

PowerTRONIC Installation Manual- Suzuki GSXR 1000 (2005-2006)

Document Version	1	Release Date	05 March 2019
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Application information	Vehicle Specific
Vehicle	Suzuki
Model	GSXR 1000
Year of manufacture	2005-2006
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.

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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 connectors involved.
3	Harness	Bike specific harness contains the following connectors <ul style="list-style-type: none"> • Fuel injector connectors • Spark connectors • Throttle position sensor connector (TPS) • 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	Phillips-Head screwdriver
3	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

Locate the connectors/ wires/ hoses

Top

4x Injector connectors
4x Ignition coil connectors
Vacuum hoses
TPS connector
Fuel line
Fuel pump connector
Air chamber connections



Image 2

3.1.1 Detach the pillion seat by inserting the key into the keyhole shown in **Image 3** and unlock the pillion seat. **Image 4** shows the pillion seat detached.



Image 3



Image 4

3.1.2 Unlock the rider seat bolts on both sides of the bike using M5 Hexagonal bit. Refer **Image 5** and **Image 6**

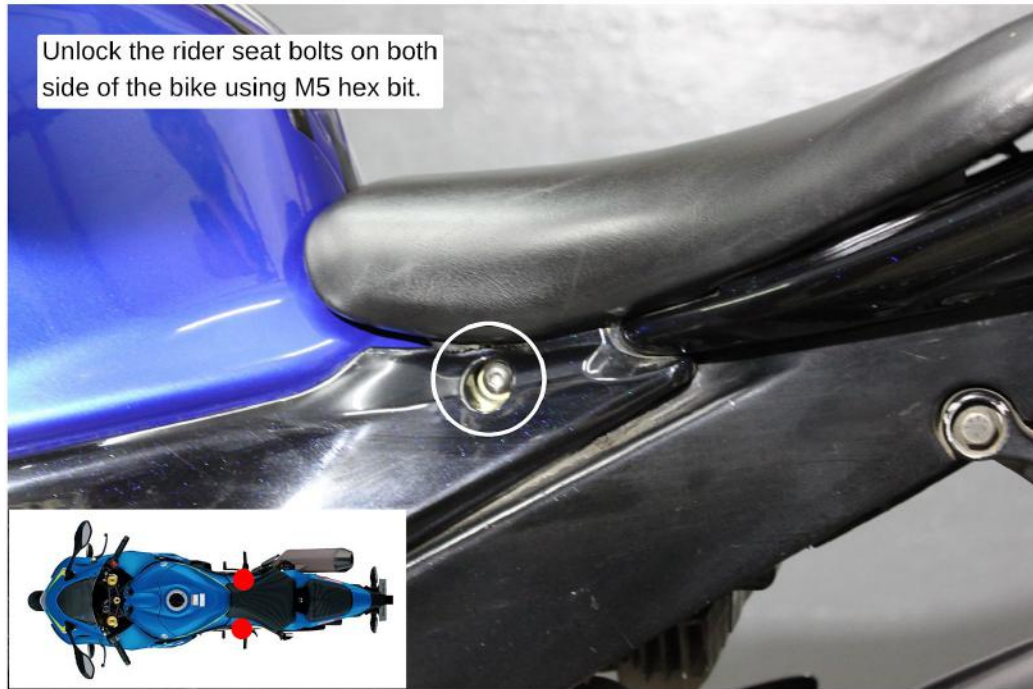


Image 5

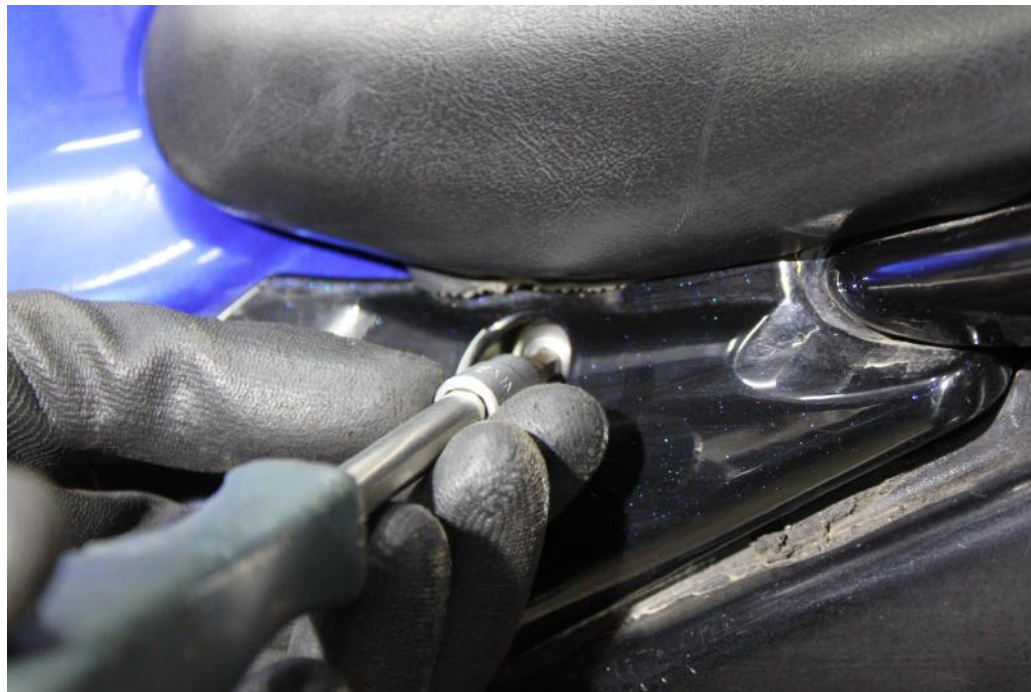


Image 6

3.1.3 detach the rider seat carefully. Refer the **Image 7**



Image 7

3.1.4 Refer **Image 8** for both the seats detached.



Image 8

3.1.5 Carefully detach the side panel on both the side. Refer [Image 9](#).



Image 9

3.1.6 Unscrew the fuel tank bolts at the front end using M5 Hexagonal bit. Refer [Image 10](#) and [Image 11](#)

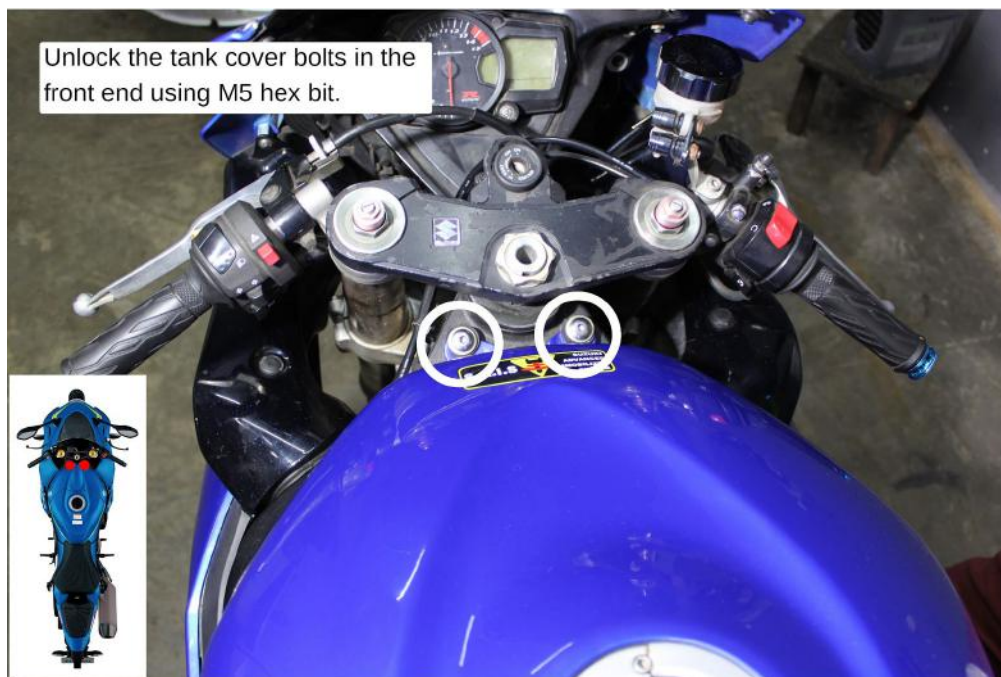


Image 10



Image 11

3.1.7 Unscrew the fuel tank bolt at the rear end using M5 Hexagonal bit, but do not detach it from the slot. Refer [Image 12](#) and [Image 13](#)



