

PowerTRONIC Installation Manual- Yamaha YZF R3 (2018-2019)

Document Version	1.1	Release Date	11 Nov 2019
------------------	-----	--------------	-------------

Application information	Vehicle Specific
Vehicle	Yamaha
Model	YZF R3
Year of manufacture	2018-2019
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
2. Tools required
3. Installation procedure
 - 3.1 Removing panels, fairing etc
 - 3.2 Routing the harness
 - 3.3 Fuel Injector Connector
 - 3.4 Ignition coil connector
 - 3.5 Crank position sensor connector
 - 3.6 Throttle position sensor tapping
 - 3.7 Ground terminal
 - 3.8 Securing the routed harness
 - 3.9 Testing with Stock Coupler
 - 3.10 Plugging in the PowerTRONIC
 - 3.11 Attaching the panels, fairing etc

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 connectors involved.
3	Harness	Bike specific harness contains the following connectors <ul style="list-style-type: none"> Fuel injector connector Spark connector Throttle position sensor tapping wire (TPS) Crankshaft position sensor connector (CKP) 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	M10, M8 Hexagonal socket
2	Phillips-Head screwdriver
3	M10 T bar Hexagonal Socket wrench
4	Wire stripper
5	Size 4, Size 5 Hex bit

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).



Image 1

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 Remove the seat centre cover bolts. Refer **Image 3** and **Image 4**

