

FuelX Autotune- Royal Enfield Meteor 350

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Application information	FuelX
Vehicle	Royal Enfield
Model	Meteor 350
Year of manufacture	2021

Note:

- Read through all instructions before installation and use.
- Ensure that the bike is switched off and the key is out of the ignition before proceeding with the installation.
- Some parts of the bikes might be hot/sharp and may cause burns/cuts. Proceed with extreme caution or wait until the bike has cooled down. Always wear safety gloves.
- When the installation is complete, make sure to secure the wiring loom away from the movable parts or components which tends to heat up during the normal operation of the vehicle at any chance.
- FuelX is intended for motorsport use on a closed course, please check with your local laws before using this product. Race Dynamics is not liable for consequences arising out of using the product.

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1. FuelX

FuelX is an electronic, plug-in, fuel-injection optimizer for modern engines. It either enriches or decreases the AFR in all operating regions according to the rider requirement. It autotune the engine to best operational parameters, constantly monitoring, learning, and adapting to the engine condition, wear and tear, riding style, add-ons (such as air filter and/or exhaust), etc as well as the environmental conditions such as temperature, humidity, altitude, etc. always ensuring the engine performs in the safest and most optimal zones.



FuelX kit contains the following items

- FuelX Module
- Wiring Harness
- Handlebar map switch (Pro version only)
- Zip ties
- Decals
- Quick start guide and Warranty card

FuelX Module



Handlebar Map Switch



Wiring Harness



Zip Ties



Decals



Quick Start Guide & Warranty Card



Image 1.1

2. FuelX Variants:

FuelX Pro

The FuelX Pro variant has 10 maps that can be changed depending upon the preference of the rider. For the Pro version, the Fuelx contains an additional connector (Refer Image 2.3) for the Handlebar Map switch(Refer Image 2.2)



Image 2.1



Image 2.2

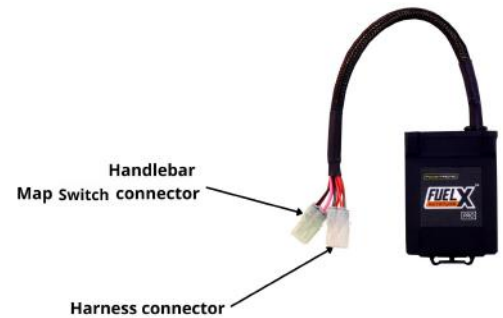


Image 2.3

FuelX Lite

The FuelX Lite variant has a single autotune map and only one connector for the harness.



Image 2.4

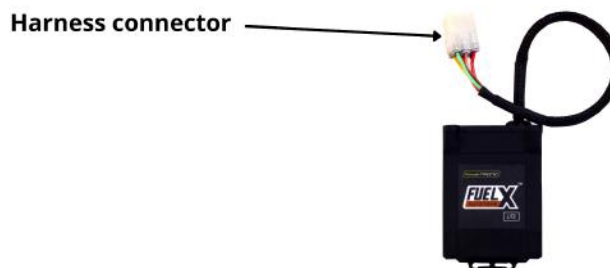


Image 2.5

3. FuelX Harness Connectors

The harness contains

- The Lambda connector (O₂)
- FuelX connector
- Ground/battery negative connector.



Image 3.1

The type and number of connectors may vary depending on the vehicle, year of manufacture, and the number of cylinders. Examples of different types of Lambda sensor connectors are shown below.

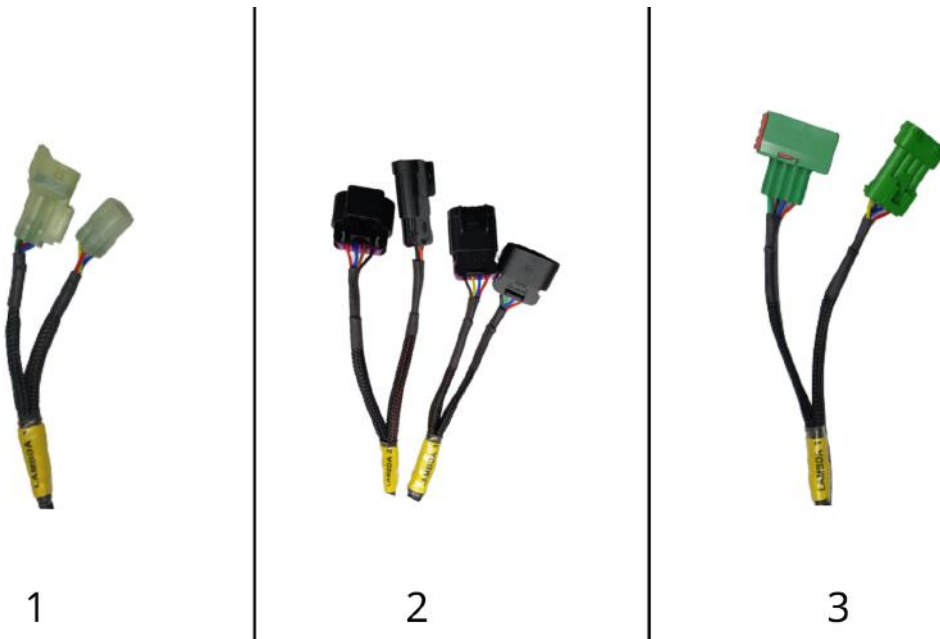


Image 3.2

The FuelX is connected between the Lambda sensor connector and the ECU. The male connector of FuelX, is connected to the female of the Lambda sensor and vice versa.