Image 12



Image 13

3.1.8 Gently lift the front end of the tank a little, with the rear bolt acts as a hinge. Refer [Image 14](#)



Image 14

3.1.9 Disconnect the fuel line. Refer **Image 15**

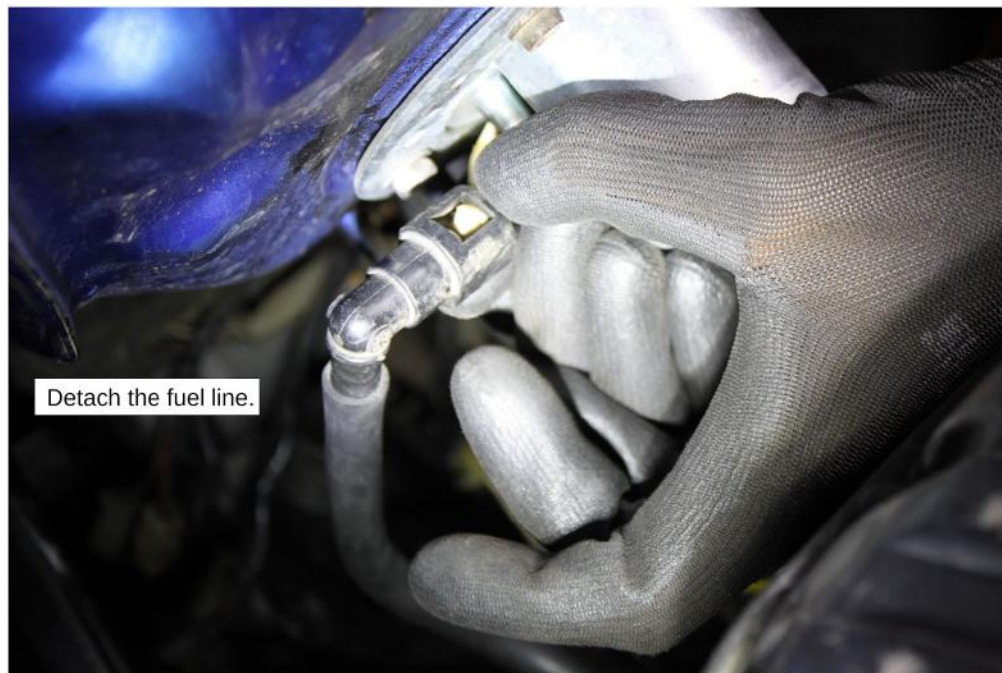


Image 15

3.1.10 Detach the fuel pump connector. Refer **Image 16**

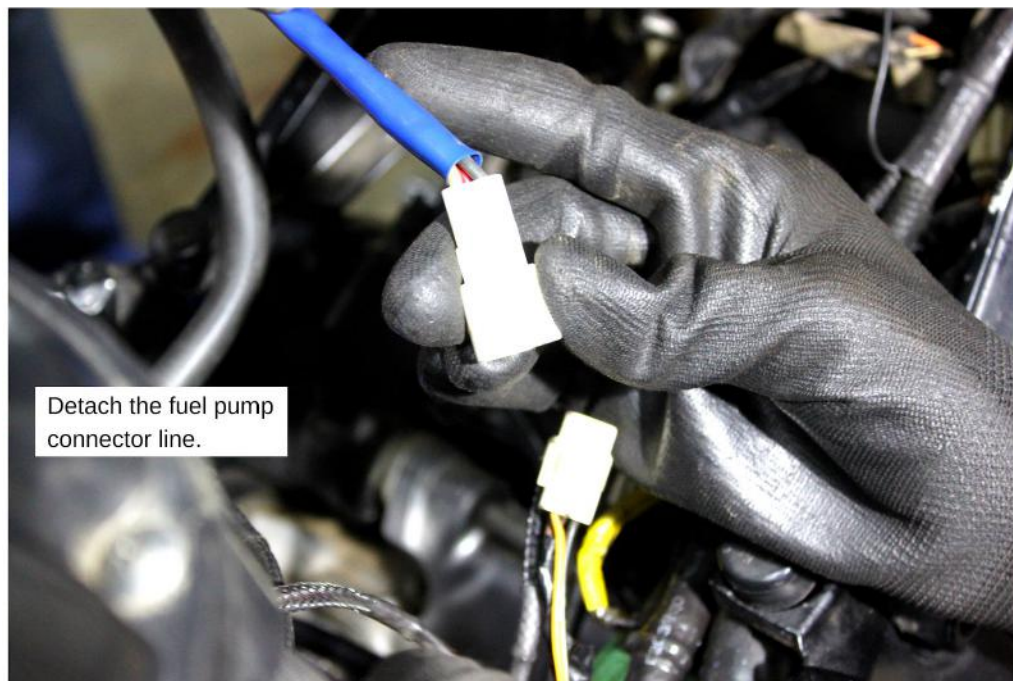


Image 16

3.1.11 Detach the fuel vacuum hoses. Refer **Image 17**

