PowerTRONIC Installation Manual- Honda CBR 250 R(2011-2017)

Document Version	1	Release Date	05 June 2019

Application information	Vehicle Specific
Vehicle	**Honda**
Model	**CBR 250 R**
Year of manufacture	**2011-2017**
PowerTRONIC application	All PowerTRONIC ECUs, from firmware version F.3.x onward

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.

Call/Whatsapp:	+919916229292 / +918040929292
E-Mail:	support@powertronicECU.com
Official Website:	www.powertronicECU.com
Social:	www.facebook.com/PowertronicECU/ www.instagram.com/powertronic_ecu/

Table of Contents

1. Parts list

1	PowerTRONIC	Piggyback ECU
2	Stock Coupler	Stand by unit ● Can be connected in place of the PowerTRONIC to run the bike in stock mode if need be. ● Used for the verification of the connectors involved.
3	Harness	Bike specific harness contains the following connectors ● Fuel injector connectors ● Spark connectors ● Throttle position sensor connector (TPS) ● Crankshaft position (CKP) sensor connector ● Map selection connector ● Quick shifter 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	Item with description
1	M5 Hexagonal bit
2	M12, M10, M8 Hexagonal Socket
3	Phillips-Head screwdriver
4	Wire cutter

3. Installation procedure

3.1 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

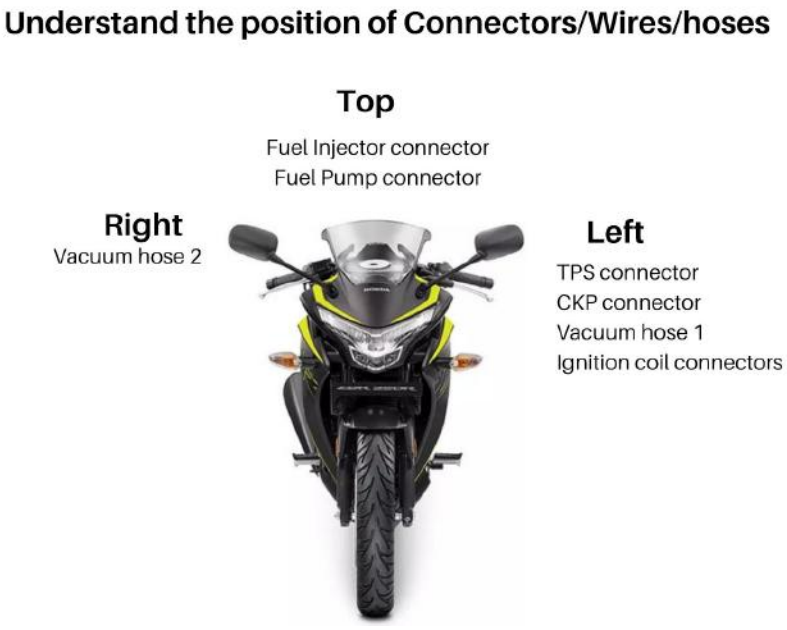

Image 2

3.1.1 Locate the pillion rider seat lock. Refer **Image 3**.

Image 3

3.1.2 Unlock the pillion seat. Refer **Image 4**.

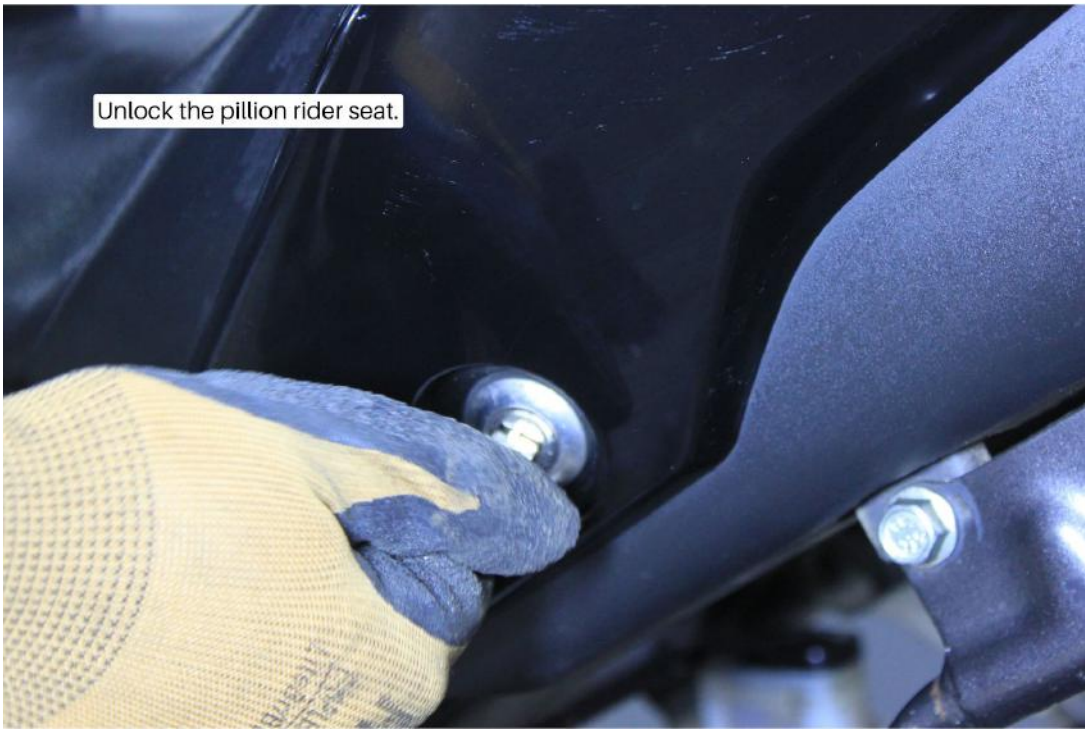

Image 4

3.1.3 Gently detach the pillion rider seat. Refer **Image 5**.

Image 5

3.1.4 Locate the rider seat lock bolts. Unscrew them using M5 Hex bit. Refer **Image 6** and **Image 7**.

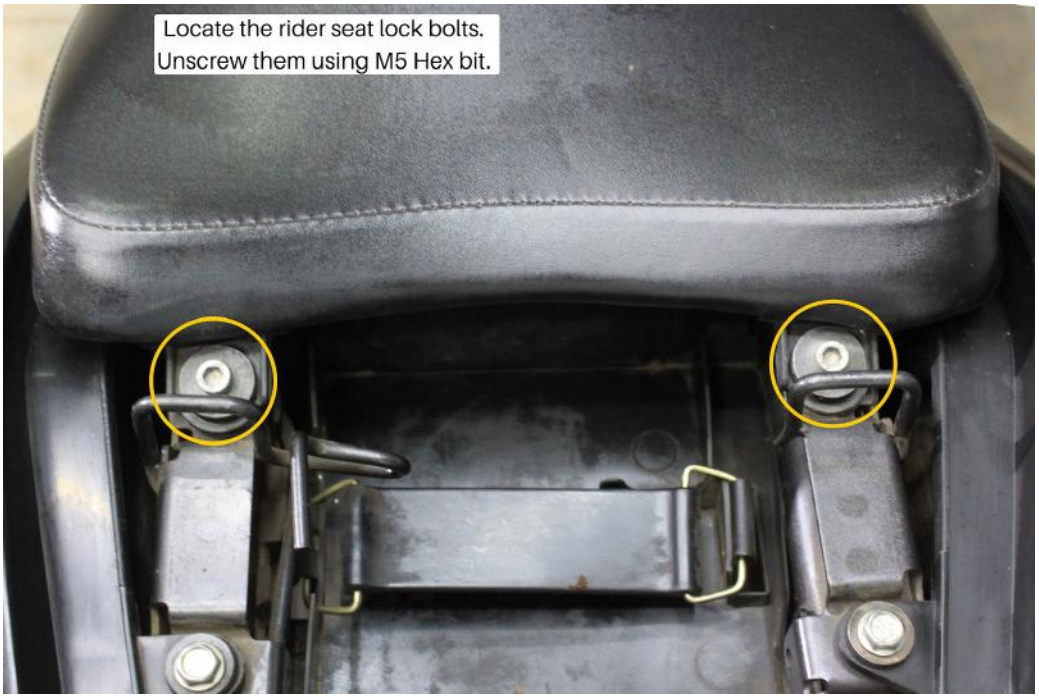

Image 6

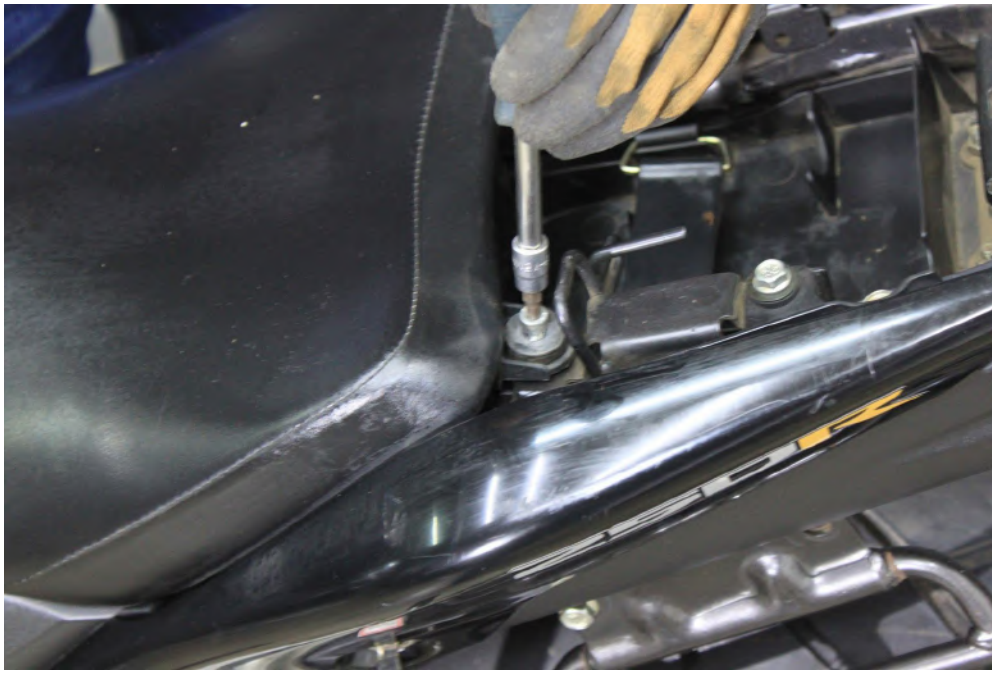

Image 7

3.1.5 Detach the rider seat. Refer **Image 8**.

Image 8

3.1.6 Locate and unscrew the side panel bolts using M5 Hex bit. Repeat the process on the other side also. Refer **Image 9**.

