

FuelX Autotune Installation Manual- Suzuki V-Strom 250 SX (2022-2025)

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Application information	FuelX Autotune
Vehicle	Suzuki
Model	V-Strom 250 SX
Year of manufacture	2022-2025

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 bike 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 that 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.

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

⚠ FOR INDIAN SPECIFICATION BIKES ONLY

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

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1. FuelX

FuelX is an electronic, plug-in, fuel-injection optimiser 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 the 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+ 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 rider's preference. 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

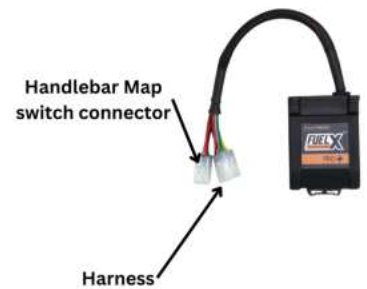


Image 2.3

FuelX Lite

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



Image 2.4

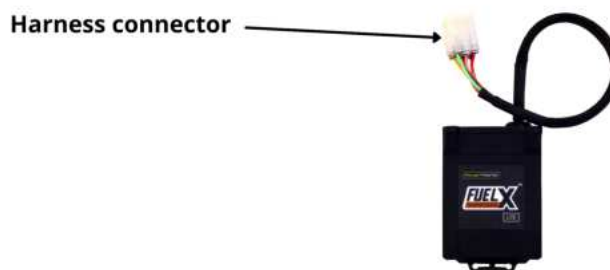


Image 2.5

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.

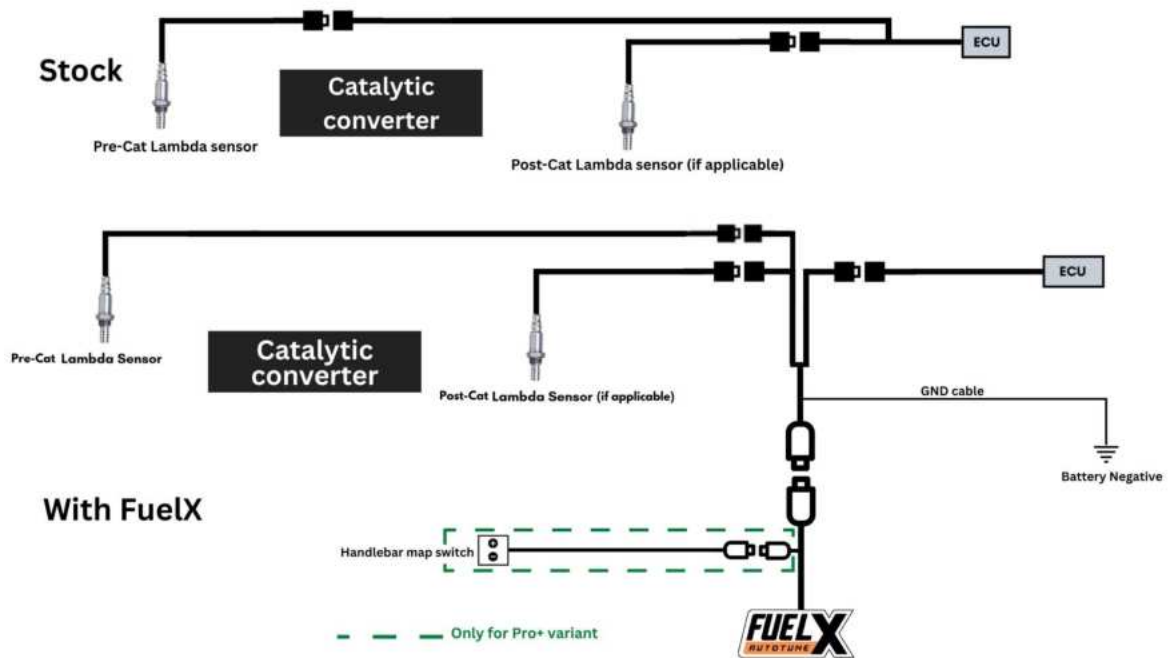


Image 3.3

4. Installation procedure

4.1 Removing panels, fairing

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

Begin at the left side of the bike.