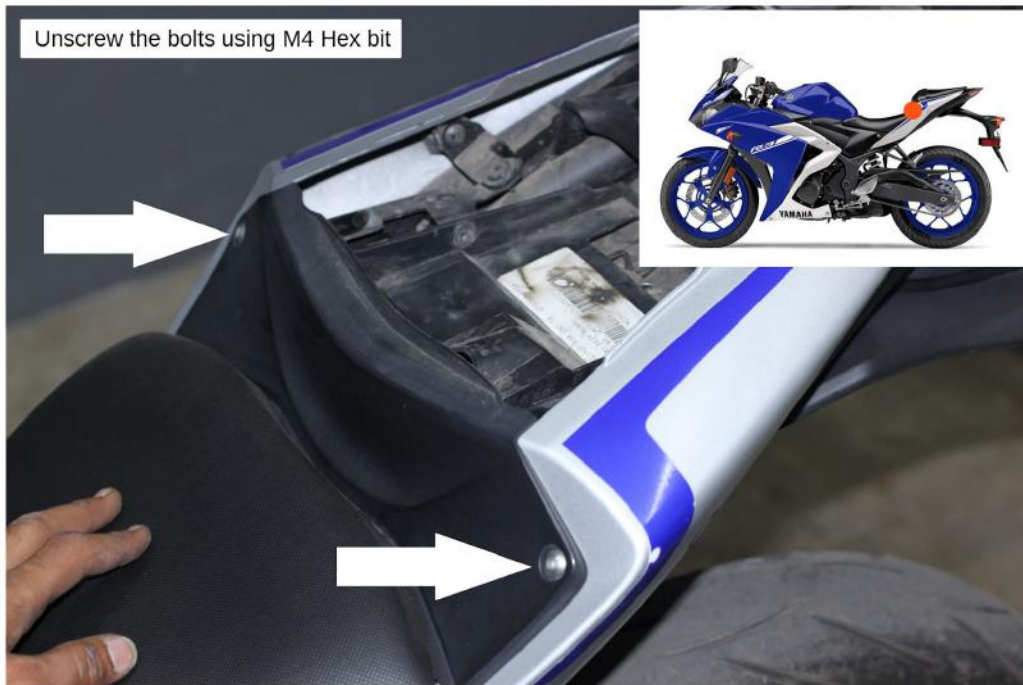


Image 3



Image 4

3.1.3 Remove the seat centre cover. Refer the **Image 5**



Image 5

3.1.4 Unscrew the rider seat bolts. Refer **Image 6**.

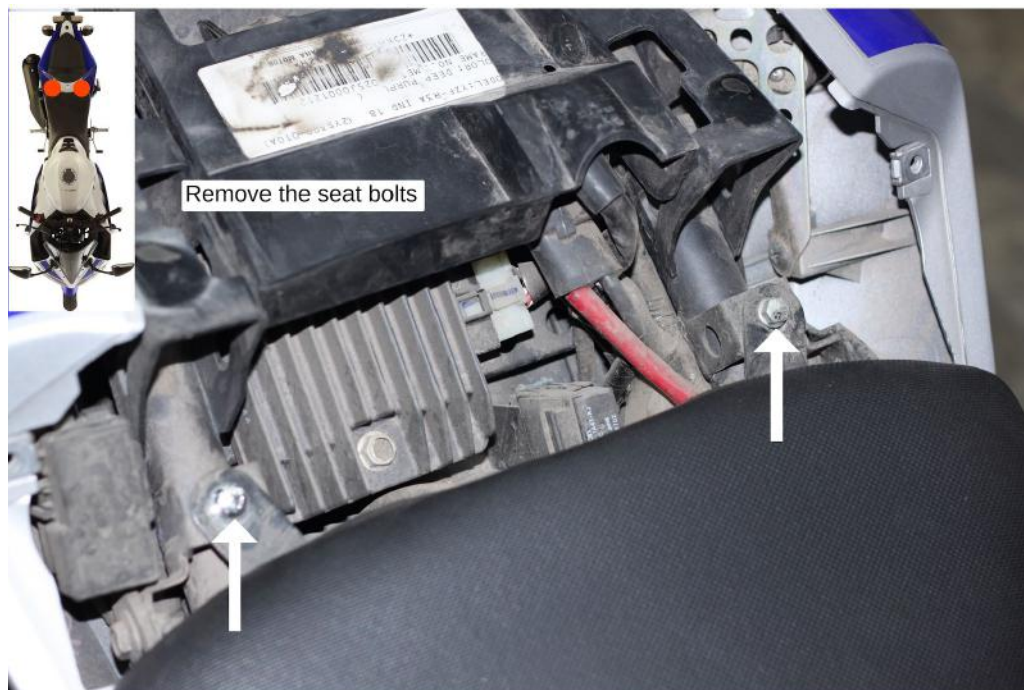


Image 6

3.1.5 After removing the screws, detach the rider seat.



Image 7

3.1.6 Remove tank cover bolt Refer [Image 8](#) and [Image 9](#)



Image 8



Image 9

3.1.7 Unscrew the screws from side panels. Refer **Image 10**, **Image 11** and **Image 12**



Image 10



Image 11



Image 12

3.1.8 After the bolts are removed, etach the side panel from the lock buttons

3.1.9 Unscrew the bolts from the sides of tank cover. Refer [Image 13](#) and [Image 14](#)



Image 13



Image 14

3.1.10 Lift the tank cover. Refer [Image 15](#)



Image 15

