FuelX Autotune- KTM Enduro/SMCR 390 2025

Document Version	01	**Release Date**	04 Sep 2025

Application information	**FuelX**
Vehicle	**KTM**
Model	**Enduro/SMCR 390**
Year of manufacture	**2025**

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 tend to heat up during the normal operation of the vehicle at any time.
- 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 from using the product.

Support:

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for Indian specification vehicles, the FuelX module will have a sticker indicating it.

The warranty/support will not be provided for international users with Indian specification FuelX purchased from unauthorized re-sellers.

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's requirement. It autotunes 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.

The **FuelX kit contains the following items**

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

Image 1.1

2. FuelX Variants:

FuelX Pro+

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

Image 2.1

Image 2.2

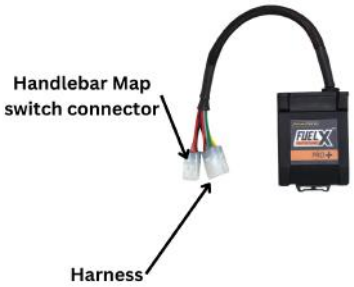


Image 2.3

FuelX Pro

The FuelX Pro variant has 10 maps that can be changed depending on the preference of rider. For the Pro version, the FuelX contains an additional connector (Refer to Image 2.6) for the Handlebar Map switch (Refer to Image 2.5)

Image 2.4

Image 2.5

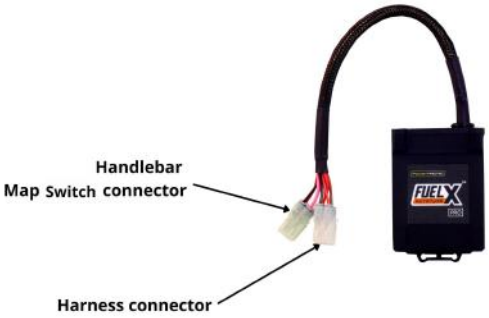


Image 2.6

FuelX Lite

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

Image 2.7

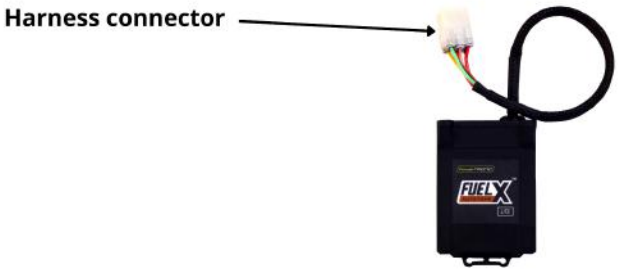


Image 2.7

3. FuelX Harness Connectors

The harness contains

- The Lambda connector (O_2)
- FuelX module connector
- Ground/battery negative connector.

Examples of FuelX harnesses are given below. Refer to Image 5

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.