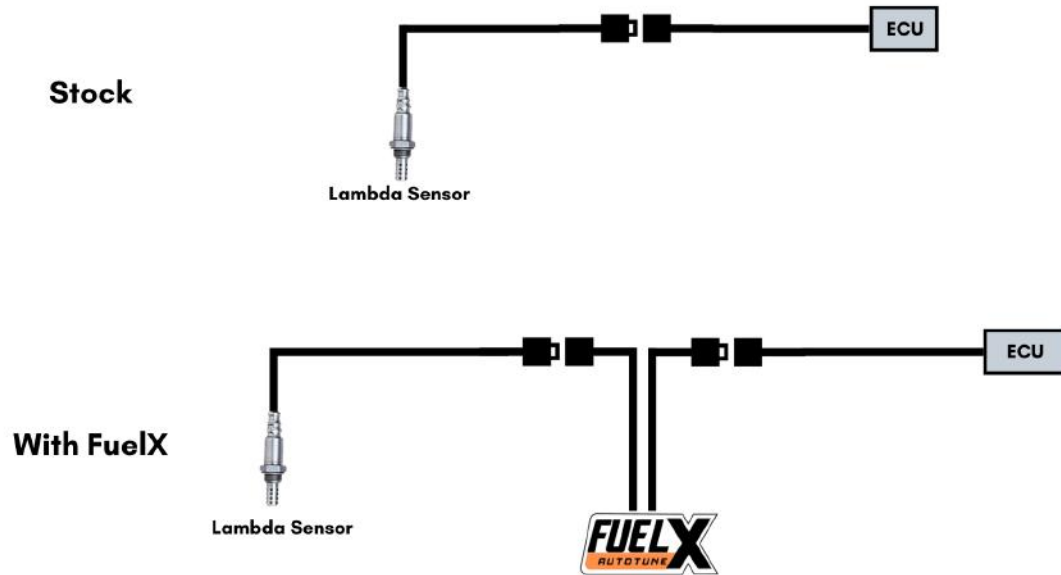


Image 3.3

4. Installation procedure

4.1 Removing panels, and fairing

Begin at the right side of the bike.

Park the bike using the center stand on a level surface (Or a paddock stand).