3.1.11 Unscrew the tank bolts from rear end and front end. Refer [Image 16](#) and [Image 17](#)



Image 16



Image 17

3.1.12 Lift the tank gently. Disconnect both the vacuum tubes. **Images 18**

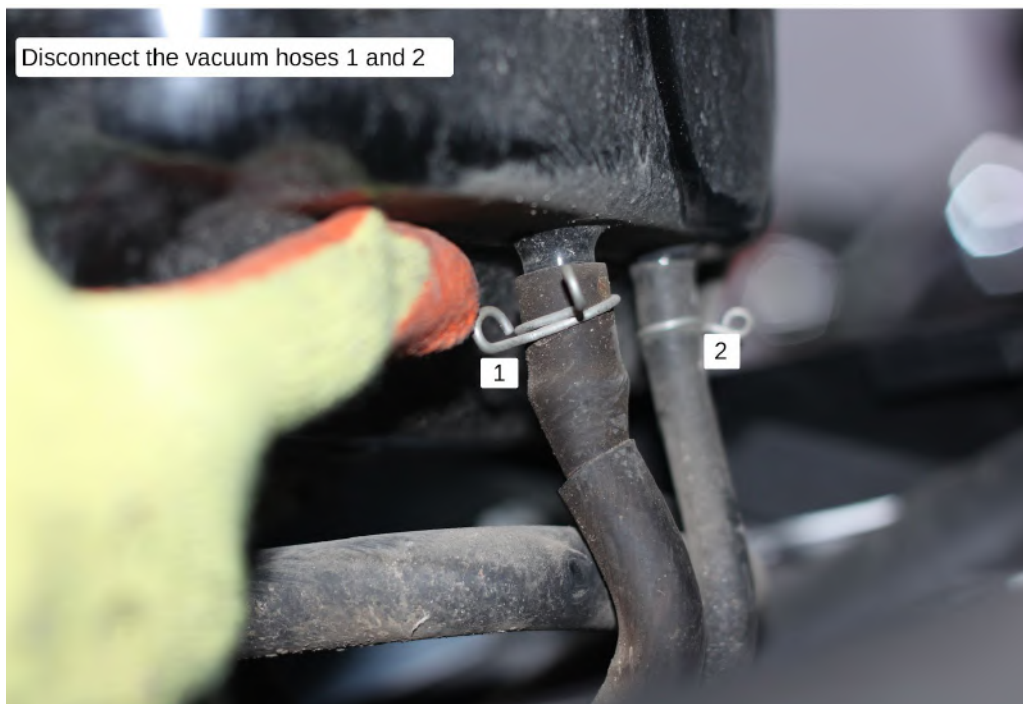


Image 18

3.1.13 Disconnect the fuel line. Refer [**Image 19**](#).

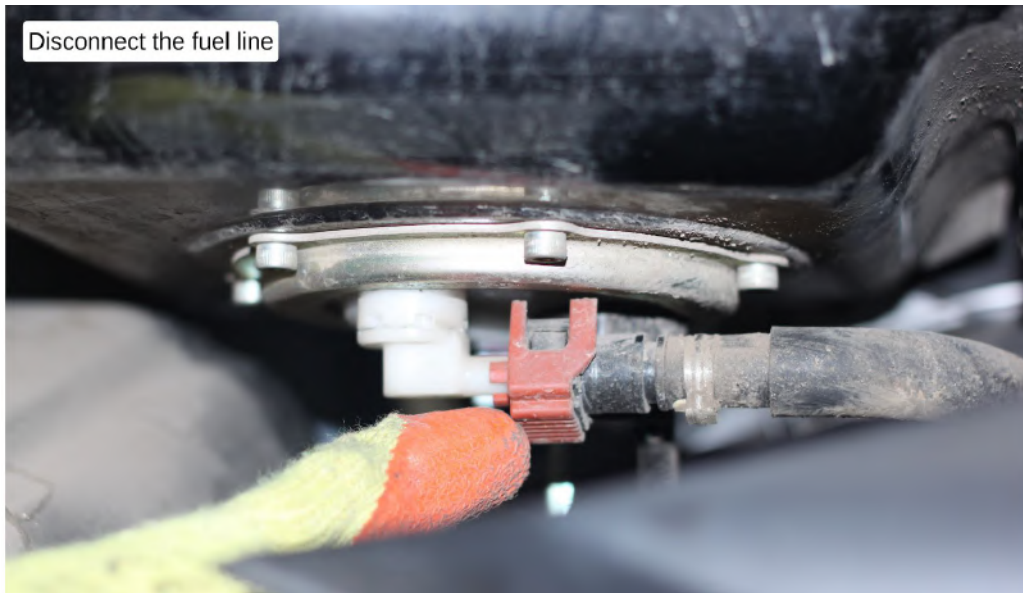


Image 19

3.1.14 Remove the pump connector. Refer [**Image 20**](#)



Image 20

3.1.15 After removing every connections, remove the tank and place it safely.

3.1.16 Remove the screws and detach the glove compartment from the bike. Refer [Image 21](#)



Image 21

3.2 Routing the harness

3.2.1 Starting from the glove compartment, route each connector terminals between the welded plate and the mud guard. Refer [Image 22](#).