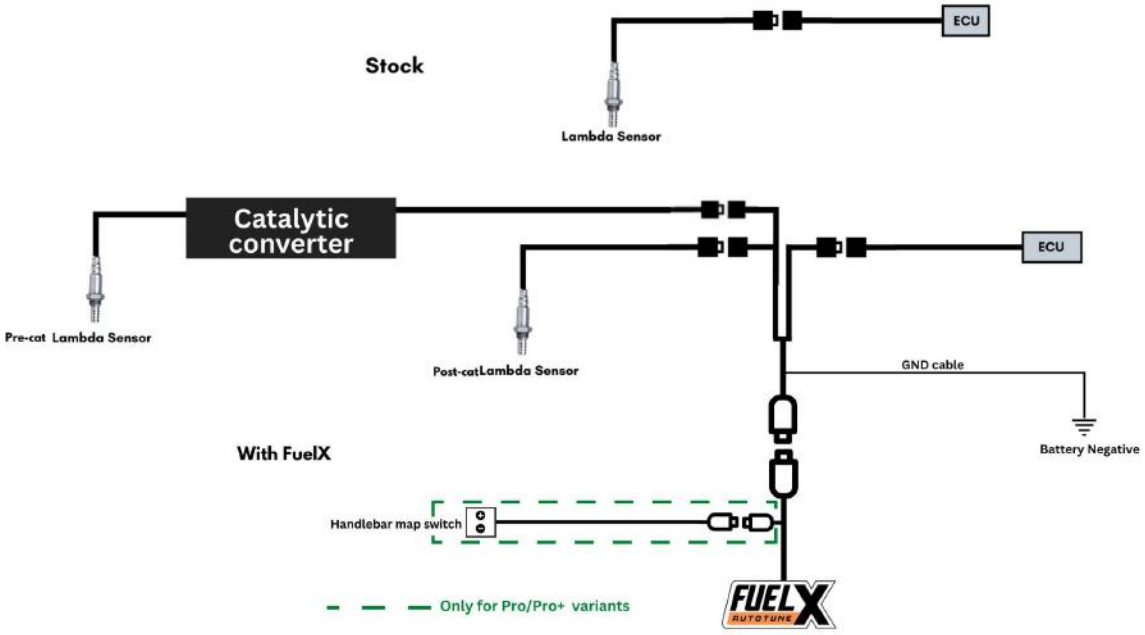


Image 3.3

4. Installation procedure

4.1 Removing panels, fairing

Begin at the right side of the bike.

Park the bike using the center stand on a level surface (Or a paddock stand). Refer to **image 1**

Image 1

4.1.1 Detach the seat by inserting the key into the keyhole shown in **Image 2** and unlocking the seat. **Image 3** shows the seat detached.

Image 2

Image 3

4.1.2 Disconnect the battery negative terminal. Refer to **Image 4**

Image 4

4.1.3 Locate the side panel bolts. Refer to **Image 5**. Refer to **Image 6** for the process**.** Repeat the process on the other side of the bike.

