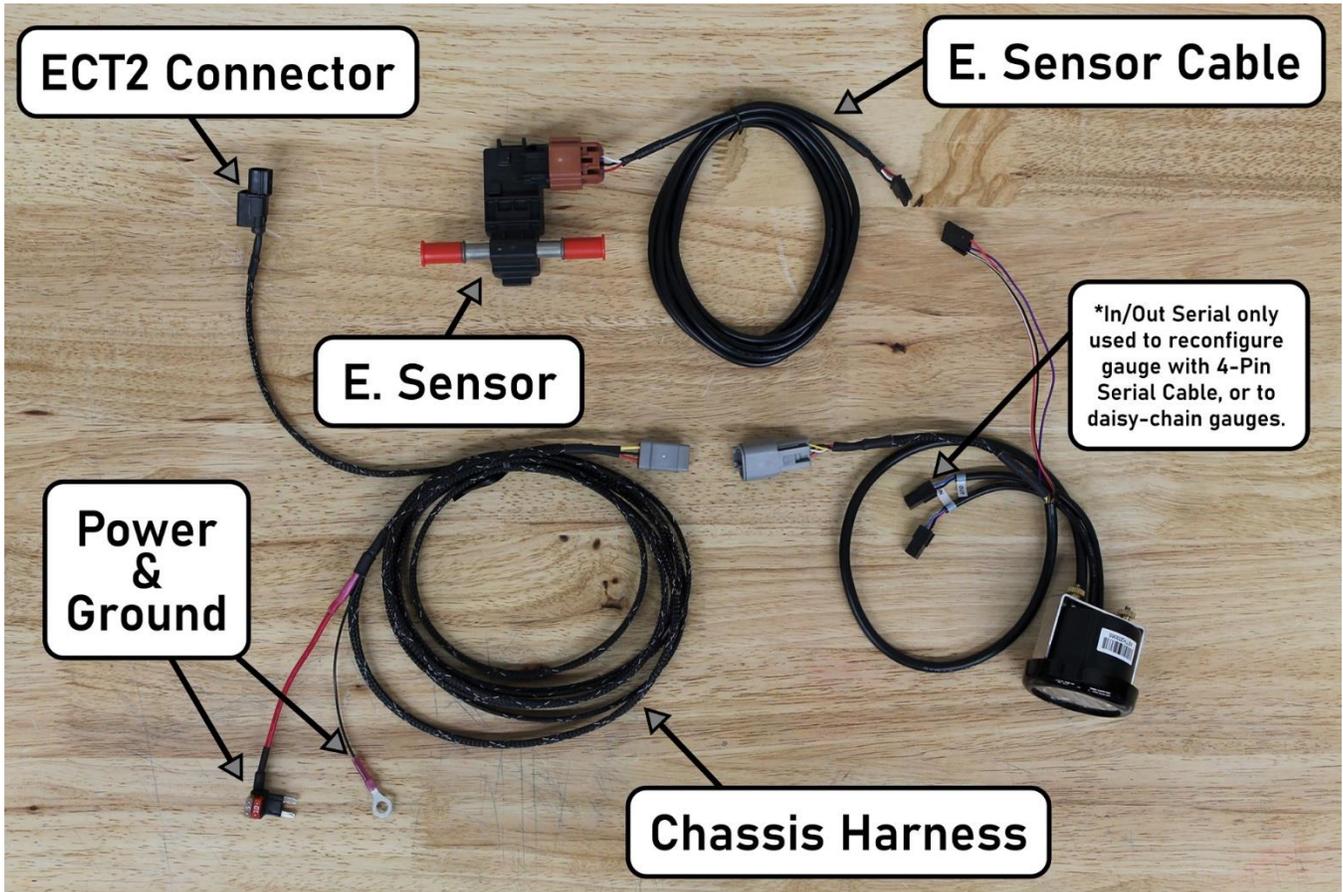
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IMPORTANT SAFETY DISCLAIMER: When working on your car, always follow proper safety procedures. This includes, but is not limited to, letting your car cool down, using the correct tools and protection, jacking/lifting your car correctly, and in general being careful about what you are doing. If you do not feel confident doing something, do not attempt it! Instead, have someone else with more experience try or hire a professional. SiriMoto (and any reseller) cannot be held responsible for any incidental or direct damages, injuries, or additional costs caused by installing any of the parts in this kit.