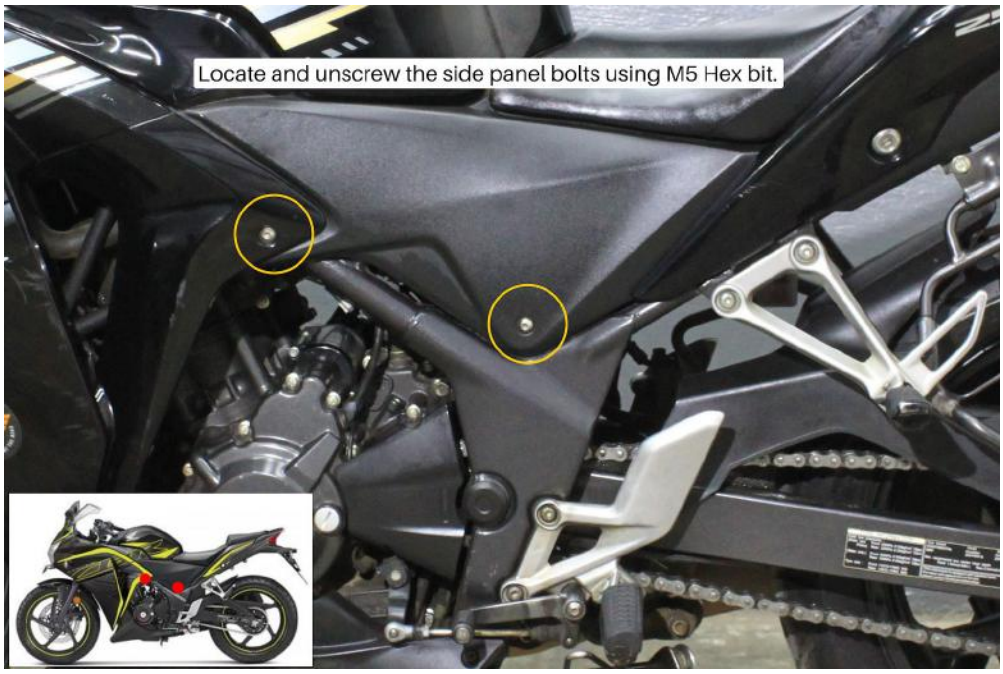

Image 9

3.1.7 Locate and unscrew the front panel bolts using M5 Hex bit. Refer **Image 10**

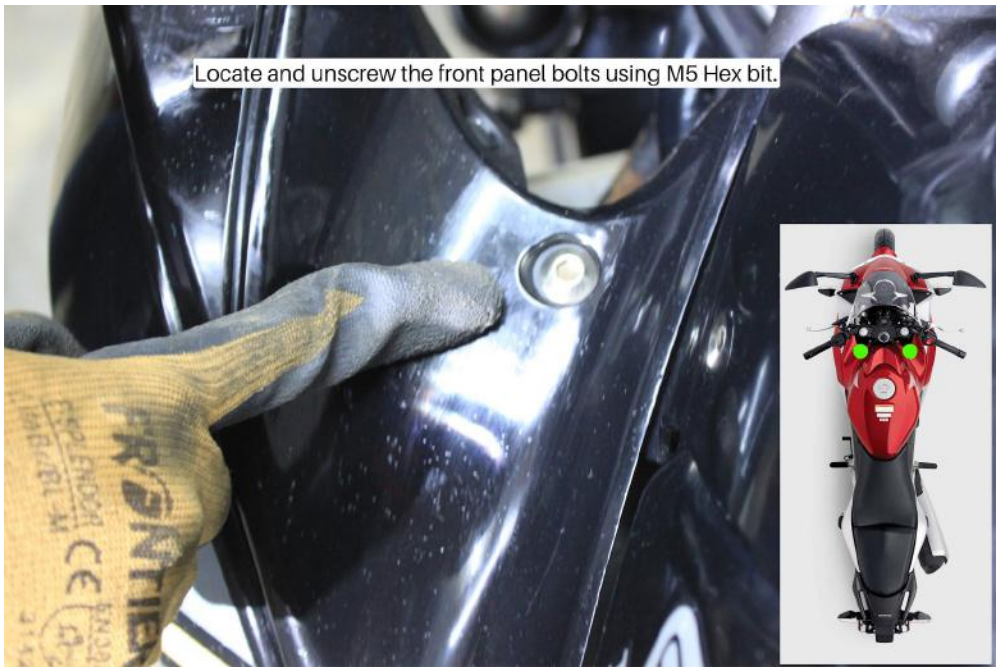

Image 10

3.1.8 Locate and unscrew the front panel bolts using M5 Hex bit. Refer **Image 11**.

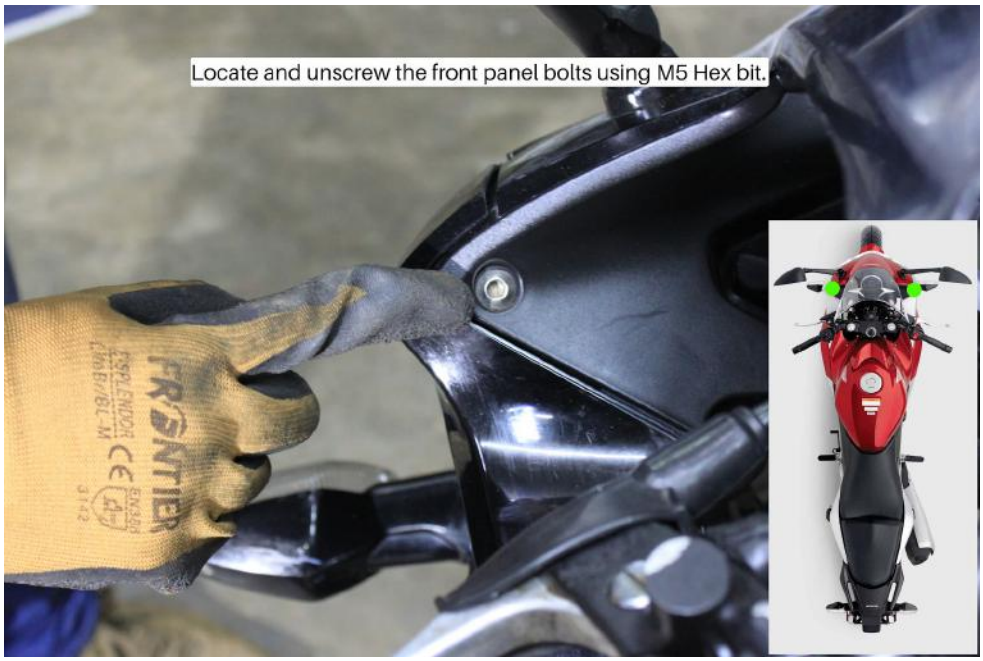

Image 11

3.1.9 Gently detach the tank front cover from the locking slots. Refer **Image 12** and **Image 13**

Image 12

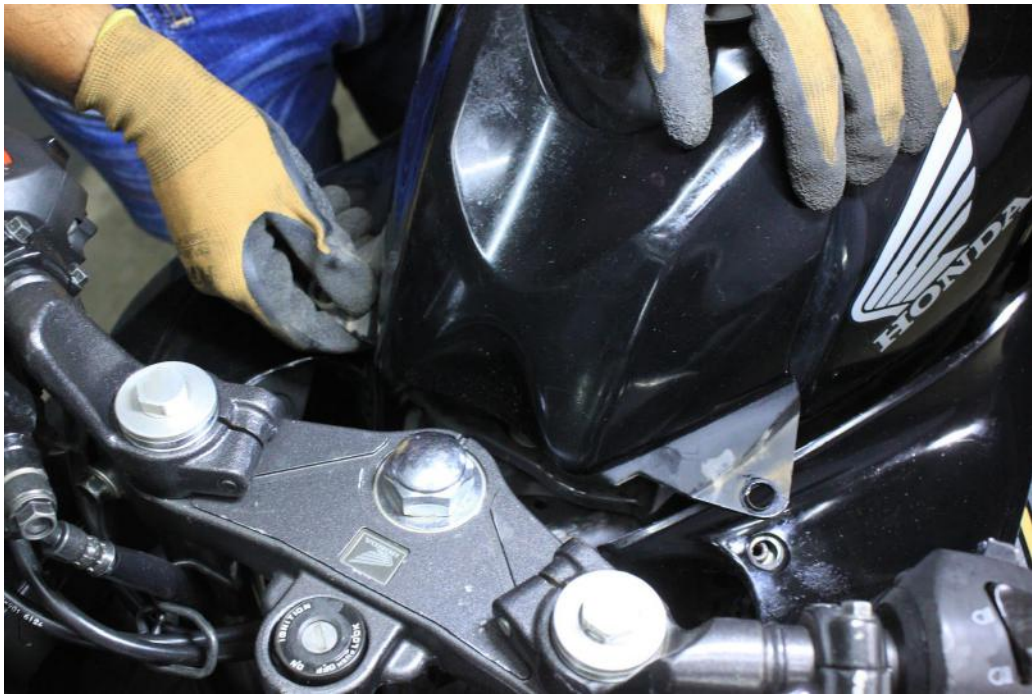

Image 13

3.1.10 Locate and detach the fairing nut inside the panels using M5 hex bit. Repeat the process on the other side also. Refer **Image 14**

Image 14

3.1.11 Unscrew the screws in the front panel using a Phillips -head screwdriver. Refer **Image 15**

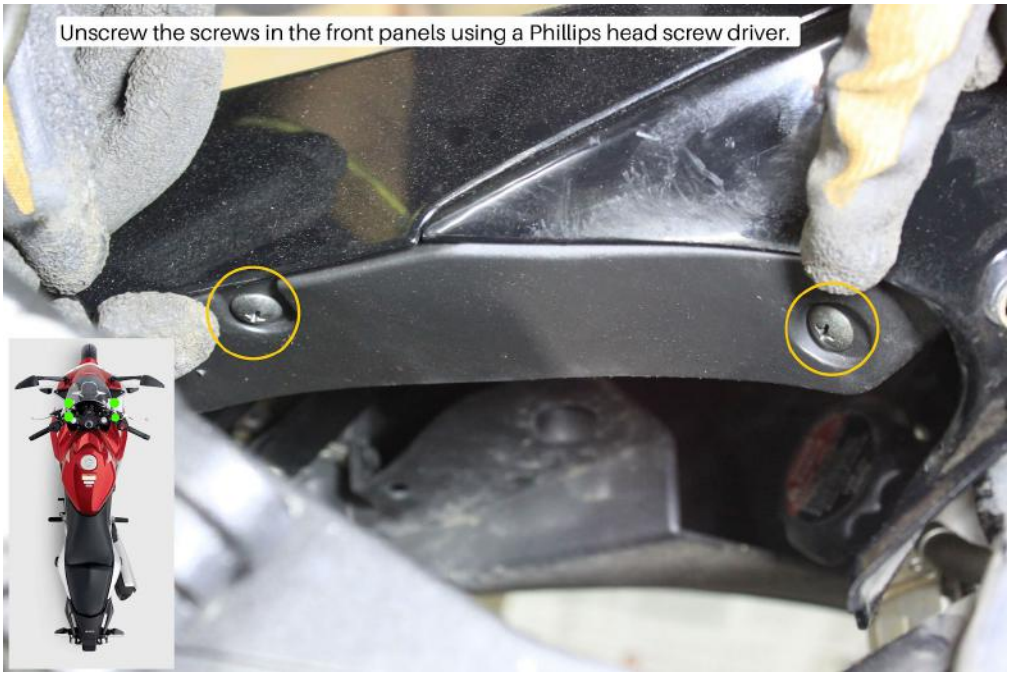

Image 15

3.1.12 After removing the screws, carefully detach the panels gently. Refer **Image 16**

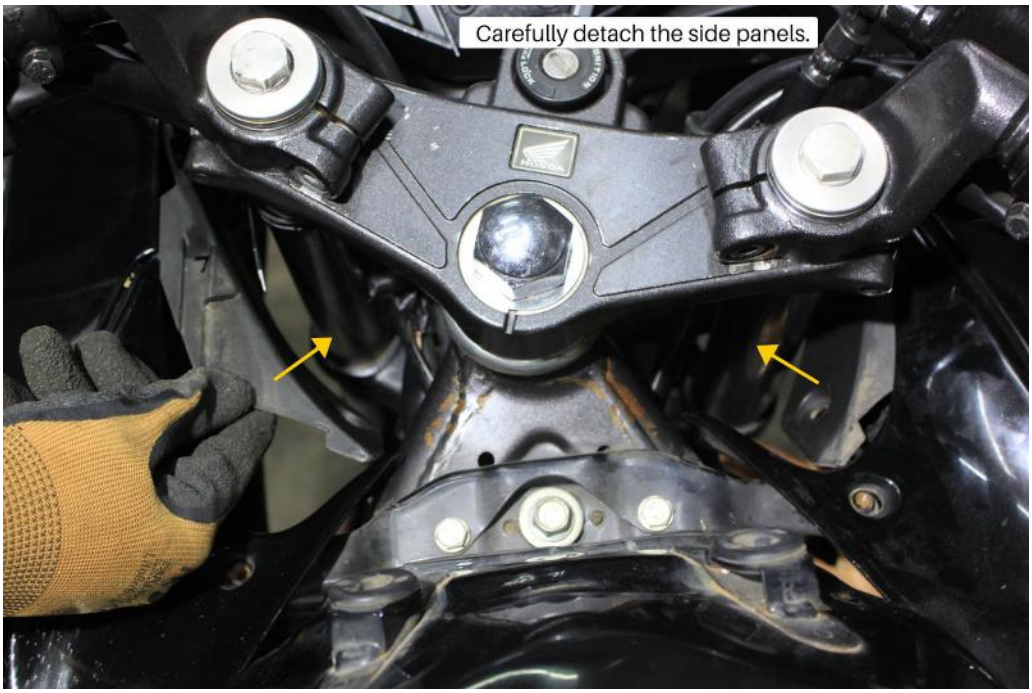

Image 16

3.1.13 Unscrew the bolt and screw at the front end using a Phillips head screwdriver and M5 Hexagonal bit. Refer **Image 17**