4.1.1 Unlock the side panel. Refer **Image 1**



Image 1

4.1.2. Detach the side panel. Refer **Image 2**



Image 2

4.1.3 Locate the grab rail and pillion seat bolts. Refer **Image 3**



Image 3

4.1.4 Using a 6 mm Allen key unscrew the bolts. Refer **Image 4**

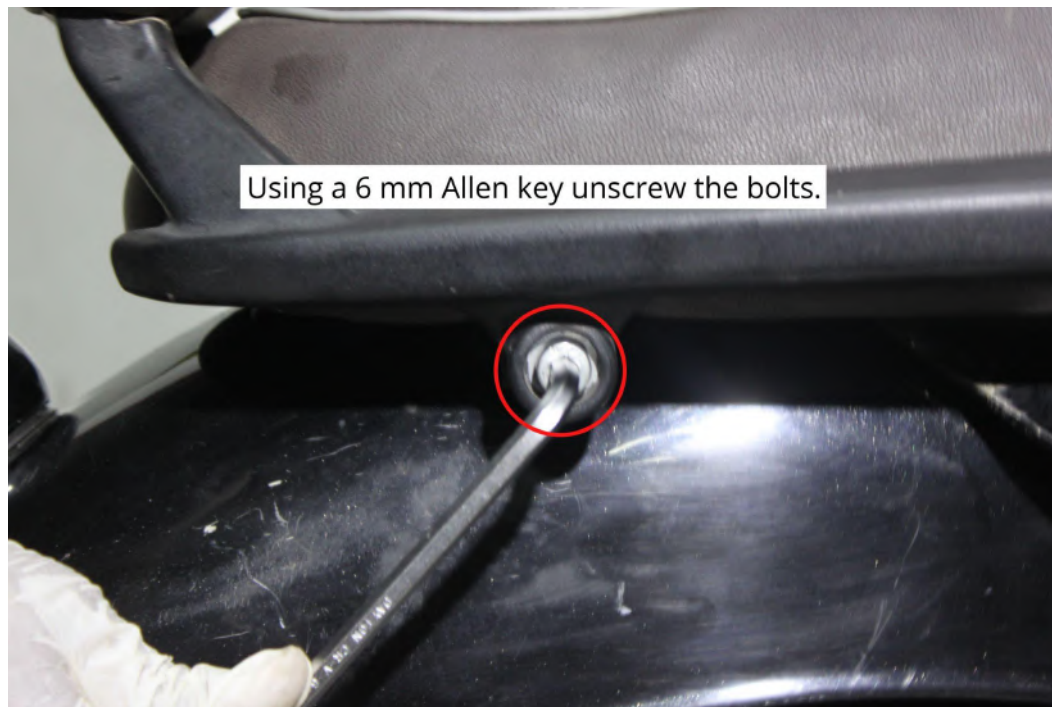


Image 4

4.1.5 Repeat the process on the other side also.

4.1.6 Carefully detach the grab rail and the pillion seat.- Refer **Image 5**.



Image 5