Image 5

4.1.4 Unscrew the bolt. Refer to **Image 6** for the process**.**

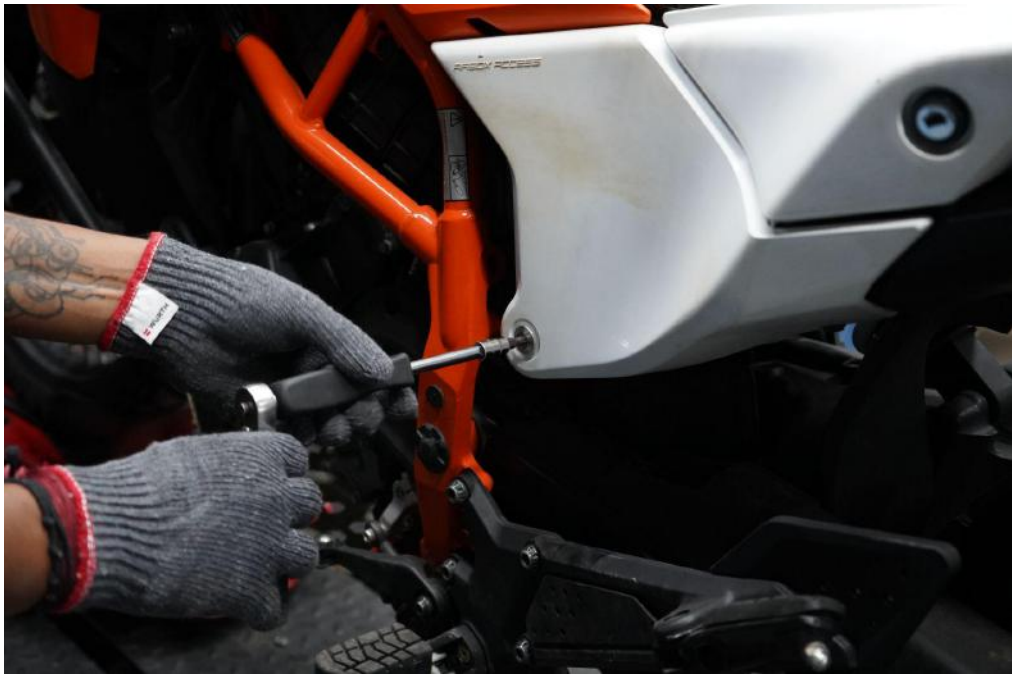


Image 6

4.1.5 Unscrew the bolt in the button of the panel. Refer to **Image 7** for the process**.**

Image 7

4.1.6 Gently detach the side panel. Refer to **Image 8** for the process**.**

Image 8

4.1.7 Locate and unscrew the tank side panel bolts using a 4 mm hex bit. Refer to **Image 9** and **Image 10**.

Image 9

Image 10

4.1.8 Gently detach the front panel of the tank. Refer to **image 11**.

Image 11

4.1.9 Remove the bolts using a Hex bit. Refer to **images 12, 12.A, and 12.B**

Image 12

Image 12.A

Image 12.B

4.1.10 Unscrew the bolts on the side of the radiator panels. Refer to **image 13** and **image 14**.

Image 13

Image 14

4.1.11 Gently detach the side panel. Refer to **image 15**.

Image 15

4.1.12 Unscrew the tank mounting bolts in the rear end. Refer to **image 16** and **image 17**