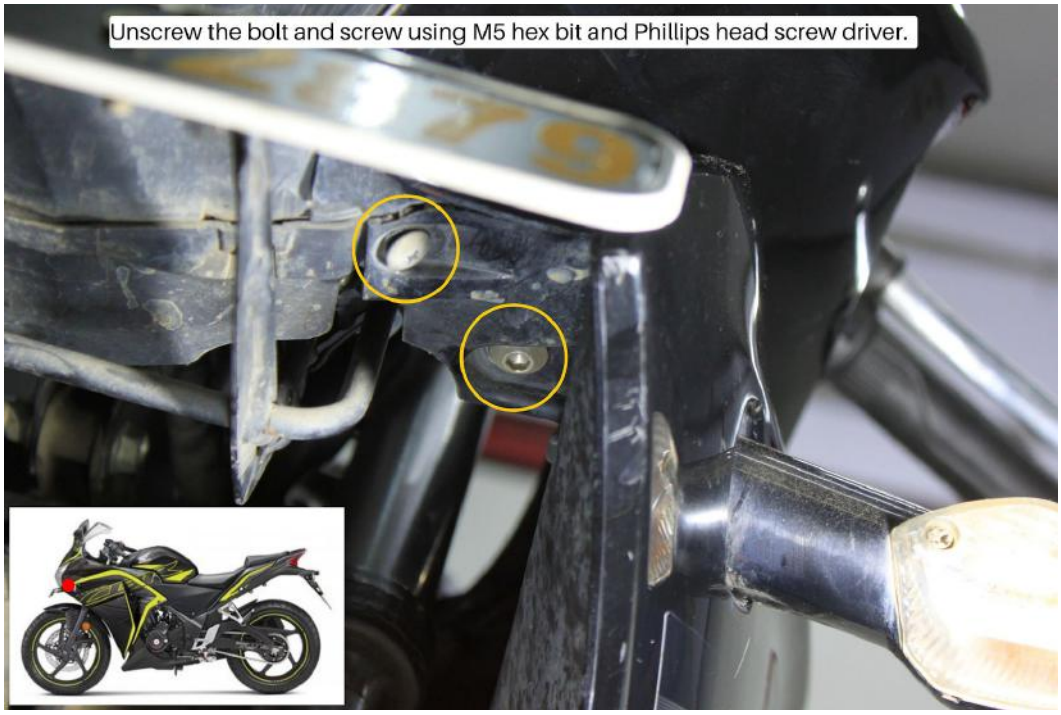

Image 17

3.1.14 Carefully detach the front end of the panel. Before detaching unlock the white plastic locks gently. Refer **Image 18**

Image 18

3.1.15 Gently detach the plastic white lock from the side panel. Note the position of the locks. Refer **Image 19** and **Image 20**

