

# PowerTRONIC V4 Installation Manual

## Royal Enfield Himalayan 452 (2024)

Document Version	1	Release Date	18 Jan 2024
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Application information	Vehicle Specific
Vehicle	<b>Royal Enfield</b>
Model	<b>Himalayan 452</b>
Year of manufacture	<b>2024</b>

**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.
- PowerTRONIC is intended for motorsport use on a closed course, please check with your local laws before using this product. Race Dynamics / PowerTRONIC is not liable for consequences arising out of using the product.

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### 1. Parts list

1	PowerTRONIC	Piggyback ECU
2	Stock Coupler	Stand by unit <ul style="list-style-type: none"> <li>• Can be connected in place of the PowerTRONIC to run the bike in stock mode if need be.</li> <li>• Used for the verification of the connections.</li> </ul>
3	Harness	Bike specific harness contains the following connectors <ul style="list-style-type: none"> <li>• Fuel injector connector - INJ</li> <li>• Spark/Ignition coil connector - SPK</li> <li>• Map selection connector</li> <li>• Quickshifter connector</li> <li>• Ground terminal - GND</li> </ul>
4	USB cable	Can be used to connect the PowerTRONIC to a laptop for throttle calibration or change maps
5	Nylon Tags	To secure the wiring harness
6	User guide and Warranty card	Instructions

### 2. Tools required

Serial No	Main tools	Optional tools
1	4mm, 5mm Hex bit00	Spinner handle
2	10mm, 8 mm T bar Hexagonal Socket wrench	Ratchet handle
3	Wirecutter	Extension bar or Sliding T-bar

### 3. Installation procedure

#### 3.1 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

**3.1.1** Detach the pillion seat by inserting the key into the keyhole shown in **Image 2** and unlock the pillion seat. **Image 3** shows the pillion seat detached.



Image 2



Image 3

3.1.2 Detach the rider seat. (Gently lift and slide it towards the rear end) - Refer to **Image 4**.



Image 4

3.1.3 Unscrew the front-end tank panel bolt using the 4 mm bit. Refer to **Image 5**.



Image 5

3.1.4 Gently detach the panel. Refer to **Image 6**.



Image 6

3.1.5 Locate the rear end mounting bolts, (3 Nos). Refer to [Image 7](#).

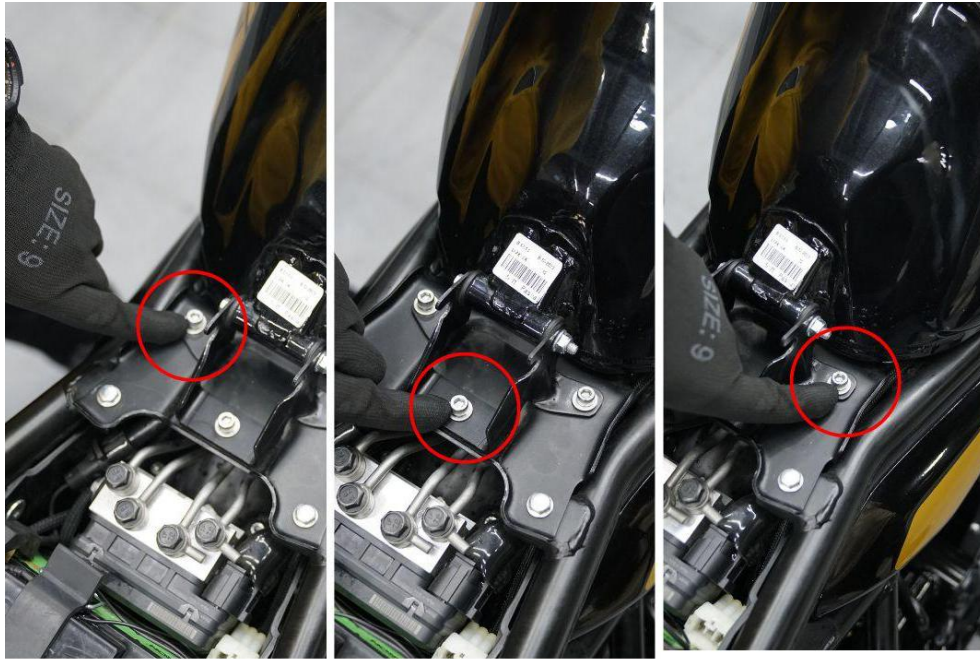


Image 7

3.1.6 Unscrew the rear end mounting bolts using the 5 mm Hexagonal bit. Refer to [Image 8](#).



Image 8

**3.1.7** Gently lift the rear end of the tank and locate the vacuum hoses. Detach the hoses carefully. Refer to **Image 9**.