PARTS OVERVIEW

PART NUMBER	DESCRIPTION/CONTENTS	QUANTITY
SM-HC12-SI-FFIK	9th Gen Civic Si Flex Fuel Installation Kit	1
018-FF-0015	Flex Fuel Hose Assembly - Lower	1
018-FF-0016	Flex Fuel Hose Assembly - Upper	1
017-FF-0003	Flex Fuel Chassis Harness	1
015-AL-0013	Mounting Bracket for Flex Fuel Sensor	1
048-EP-0007	SiriMoto Flex Fuel Badge	1
	M6x1.00 Washer Hex Nut, Zinc Plated (non-Locking)	1
	Zip Tie – 8"	5
3904	MTX-D: Ethanol Gauge (SiriMoto Spec)	1
08-0257	Ethanol Sensor Cable	1
3907	Ethanol Sensor	1
3840	4-Pin Serial Cable	1
2204	Autometer Gauge Cup	1

HARNES OVERVIEW



NOTE: 4-Pin Serial Cable (not shown) is not required for the installation of this kit and is only used to reconfigure/update the gauge.

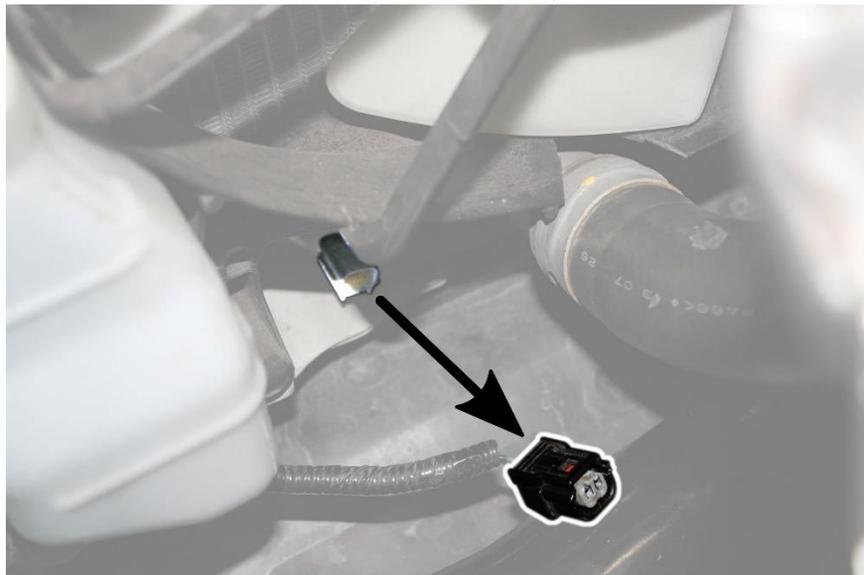
INSTALLATION

DISCONNECTING ECT2 SENSOR

1. Disconnect the negative battery terminal and let the car cool to a comfortable temperature.
 - **NOTE:** Depending on your set-up, removal of the air intake & battery can simplify installation.
2. Locate the Secondary Engine Coolant Temperature (ECT2) Sensor found on the radiator, between the reservoir tank and lower radiator hose:



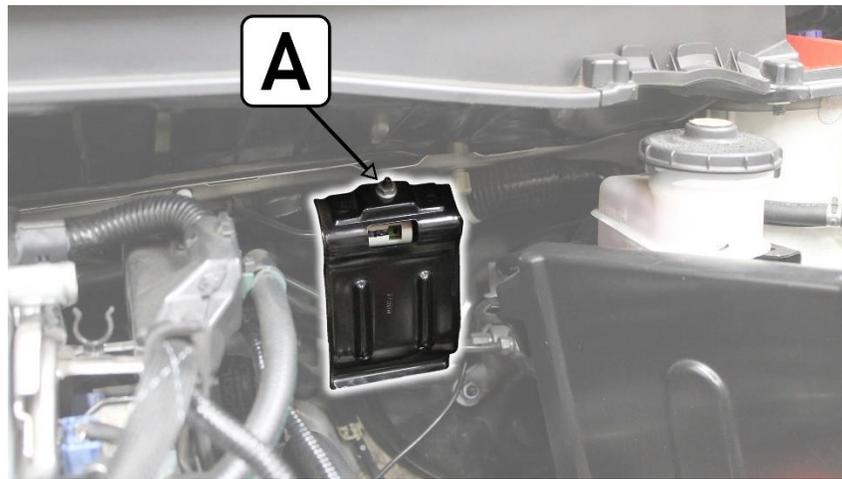
3. Disconnect the vehicle harness connector to the ECT2 Sensor (do not remove the sensor unit from the radiator).



