

PowerTRONIC V4 Installation Manual Royal Enfield Super Meteor - (2023)

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Application information	Vehicle Specific
Vehicle	Royal Enfield
Model	Super Meteor
Year of manufacture	2023
PowerTRONIC application	All PowerTRONIC ECUs

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 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 <ul style="list-style-type: none"> ● Modulator Connectors
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) ● Ignition/Injector modulator Connector ● Map selection connector ● Quickshifter connector ● Ground terminal
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	M8, M10, M12 Hexagonal socket	Spinner handle
2	M10, 12 T bar Hexagonal Socket wrench	Ratchet handle
3	Wire cutter	M4, M5, M6 hex bit

4.1 Removing panels, and fairing

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



Image 1

Locate the position of the connectors

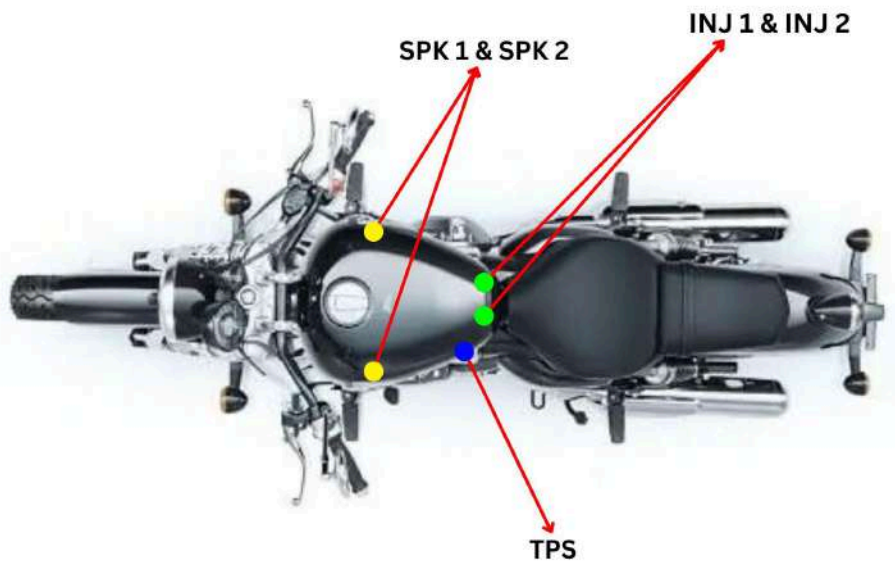


Image 2

3.1.1 Locate the Right side panel bolt. Refer to **Image 3**.



Image 3

3.1.2 Unlock the right-side panel bolt using a 4 mm Allen Key. Refer to **Image 4**.



Image 4

3.1.3 Gently detach the panel after unlocking it. Refer to [Image 5](#).



Image 5

3.1.4 Locate the key slot and unlock the right-side panel using the key. Refer to [Image 6](#).



Image 6

3.1.5 Locate the pillion seat bolts. **Image 7** shows their position.



Image 7

3.1.6 Using the 5 mm Allen unscrew the bolts. Refer to **Image 8**.

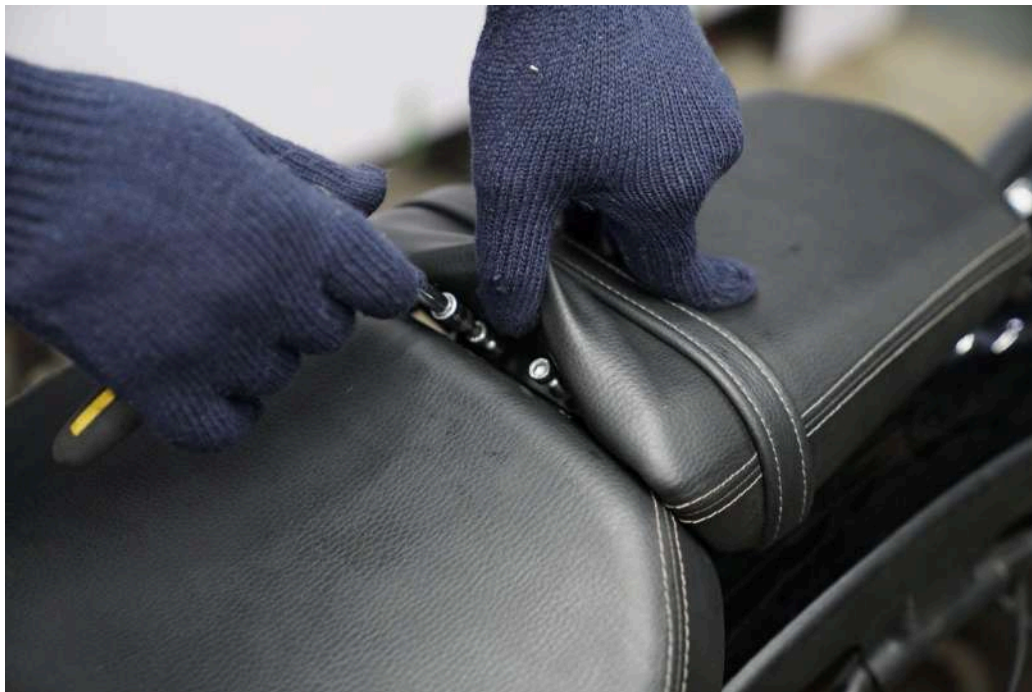


Image 8

3.1.7 Gently detach the pillion seat. Refer to **Image 9**



Image 9

3.1.8 Locate and unbolt the rider seat bolts using M10 hexagonal T socket. Refer to **Image 10**



Image 10

3.1.9 After removing the bolts, gently remove the bracket. Refer to **Image 11**



Image 11

3.1.10 After removing the bracket, gently lift the seat. Refer to **Image 12**.



Image 12

3.1.11 Using the 10 mm Hex socket and T handle unscrew the Tank bolts. Refer to **Image 13**.



Image 13

3.1.12 Using a 4 mm hex bit, unscrew the left side TPS metal cover. Refer to **Image 14**



Image 14

3.1.13 Gently remove the panel. Refer to **Image 15**.



Image 15

