

PowerTRONIC Installation Manual - Royal Enfield Himalayan (2017-2020)

Document Version	1	Release Date	23 March 2019
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Application information	Vehicle Specific
Vehicle	Royal Enfield
Model	Himalayan EFI
Year of manufacture	2017-2020
PowerTRONIC application	All PowerTRONIC ECUs, from firmware version F.3.x onwards

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"> • Can be connected in place of the PowerTRONIC to run the bike in stock mode if need be. • Used for the verification of the connections.
3	Harness	Bike specific harness contains the following connectors <ul style="list-style-type: none"> • Fuel injector connector • Spark/Ignition coil connector • Throttle position sensor connector (TPS) • Map selection connector • Quickshifter connector • Ground terminal
4	USB cable	Can be used to connect the PowerTRONIC to a laptop for throttle calibration or changing maps
5	Nylon Tags	To secure wiring harness
6	User guide and Warranty card	Instructions

2. Tools required

Serial No	Main tools	Optional tools
1	M10 Hexagonal socket	Spinner handle
2	M10 T bar Hexagonal Socket wrench	Ratchet handle
3	Wire cutter	Extension bar or Sliding T bar

3. Installation procedure

3.1 Removing panels, fairing

Begin at the left side of the bike.

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



Positions of the Connectors/Wires/Hoses

Top

battery Negative terminal
Relays

Right

Fuel Line
Fuel pump connector
Vacuum Hose (Right)



Left

Fuel Injector
Ignition coil connector
TPS connector
Fuel Gauge connector
vacuum hose)left)

3.1.1 Detach the pillion seat by inserting the key into the keyhole shown in **Image 1** and unlock the pillion seat. **Image 2** shows the pillion seat detached.



Image 1



Image 2

3.1.2 Detach the rider seat. (Gently lift and slide it towards the rear end) - Refer **Image 3**.



Image 3

3.1.3 **Image 4** shows both the seats detached.



Image 4

3.1.4 Unscrew the tank bolts using the T socket M10 T bar Hexagonal socket wrench. Refer [Image 5](#).



Image 5

3.1.5 Gently give a little lift to the tank and locate fuel gauge connector (Blue colour) on the left side of the tank. Refer [Image 6](#).

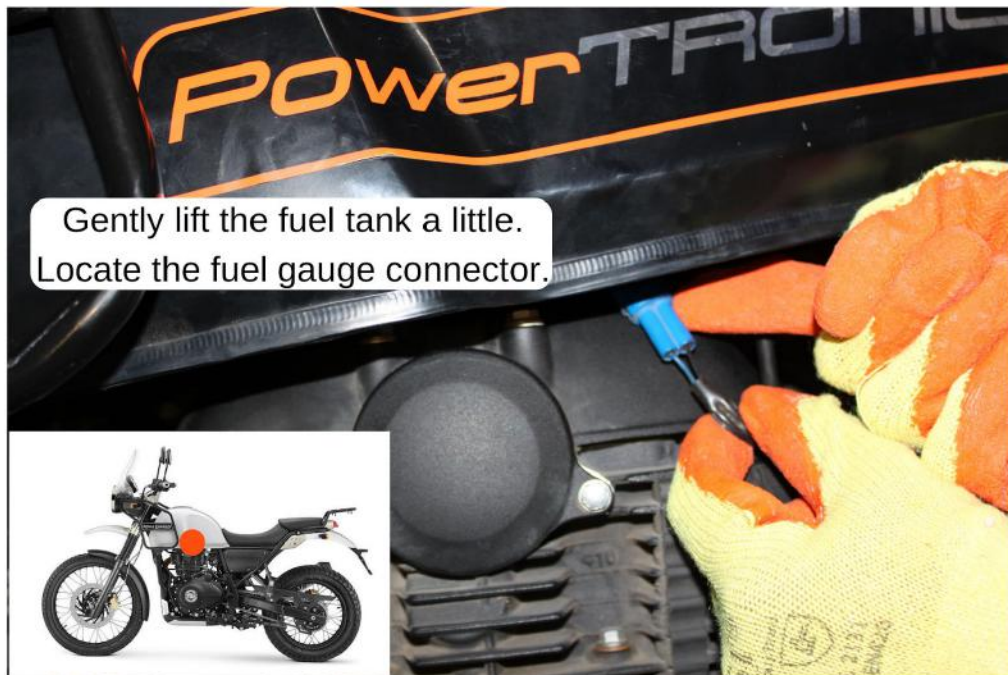


Image 6

3.1.6 Detach the fuel gauge coupler. Refer [Image 7](#).



Image 7

3.1.7 Go to the right side of the bike, Locate the fuel line under the fuel tank, after the fuel valve. Gently squeeze and pull the fuel pipe to detach it from the valve. (There may be some amount of gasoline in the pipe. Make sure it does not fall on your body or clothes). Refer [Image 8](#).



Image 8

3.1.8 Right next to the fuel valve, locate the fuel pump connector and detach the connector carefully. Refer **Image 9**.