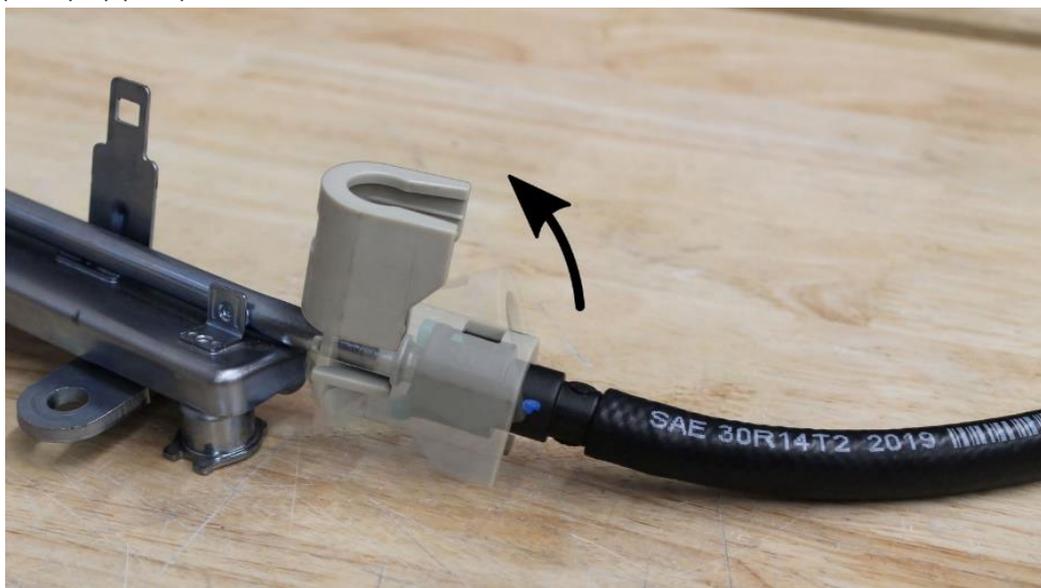
FUEL LINE REPLACEMENT AND SENSOR INSTALLATION

Removal of the factory fuel feed hose and installation of the SiriMoto adapter hoses should be done by a professional/experienced installer. The quick connect fittings are easy to use and the retaining clips do not require any special tool to undo, but the replacement must be done with close attention to avoid potential issues.

1. Remove the fuel fill cap to relieve the pressure in the fuel tank.
2. Remove the 10mm Hex Head Nut (A) holding the fuel hose cover at the firewall.



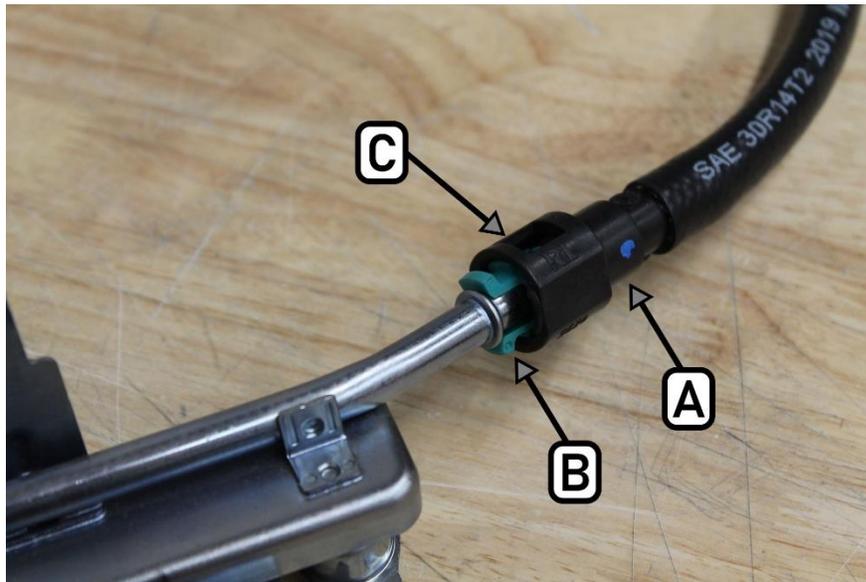
3. If equipped, remove the Intake Manifold cover.
4. Remove the fuel line/quick-connect fitting cover on the firewall side (if equipped).