Image 22

3.2.2 Route the harness through the frame. Refer [Image 23](#).



Image 23

3.3 Fuel Injector Connector

3.3.1 Locate the stock injector connector of your bike. Refer [Images 24](#)



Image 24

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 25](#))



Image 25

3.3.4 Connect the female PowerTRONIC injector connector to the stock male injector connector. Refer **Image 26**



Image 26

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



Image 27

3.3.6 Refer Image 28 for completed view



Image 28

3.4 Ignition Coil Connector

3.4.1 Locate the Ignition coil mounted bolts and unscrew them. Refer **Images 29** and **Image 30**

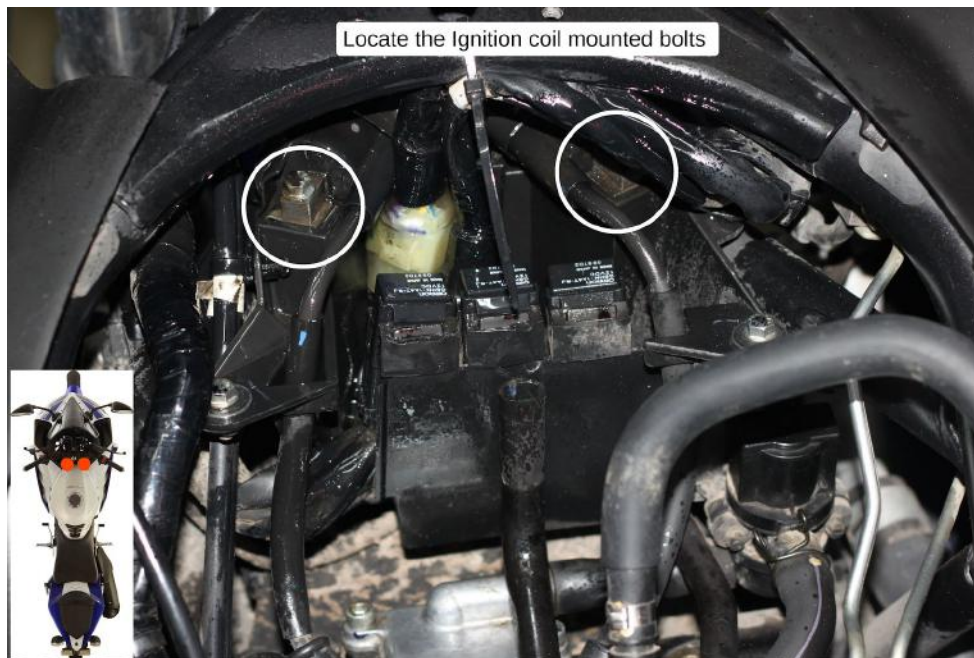


Image 29



Image 30

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

3.4.3 Disconnect the stock ignition coil connectors pins. Refer **Image 31**



Image 31

3.4.4 Connect the PowerTRONIC Ignition coil female pins to the stock ignition coil mating pins on the coil. Refer **Image 32** and **Image 33**



Image 32



Image 33

3.4.5 Connect the PowerTRONIC Ignition coil male pins to the stock ignition coil mating female pins. Refer [Image 34](#) and [Image 35](#)