Image 1



Image 2

4.1.1 Locate the pillion rider seat lock shown in **Image 3** and unlock the pillion rider seat as shown in **Image 4**.



Image 3



Image 4

4.1.2 Detach the pillion rider seat. Remove 2 x 4MM Allen Head Screws and gently detach the rider seat also. Refer to **Image 5**, **Image 6** & **Image 7**



Image 5



Image 6



Image 7

4.1.3 Locate the top 5mm Allen Bolts (2 No) and unscrew. Refer to **Image 8**



Image 8

4.1.4 Unscrew the top 5mm Allen Bolts (2 No). Refer to **Image 9**



Image 9

4.1.5 Locate the side bracket mounting bolts. Refer to **Image 10**



Image 10

4.1.6 Unscrew the side panel mounting bolts using a 5 mm Allen key. Refer to [**Image 11**](#)



Image 11

4.1.7 Carefully detach the panel. Refer to [**Image 12**](#)



Image 12

4.1.8 Locate the side panel mounting bolt. Refer to **Image 13**



Image 13

4.1.9 Unscrew the side panel bolt. Refer to **Image 14**

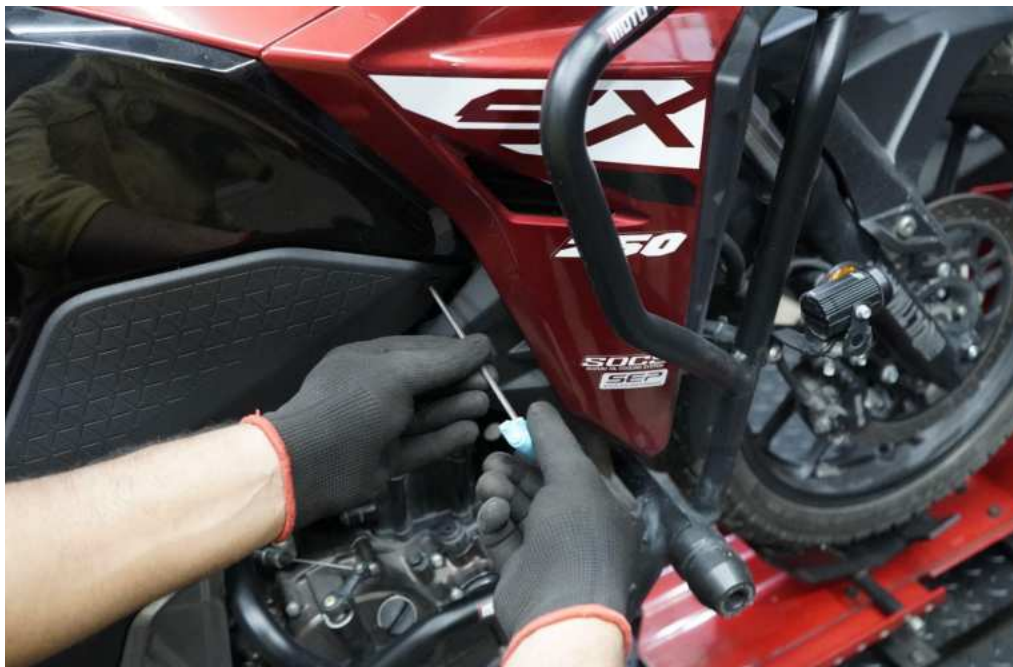


Image 14

4.1.10 Gently remove the panel mount. Refer to **Image 15**



Image 15

4.1.11 Gently pull the panel towards the outside. Refer to **Image 16**



Image 16

4.2 Routing the harness

4.2.1 Place the harness on the bike and route the harness branches to the individual connectors. Refer to **Image 17.**



Image 17

4.2.2 Route the harness from the position shown in the image below. Refer to **Image 18**



Image 18



Image 19

(If your vehicle (typically from 2022-2024) has only one Lambda sensor (Pre-cat), connect only it and ignore the Post-cat connection steps)

(If your vehicle (typically 2025+) has 2 Lambda sensors (Pre-cat and Post-cat), follow the Post-cat and Post-cat connection steps.)