5. Check the fuel quick-connect fittings for dirt (clean if needed) and proceed by placing a rag or shop towel over the quick-connect fitting.



6. Hold the connector (A) with one hand and squeeze the retainer tabs (B) with the other hand to release them from the locking tabs (C).

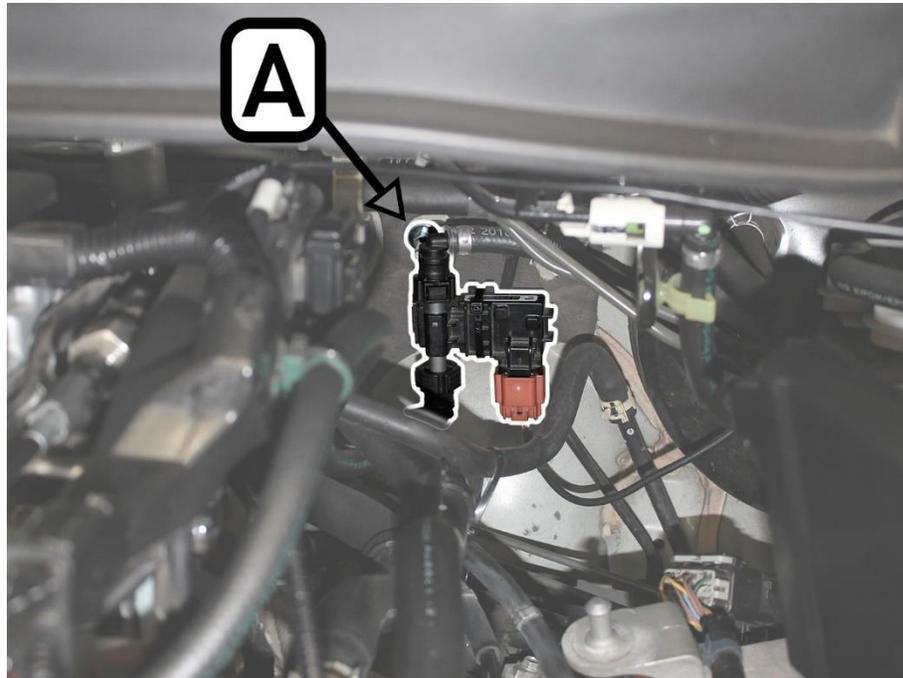
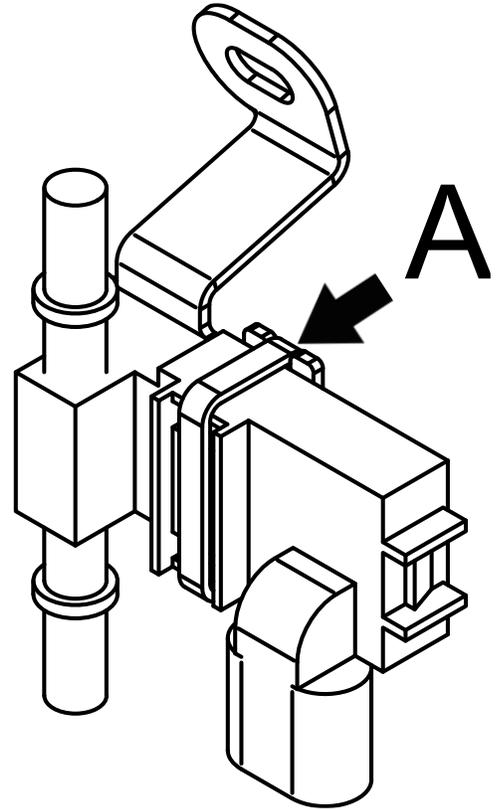


7. Pull the connector off.

NOTE:

- Be careful not to damage the fuel pipe (D) or other parts. Do not use tools.
- If the connector does not move, keep the retainer tabs pressed down, and alternately pull and push the connector until it comes off easily.
- Remove the retainer (B) from the fuel pipe.