Image 16

Image 17

4.1.13 Unscrew the tank mounting bolts in the front end. Refer to **image 18**

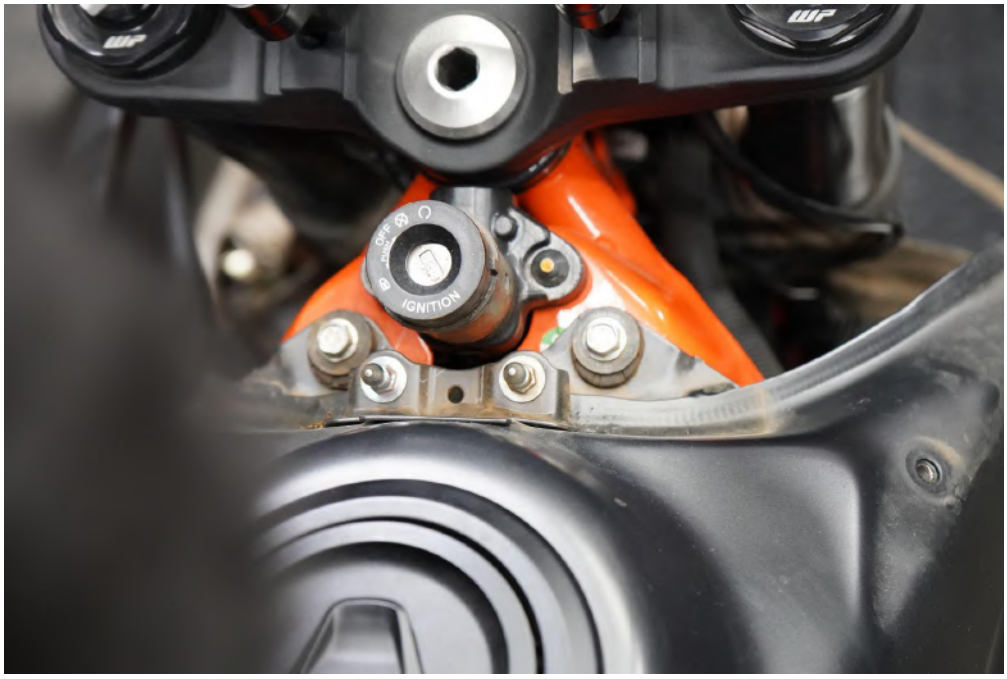


Image 18

4.1.14 Gently lift the rear end of the tank. Refer to **image 19**

Image 19

4.1.15 Gently disconnect the Fuel Pump connector. Refer to **image 20**

Image 20

4.1.16 Carefully disconnect the Fuel Line. Refer to **image 21**

Image 21

4.1.17 Disconnect the vacuum hoses. Refer to **image 22**

Image 22

4.1.18 Disconnect the Fuel level indicator connector. Refer to **image 23**

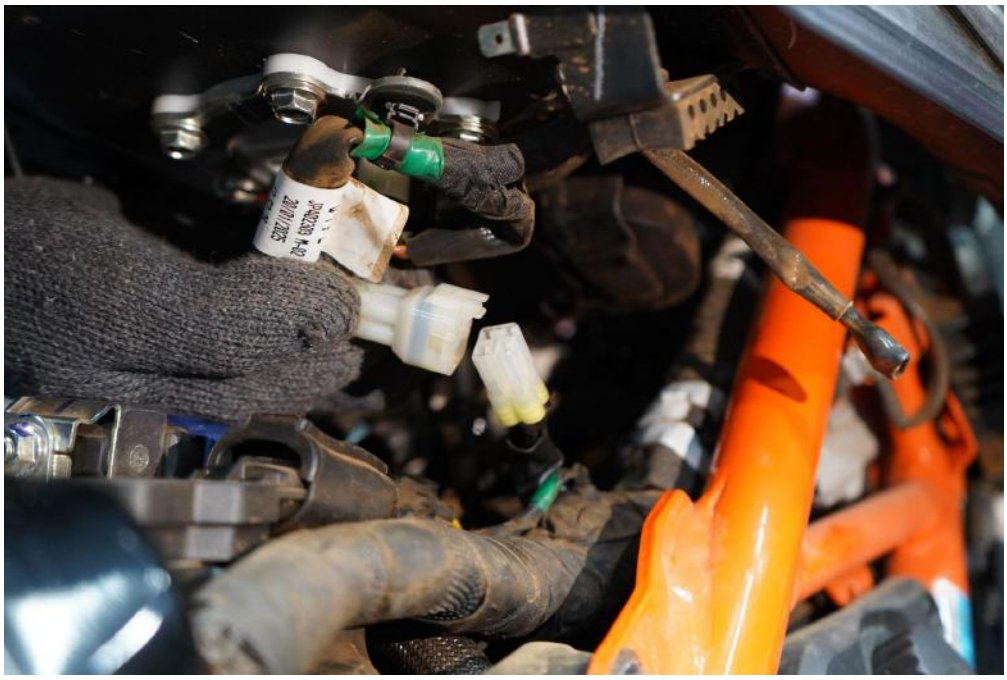


Image 23

4.1.19 Gently lift the tank after disconnecting all the connections and place it safely. Refer to **image 24**

Image 24

4.1.20Route the harness towards the Lambda sensor connectors. The connectors marked as Precat gos to Precat Lambda sensor and Postcat goes to Post cat Lambda sensor. Refer to **image 25**