4.1.7 Locate the rider seat bolts. Refer **Image 6**

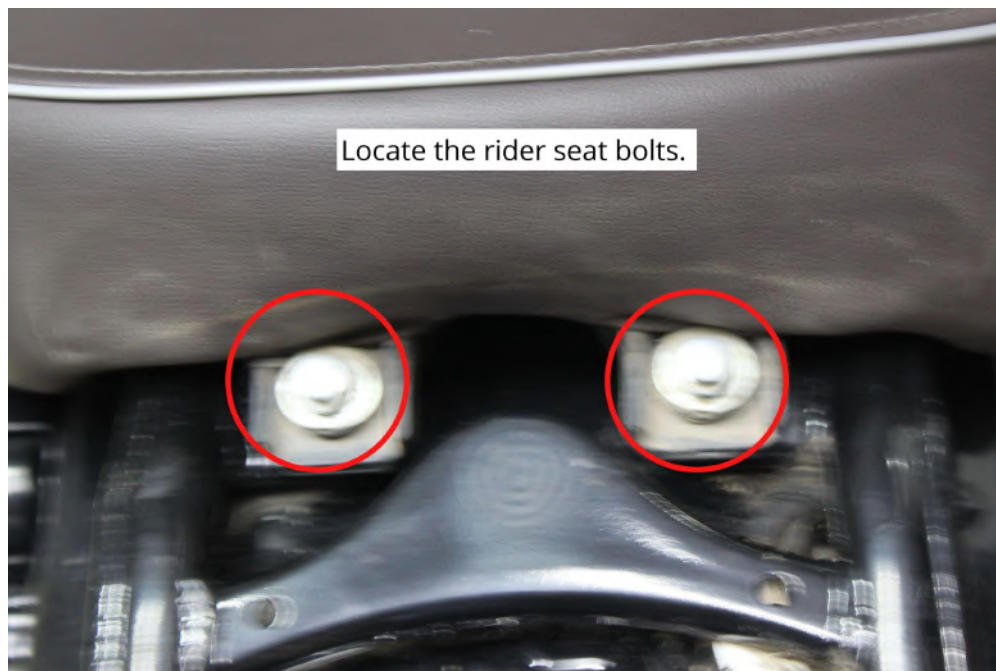


Image 6

4.1.8 Using a 10 T handle, unscrew the rider seat bolts. Refer **Image 7**.

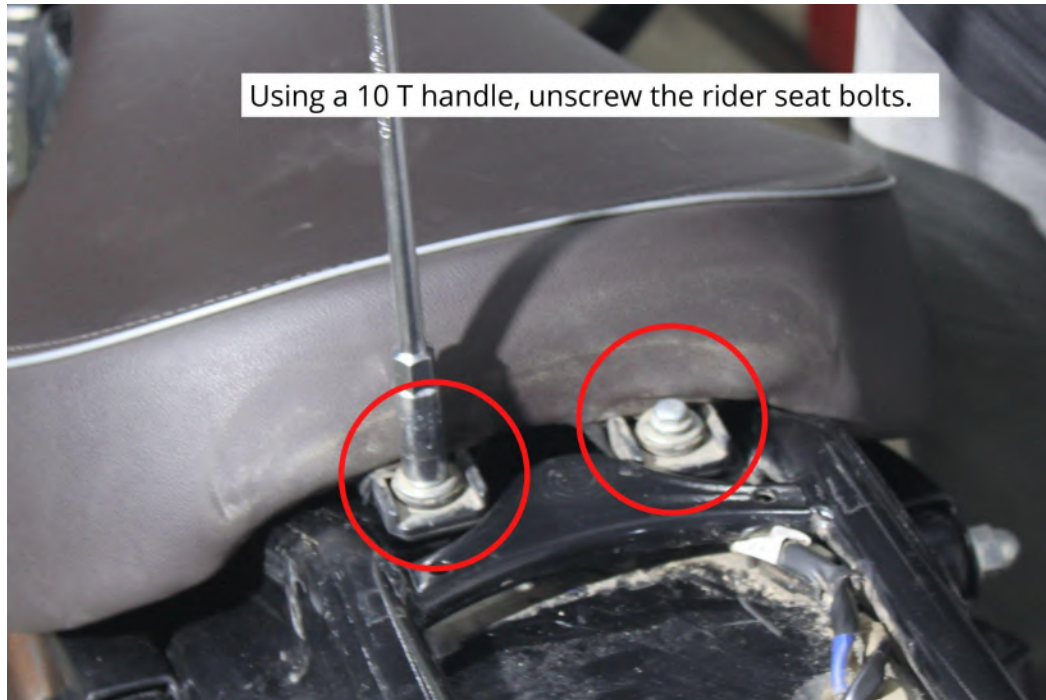


Image 7

4.1.9 Gently lift the rider seat. Refer **Image 8**.



Image 8

4.1.10 Locate the tank rear mounting bolt. Refer [Image 9](#).



Image 9

4.1.11 Using 10 and 8 mm sockets unscrew the tank rear bolts. Refer [Image 10](#).