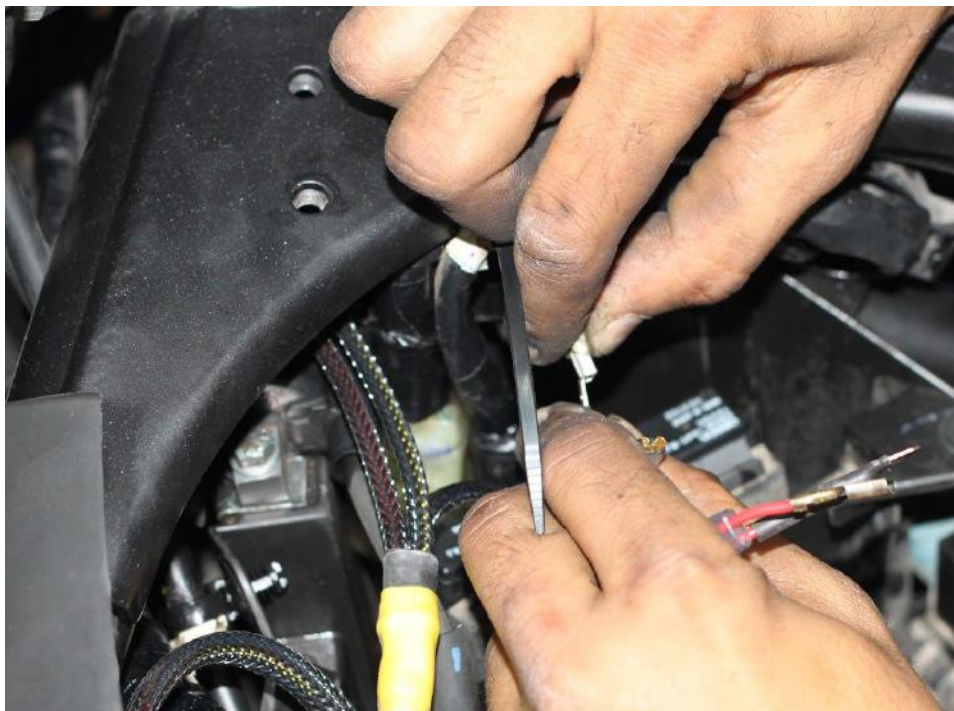


Image 34

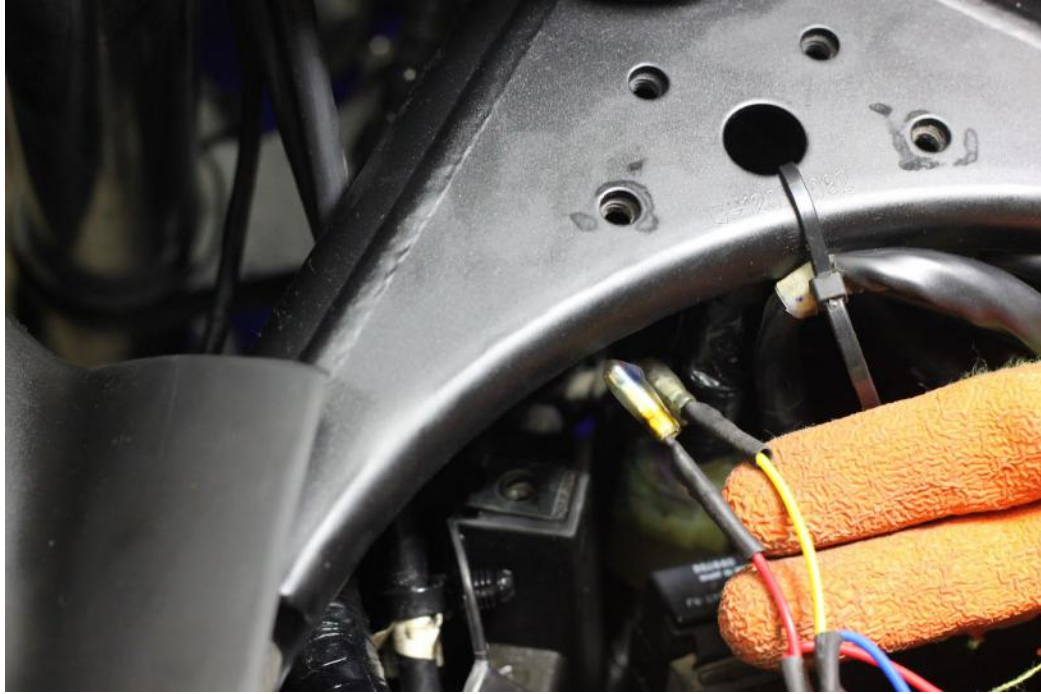


Image 35

3.4.6 Refer **Image 36** for the completed view

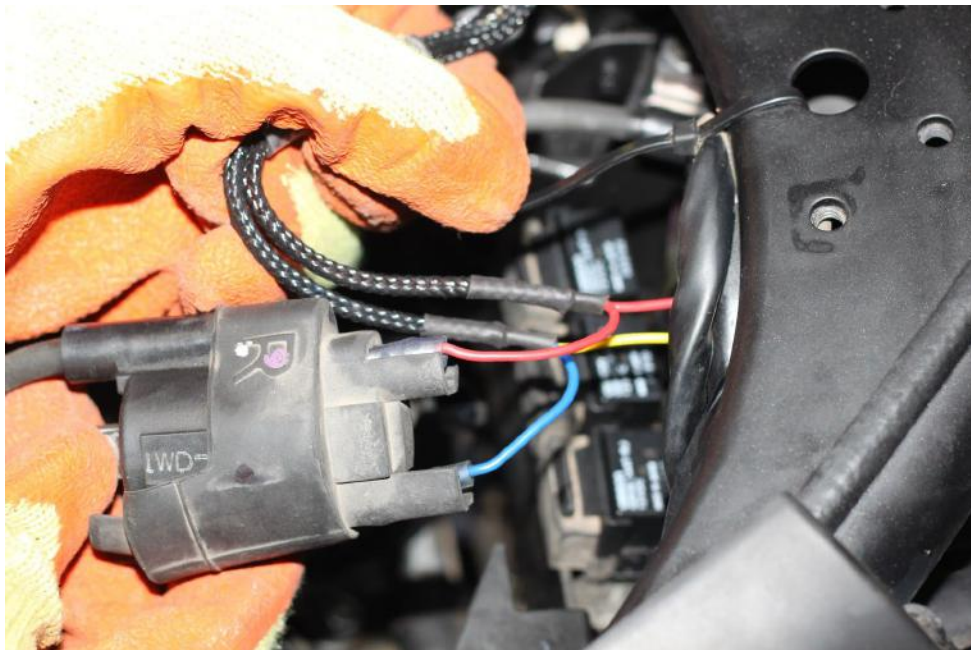


Image 36

3.5 Crankshaft position sensor connector

3.5.1 Locate the CKP connector of your bike. Refer [Image 37](#) and [Image 38](#)



Image 37



Image 38

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

3.5.3 Disconnect the stock CKP connectors. Refer [Image 39](#).