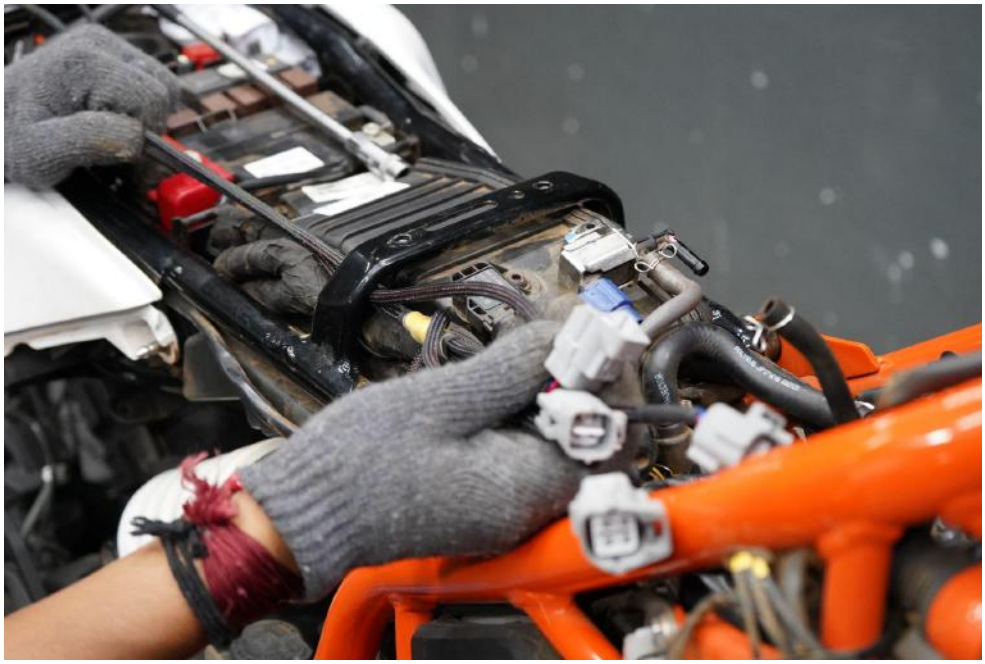


Image 25

4.1.21 Locate the stock Precat Lambda connector of the vehicle. Refer to **Image 26**

Image 26

4.1.22 Disconnect the stock Precat Lambda connector of the vehicle. Refer to **Image 27**

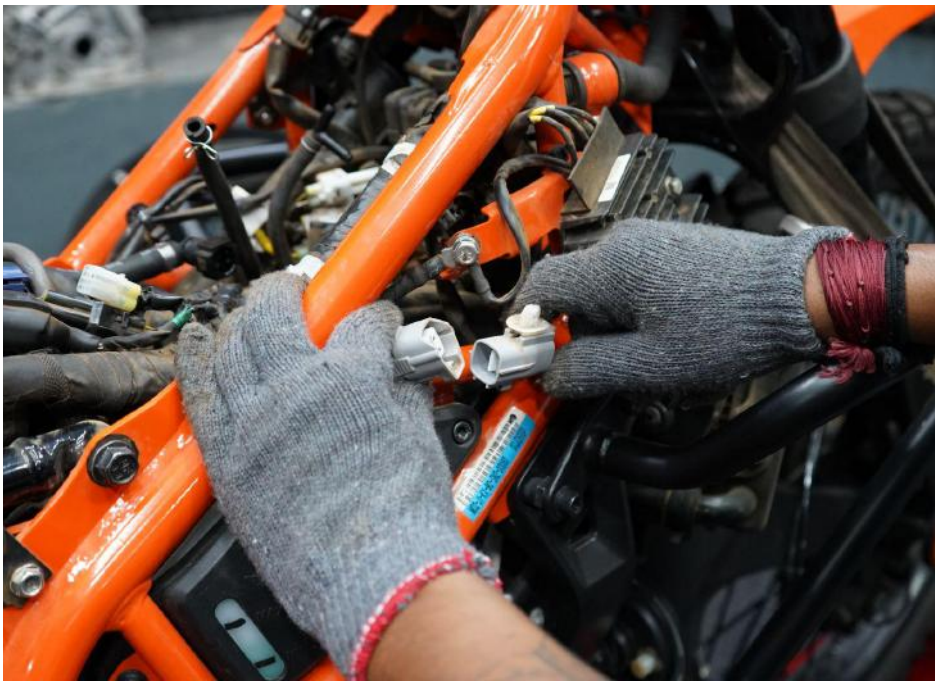


Image 27

4.1.23 Connect the FuelX male Precat Lambda connector to the stock female Precat Lambda connector of the vehicle. Refer to **Image 28**