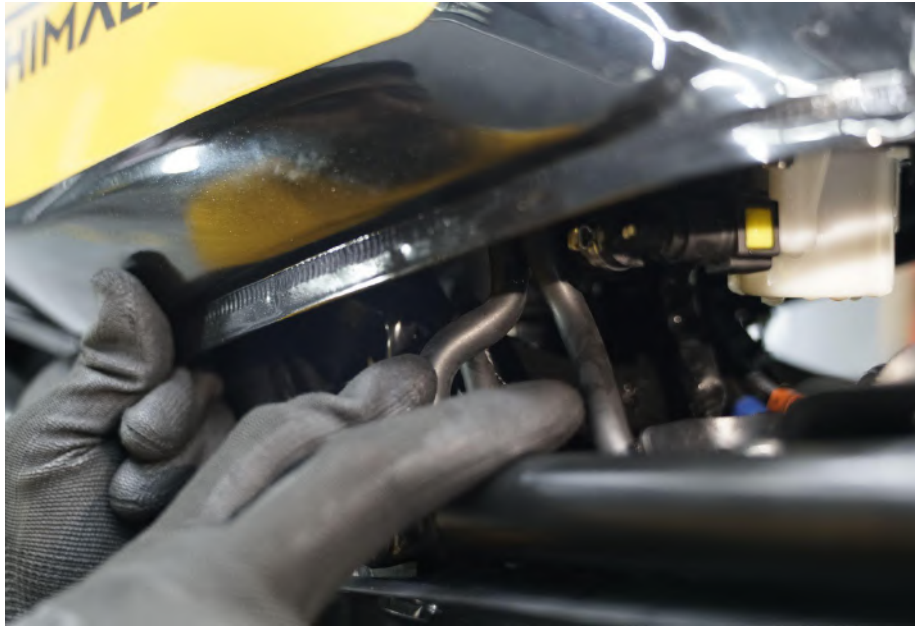


Image 9

**3.1.8** Locate the Fuel line and detach the connector carefully. Refer to **Image 10**.



Image 10

**3.1.9** Locate the Fuel Pump connector and detach the connector carefully. Refer to **Image 11**



Image 11

**3.1.10** Locate the Fuel Float connector and disconnect the coupler. Refer to **Image 12**.



Image 12



**3.1.11** Once all the connectors are detached from the tank, gently lift and place it carefully. Refer to **Image 13**



Image 13

**3.1.12** Locate the air box assembly and the mounting bolts. (2 on the left side and 1 on the right side) Unscrew them with an 8 mm Hex socket. Refer to **Image 14**