8. To prevent damage and keep foreign matter out, cover the disconnected pipe end.
9. Follow the OEM fuel hose and unfasten any clips holding it to the engine/wiring harness brackets.
10. Repeat Steps 4 through 7 on the end connecting to the fuel rail inlet and remove the hose assembly from the vehicle.
11. Prepare the Ethanol Content Sensor by using one zip tie (A) and mounting it to the sensor bracket as shown.
12. Mount the Sensor and Bracket assembly onto the M6 stud found on the firewall (A) between the Brake Booster and Harness Grommet:



- To do this, simply place the slotted bracket onto the stud and use the provided M6 Nut to secure the bracket in place.

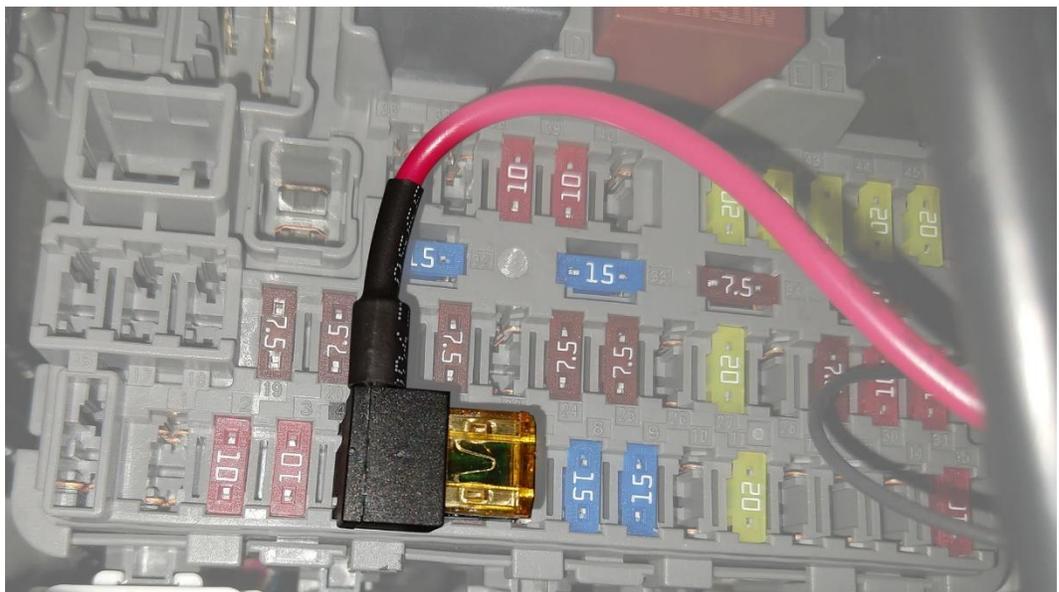
13. Install the shorter of the two hose assemblies provided in the kit between the chassis fuel pipe and the Ethanol Content Sensor.
14. Following a similar path as the OEM hose assembly, install the longer of the two hoses from the inlet on the Fuel Rail to the Ethanol Content Sensor.