Pre-cat Lambda sensor connection

4.3.1 Locate the Pre-cat stock Lambda sensor connector. Refer to **Image 20**

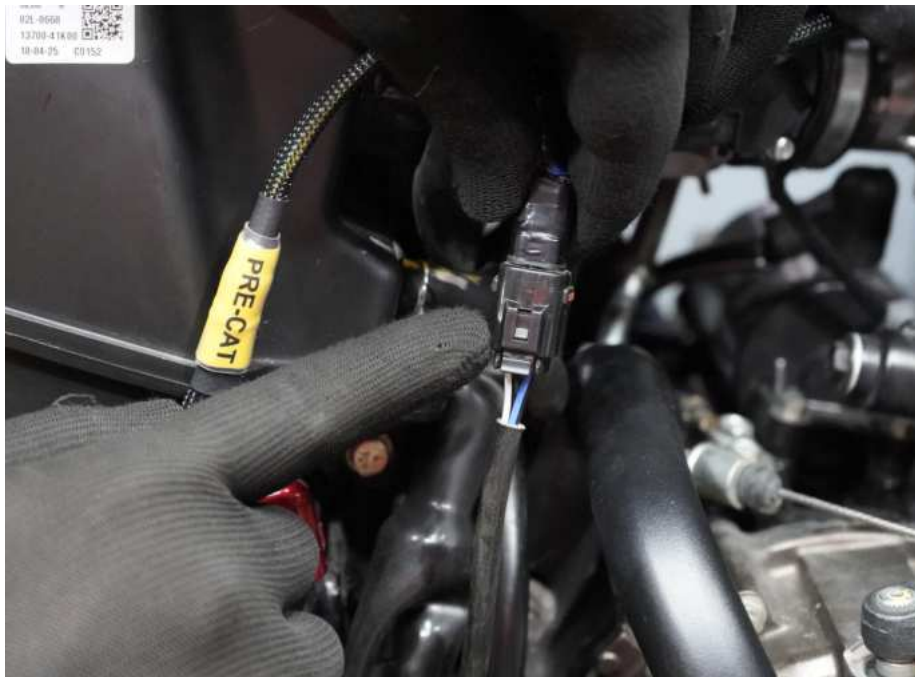


Image 20

4.3.2 Disconnect the Pre-cat stock Lambda sensor connector. Refer to **Image 21**



Image 21

4.3.3 Connect the FuelX female Pre-cat Lambda sensor connector to the stock Pre-cat male connector. Refer to **Image 22**



Image 22

4.3.4 Connect the FuelX Pre-cat male Lambda sensor connector to the stock Pre-cat female connector. Refer to **Image 23**

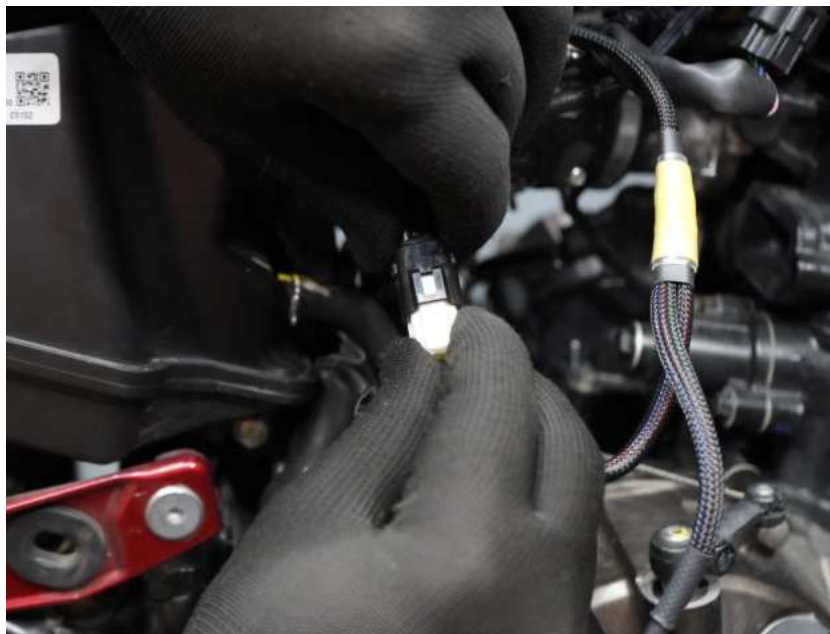


Image 23

Post-cat Lambda sensor connection

4.4.1 Locate the Post-cat stock Lambda sensor connector. Trace the Post-cat Lambda sensor to find the connector. Refer to **Image 24**



Image 24

4.4.2 Disconnect the Post-cat stock Lambda sensor connector. Refer to **Image 25**



Image 25

4.4.3 Connect the FuelX Post-cat female Lambda sensor connector to the stock Post-cat male connector. Refer to **Image 26**



Image 26

4.4.4 Connect the FuelX Post-cat male Lambda sensor connector to the stock Post-cat female connector. Refer to **Image 27**



Image 27

4.4.5 Refer to **Image 28** for the completed view



Image 28

4.4.6 Connect the FuelX Handlebar map switch to the Handlebar. Refer to **Image 29**



Image 29

4.4.7 Using a 2.5 mm Allen key, tighten the bolts. Refer to **Image 30**



Image 30

4.4.8 Using a 2.5 mm Allen key, tighten the bolts. Refer to **Image 31**



Image 31

4.4.9 Route the FuelX harness and handlebar switch wire to the relay box. Refer to **Image 32**



Image 32

4.4.10 Place the FuelX module in the glove compartment.

4.4.11 Connect the FuelX Main connector to the harness. Refer to **Image 33**



Image 33

4.4.12 Connect the 4-pin FuelX connector to the handlebar map switch harness. Refer to **Image 34**



Image 34

4.4.13 Connect the Ground cable to the battery **negative terminal**. Terminal position may vary. Refer to **Image 35**



Image 35

4.4.14 Secure the harness from hot and moving parts using the zip ties provided.

4.4.15 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 customer's preference. 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. I.e., 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 the stock AFR set by the OEM manufacturer.

Maps 4 through 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** while the engine is idling indicates that the FuelX is working in sync with the OEM ECU.

The working of both Green and Red LEDs indicates that the FuelX is functioning as intended.