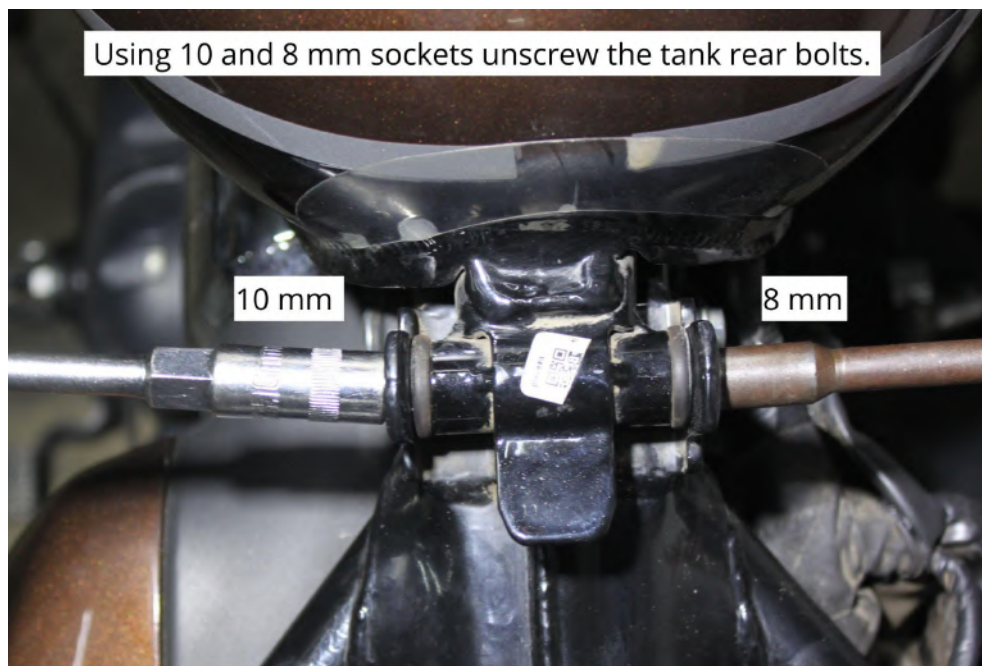


Image 10

4.1.12 Gently lift the rear end of the fuel tank and detach the vacuum hoses. Refer **Image 11**.

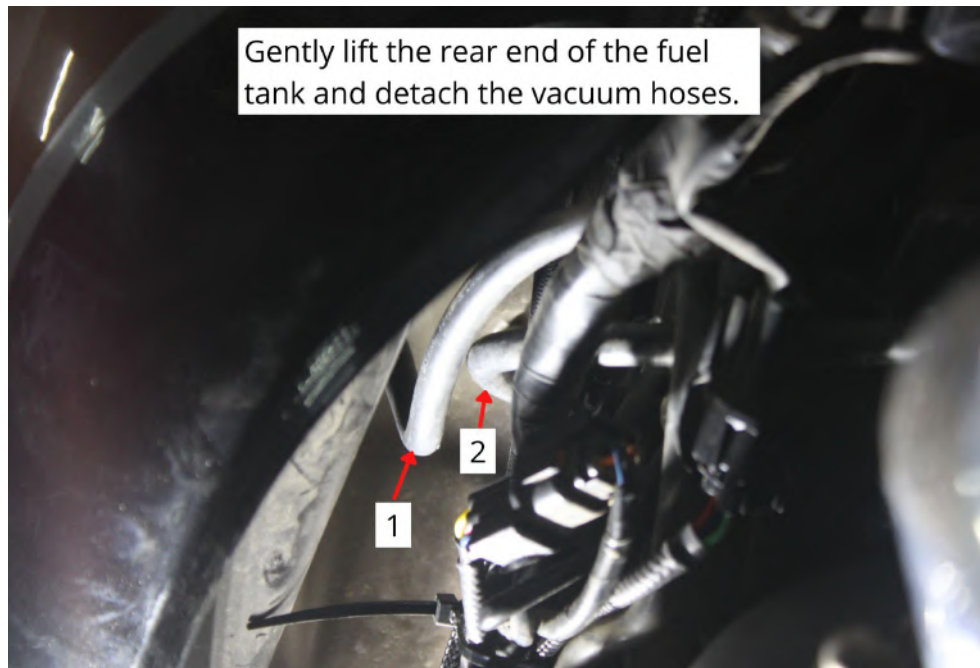


Image 11

4.1.13 Gently disconnect the fuel line from the left side of the fuel tank. Refer **Image 12**.

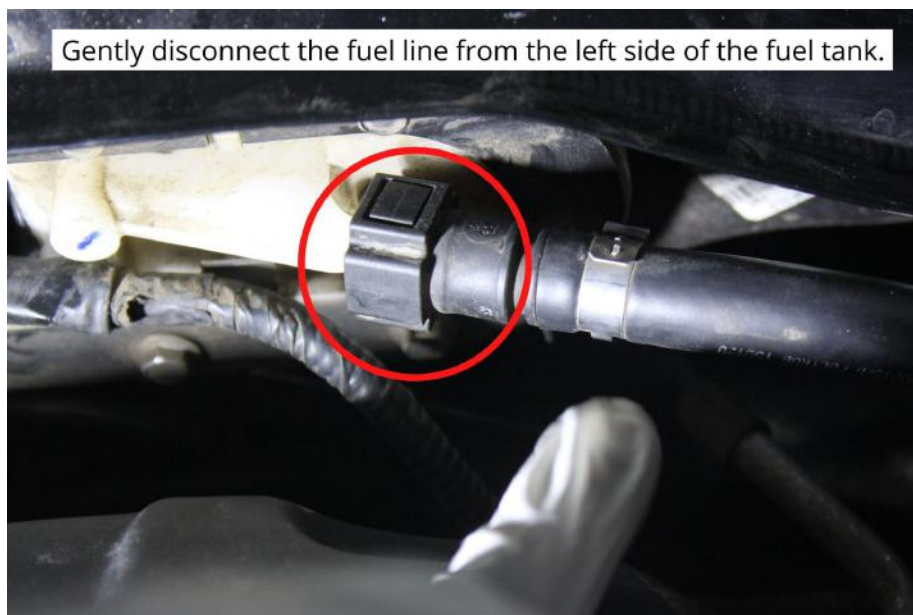


Image 12

4.1.14 Gently disconnect the fuel pump connector from the left side of the fuel tank. And gently detach the tank. Refer **Image 13**