Image 9

3.1.9 Lift the tank carefully and locate the two vacuum hoses present (and connected) under the tank. Disconnect both the hoses and lift away the fuel tank and place it safely. Refer **Image 10**



Image 10

3.1.10 Refer **Image 11** for disconnected view of the vacuum hoses.



Image 11

3.1.11 Unscrew the bolts using M10 Hex T-bar from the casing as shown through **Image 12** and **Image 13** below.

Note: Use a spinner handle with M10 Hex socket and hold the nut below for easy removal.

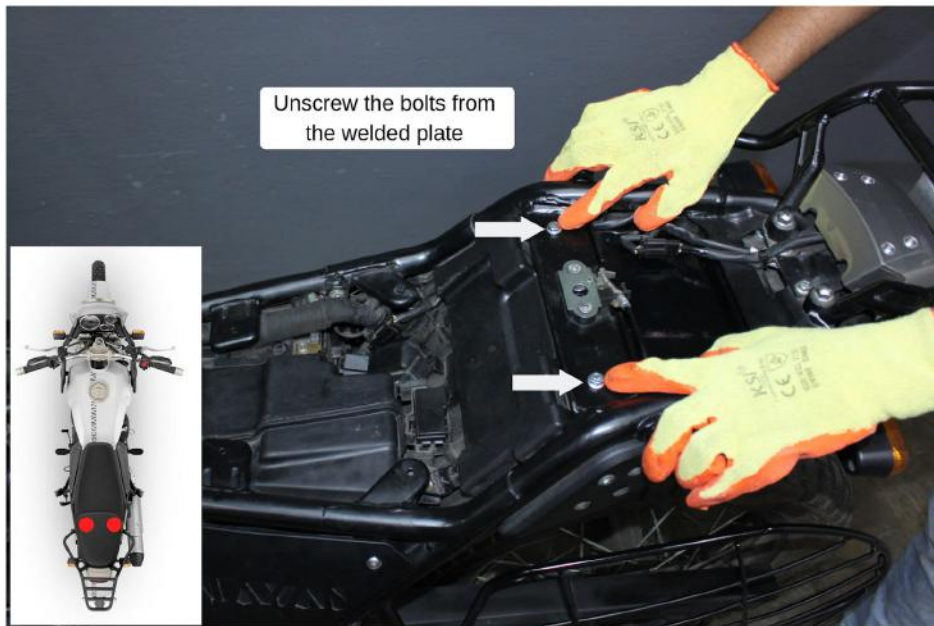


Image 12



Image 13

3.1.12 Remove both the screws using M10 Hex T-bar from the mud guard (adjacent to tail indicators) shown through **Image 14**.



Image 14

3.1.13 Once you unscrew the bolts, there will be enough space to route the wiring harness of the PowerTRONIC. Refer **Image 15**.



Image 15

3.1.14 Remove the screws using M10 Hex T-bar from the casing as shown in **Image 16** below.

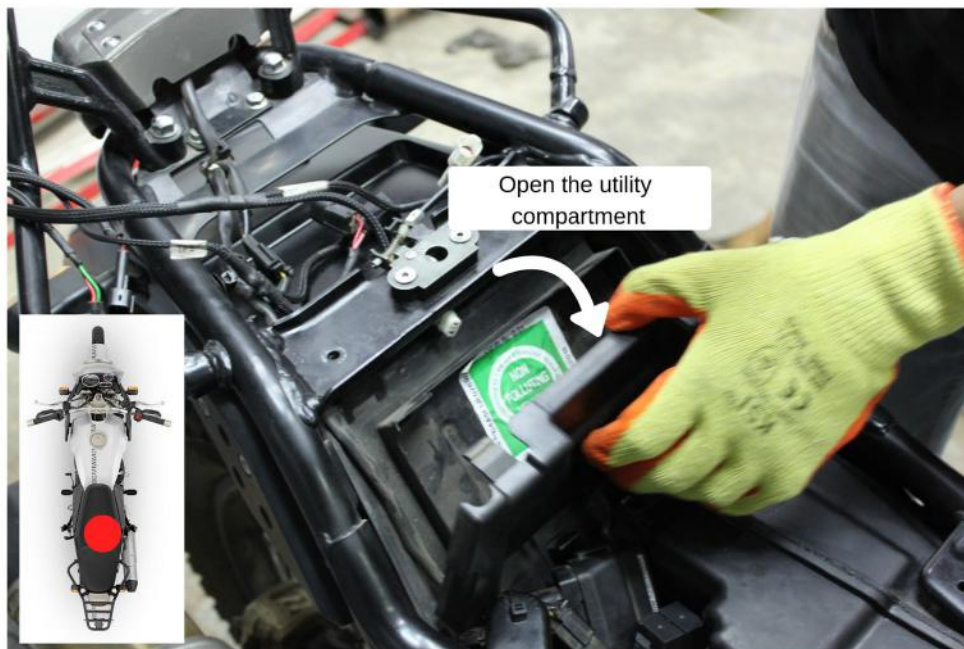


Image 16

3.2 Routing the harness

3.2.1 Starting from the glove compartment, route each connector terminals from in-between the welded plate and the mud guard. Refer **Image 17**.