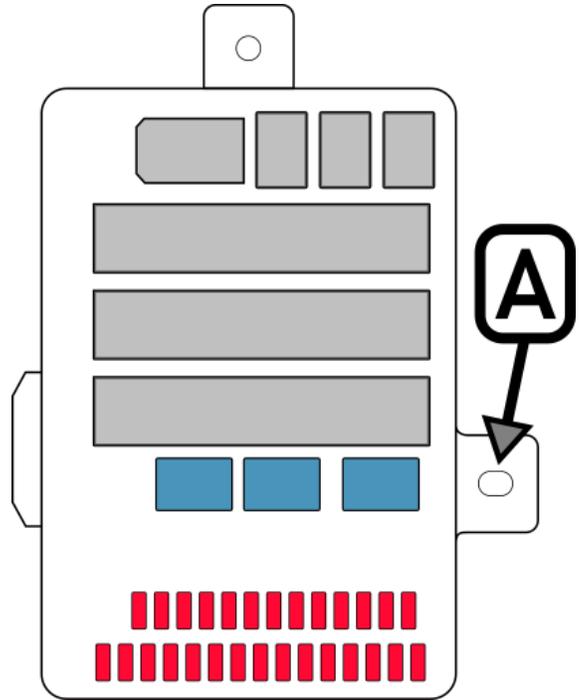
- *Note: If replacement injectors are being installed, do this now before installing the Flex Fuel Hose Assembly, as removal of the fuel rail is necessary for the installation of fuel injectors.*
15. Wait to install the intake manifold cover until the entire kit has been installed and the vehicle can run, to check for potential leaks.

CHASSIS HARNESS INSTALLATION

1. Locate the Underdash Fuse Box and remove fuse B4 (*PRO Tip: Using the tool found underneath the Engine Bay Fuse Panel Cover makes this simple*).
2. Connect the SiriMoto Chassis Harness to the B4 fuse location, using the fuse adapter that is attached to the end of the red wire.



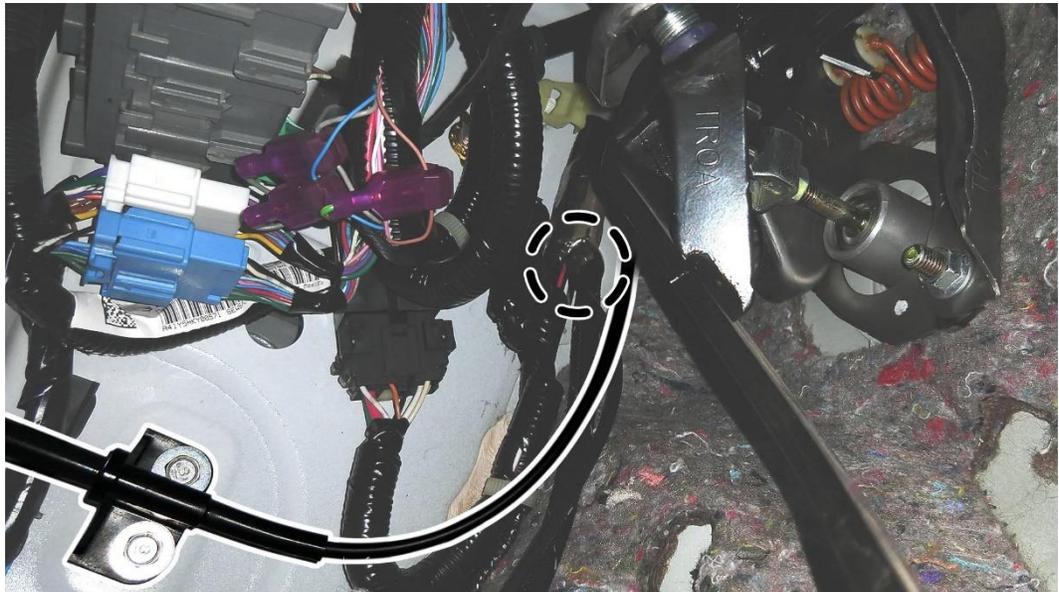
3. Fasten the Ring Terminal End of the SiriMoto Chassis Harness to ground. A good option is to use the 10mm Hex Head Bolt found to the right of the fuse box (A). To do this simply remove the bolt, slide the ring terminal in place and tighten the 10mm bolt.
4. Route the 3-Pin Grey Connector from the Chassis Harness to the area you will be installing the Ethanol Gauge. It can be tucked away underneath the dash to draw less attention, or it can be mounted with the supplied gauge pod to a number of locations. One good mounting location is on the dash pocket found to the bottom of the traction control button.