Image 39

3.5.4 Connect Stock male CKP aconnector and PowerTRONIC female connector. Refer [Image 40-A](#).

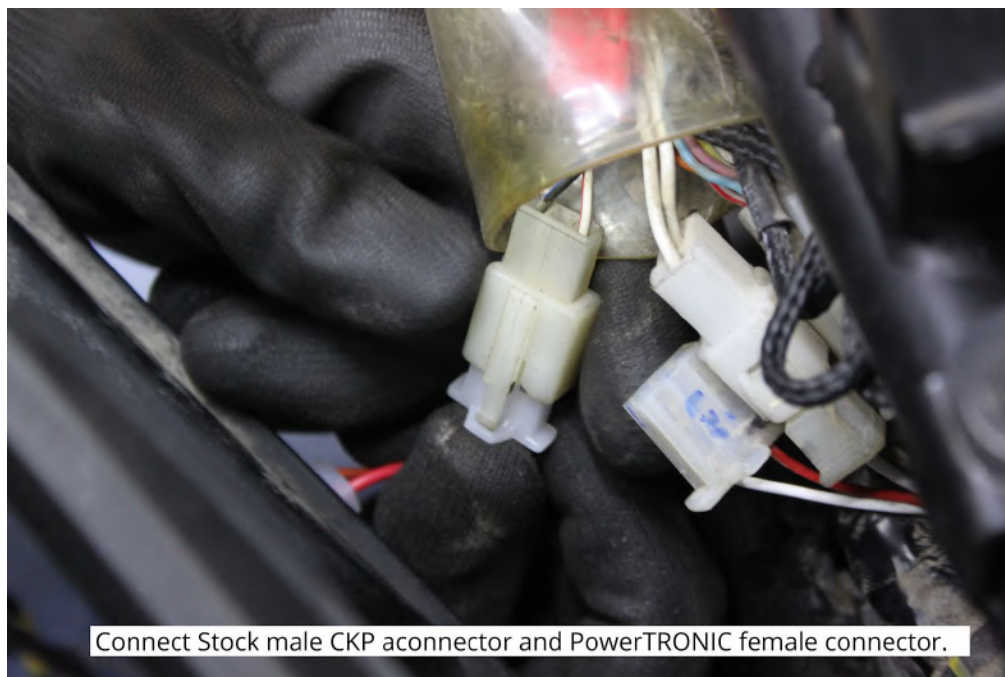


Image 40-A

3.5.5 Connect Stock female CKP connector and PowerTRONIC male connector. Refer **Image 40-B**.



Image 40-B

3.6 Throttle position sensor connector

3.6.1 Locate the TPS connector of your bike. It is generally located on the throttle body, parallel to the throttle cable return springs. Refer [Image 41](#) and [Image 42](#)