3.1.14 Disconnect the fuel pump connector carefully. Refer to **Image 16**.



Image 16

3.1.15 Gently lift the rear end of the tank and disconnect the vacuum hoses from the tank. Refer to **Image 17**



Image 17

3.1.16 Locate and carefully disconnect the fuel pump connector. Refer to **Image 18**.



Image 18

3.1.17 Gently lift the tank from the tank seating after disconnecting the connections. Place it securely Refer to **Image 19**



Image 19

3.2 Routing the harness

3.2.1 Route the rest of each connector under the welded plates on the bike's frame as shown in Images 20.



Image 20

3.2.2 Once all the connectors are through, route the ignition coil connectors to the front end of the bike. Route the Fuel Injector connectors and TPS connectors to the top of the engine with the TPS going to the left side of the engine. Refer to Images 21.



Image 21

3.3 Fuel Injector Connector (both sides of the bike)

3.3.1 Locate the stock injector connector of your bike. Refer to **Image 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 to the zoomed view ([Image 23](#)).



Image 23

3.3.4 Connect the female PowerTRONIC injector connector to the stock male injector connector. Refer to [Image 24](#).



Image 24

3.3.5 Connect the stock female injector connector to the PowerTRONIC male injector connector. Refer to **Image 25**.



Image 25

3.3.6 Repeat the steps on the right side of the bike.

3.4 Ignition Coil Connector (Both sides of the bike)

3.4.1 Locate the stock Spark/Ignition coil connector on the ignition coil, located right above the engine. Refer to **Image 26** and **Image 27**.



Image 26



Image 27

3.4.2 Identify the Spark/Ignition coil connector in the PowerTRONIC wiring harness. The connectors are labeled 'SPK'.

3.4.3 Detach the stock ignition coil connectors. Refer to [Image 28](#).



Image 28

3.4.4 Connect the PowerTRONIC Ignition coil male connector to the stock ignition coil female connector. Refer to [Image 29](#).



Image 29

3.4.5 Connect the PowerTRONIC Ignition coil female connector to the stock ignition coil male connector. Refer to [Image 30](#).



Image 30

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 to **Image 31** and **Image 32**.