- *To mount the gauge in this location, simply cut a 1" hole at the back of the pocket to fit the wiring through, using a drill bit or hole saw. Then use double sided tape to mount the gauge pod.*



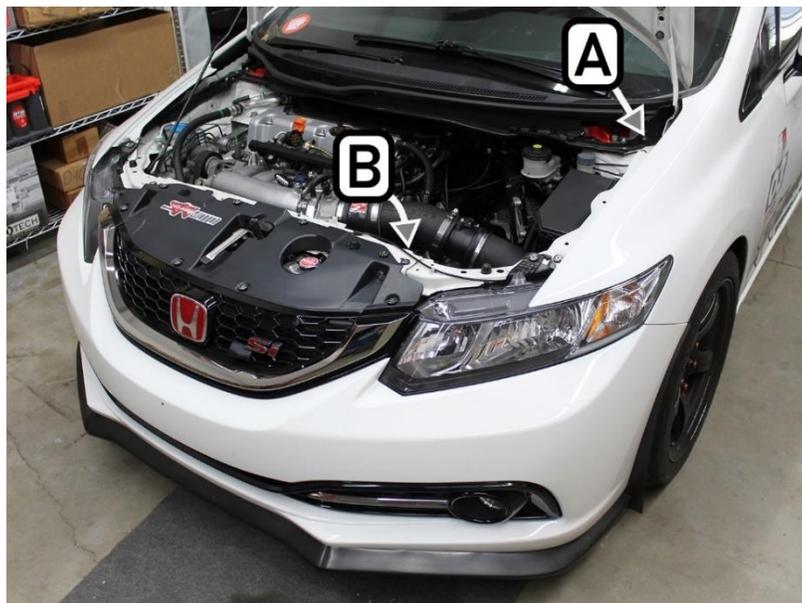
5. Continue by routing the ECT2 Male Connector from the Flex Fuel Chassis Harness to the engine bay. A good option is to pass it through the door jamb grommet, found to the bottom of the hood latch release cable grommet.



- To do this, remove the grommet that plugs this hole (using a small pick/screwdriver) and slit it with a knife or cutting tool. Then pass the male connector through.
- With the driver side door open, proceed by removing the A-Pillar Corner Trim piece by carefully prying on the 3x mounting clips with a non-marring pry tool or panel removal tool.



- Using a hook, fish out the black male connector and route it past the fender and into the engine compartment.
6. Once the male connector is in the engine compartment (A), route it to the ECT2 Sensor location (B) and connect it to the factory harness receptacle that was previously disconnected. When routing it from the grommet to the ECT2 Sensor location, make sure the harness does not come in direct contact with high heat areas or any moving parts.



CONNECTING THE FLEX FUEL GAUGE

1. Start by connecting the Ethanol Sensor Cable to the E. Sensor, and route the black connector to the firewall grommet mentioned previously.
2. Route the harness into the cabin through the grommet, making sure to keep it from coming in direct contact with high heat areas or moving parts.
3. Route both the Chassis Harness and the Ethanol Content Sensor Harness to the gauge location and join each end to its accompanying connector on the Flex Fuel Gauge.
4. Mount/Secure the gauge in its final position and tuck away any excess length of harness.

FINAL CHECKS / POWERING-ON

1. Make sure everything has been properly secured and all connections have been made.
2. Cycle the ignition on ~10 times, BUT DO NOT turn on the engine.
3. Double check the gauge is not displaying any errors and is reading properly, along with checking for leaks. *If any errors occur, double check the power, ground and signal wires and correct any fuel leaks if present.*

ECU CALIBRATION (HONDATA FLASHPRO)

UPLOAD A HONDATA FLEX FUEL BASEMAP OR CUSTOM TUNE

1. At this point you can use your race (red) FlashPro to upload the appropriate calibration for your vehicle. Once the upload is complete, cycle the ignition.
2. With the calibration loaded, you can start your car and enjoy the benefits of the SiriMoto Flex Fuel Kit with E85!
3. Reinstall any remaining parts that were previously removed.