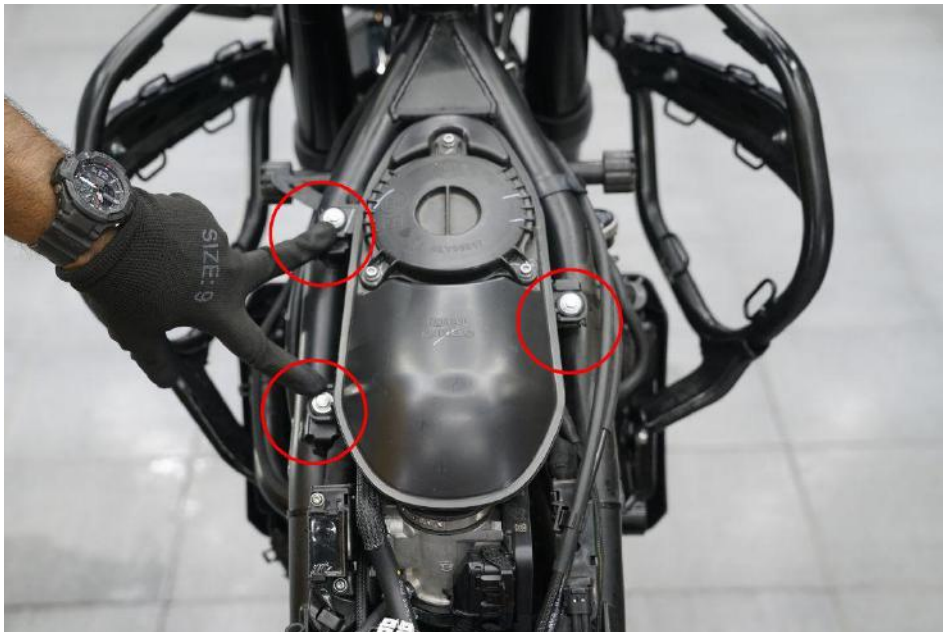


Image 14

**3.1.13** Carefully unplug the hose from the throttle body. Refer to **Image 15**.



Image 15

**3.1.14** Loosen the bolt of the throttle body clamp. Refer to **Image 16**.



Image 16

**3.1.15** Disconnect the battery negative terminal of the vehicle. Refer to **Image 17** below.



Image 17

**3.1.16** Unplug the ECU connector carefully. Refer to **Image 18** below.



Image 18

**3.1.17** Carefully unplug the spark plug chord. Refer to **Image 19**.



Image 19

**3.1.18** Gently lift the Air box and place it carefully as shown in **Image 20** below.



Image 20

### 3.2 Routing the harness

#### Important notes:

- 1) **In this installation manual, the air box is removed for better routing demonstration. During the air box removal, unplug the ignition coil Ground as shown in the image below, and make sure to connect the Ground back while fitting the air box back.**



**3.2.1** Starting from the glove compartment, route each connector terminal from in-between the welded plate and the mudguard. Refer to **Image 21**.