Image 31



Image 32

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 to **Image 33**



Image 33

3.5.4 Connect the PowerTRONIC male TPS connector to stock female connector. Refer to **Image 34**.



Image 34

3.5.5 Connect the PowerTRONIC female TPS connector to the stock male connector. Refer to **Image 35**.



Image 35

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

3.6 Ground Terminal Connector (Right side of the bike)

3.6.1 Locate battery negative terminal. Refer to [Image 36](#).

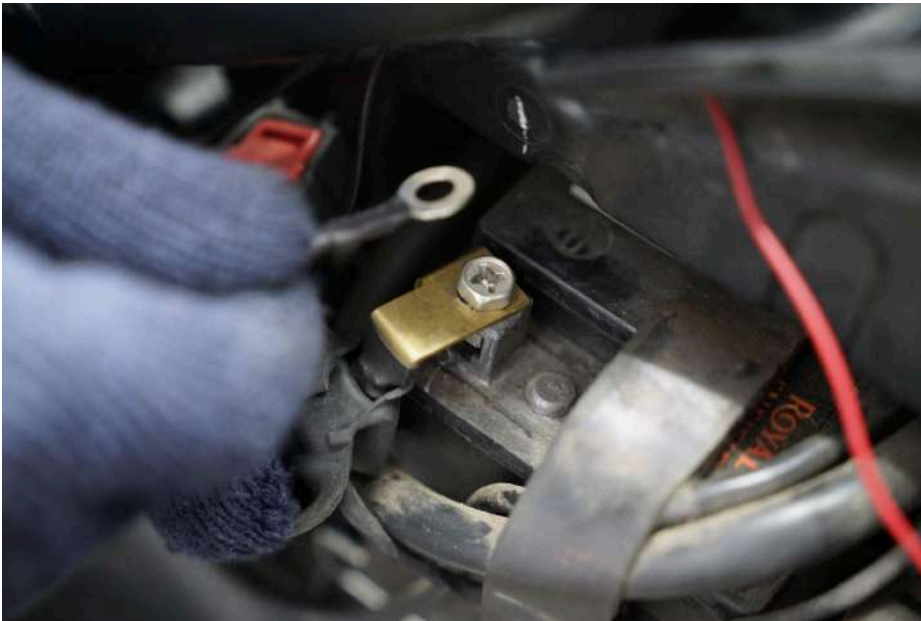


Image 36

3.6.2 Connect the PowerTRONIC ground terminal connector to the battery negative terminal. Refer to [Image 37](#)