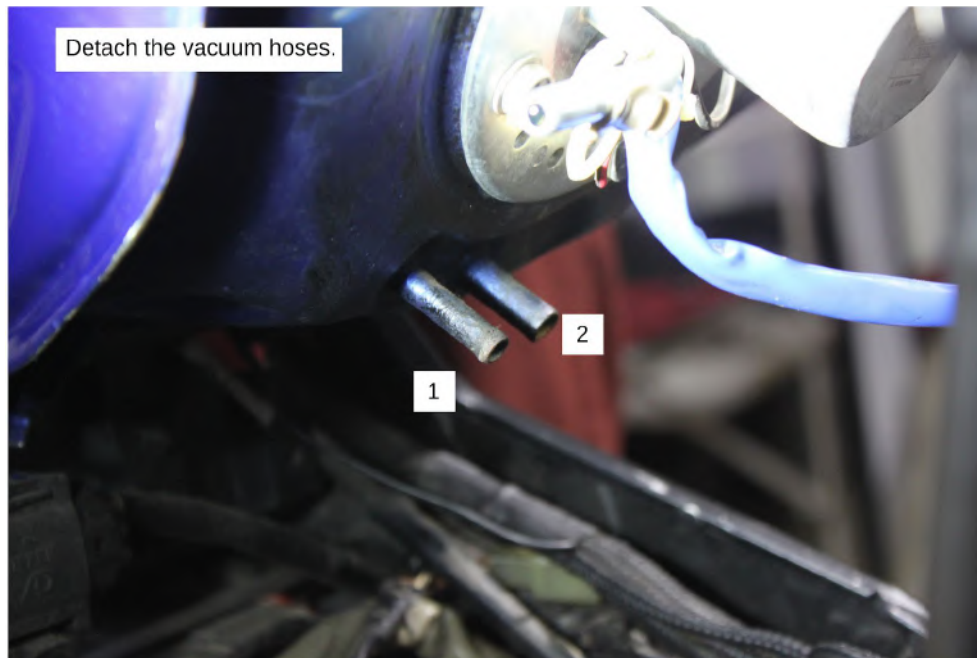


Image 17

3.1.12 After disconnecting all the connectors, lift the fuel tank carefully and place it safe. Refer **Image 18**



Image 18

3.1.13 Unscrew the air chamber mounting screw using a Phillips head screwdriver at the front end. Refer [Image 19](#)



Image 19

3.1.14 Loosen the air chamber mounting screws on the throttle body using a Phillips head screwdriver. Refer [Image 20](#)