Image 41

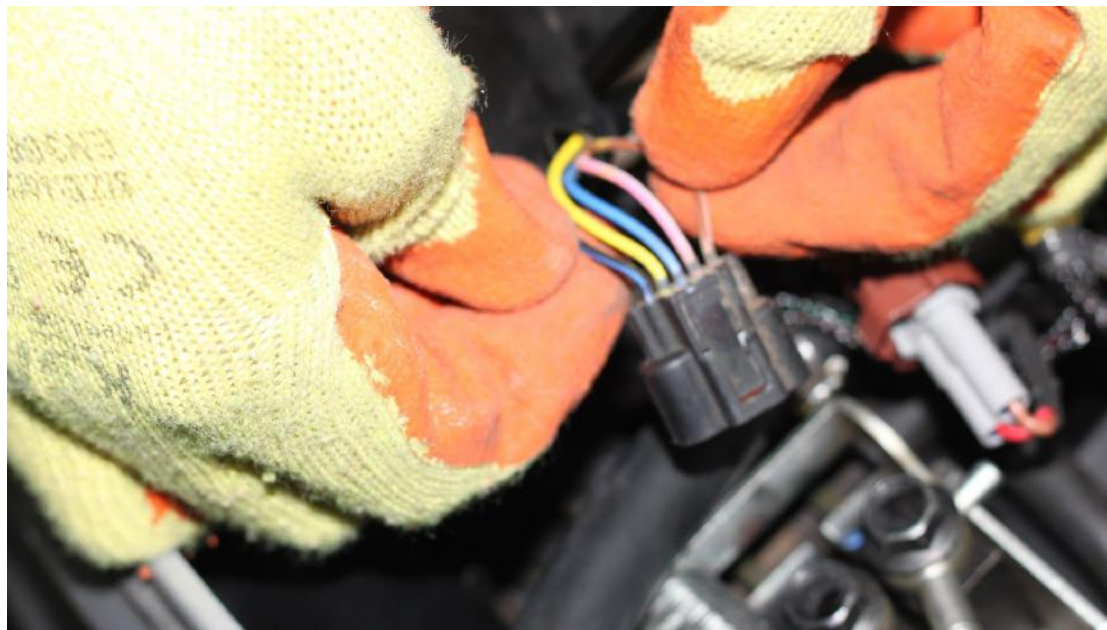


Image 42

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

3.6.3 Tap the yellow wire using the tapping clip provided . Refer **Image 43** and **Image 44**



Image 43



Image 44

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

3.7 Ground Terminal Connector

3.7.1 Identify the Ground terminal connector labelled as GND and connect it to the negative terminal of the battery.
Refer **Image 45**