Image 19

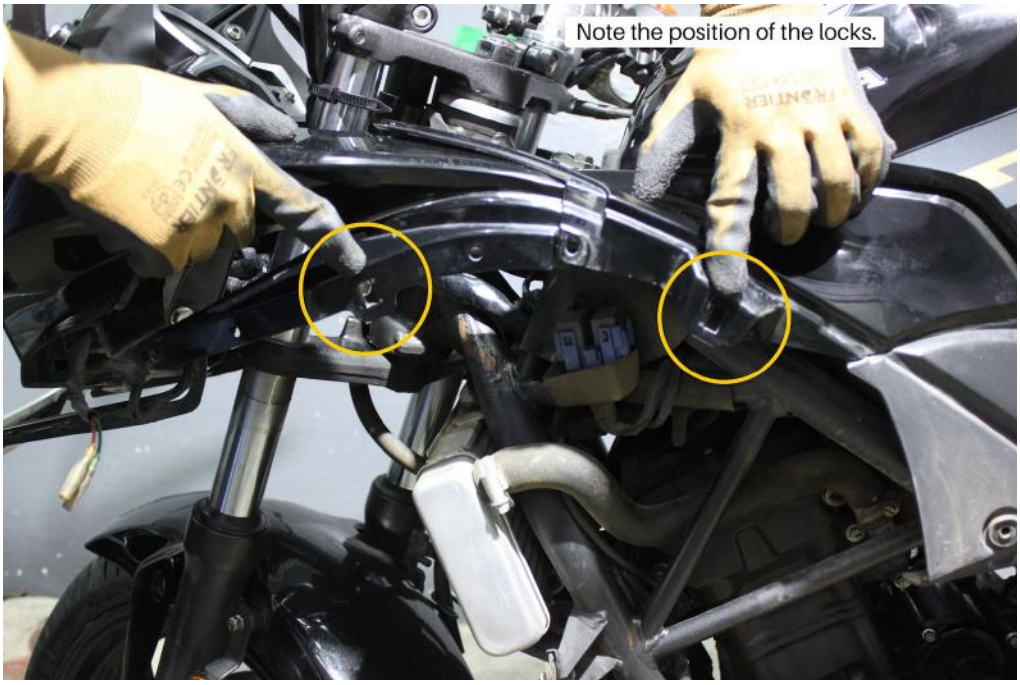

Image 20

3.1.16 Disconnect the side indicator light wire connections. Refer **Images 21**

Image 21

3.1.17 After disconnecting all the locks and pins, gently detach the side panel. Refer **Images 22.**

Image 22

3.1.18 Unscrew the side panel bolts using M10 Hexagonal socket. Detach the panels carefully. Refer **Image 23**.

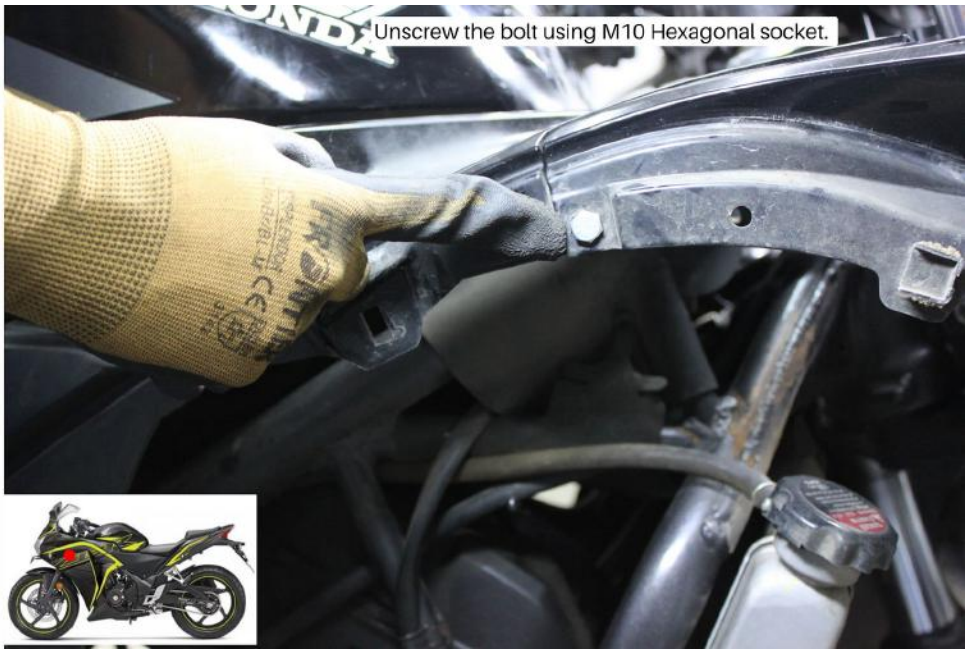

Image 23

3.1.19 Unscrew the bolts at the tank front end using M10 Hexagonal socket. Refer **Image 24**

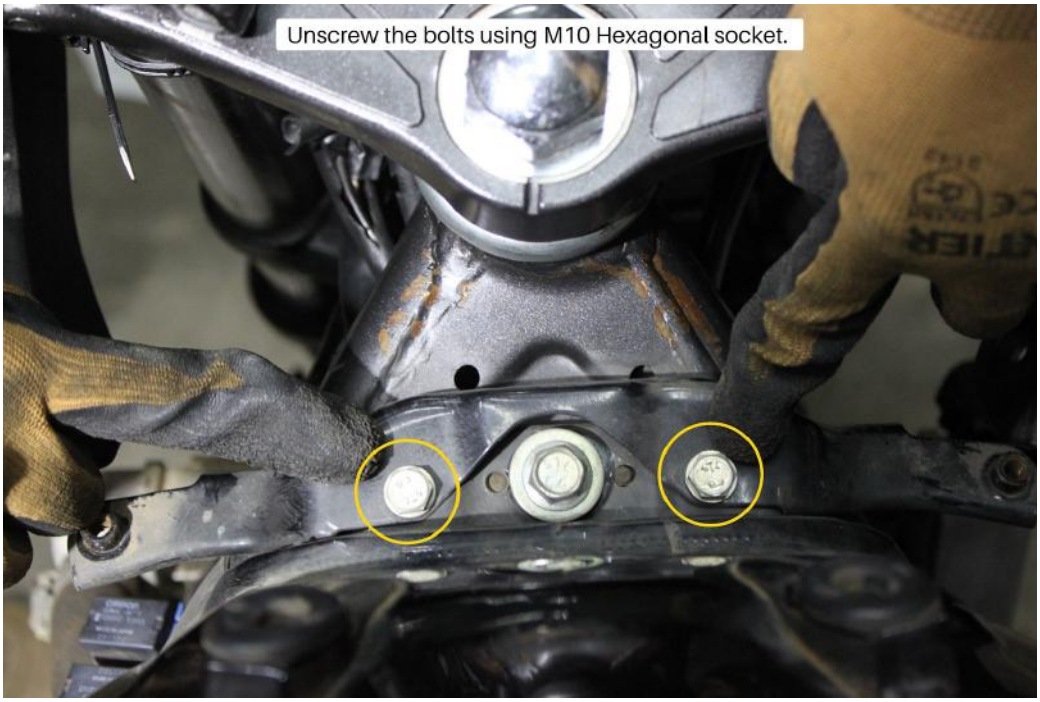

Image 24

3.1.20 Gently lift the metal plate and place it safe. Refer **Image 25**

Image 25

3.1.21 Unscrew the tank mounting bolts using M12 Hexagonal socket. Refer **Image 26**

Image 26

3.1.22 Unscrew the tank rear end bolts using M10 Hexagonal socket. Refer **Image 27**

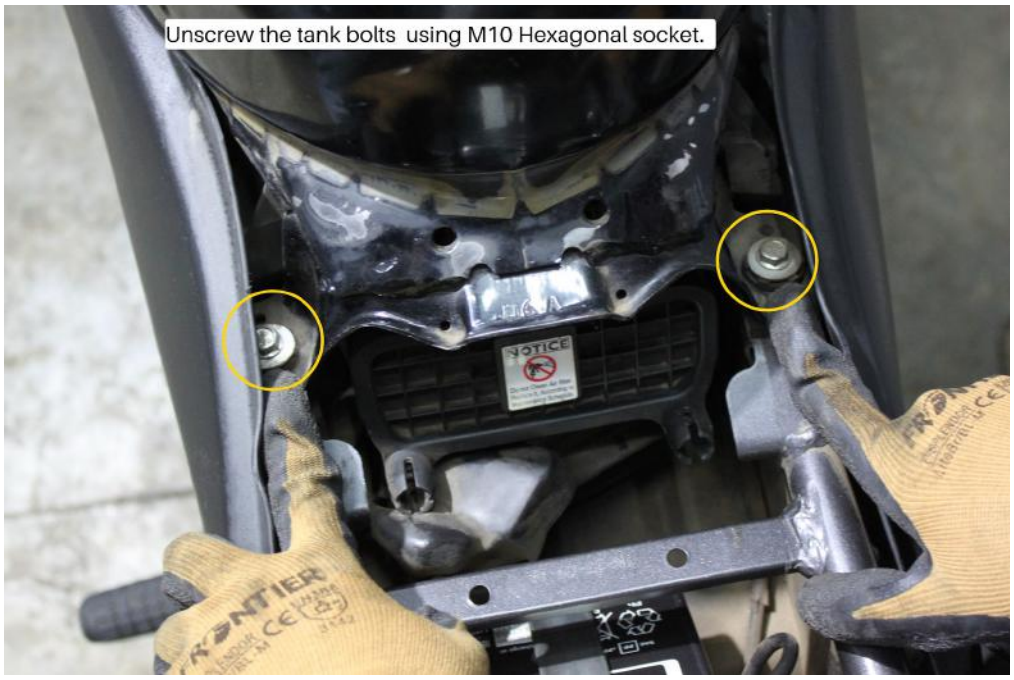

Image 27

3.1.23 Gently lift the fuel tank and disconnect the fuel pump connector. Refer **Image 28**

Image 28

3.1.24 Disconnect the vacuum hoses from both sides. Refer **Image 29-A and Image 29-B**

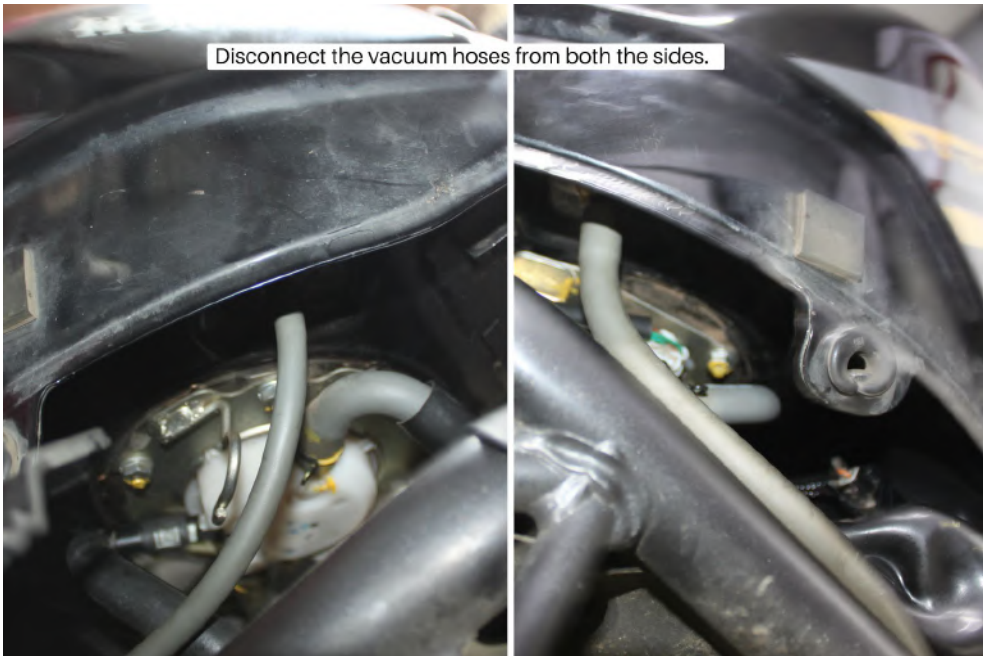

Image 29-A/29-B

3.1.25 Disconnect the fuel line. Disconnect all other connections from fuel tank. Refer **Image 30**

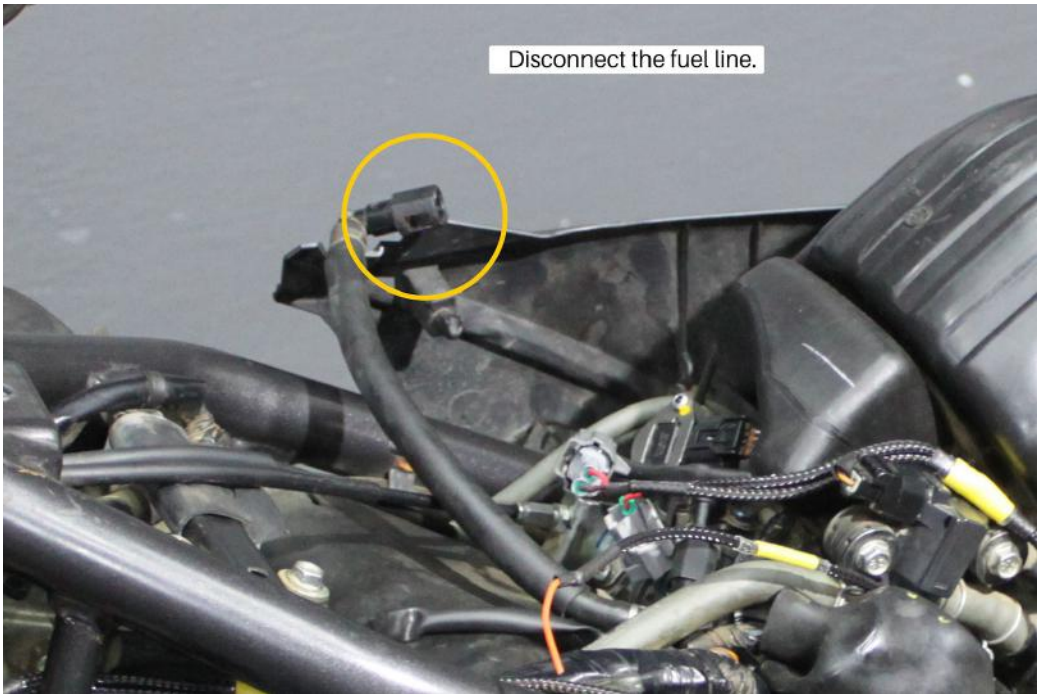

Image 30

3.1.26 Unscrew the left side panel using M10 Hexagonal socket. **Image 31**

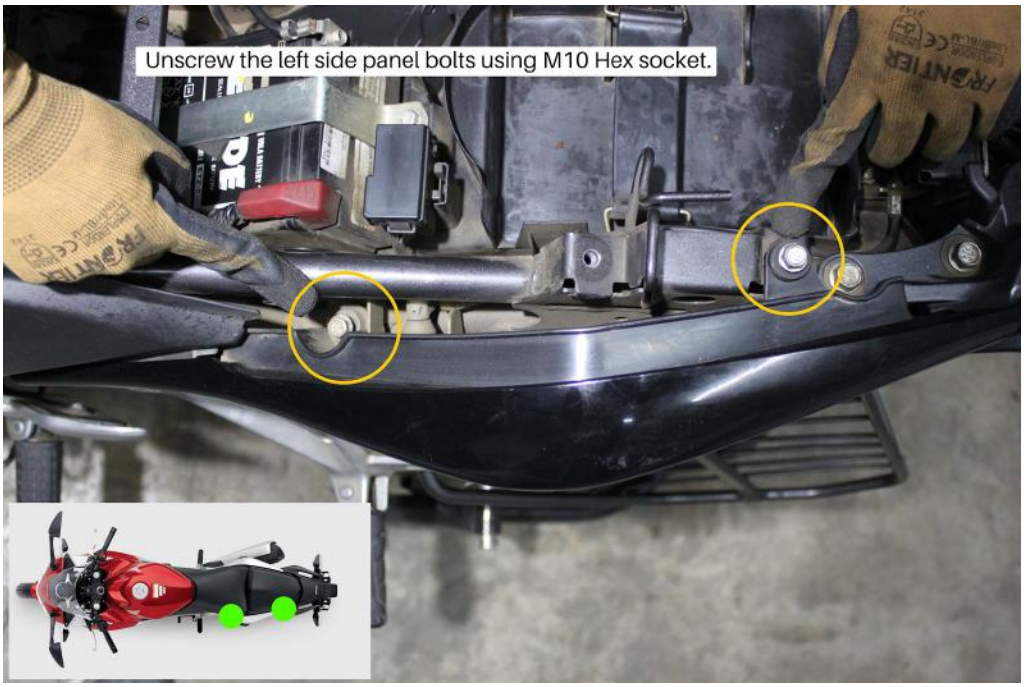

Image 31

3.2 Routing the harness

3.2.1 Note the routing procedure of the harness. Refer **Image 32**.

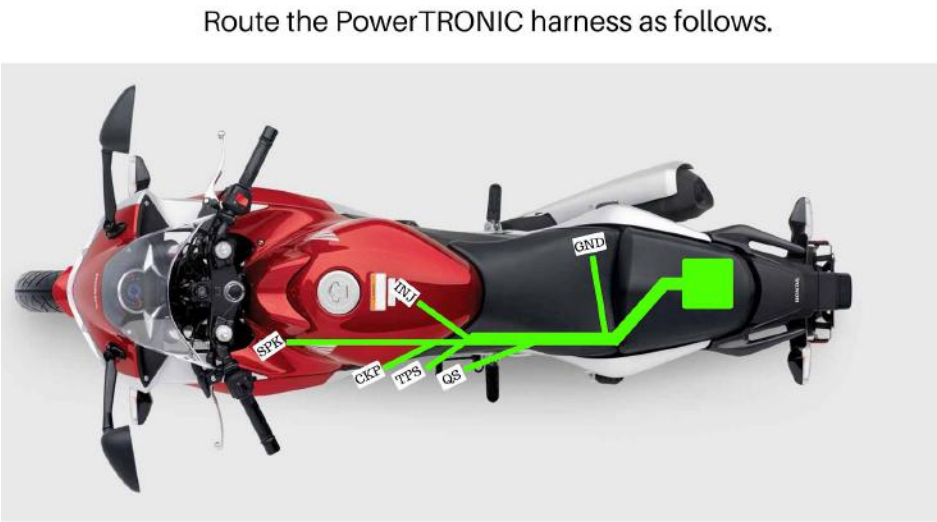

Image 32

3.2.2 Start from the rear end. Route all the connectors to the front end under the metal part. Keep the 24 pin connector in the glove compartment. Refer **Image 33.**

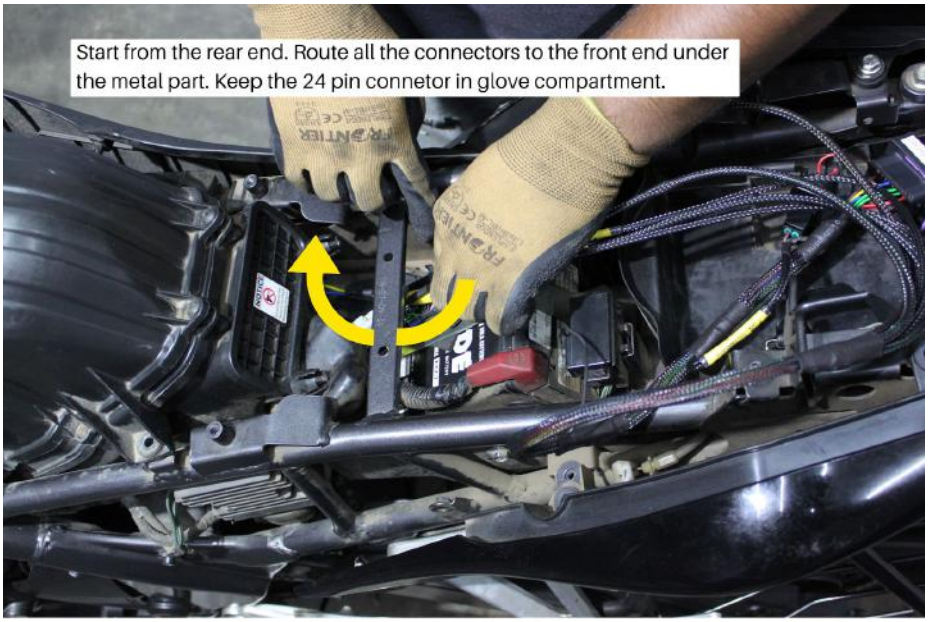

Image 33

3.2.3 Unscrew the air box mounting bolts on the left side using M10 Hexagonal socket. Unscrew all the mounting bolts if needed. Do not remove the box head. Refer **Image 34**