Image 20

3.1.15 Disconnect the vacuum hoses and other connections from the air chamber. **Images 21**

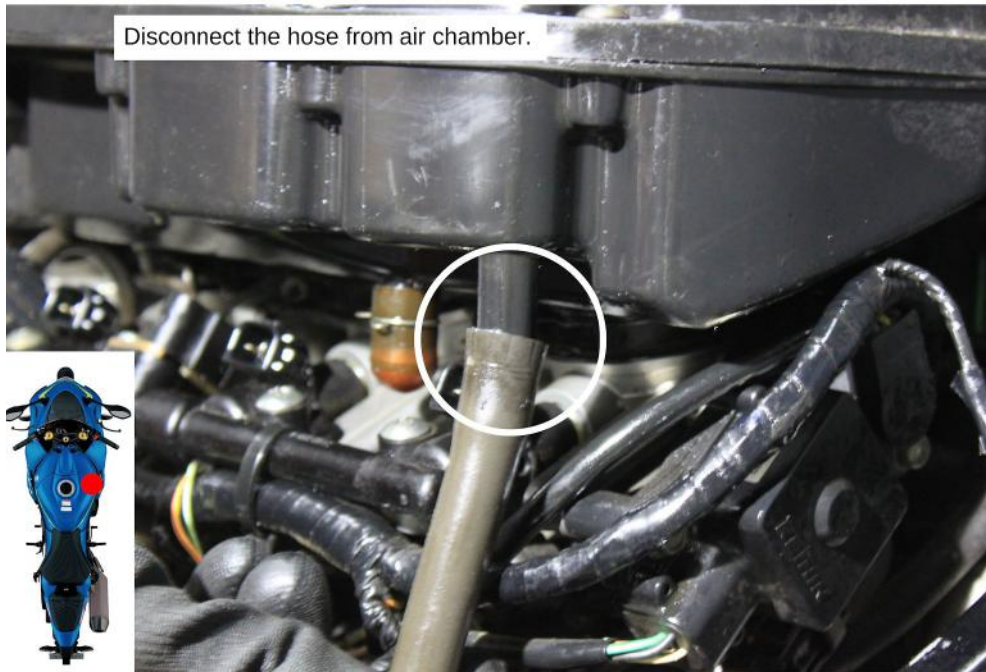


Image 21

3.1.16 Disconnect the air temperature sensor connector from the air chamber. **Images 22**

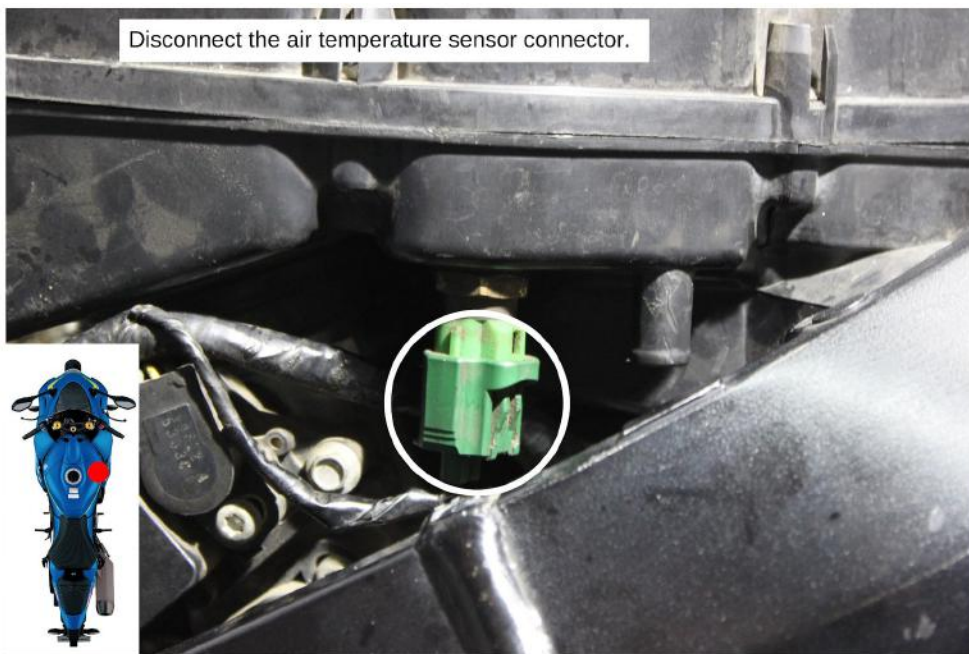


Image 22

3.1.17 After disconnecting all the connections from the air chamber, lift the air chamber carefully and place it safe. Refer **Image 23**.