Image 17

3.2.2 Apply slight pressure, if needed, (refer **Image 18**) on the mudguard for easy routing.



Image 18

3.2.3 Once all the connectors are through, secure the harness along the bike's frame as shown in **Images 19 & 20**.



Image 19

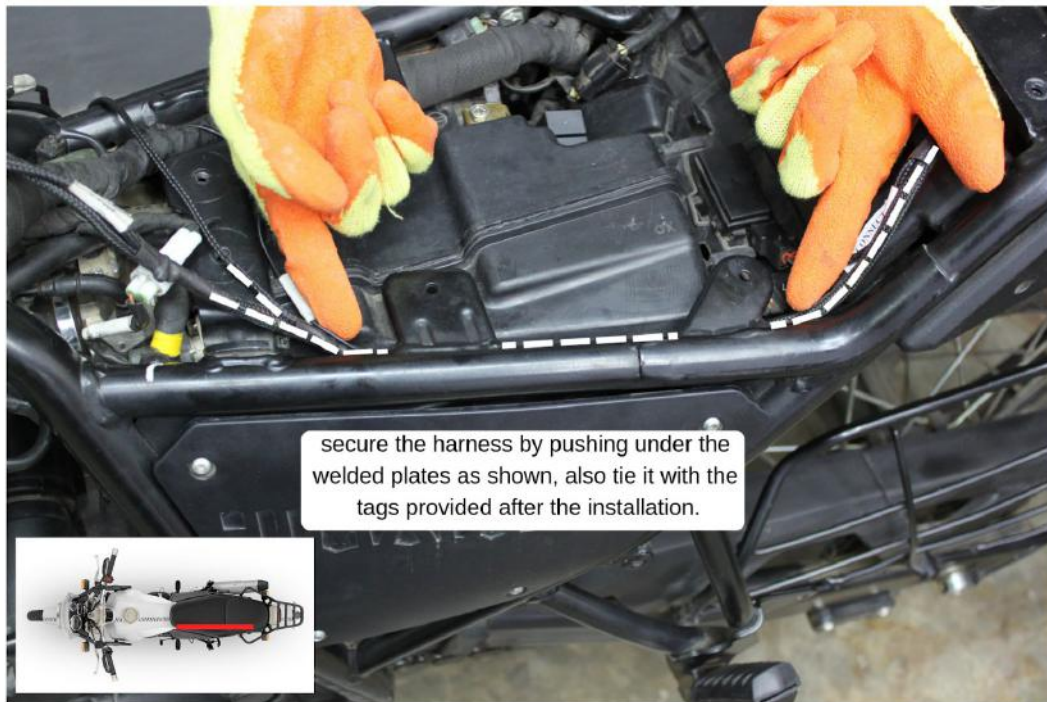


Image 20

3.3 Fuel Injector Connector (Left side of the bike)

3.3.1 Locate the stock injector connector of your bike. Refer the Images 21 and Image 22 below

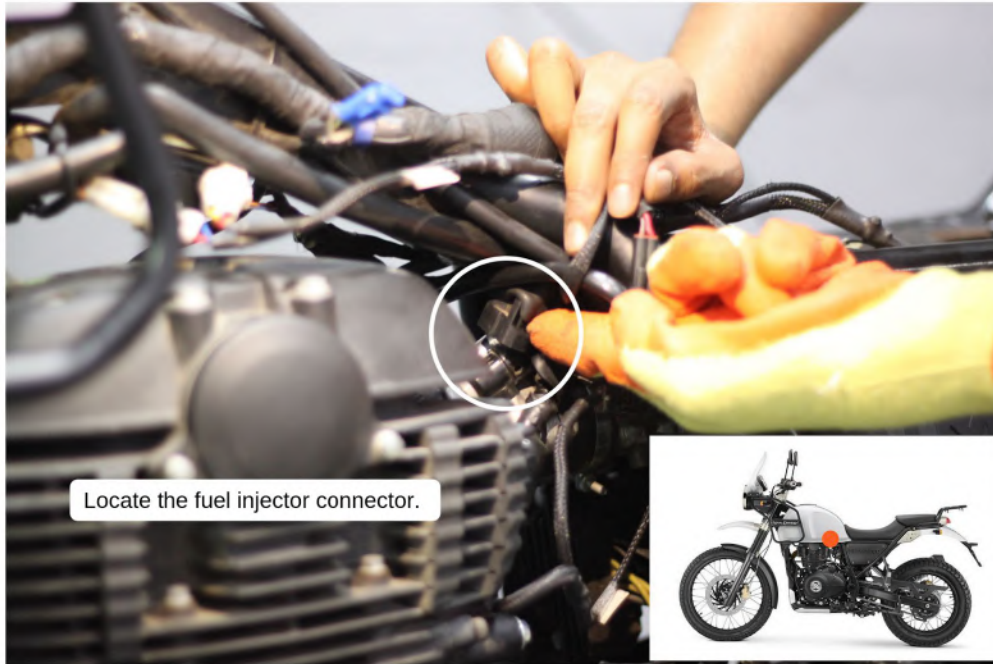


Image 21



Image 22

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 the zoomed view (**Image 23**).