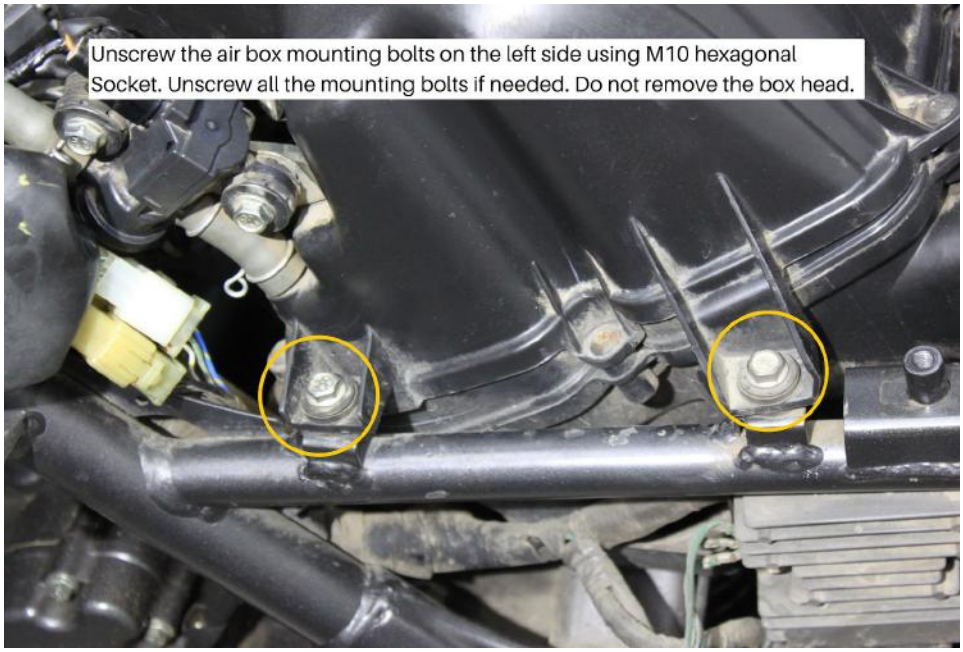

Image 34

3.2.4 Gently lift the left side of the air box a little. Route the connector wires inside the mounting bolts. Refer **Image 35.**

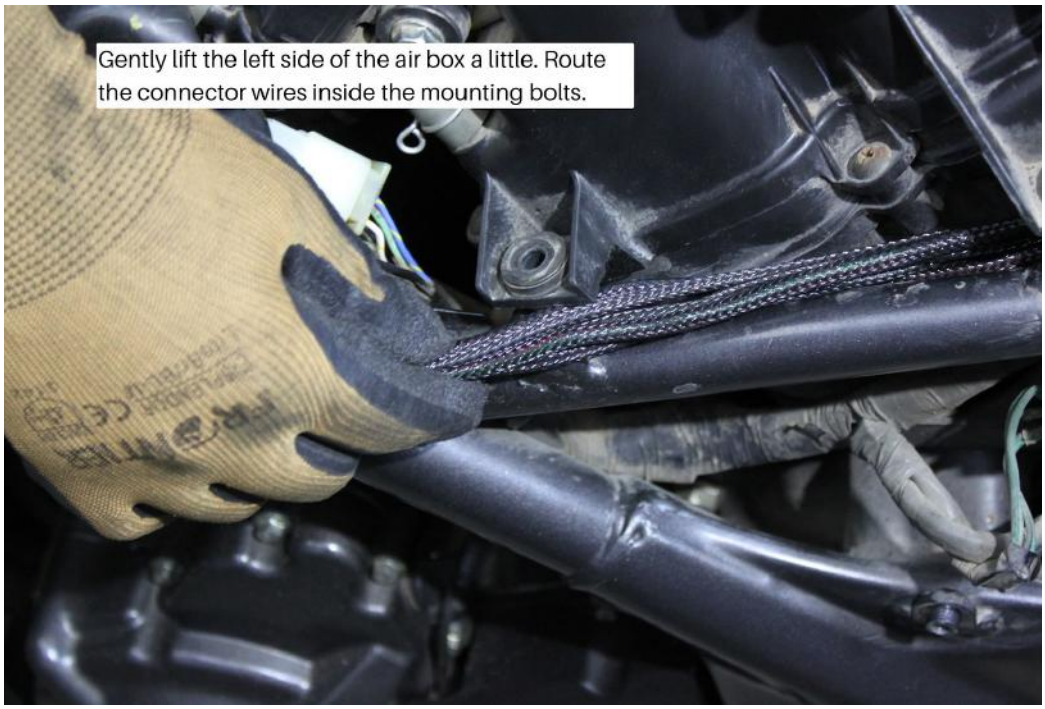

Image 35

3.2.5 Route every connector to its respective location. Refer **Image 36.**

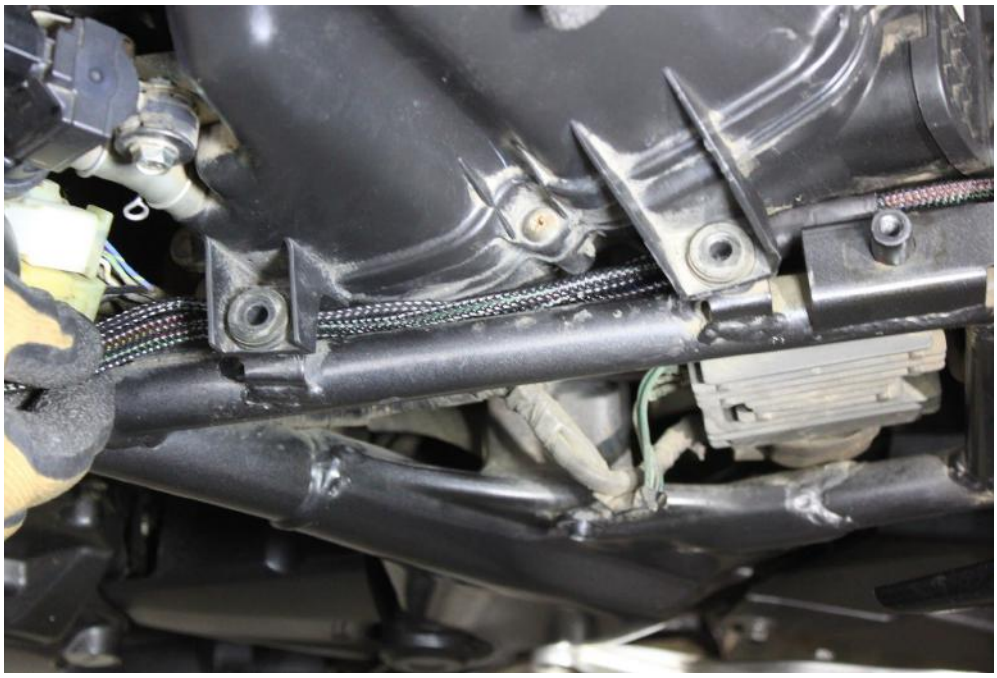

Image 36

3.2.6 Route the injector connector to fuel injector. Also, route the ignition coil connectors to the ignition coils. Pull the connectors for TPS and CKP for tapping. Refer **Image 37.**

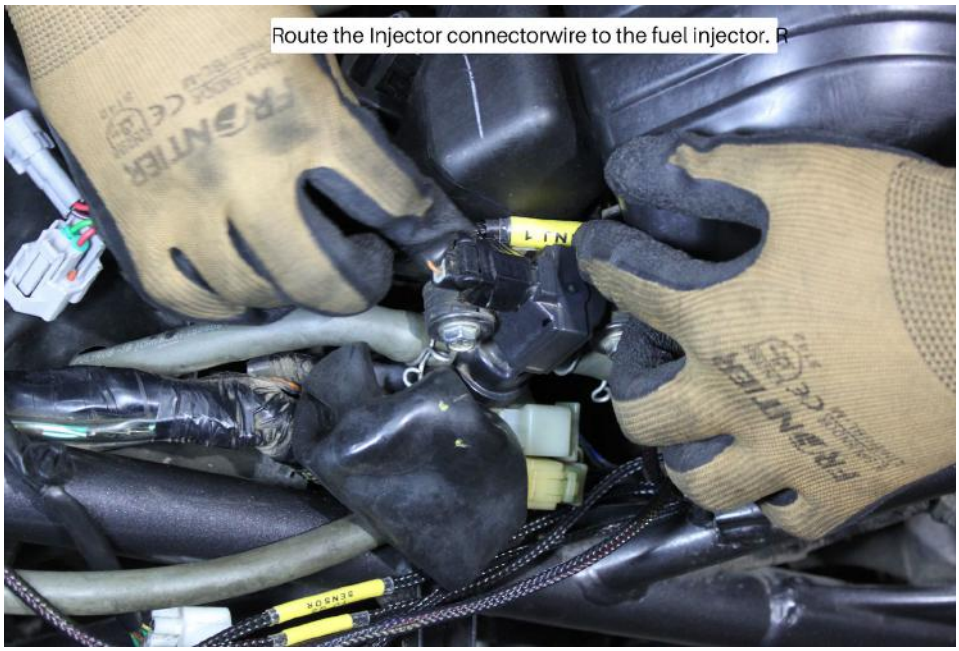

Image 37

3.3 Fuel Injector Connector

3.3.1 Locate the stock injector connector. Refer **Images 38.**

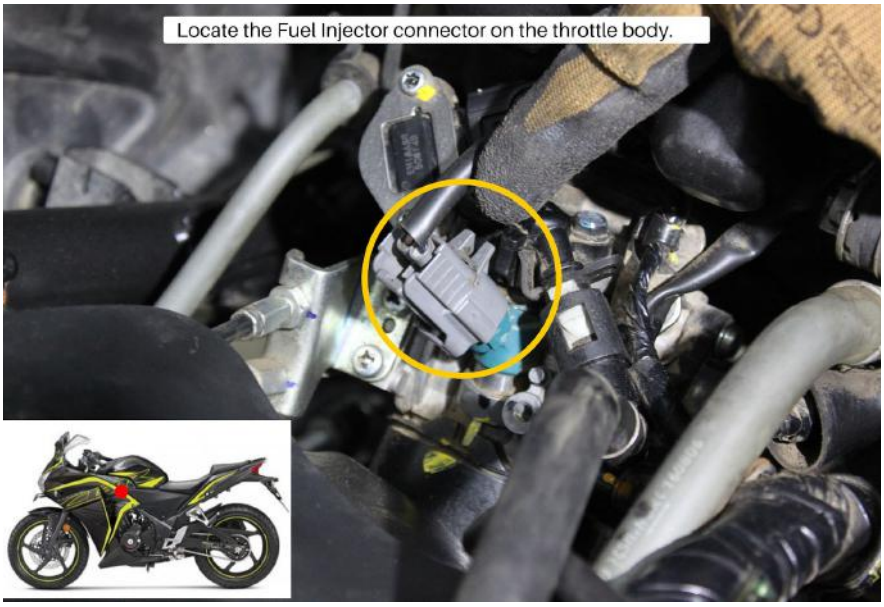

Image 38

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 39**)