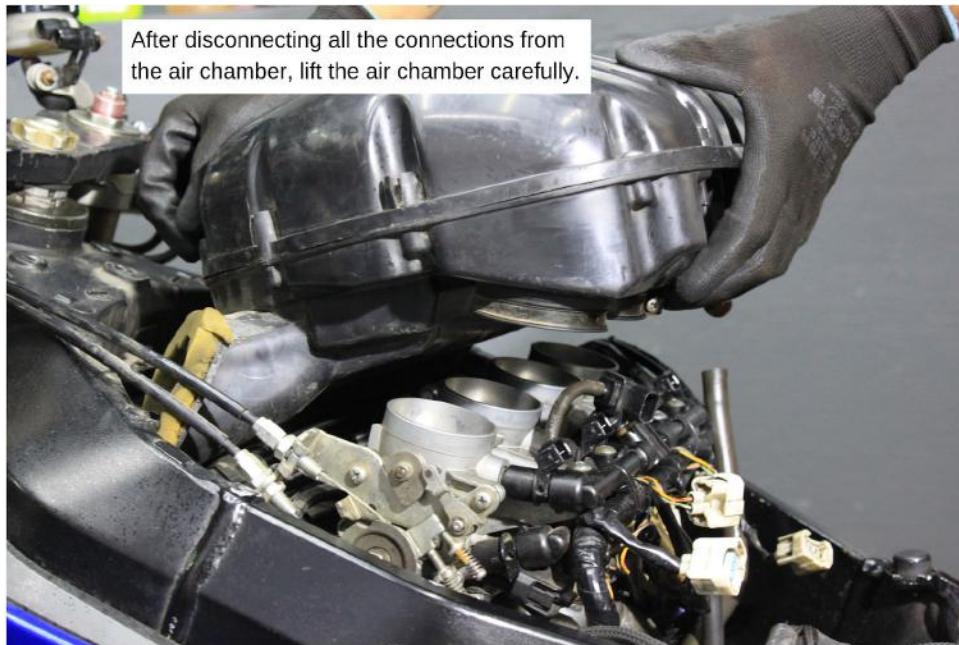


Image 23

3.1.18 Disconnect the battery negative and positive terminals. Refer **Image 24-A** and **Image 24-B**



Image 24-A and Image 24-B

3.1.19 After disconnecting the terminals, lift the battery and carefully place it safe. Refer **Image 25**



Image 25

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 26](#).

Route the harness as shown

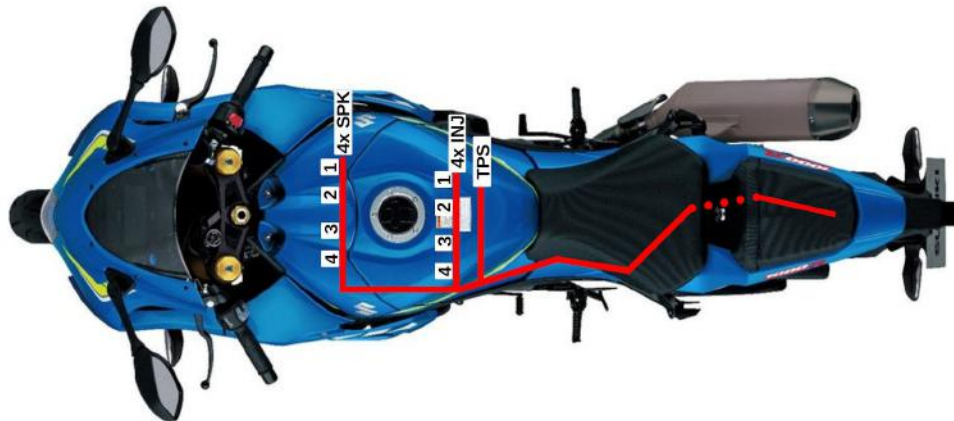


Image 26

3.2.2 Start from the glove compartment, route each connector terminals between the mudguard and seat centre panel. Refer [Image 27](#) and [Image 28](#).



Image 27



Image 28

3.2.3 Route each connectors through the panel carefully and route the entire harness. Refer [Image 29](#) and [Image 30](#).