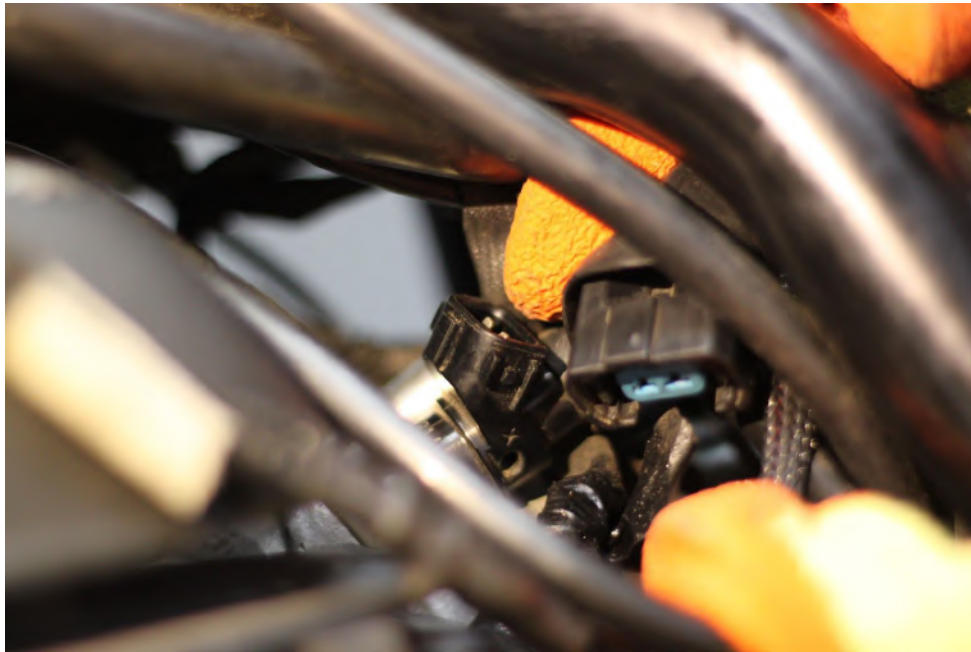


Image 23

3.3.4 Connect the female PowerTRONIC injector connector to the stock male injector connector. Refer **Image 24**.

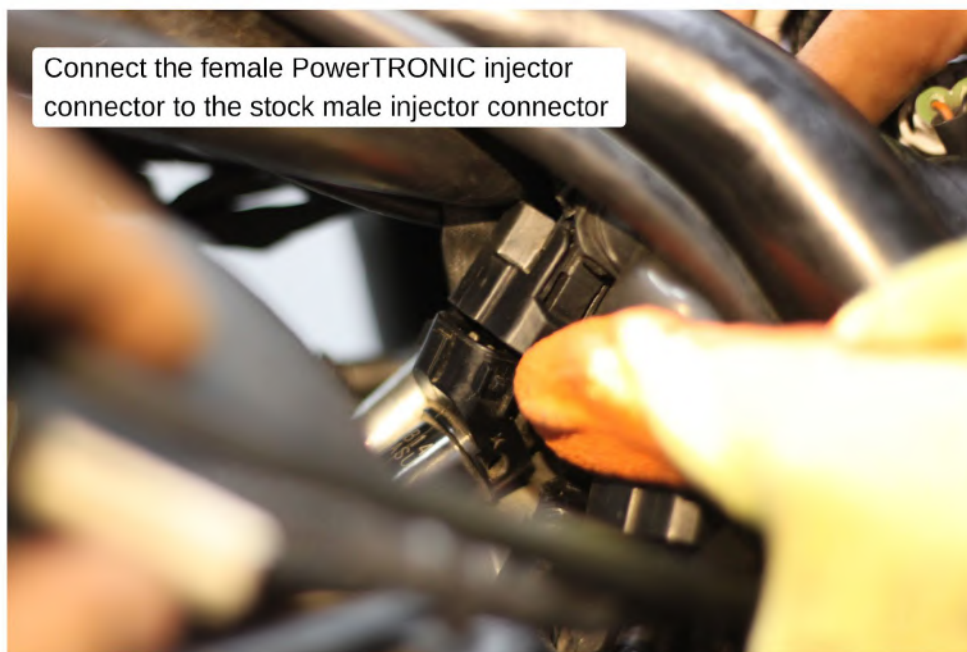


Image 24

3.3.5 Connect the stock female injector connector to the PowerTRONIC male injector connector. Refer [Image 25](#).



Connect the PowerTRONIC male injector connector to the stock female injector connector.

Image 25

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 [Images 26](#) and [27](#).