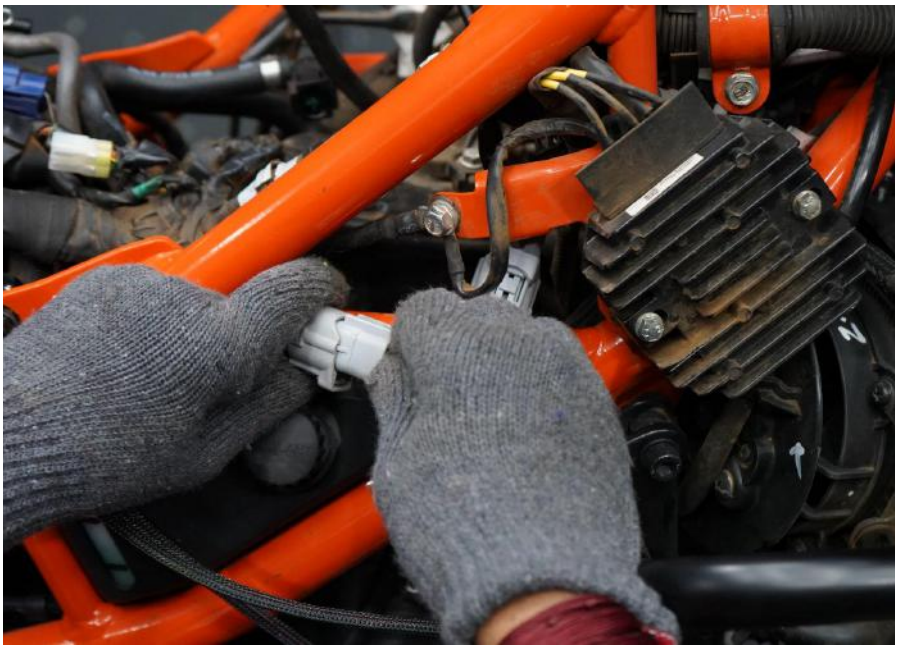


Image 28

4.1.24 Connect the FuelX female Precat Lambda connector to the stock male Precat Lambda connector of the vehicle. Refer to **Image 29**

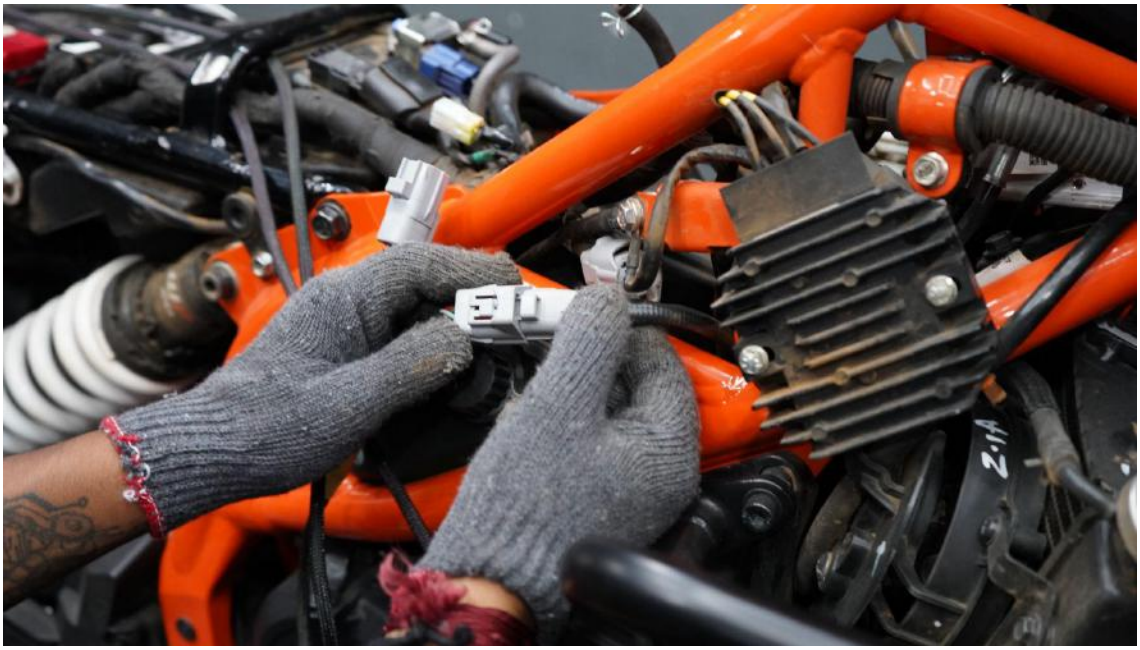


Image 29

4.1.25 The completed view. Refer to **Image 30**

Image 30

4.1.26 Locate the stock Post cat Lambda connector of the vehicle. Refer to **Image 31**

Image 31

4.1.27 Disconnect the stock Post cat Lambda connector of the vehicle. Refer to **Image 32**

Image 32

4.1.28 Connect the FuelX female Post cat Lambda connector to the stock male Post cat Lambda connector of the vehicle. Refer to **Image 33**

Image 33

4.1.29 Connect the FuelX male Post cat Lambda connector to the stock female Post cat Lambda connector of the vehicle. Refer to **Image 34**