CALIBRATING ETHANOL INPUT VOLTAGE SETTINGS FOR HONDATA (OPTIONAL)**CALIBRATING 'LOW SIDE' (FUEL AT E15 OR LOWER)**

1. Turn the car on and connect FlashPro for Live Tuning.
 - Ensure Live Tuning is enabled for Ethanol Percentage table.
2. Confirm gauge is displaying E15 or lower in ethanol content.
3. Input gauge display value into the Hondata calibration, for Row 2 Column 1 of Ethanol Percentage vs Volts table.
4. Adjust Input Volts setting, Row 1 Column 1 of Ethanol Percentage table, up or down in value to have the FlashPro Ethanol Content Value match what the gauge is displaying.
5. Save calibration changes, and upload updated file to the car.

CALIBRATING 'HIGH SIDE' (FUEL AT E65 OR HIGHER)

1. Turn the car on and connect FlashPro for 'Live Tuning'.
2. Confirm gauge is displaying E65 or higher in ethanol content.
3. Input gauge display value into the Hondata calibration, for Row 2 Column 2 of Ethanol Percentage vs Volts table.
4. Adjust Input Volts setting, Row 1 Column 2 of Ethanol Percentage table, up or down in value to have the FlashPro Ethanol Content Value match what the gauge is displaying.
5. Save calibration changes, and upload updated file to the car.
 - NOTE: It is possible to follow these same steps at lower ranges (E40 for example) if the car will be used in those lower ethanol percent ranges, as opposed to calibrating the 'High Side' at E65+.

****IMPORTANT**** This general overview is not a complete documented guide on how to tune for ethanol fuel or flex fuel capability. The steps noted are presented as concept and implementation of concept; any change(s) made to a calibration is the responsibility of the installer and end-user.

ETHANOL MIXTURES AND E85 INFO

WHAT IS E85?

1. E85 is a biofuel composed of up to 85% ethanol. The remaining 15% of the fuel is traditional gasoline. Keep in mind the ethanol percentage can be lower during the winter months in some areas. The ethanol often is made from corn and is the same type of alcohol you would find in hard liquor, with the exception that fuel ethanol is denatured with additives to make it undesirable and harmful to drink. Although E85 is cheaper to purchase at the pump and has huge performance gains, it does yield lower fuel economy. One nice side effect of that is that extra E85 fuel will help cool your combustion chamber and turbo, and thus help maintain maximum power and reliability.
2. Vehicles sold in the U.S. are designed to operate correctly on the factory tune when using fuel that contains between 10% (E10) and 15% (E15) ethanol. E10 is normally found at almost every standard gas pump in the U.S., so you most likely fill up with it all the time. The reason for this is that ethanol has been found to reduce overall emissions while keeping engine performance strong (see https://afdc.energy.gov/fuels/ethanol_benefits.html for more information).

HOW DOES ETHANOL MAKE MORE POWER?

1. The reason E85 allows for so much more power than traditional gasoline is that it has a very high-octane rating, usually from around 100 to 105 octane compared to 91 to 93 octane from normal gasoline. This high-octane rating allows E85 to resist engine knock. E85 also allows your turbo to spool earlier and faster and causes your engine and turbo to operate considerably cooler and smoother.

IS THERE AN IDEAL ETHANOL MIXTURE?

1. For the 9th Gen Si port injection system, E85 fuel mixtures will give you the best power delivery with both the base map calibrations and custom dyno tunes.

WHERE CAN I GET E85?

1. The easiest way is to find E85 stations using websites such as getbiofuel.com or e85prices.com, or phone apps like GasBuddy. Also, E85 blend calculator apps can help you achieve your target ethanol blend.

NOTE: A decrease in fuel mileage is to be expected, although normally only by 10% on ~E30 blends and 20~25% on pure E85. Also, it is not recommended to store a vehicle with high concentrations of ethanol fuel in the system. It is best practice to bring the concentration down to about 15% (E15) or lower when storing a car.

Congratulations! Installation of our SiriMoto Flex Fuel Kit is complete, and you can now enjoy the power potential of ethanol fuel.

We believe our SiriMoto kit provides the simplest bolt-in installation and gives enthusiasts the satisfaction of knowing their ethanol fuel mixture without having to turn on an app or use a large screen display.

From the SiriMoto Team, we thank you for choosing this kit, as countless hours were put into the development of this kit along with real-world track testing.

**Best Regards,
TEAM
SIRIMOTO**