Image 26

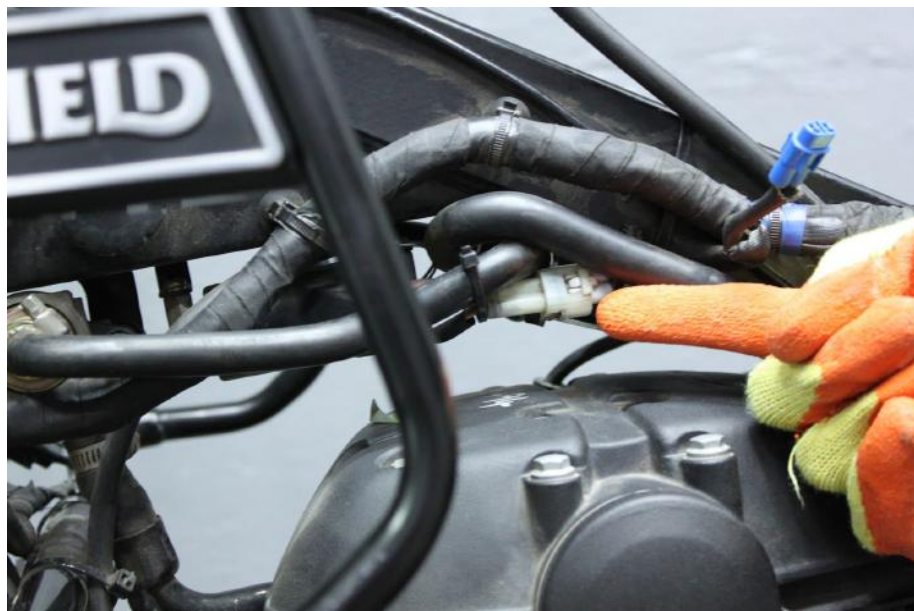


Image 27

3.4.2 Identify the Spark/Ignition coil connector in the PowerTRONIC wiring harness. The connectors are labelled 'SPK' Refer [Image 28](#).



Image 28

3.4.3 Detach the stock ignition coil connectors. Refer [Image 29](#).

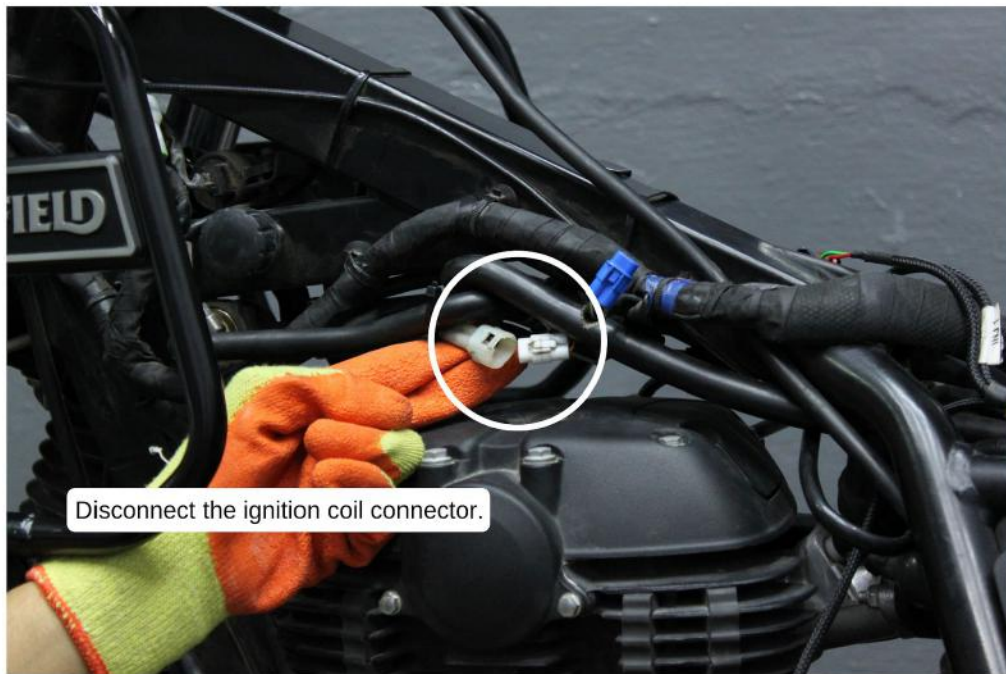


Image 29

3.4.4 Connect the PowerTRONIC Ignition coil male connector to the stock ignition coil female connector. Refer **Image 30**.