Image 29



Image 30

3.2.4 Route the harness around the battery casing. Refer [Image 31](#)



Image 31

3.2.5 Route ignition coil connectors under the throttle cable. Refer [Image 32](#)

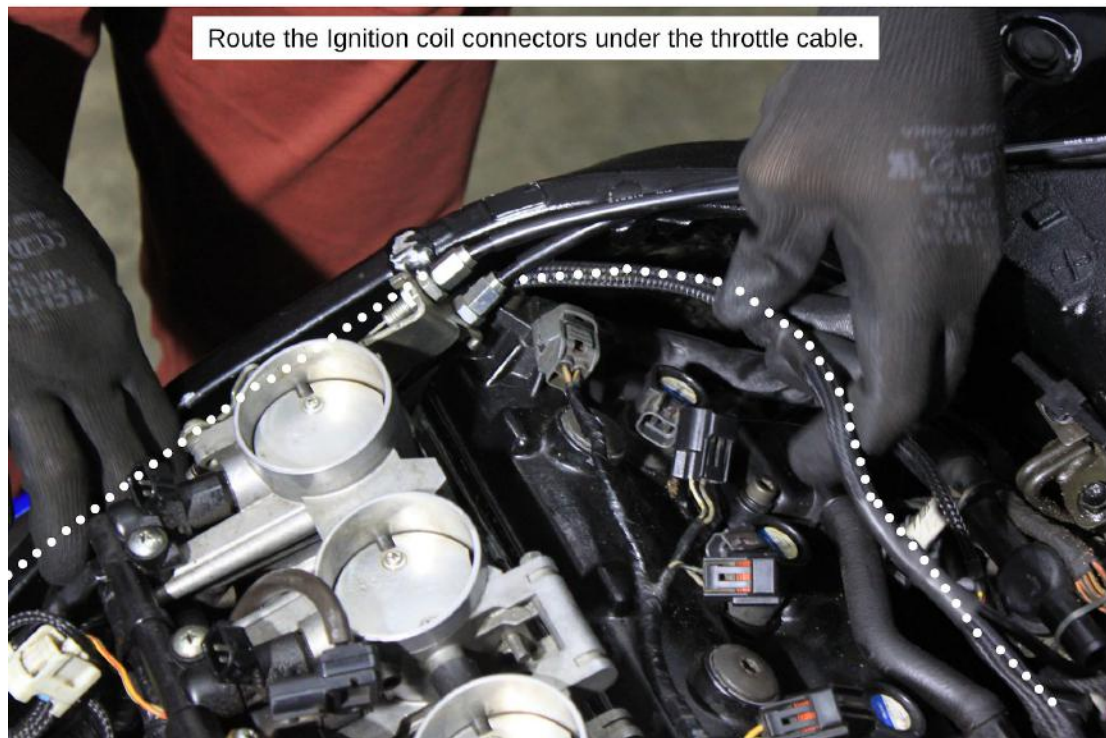


Image 32

Important Note: There are 4 fuel injector connectors and ignition coil connectors. Fuel injectors are labelled as INJ1, INJ2, INJ3, INJ4 and Ignition coil connectors are labelled as SPK1, SPK2, SPK3, SPK4. Before proceeding the installation, understand the order and then do the installation in the same order for fuel injector and ignition coil connectors. Refer [Image 33](#) for the completed view.

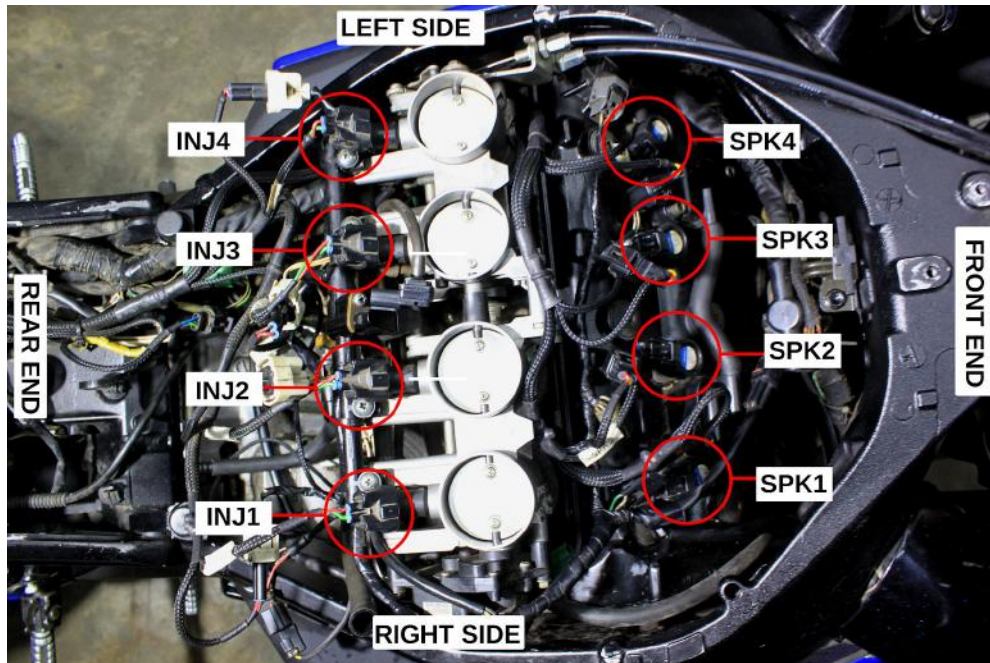


Image 33

3.3 Fuel Injector Connector

3.3.1 Locate the stock injector connector of your bike. Refer **Images 34.**



Image 34

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 35**)