Image 21

**3.2.2** Apply slight pressure if needed, (Refer to **Image 22**) on the mudguard for easy routing.

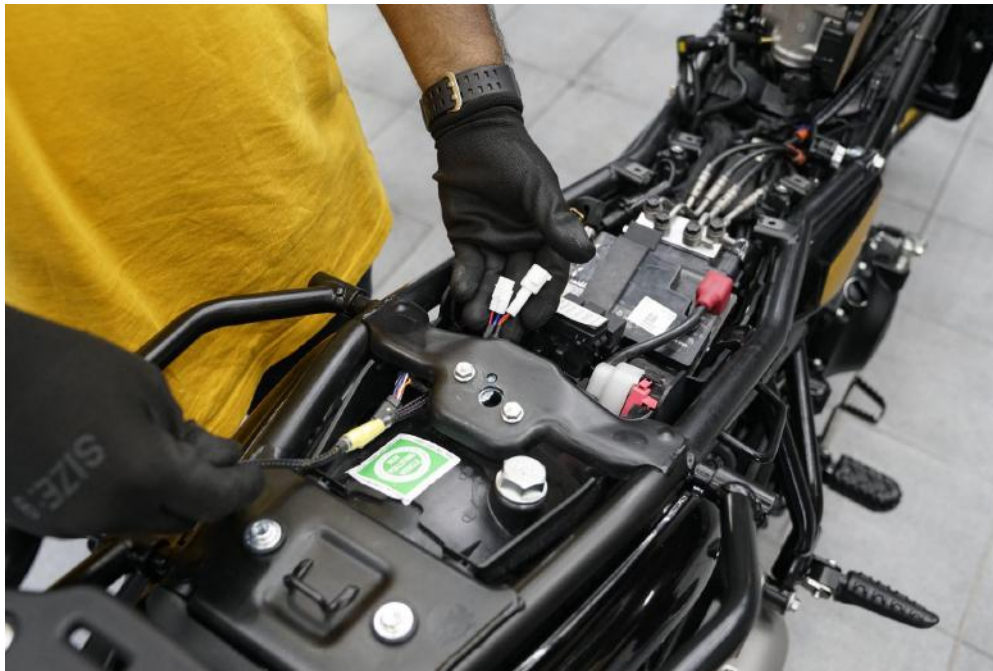


Image 22

3.2.3 Once all the connectors are through, secure the harness along the bike's frame as shown in **Image 23**.



Image 23

### 3.3 Fuel Injector Connector (Left side of the bike)

3.3.1 Locate the stock injector connector of your bike. Refer to **Images 24** and **Image 25** below



Image 24



Image 25



**3.3.2** Identify the fuel injector connector in the PowerTRONIC wiring harness. The connectors are labeled 'INJ'.

**3.3.3** Disconnect the injector connector on your bike. Refer to the zoomed view (**Image 26**).



Image 26

**3.3.4** Connect the female PowerTRONIC injector connector to the stock male injector connector. Refer to **Image 27**.



Image 27

3.3.5 Connect the stock female injector connector to the PowerTRONIC male injector connector. Refer to **Image 28**.

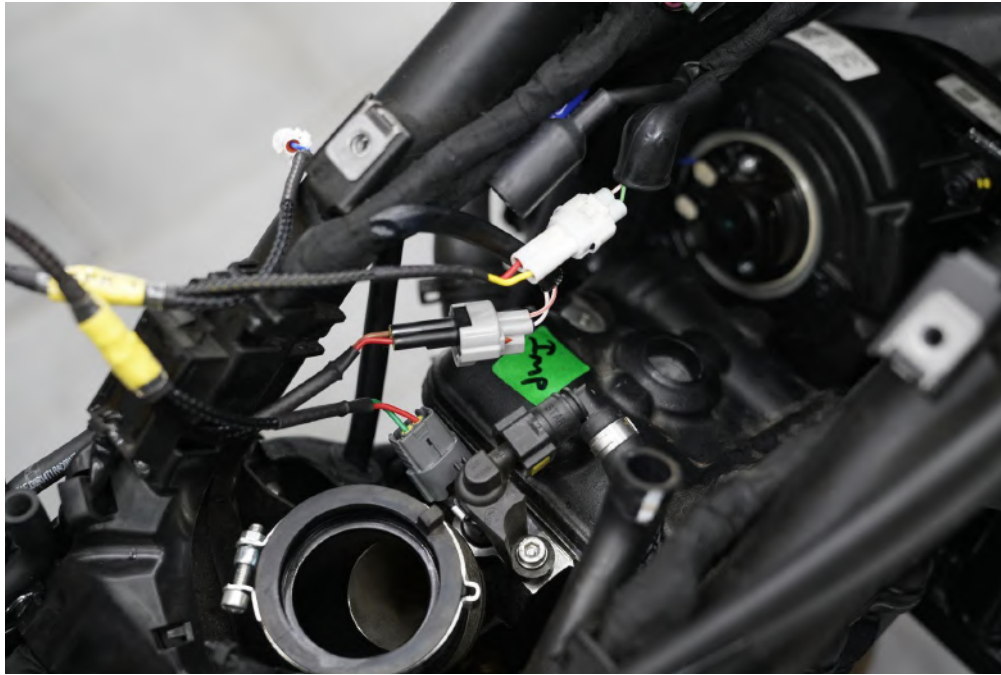


Image 28

### 3.4 Ignition Coil Connector (Left side of the bike)

3.4.1 Locate the stock Spark/Ignition coil connector on the ignition coil, located right above the engine. Refer to **Images 29** and **30**.



Image 29



Image 30

3.4.2 Detach the stock ignition coil connectors. Refer to **Image 31**.



Image 31

3.4.3 Connect the PowerTRONIC Ignition coil male connector to the stock ignition coil female connector. Refer to **Image 32**.



Image 32

3.4.4 Connect the PowerTRONIC Ignition coil female connector to the stock ignition coil male connector. Refer to [Image 33](#) below.