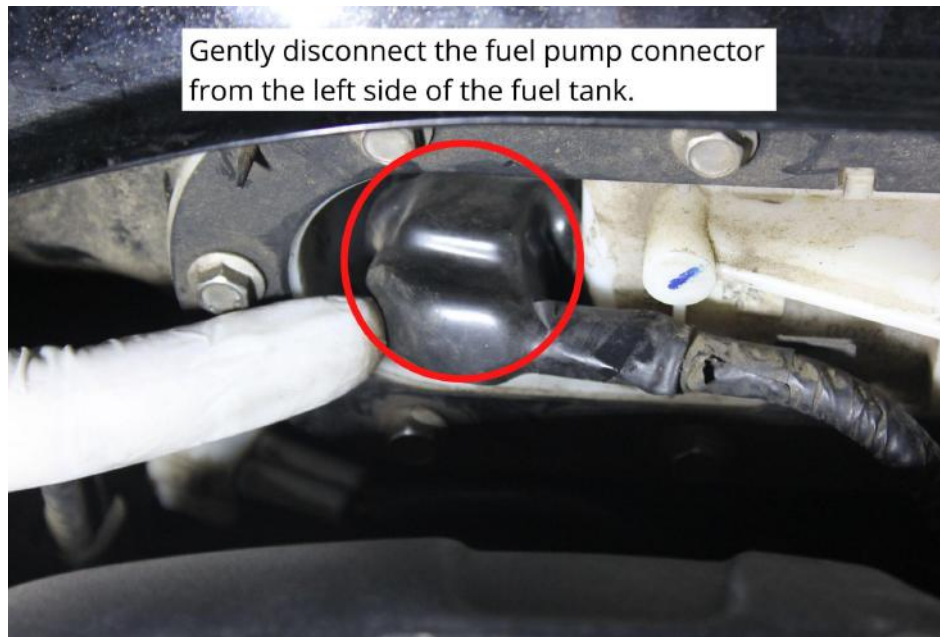


Image 13

4.1.15 Locate the stock lambda sensor connector. Refer **Image 14**.



Image 14

4.1.16 Disconnect the stock Lambda sensor connector. Refer the **Image 15**.



Image 15

4.1.17 Connect PowerTRONIC female Lambda sensor connector to stock male connector. Refer the **Image 16**

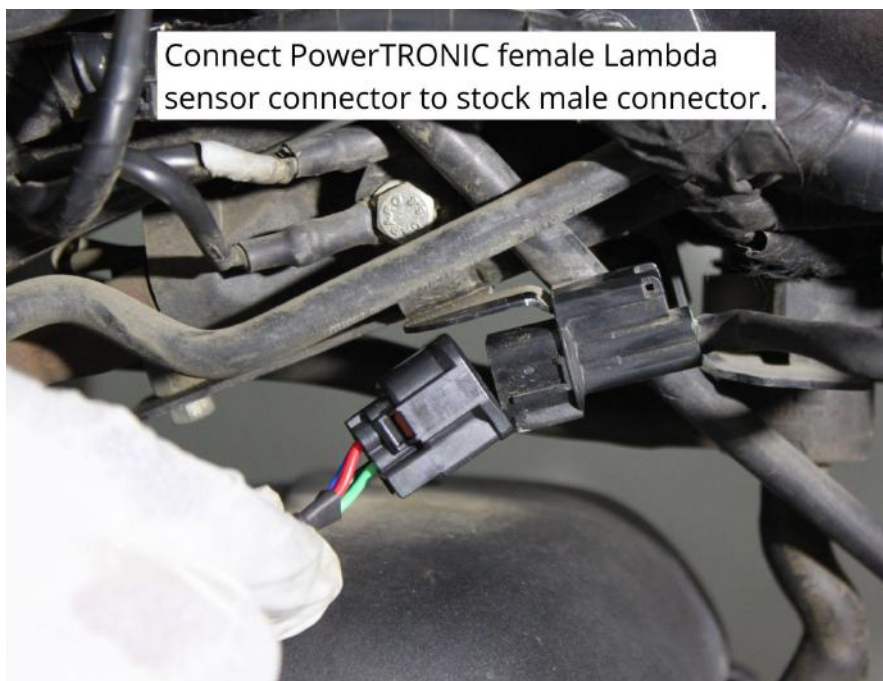


Image 16

4.1.18 Connect PowerTRONIC male Lambda sensor connector to stock female connector. Refer the **Image 17**

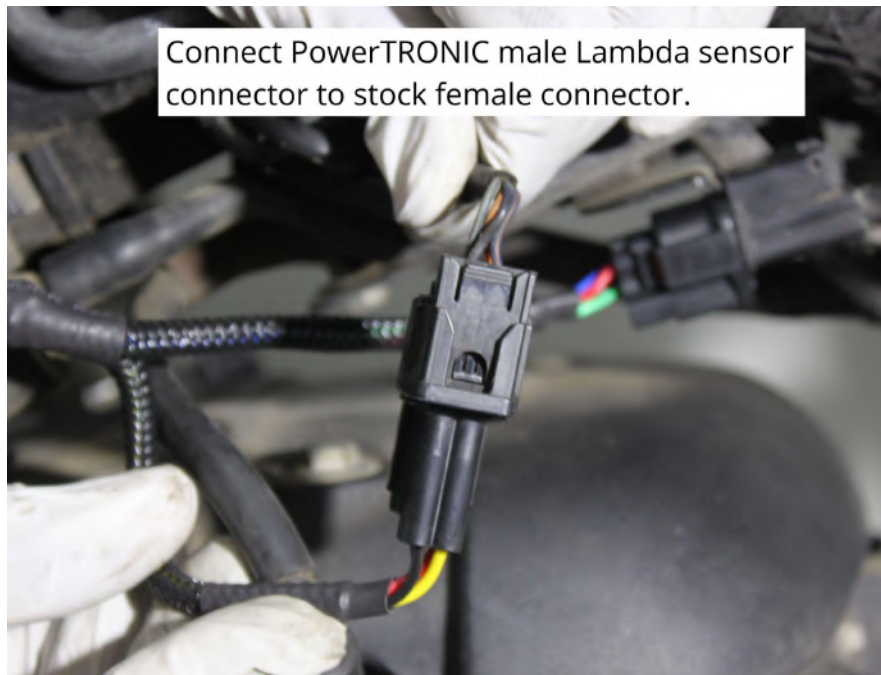


Image 17

4.1.19 Connect the FuelX male connector to the Stock female Lambda connector. Refer Image **Image 18**



Image 18

4.1.20 Using a 2.5 mm Allen key, tighten the bolts. Refer Image [Image 19](#)

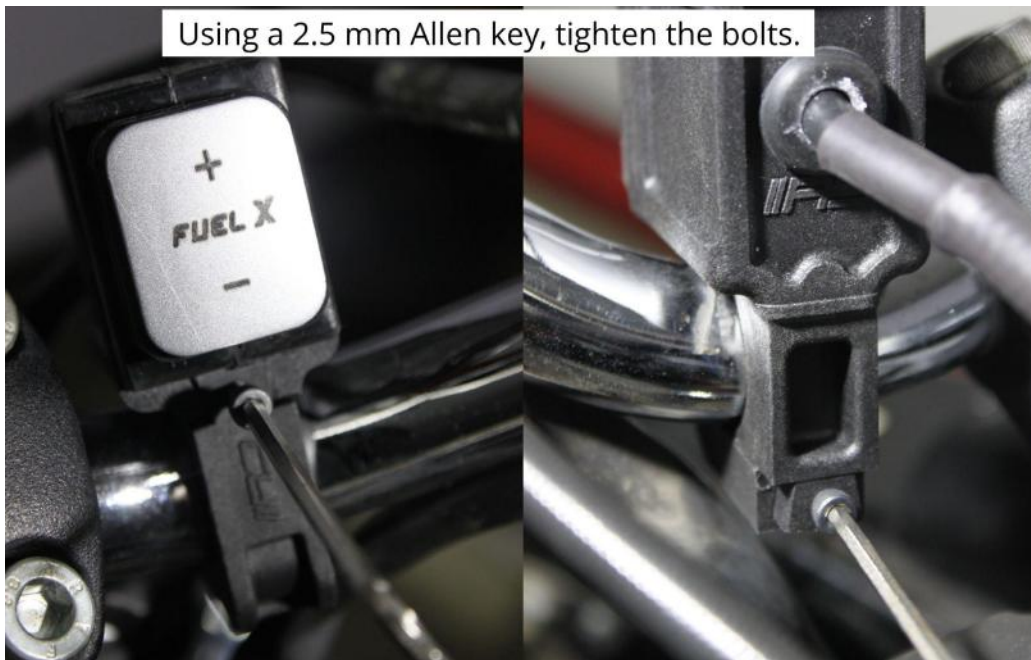


Image 19