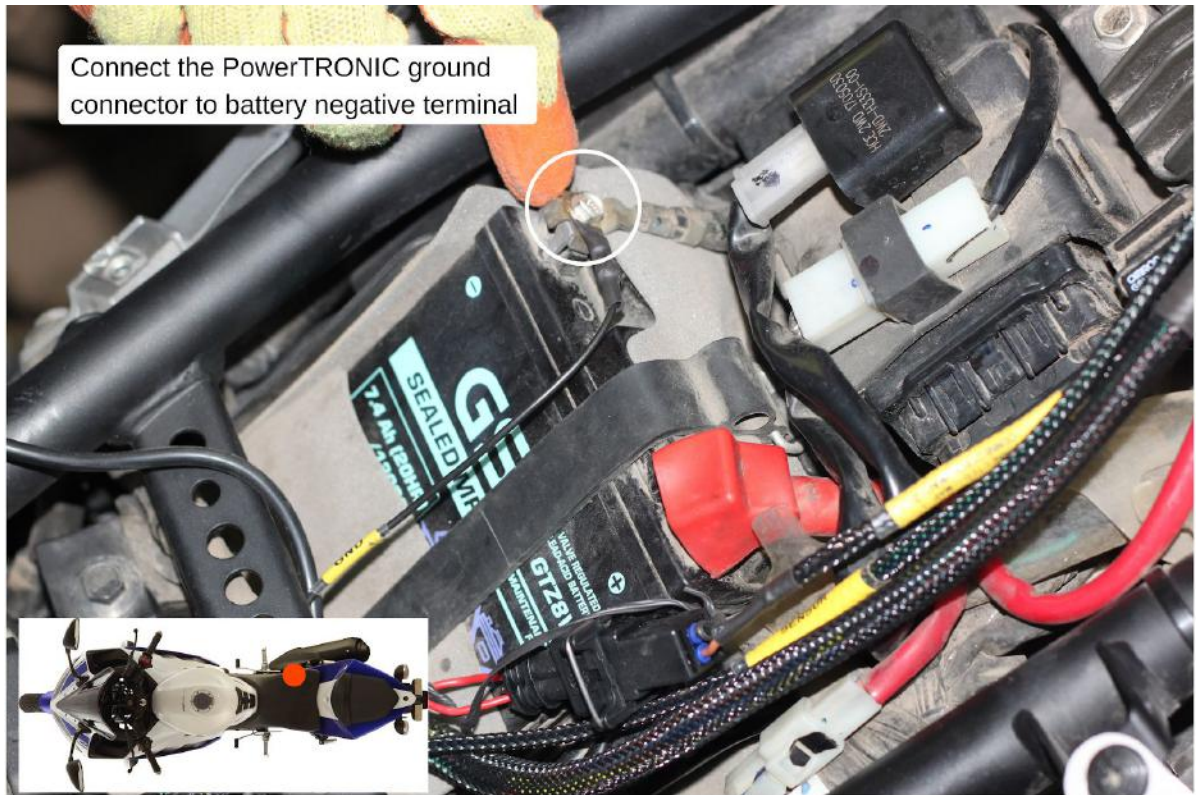


Image 45

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 46**



Image 46

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. Refer **Image 47**



Image 47

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

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 48**



Image 48

3.11 Attaching the panels fairing etc

Attach the panels, fairing as removed from the bike.