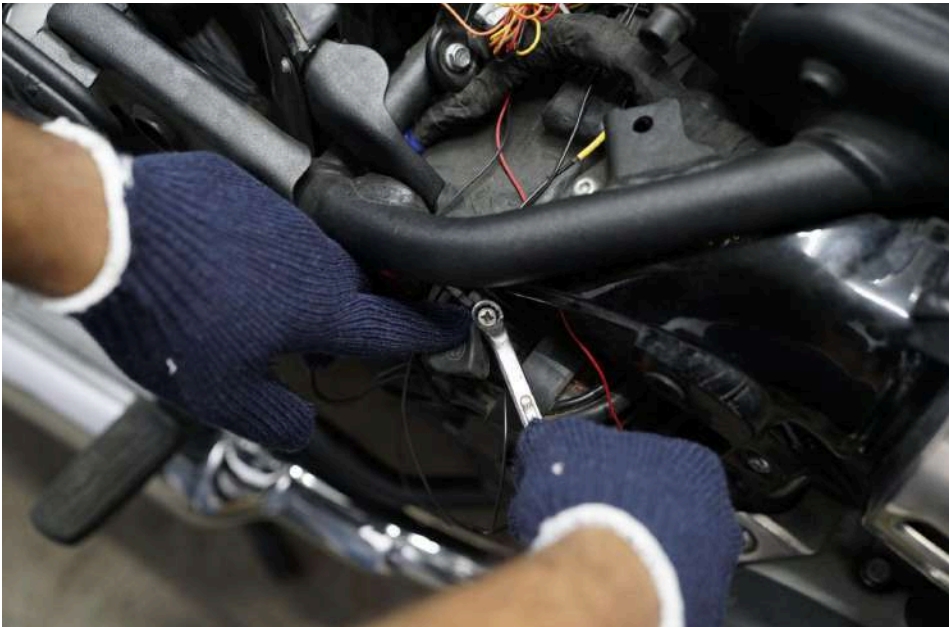


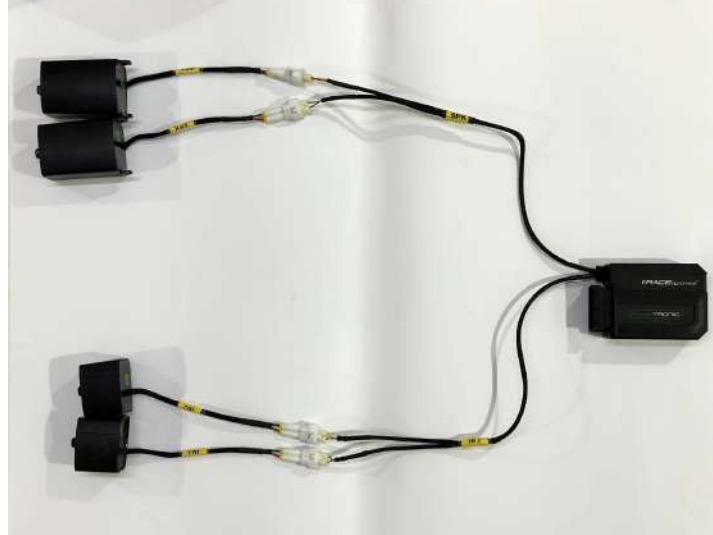
Image 37

3.7 Ignition and Injector modulator connectors

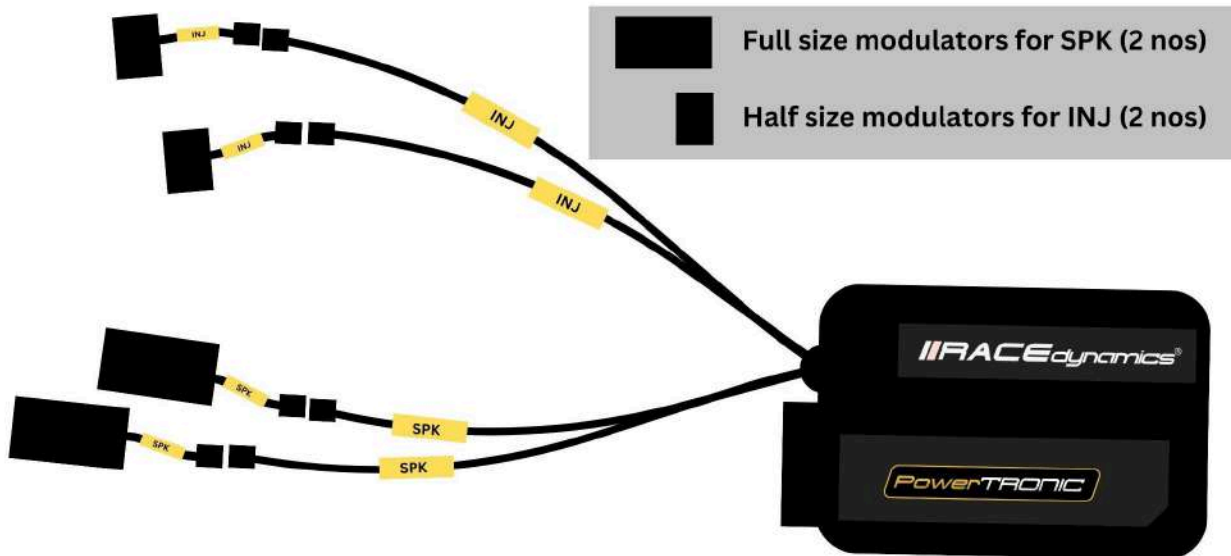
There are ignition and injector modulators for the PowerTRONIC ECU. They are denoted by SPK and INJ respectively. The ignition modulators are bigger (Full size) and the Injector modulators are smaller (half size).

Refer to the configuration images (38 A, 38 B, and 39 A, 39 B) of the modulators in the following image before proceeding.

For international models, the configuration is as follows for the Euro 4 spec vehicles.