4.1.21 Route the FuelX harness and handlebar switch wire to the relay box. Refer Image [Image 20](#)

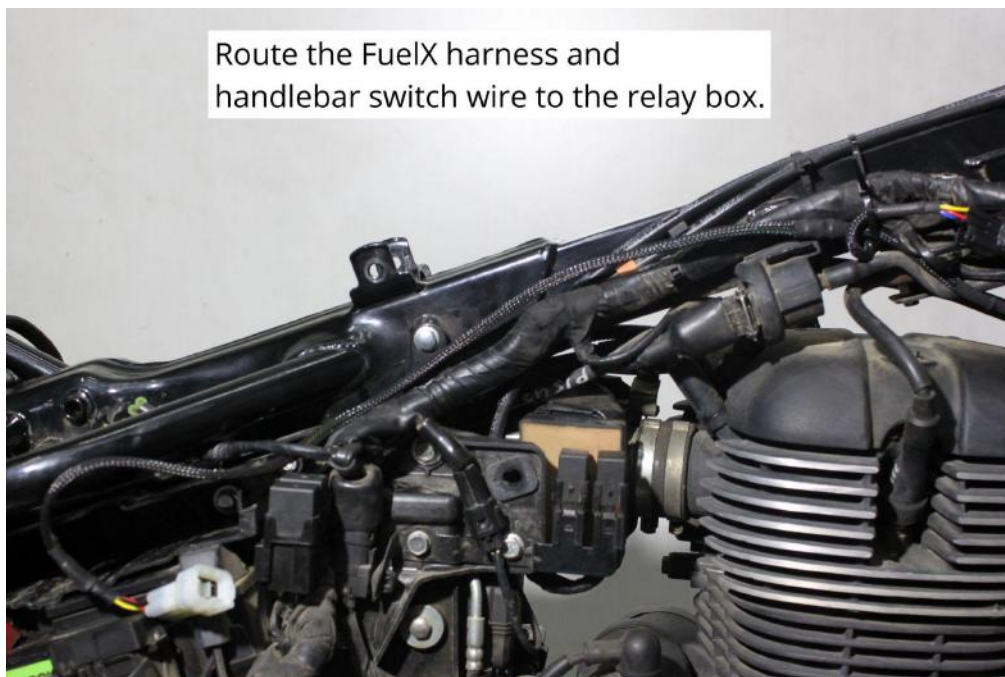


Image 20

4.1.22 Place the FuelX module in the glove compartment. Refer Image **Image 21**



Image 21

4.1.23 Connect the 6 pin FuelX connector to the harness. Refer the **Image 22**

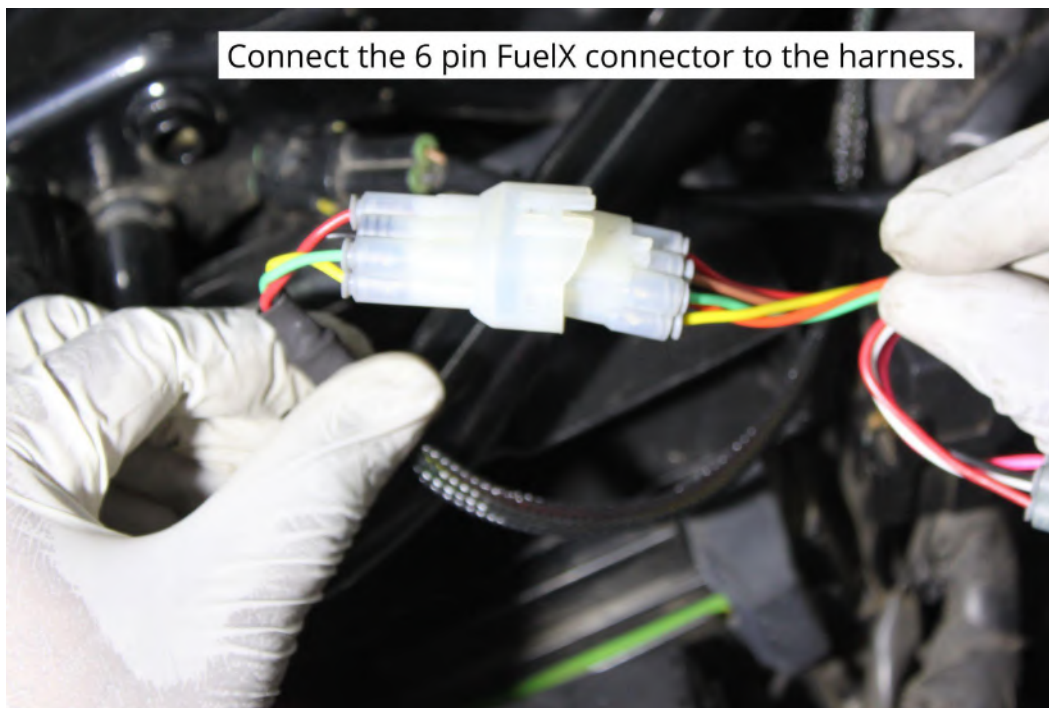


Image 22

4.1.24 Connect the 4 pin FuelX connector to the handlebar map switch harness. Refer the **Image 23**

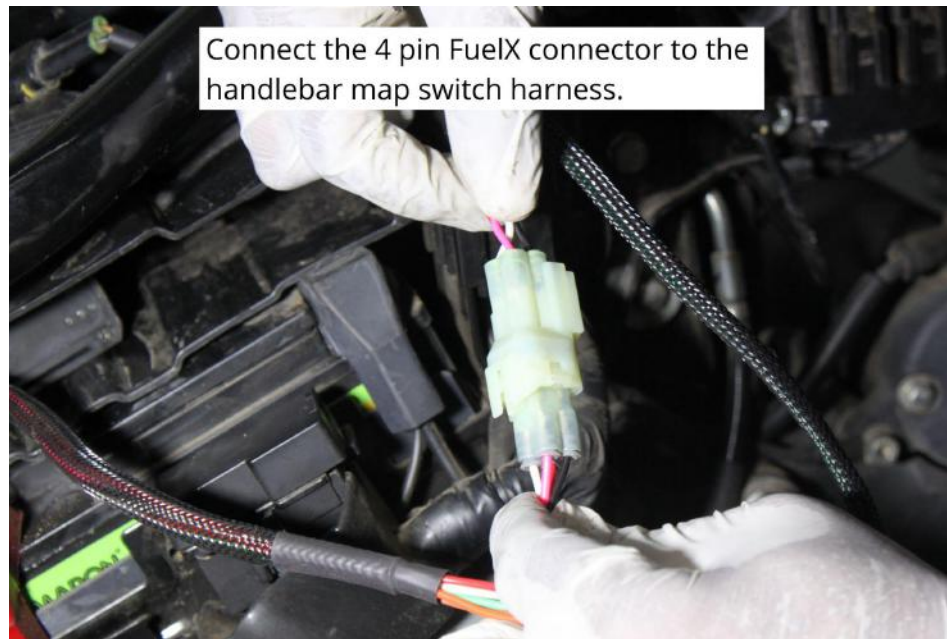


Image 23

4.1.25 Connect the Ground cable to the battery **negative terminal**. Terminal position may vary. Refer the **Image 24**



Image 24

4.1.26 Secure the harness from hot and moving parts using the zip ties provided. Refer the **Image 25**



Image 25

4.1.27 Attach the panels back.

5. FuelX Configuration

Depends on the version, the Red/Green LED on the FuelX module blinks once the FuelX activates.

For Pro versions, maps on the FuelX can be changed according to the preference of the customer. By just pressing the +/- button on the Handlebar map switch. The green LED on the FuelX Handlebar map switch will help the customer to know which map is currently active. ie the number of blinks on the handlebar switch indicates the number of maps.

Map No	Map Description
1	LEAN (Less Fuel)
2	
3	STOCK
4	
5	
6	
7	
8	
9	
10	RICH (More Fuel)




Image 5.1

The rider can choose the map according to the fuel enrichment he wants.

The first two maps are lean maps.

Map 3 runs with stock AFR set by the OEM manufacturer.

Maps 4 from 10 make the AFR richer as the numbers go higher.

For Lite versions, a single autotune map is provided for adjusting the AFR for the best operational parameters.