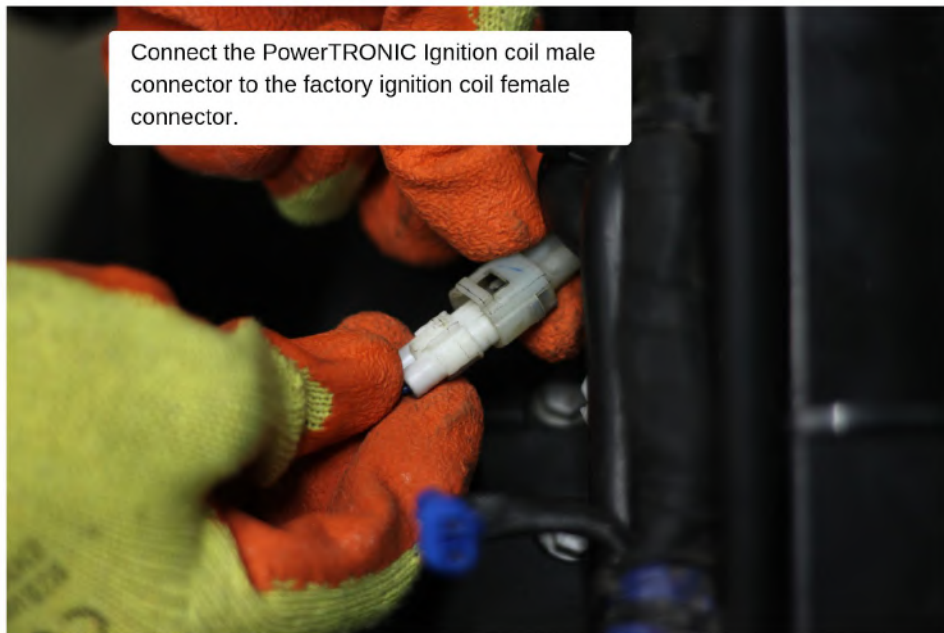


Image 30

3.4.5 Connect the PowerTRONIC Ignition coil female connector to the stock ignition coil male connector. Refer **Image 31** below.

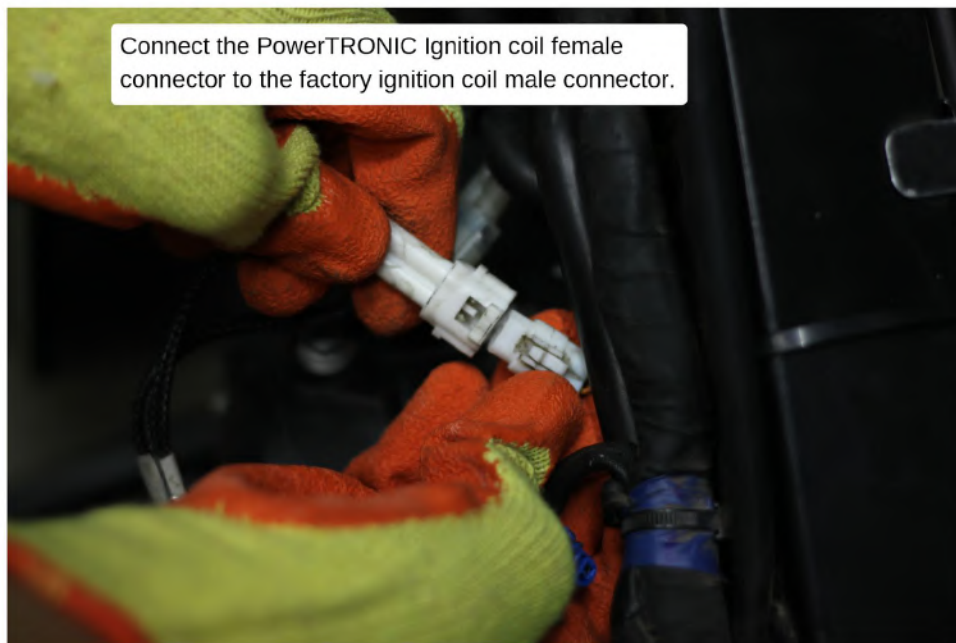


Image 31

3.4.6 Refer Image 32 for completed view.



Image 32

3.5 Throttle position sensor connector (Left side of the bike)

3.5.1 Locate the TPS connector of your bike. It is generally located on the throttle body, parallel to the throttle cable return springs. Refer [Image 33](#) and [34](#).



Image 33



Image 34

3.5.2 Identify the Throttle Position sensor connector in the PowerTRONIC wiring harness, labeled as 'TPS'.

3.5.3 Disconnect the stock TPS connector. Refer [Image 35](#)



Image 35

3.5.4 Connect the PowerTRONIC male TPS connector to stock female connector. Refer [Image 36](#).



Image 36

3.5.5 Connect the PowerTRONIC female TPS connector to the stock male connector. Refer [Image 37](#).



Image 37

3.5.6 We advise you to perform a TPS calibration after the installation of PowerTRONIC ECU.

3.6 Ground Terminal Connector (Right side of the bike)

3.7.1 Identify the Ground terminal connector labelled as GND and connect it to the negative terminal of the battery.
Refer the **Image 38** and **39**.