Image 39

3.3.4 Connect the PowerTRONIC female injector connector harness (INJ1) to the stock 1st male injector connector. Refer **Image 40**

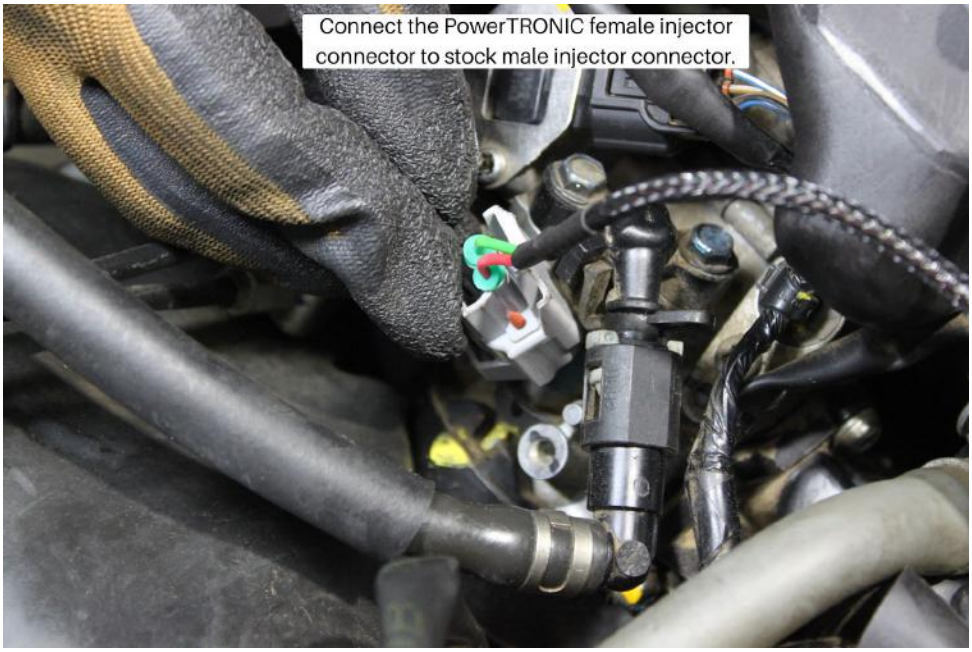

Image 40

3.3.5 Connect the PowerTRONIC male injector connector (INJ1) to the 1st stock female injector connector. Refer **Image 41**