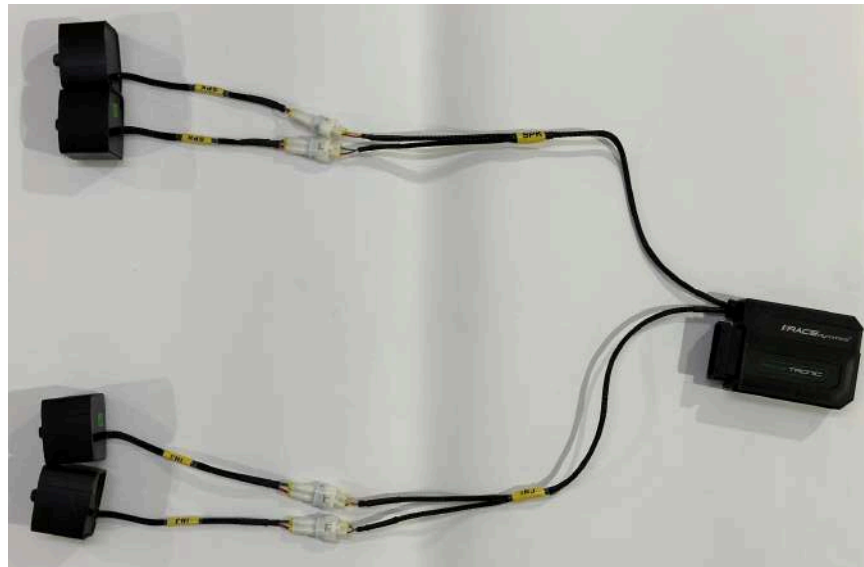


38 A

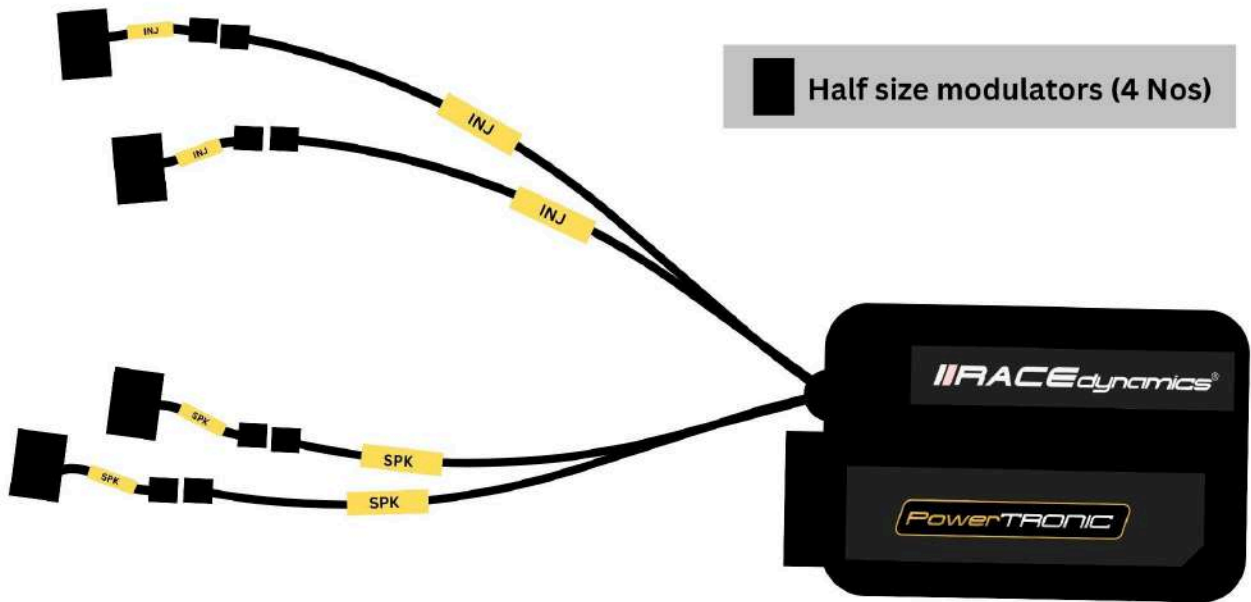


38 B

For international models, the configuration is as follows for the Euro 5 spec vehicles.



39 A



39 B

3.7.1 Place the Ignition and injector modulators (arrange the connector wire placing outward) above the space between the air box and side panel cover and pull the connector wire out to the top of the bike. Refer to **Image 40**



Image 40

3.7.2 Route the connector wire of the Ignition and Injector modulators to the left side of the bike. Refer to **Image 41**