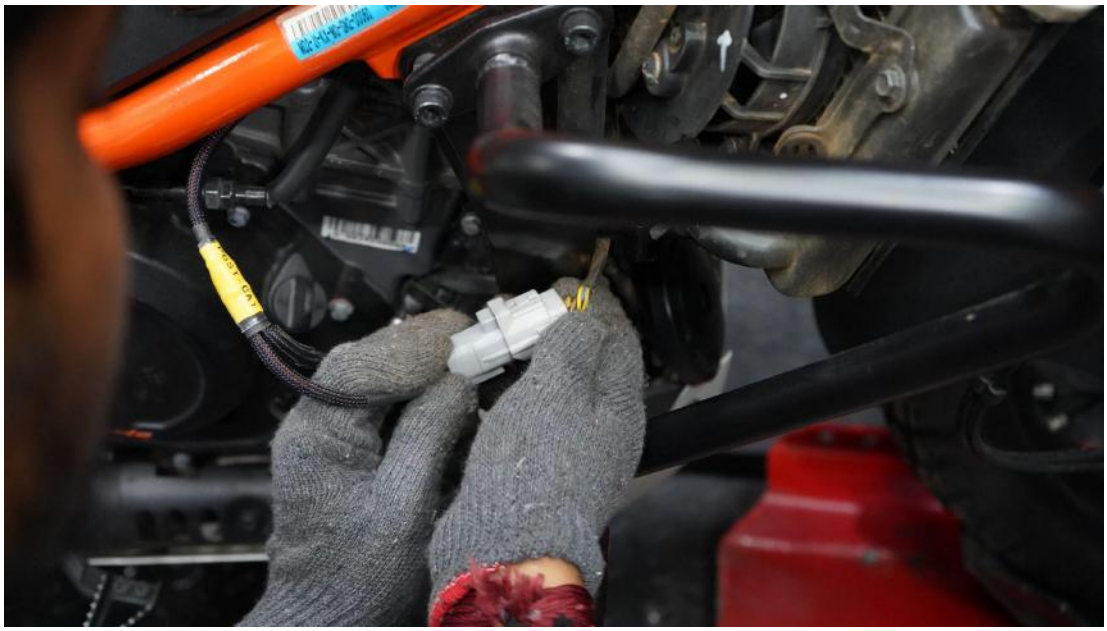


Image 34

4.1.30 Refer to the completed view. Refer to **Image 35**

Image 35

4.1.31 Connect the ground terminal connector to the negative terminal of the battery. Refer to **Image 36**.

Image 36.

4.1.32 Using a 2.5 mm Allen key, tighten the bolts of the handlebar map switch. Refer to **Images 37A and 37B**

Image 37A, Image 37B

4.1.33 Keep the FuelX module in the glove box. Refer to **Image 38**

Image 38

4.1.34 Connect the FuelX female main connector to the harness male main connector. Refer to **Image 39**

Image 39

4.1.35 Connect the FuelX 4-pin female connector to the handlebar map switch harness 4-pin male connector. Refer to **Image 40**

Image 40

4.1.36 Using the provided nylon tags, secure the FuelX and the harness by attaching them to the frame.

4.1.37 Attach the panels and the tank back.

5. FuelX Configurations and Settings

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 know which map is active. Ie the number of blinks on the handlebar switch indicates the number of maps.