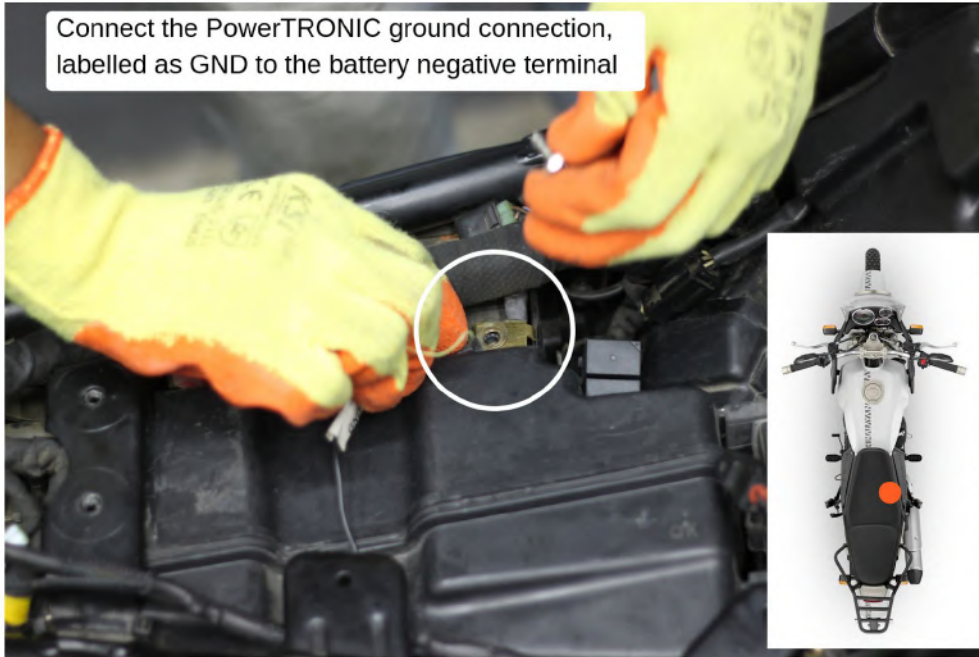


Image 38



Image 39

3.8 Changing Relays

3.8.1 Locate the stock relays [Image 40](#).



Image 40

3.8.2 Remove the stock relays from the relay kit. Refer [Image 41](#).

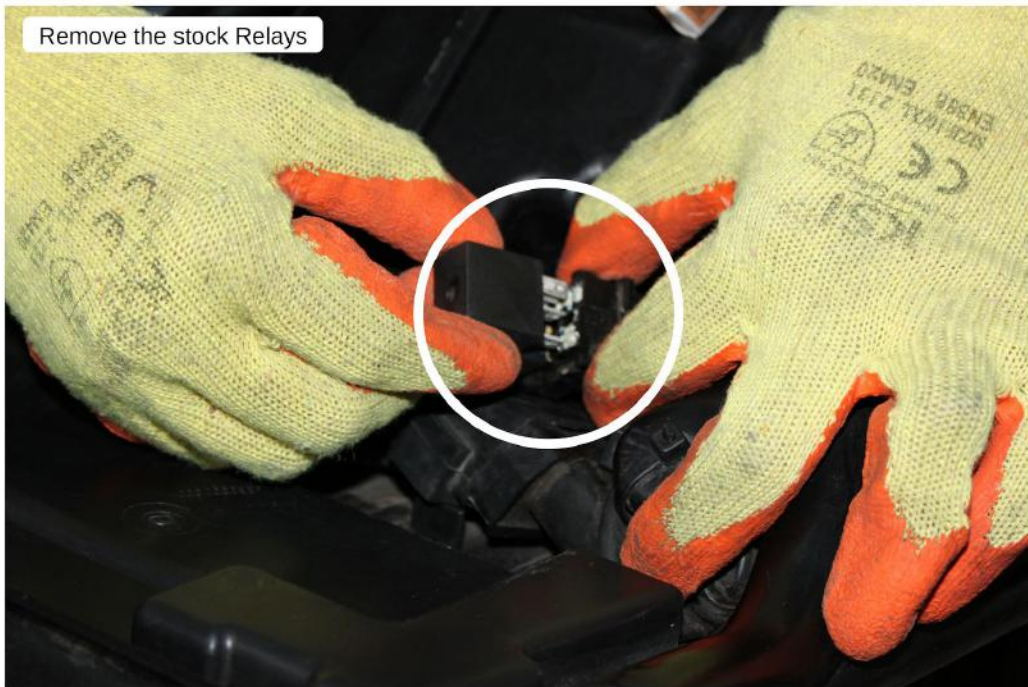


Image 41

3.8.2 Replace the stock relays with provided relays. Refer [Image 42](#).

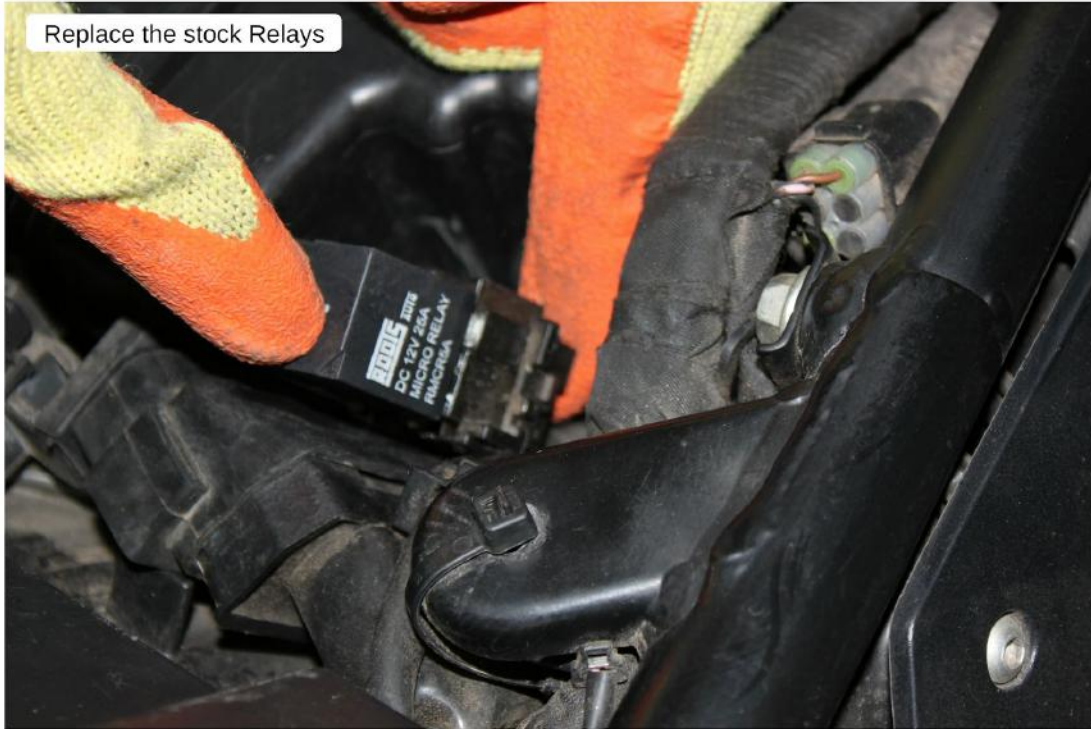


Image 42

3.9 Securing the harness using ties

3.9.1 Secure the harness away from hot moving/parts by attaching it to the chassis/frame using the zip ties provided wherever necessary. Refer the **Image 43**.



Image 43