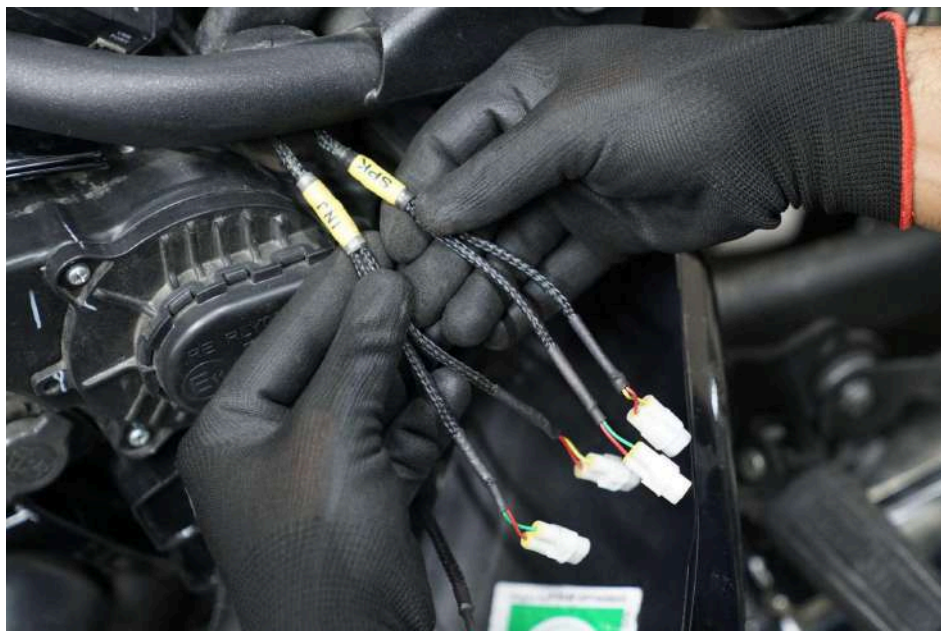


Image 41

3.7.3 Connect the male connector of the Ignition modulator connector to the female terminals of the PowerTRONIC connector. SPK modulators go to the SPK branch of the ECU and INJ modulators go to the INJ branch of the ECU Refer to **Image 42** and **Image 43**



Image 42



Image 43

3.8 Securing the harness using ties

3.8.1 Secure the harness away from hot moving/parts by attaching it to the chassis/frame using the zip ties provided wherever necessary. Refer to the **Image 44**.

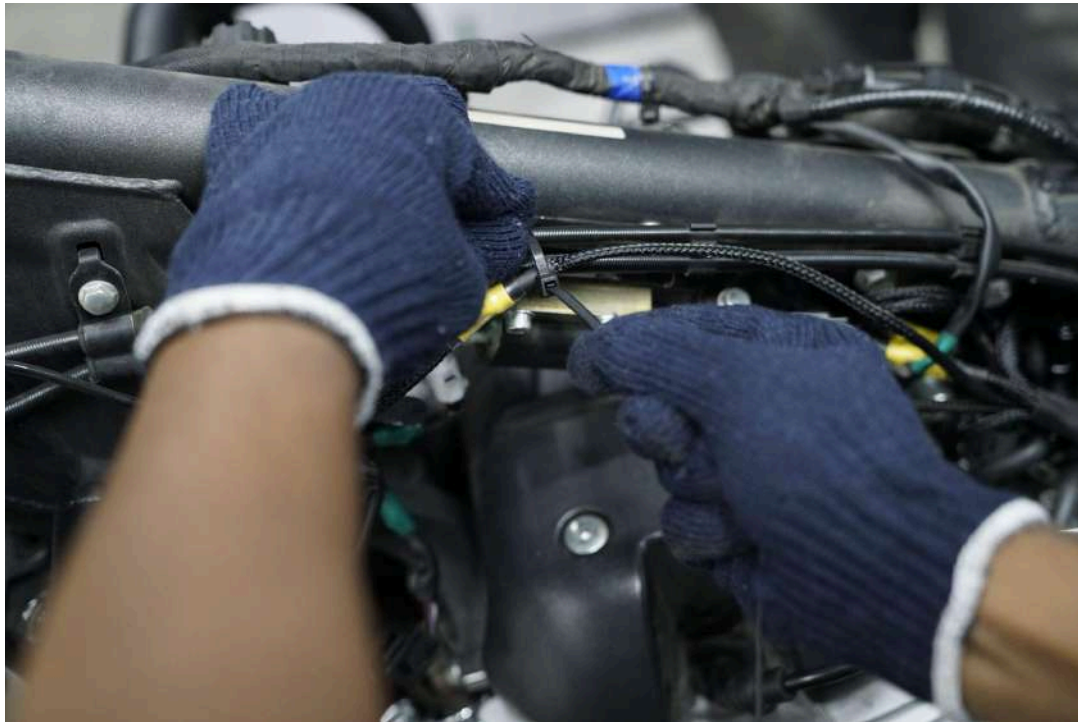


Image 44

Important note: The PowerTRONIC harness contains 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.

3.9 Testing with the stock coupler

3.9.1 Attach the fuel tank.

3.9.2 You can verify the connections by attaching the stock coupler. Refer to the detailed Stock coupler test document. Refer to [Image 45](#)



Image 45

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

3.10 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 46](#).



Image 46

3.11 Attaching the panels fairing etc

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