Image 41

3.4 Ignition Coil Connector

3.4.1 Locate the Ignition coil at the front end of the bike. (Black - 12V, Green - Signal). Refer **Images 42**.

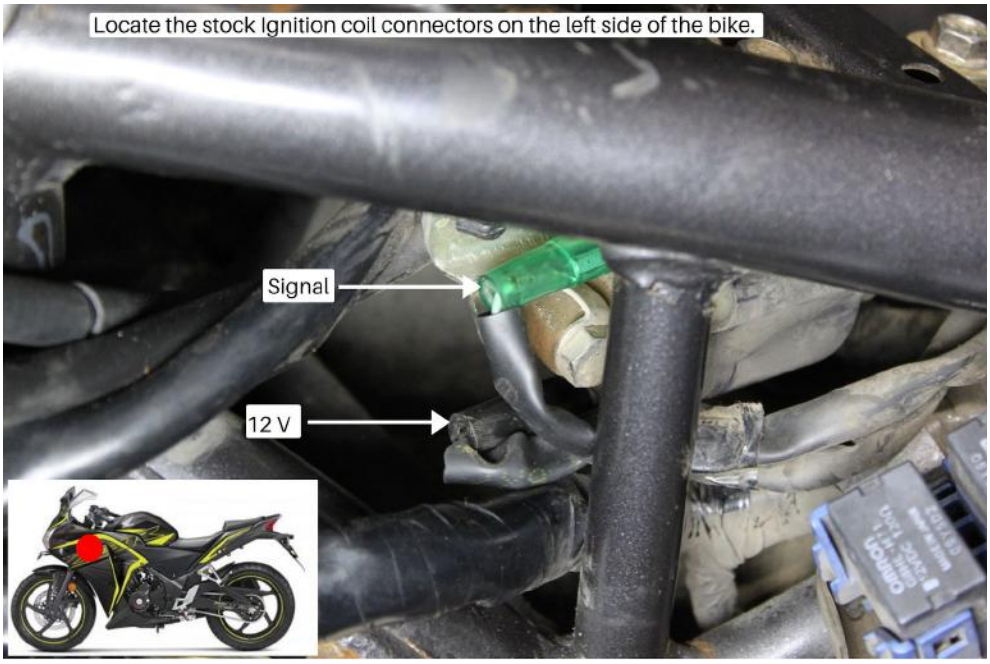

Image 42

3.4.2 Disconnect the stock ignition coil connectors. Refer **Images 43**.

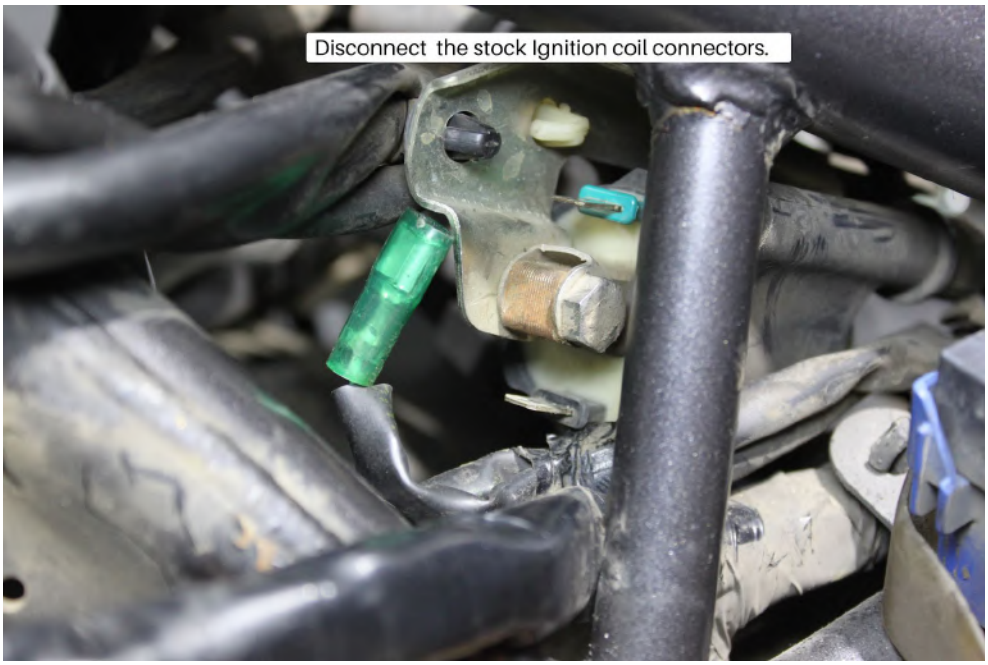

Image 43

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

3.4.4 Connect the PowerTRONIC male 12 V pin (Red) with stock female 12 V pin (Black). Refer **Image 44**

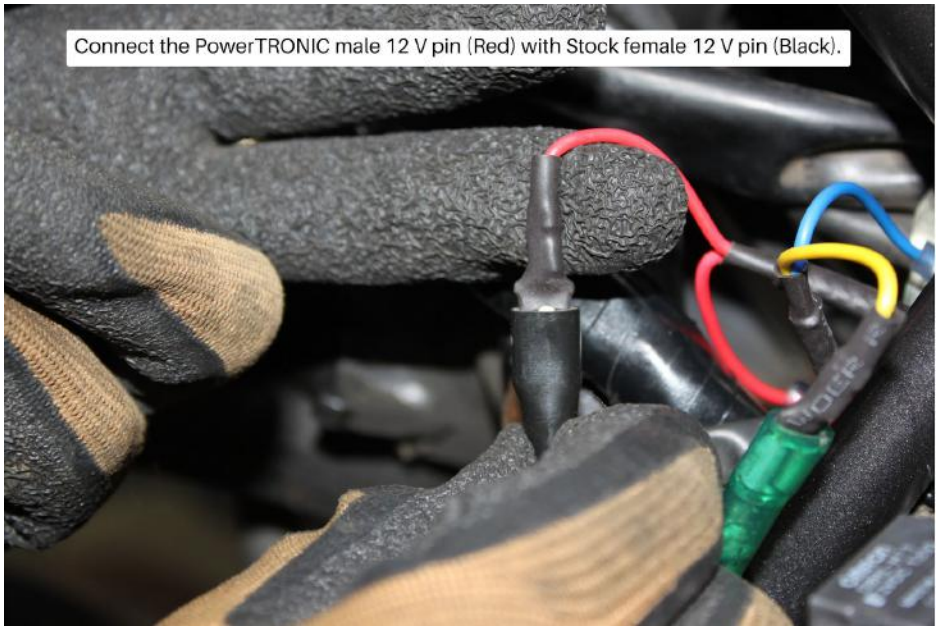

Image 44

3.4.5 Connect the PowerTRONIC male signal pin (Yellow) with stock female signal pin (Green). Refer **Image 45.**

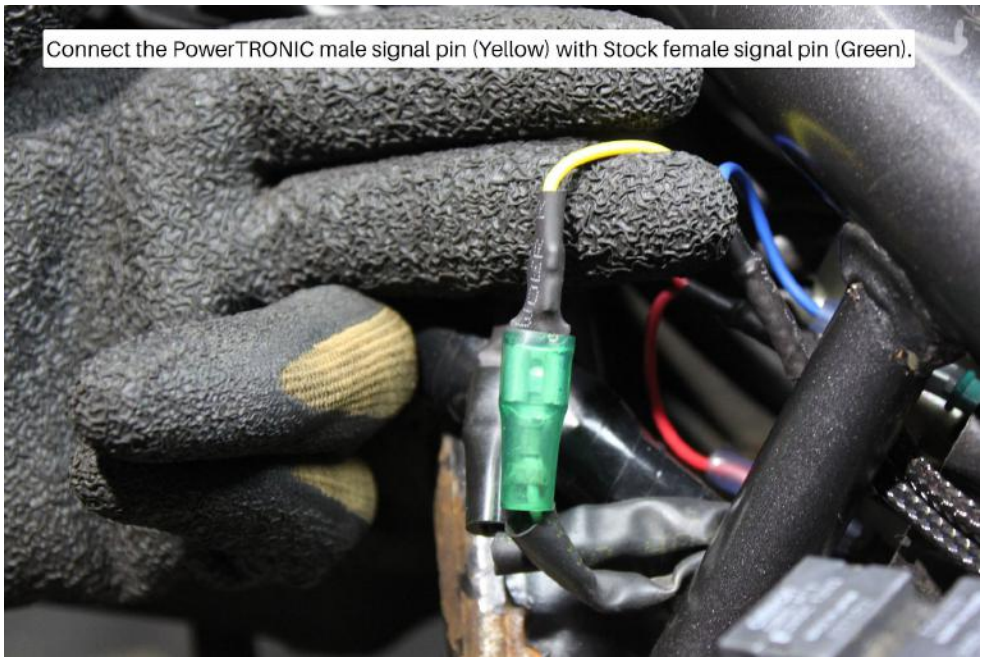

Image 45

3.4.6 Connect the PowerTRONIC female signal pin (Blue) with stock male signal pin (Green).Refer **Image 46.**

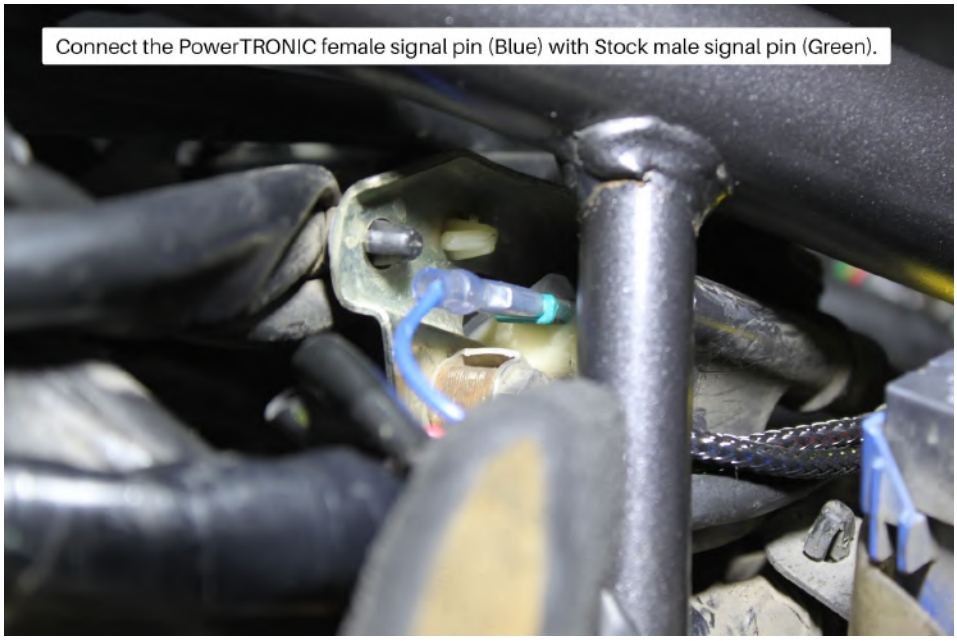

Image 46

3.4.7 Connect the PowerTRONIC female 12 V pin (Red) with stock male 12 V pin (Black). Refer **Image 47**

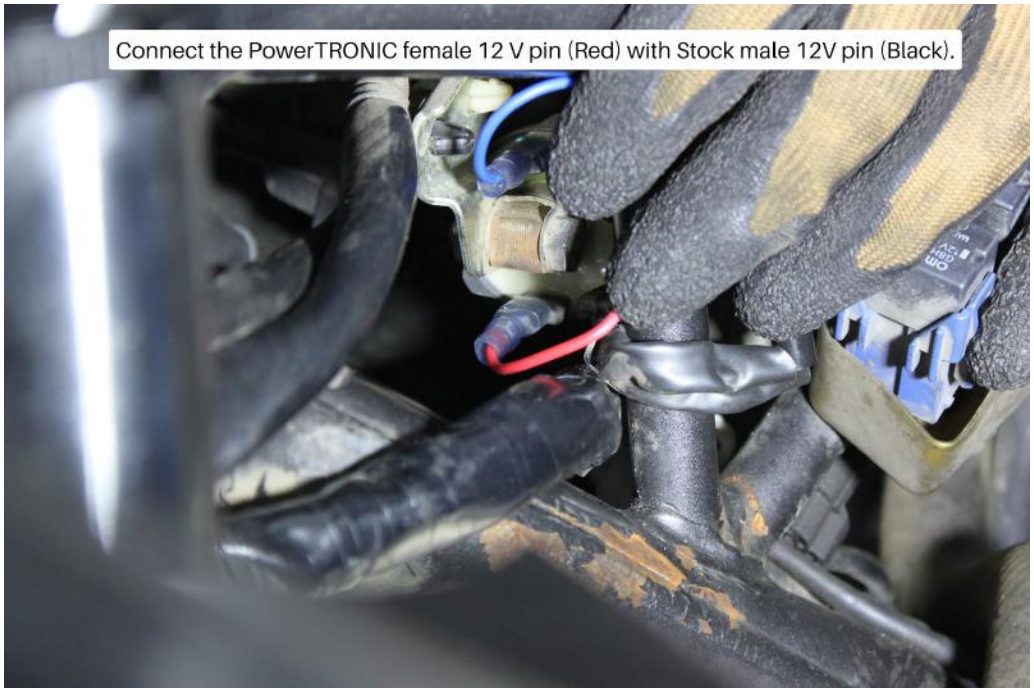

Image 47

3.5 Throttle position sensor connector

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 48** .

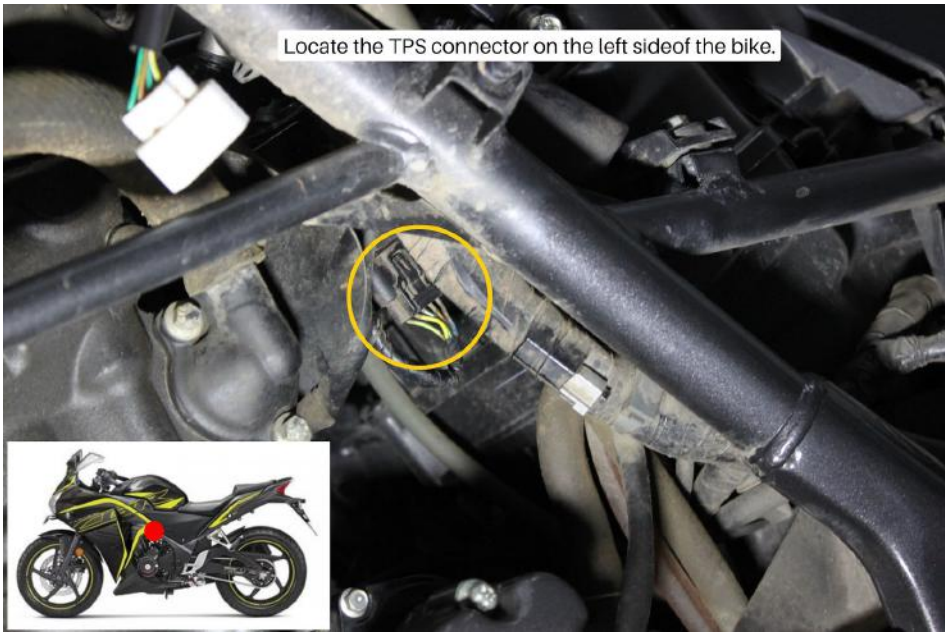

Image 48

3.5.2 Refer **Image 49** for zoomed view.

Image 49

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

3.5.4 Disconnect the TPS connector of the bike. Refer **Image 50.**

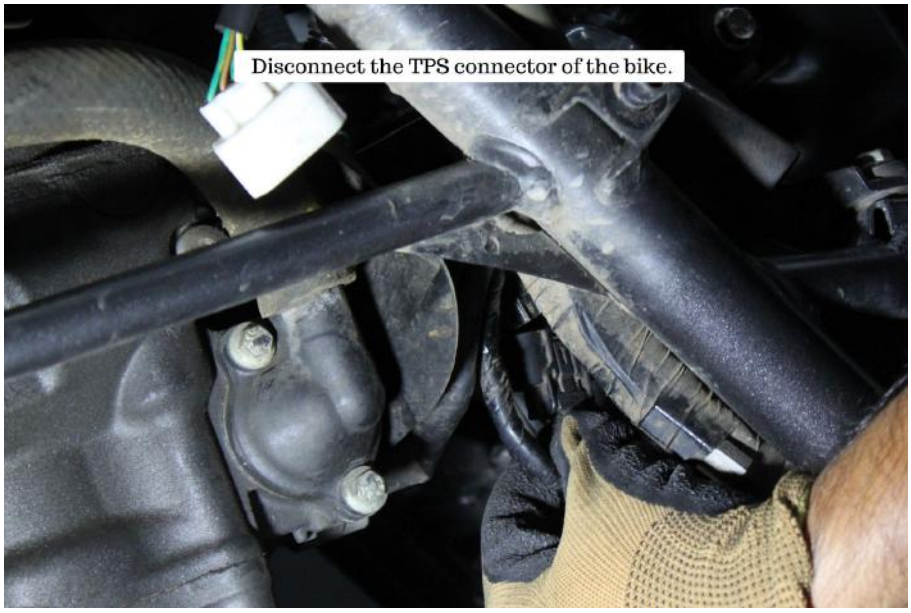

Image 50

3.5.5 Remove the covering of the TPS connector (2-3 cm). Tap the TPS wire (Yellow) with PowerTRONIC TPS wire. Refer **Image 51.**

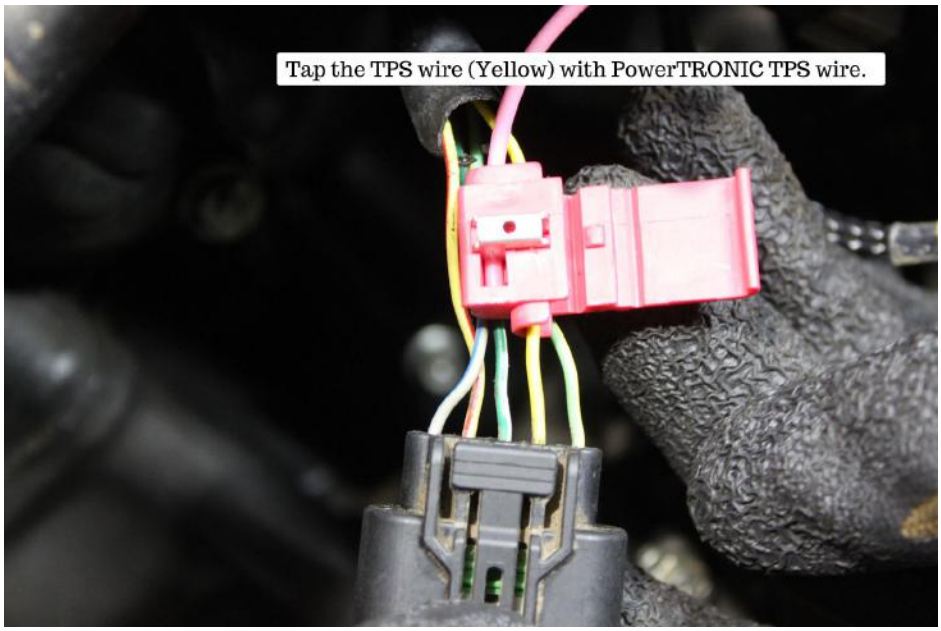

Image 51

3.5.6 We advise you to perform a TPS calibration after the installation of PowerTronic ECU.
Refer the detailed TPS calibration document.