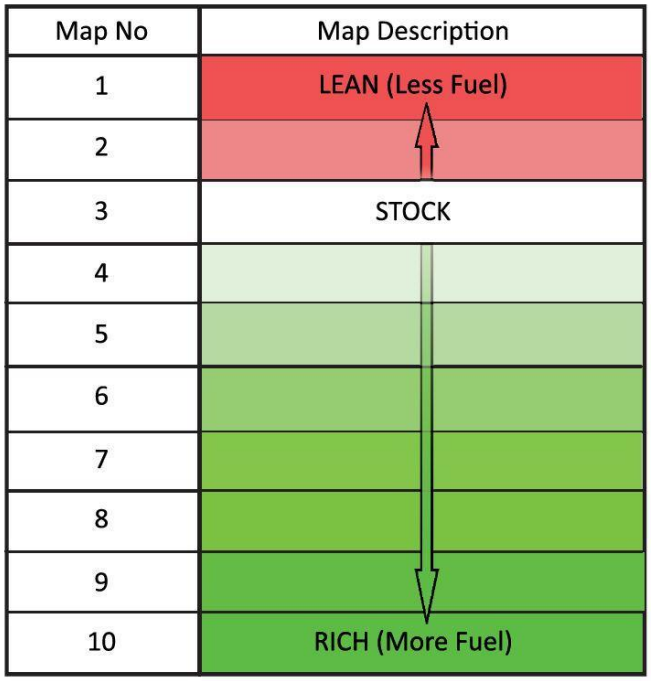


Image 5.1

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

The first two maps are lean maps.

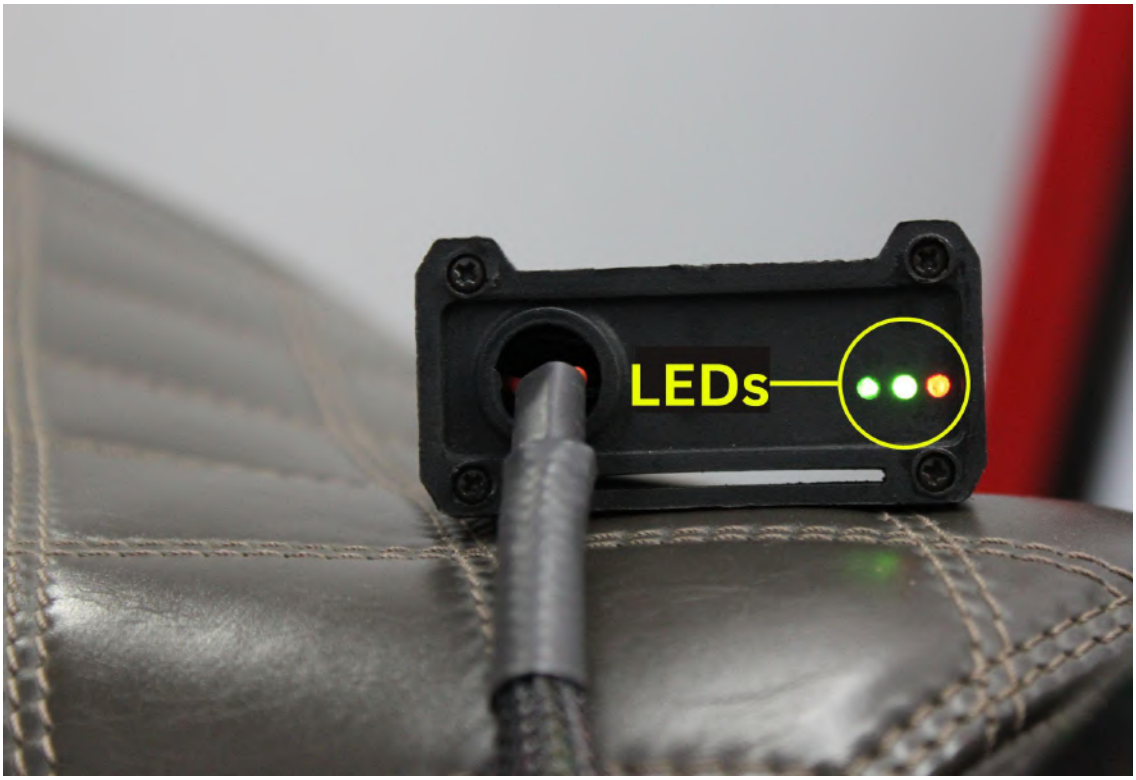
Map 3 runs with stock AFR set by the OEM manufacturer.

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.

6. FuelX LEDs

FuelX has LEDs on the module to indicate the operation.



The blinking of the Red LED indicates that the Map on the FuelX is being activated. The Red LED starts blinking after the key and the kill switch are on.

The blinking of the Green LEDs during the idling of the engine indicates that the FuelX is working in sync with the OEM ECU.

The working of both Green and Red LEDs indicates the FuelX Functioning as intended.