Image 33

3.4.5 Refer to [Image 34](#) for a completed view.

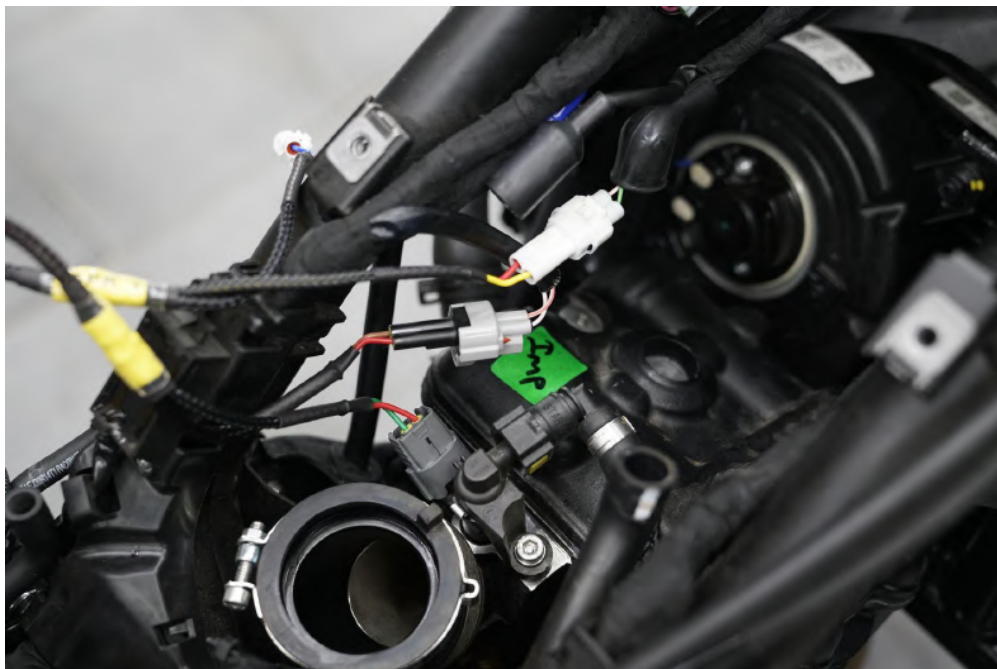


Image 34

### 3.5 Ground Terminal Connector (Right side of the bike)

**3.5.1** Identify the Ground terminal connector labeled as GND and connect it to the negative terminal of the battery.  
Refer to **Images 35** and **35**.



Image 36

### 3.6 Injector and ignition modulator connections

**3.6.1** Connect the Injector and ignition modulators to the ECU and place them as shown in the images below.  
Refer to **Images 37** and **38**.