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

3.10 Testing with the stock coupler

3.10.1 Attach the fuel tank.

3.10.2 You can verify the connections by attaching the stock coupler. Refer **Image 44** Refer to the detailed Stock coupler test document.



Image 44

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

3.11 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 32 pin connector. Secure it in the glove box. Refer [Image 45](#).

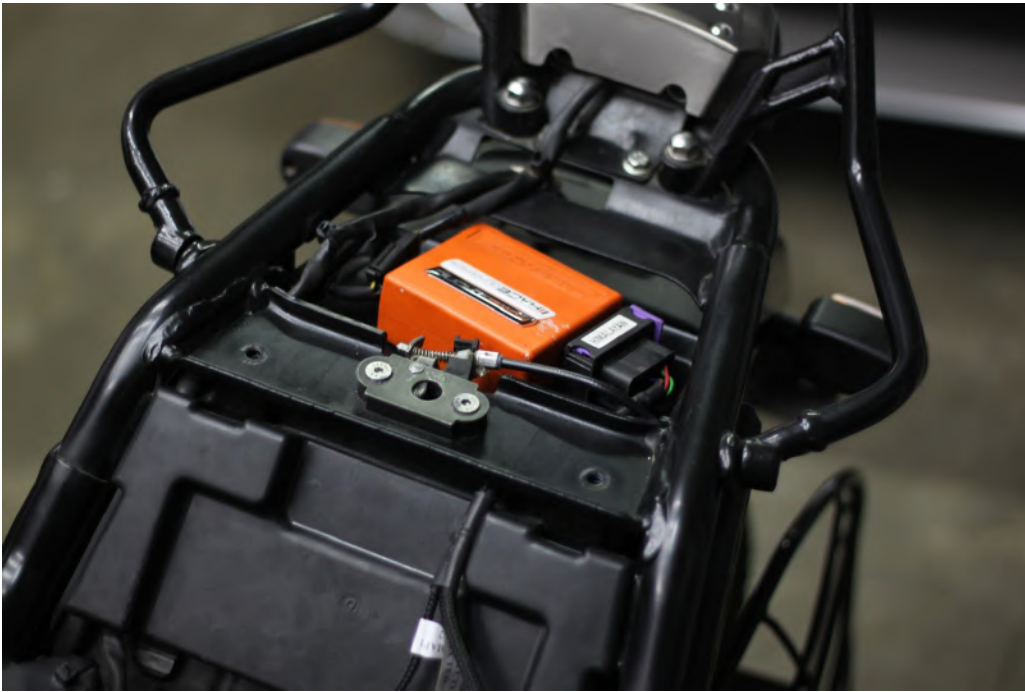


Image 45

3.12 Attaching the panels fairing etc

Attach the panels, fairing as removed from the bike.