3.6 Crank Position sensor connector

3.6.1 Locate the CKP connector of your bike on the left side. Refer **Image 52** .

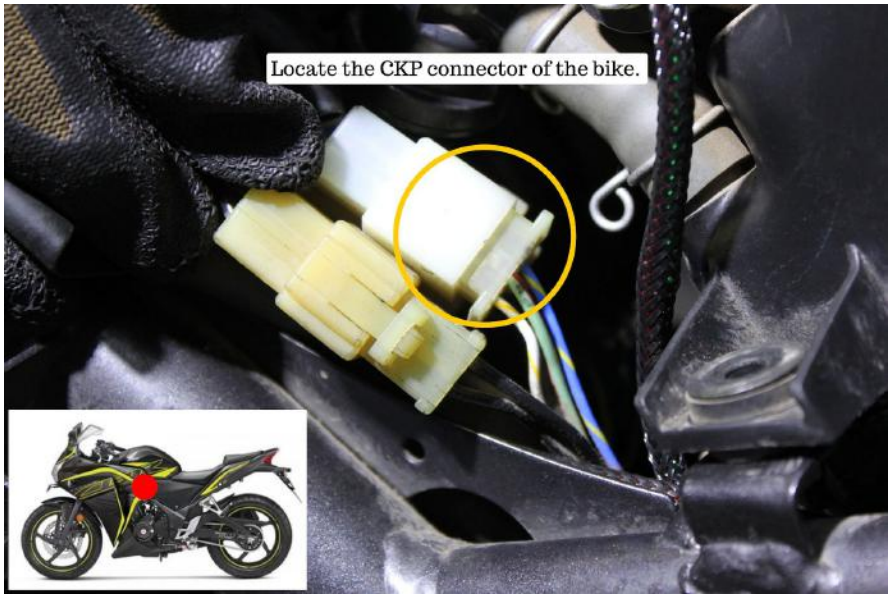

Image 52

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

3.6.3 Tap the CKP connector of the bike with the CKP wire (Blue and yellow stripe) of the PowerTRONIC using the tapping clip provided in the kit. Refer **Image 53** and **Image 54**

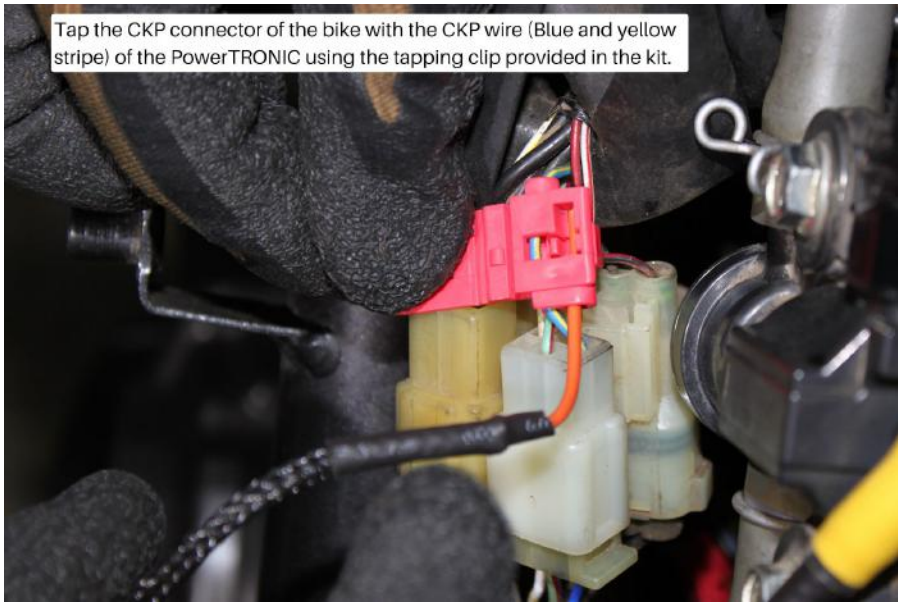

Image 53

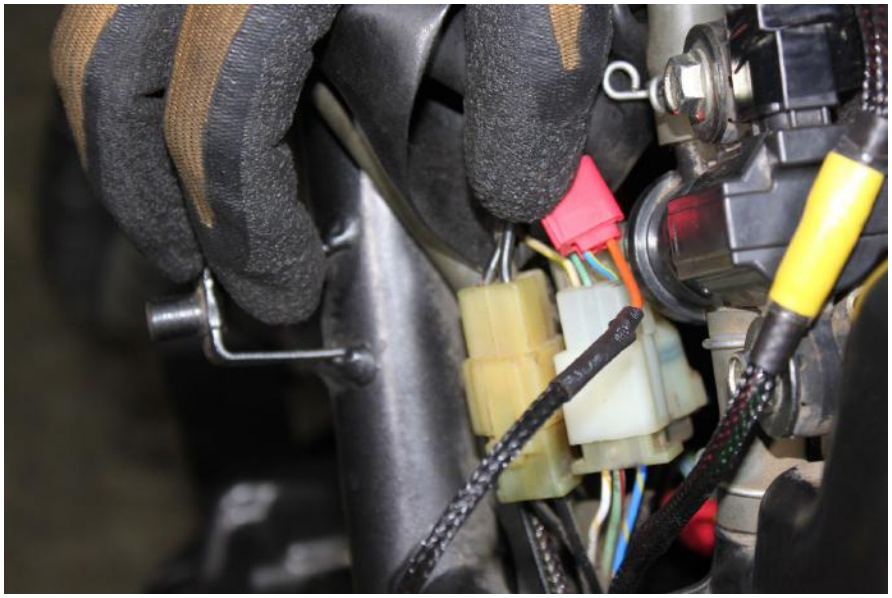

Image 54

3.6.4 Cover the taps using insulation tape and keep it safe.

3.7 Ground Terminal Connector

3.7.1 Locate the battery negative terminal of the bike. Refer **Image 55.**

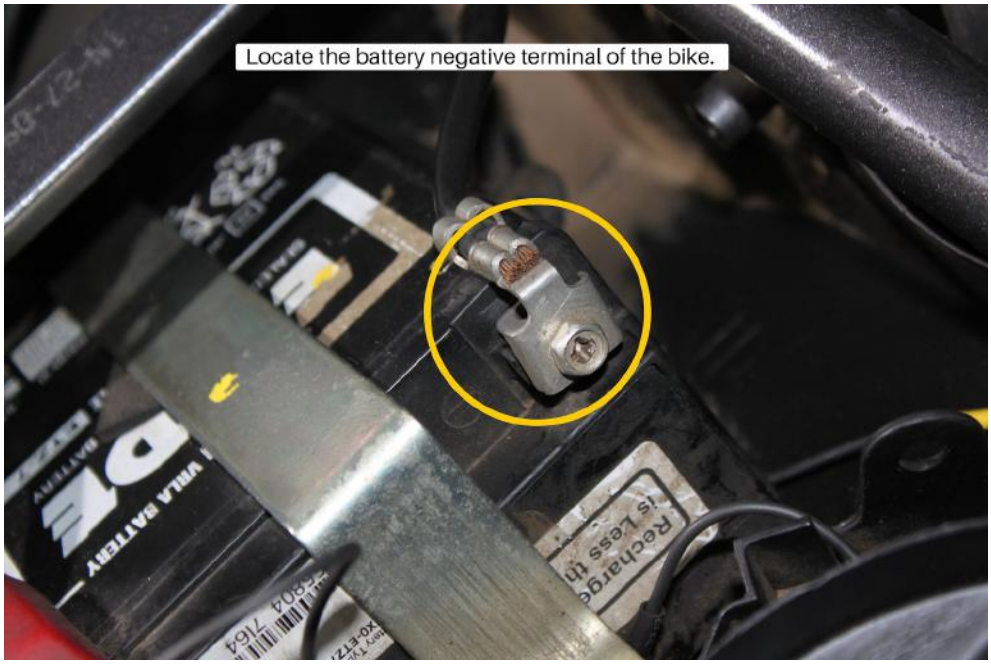

Image 55

3.7.2 Unscrew the battery negative terminal using M8 Hex T socket . Refer **Image 56.**

Image 56

3.7.3 Identify the Ground terminal connector labelled as GND and connect it to the negative terminal of the battery. Refer **Image 57**

Image 57

3.8 Securing the harness using ties

3.8.1 Secure the harness away from general heating areas by attaching it to the chassis or frame using the zip ties provided wherever necessary. Refer **Image 58.**

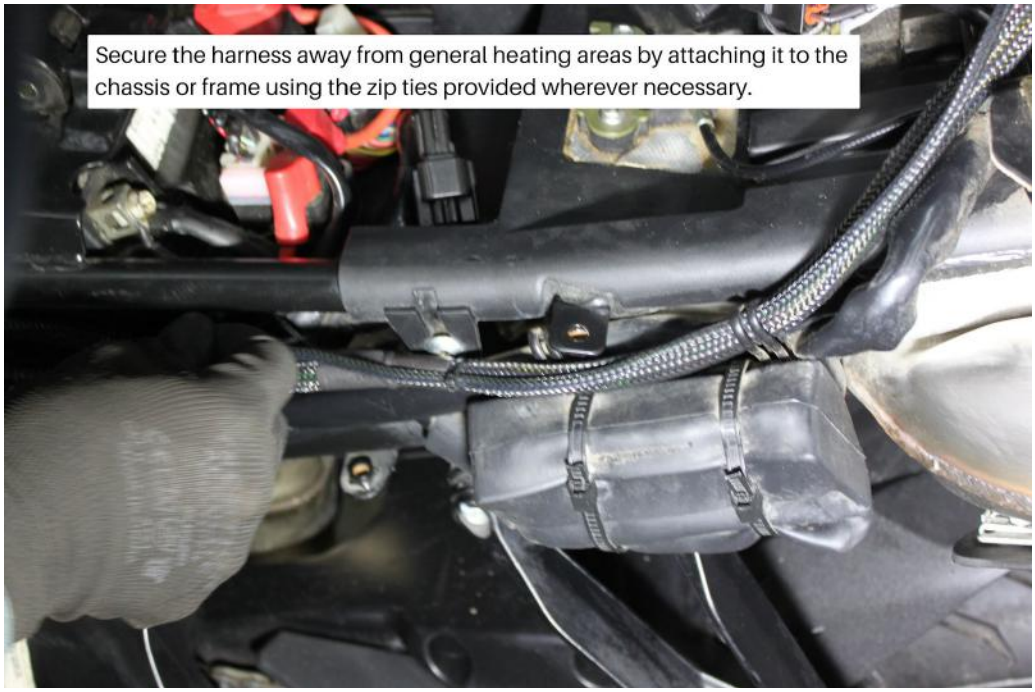

Image 58

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.

3.9 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 detailed Stock coupler test document.

3.9.3 DO NOT proceed with PowerTRONIC ECU without verifying the connections with stock coupler. Refer **Image 59.**

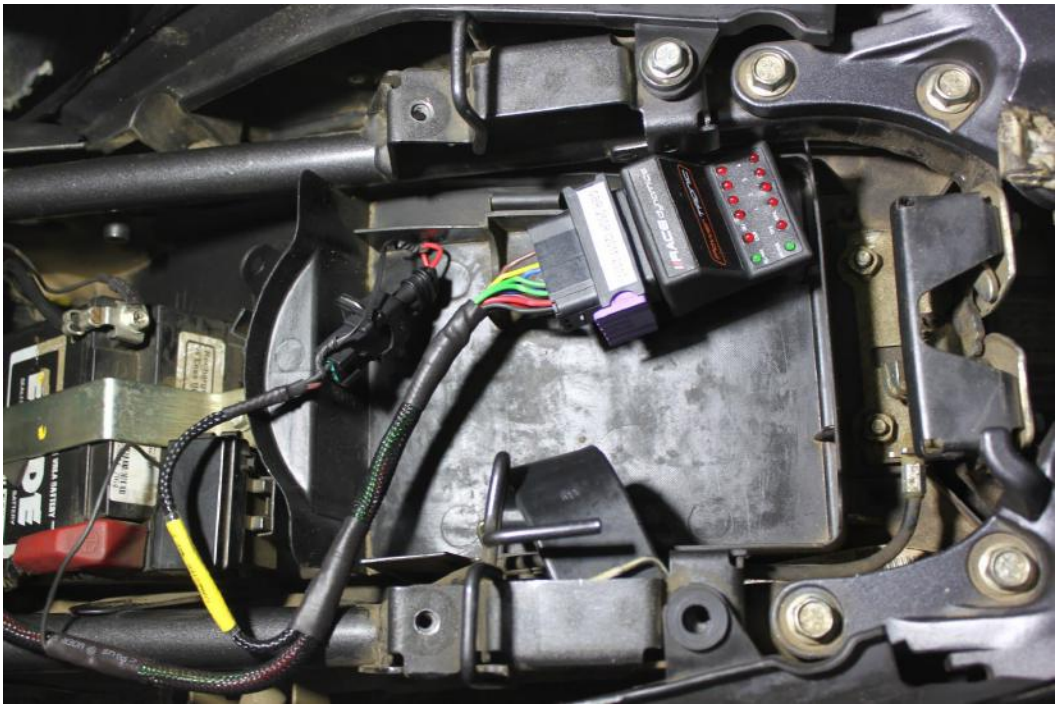

Image 59

3.10 Plugging in the PowerTRONIC

Connect the PowerTRONIc to the harness by connecting the 24 pin connector. Secure it in the glove box. Refer **Image 60.**

Image 60

3.11 Attaching the panels fairing etc

Attach the panels, fairing as removed from the bike.