Image 37



Image 38

3.6.2 Refer to **Image 39** for the completed view

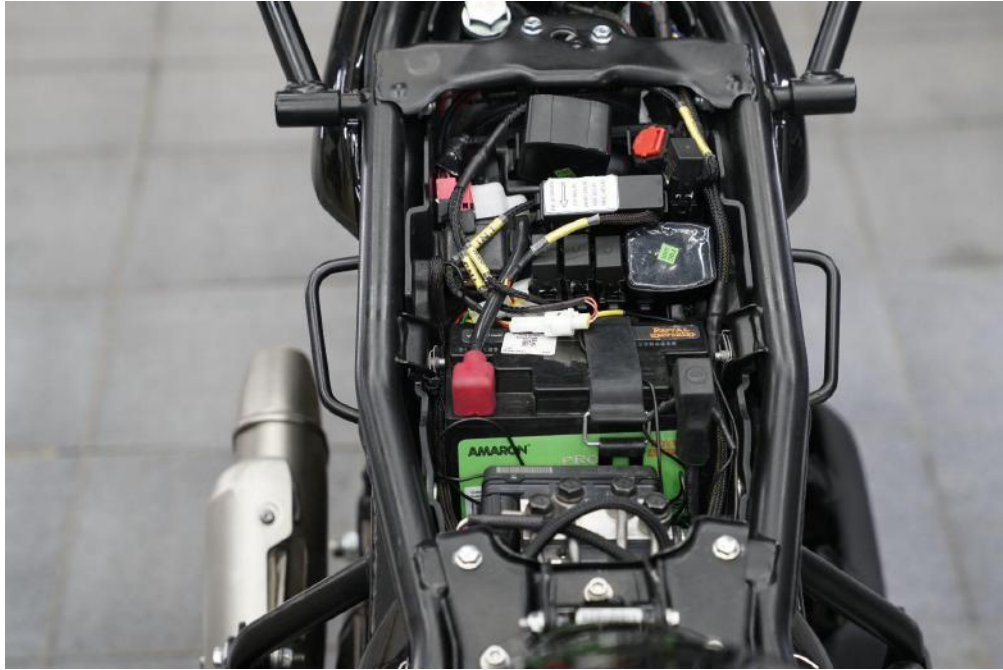


Image 39



### 3.7 Securing the harness using ties

**3.7.1** Secure the harness away from hot/moving parts by attaching it to the chassis/frame using the zip ties provided wherever necessary. Refer to **Image 40**.



Image 40

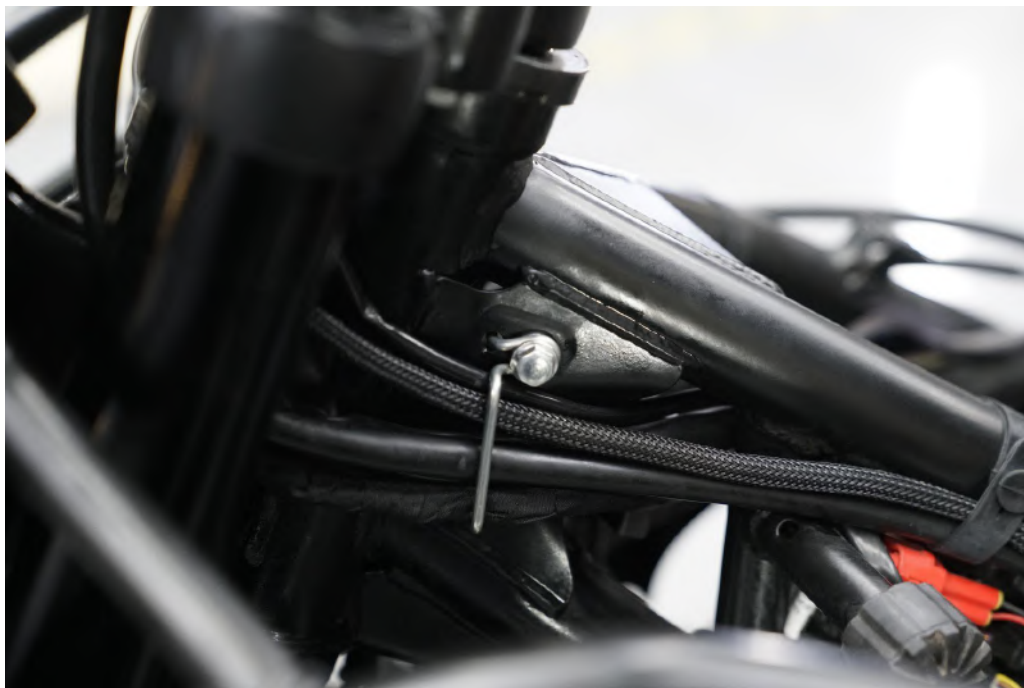


Image 41

**Important note:** The PowerTRONIC harness contains a Quick shifter connector. If you have bought the Quickshifter please attach the connector to it. [Please refer to Quick shifter installation manual]

If you have not bought the Quickshifter, you can leave it disconnected but make sure the harness is secured using zip ties provided.

### 3.8 Testing with the stock coupler

**3.8.1** Attach the fuel tank.

**3.8.2** You can verify the connections by attaching the stock coupler. Refer to **Image 42** Refer to the detailed Stock coupler test document.



Image 42

***DO NOT proceed with the PowerTRONIC ECU without first verifying the connections with the stock coupler.***

### 3.9 Plugging in the PowerTRONIC

Remove the key from the ignition, unplug the stock coupler, and connect the PowerTRONIC to the harness by connecting it to the 24 pin connector. Secure it in the glove box. Refer to [Image 43](#).



Image 43

### 3.10 Attaching the panels fairing etc

Attach the panels, and fairing as removed from the bike.