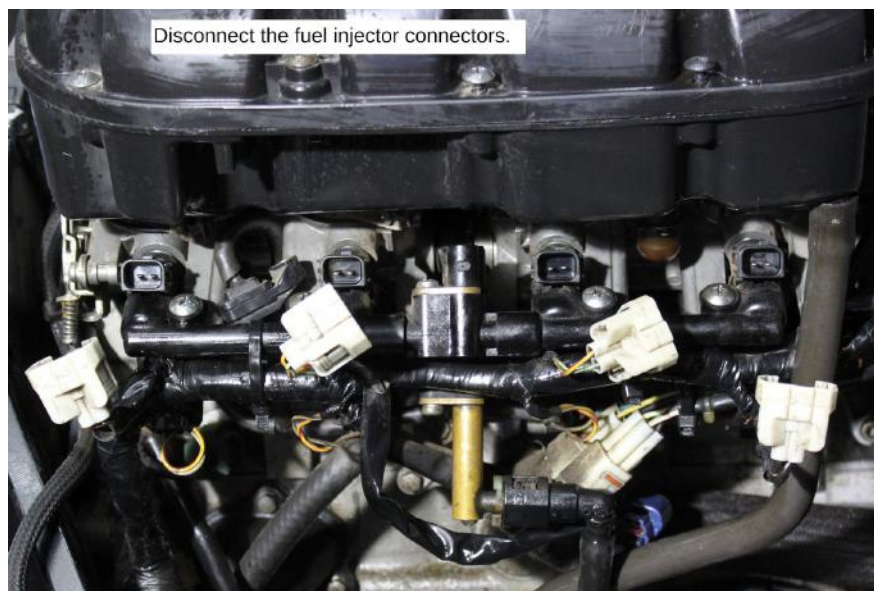


Image 35

3.3.4 Connect the PowerTRONIC female injector connector harness to the stock male injector connector. Refer **Image 36**

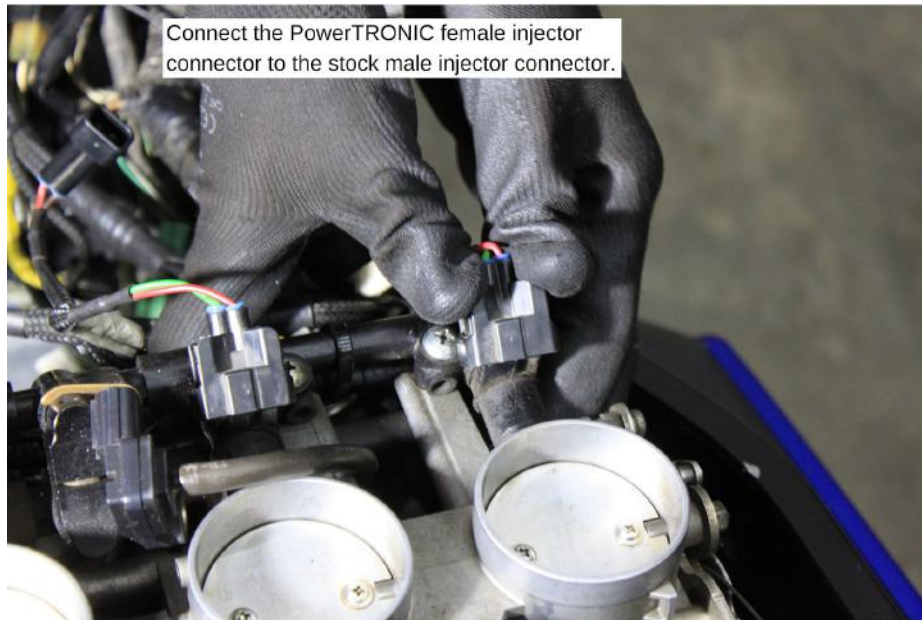


Image 36

3.3.5 Connect the PowerTRONIC male injector connector to the stock female injector connector. Refer **Image 37**

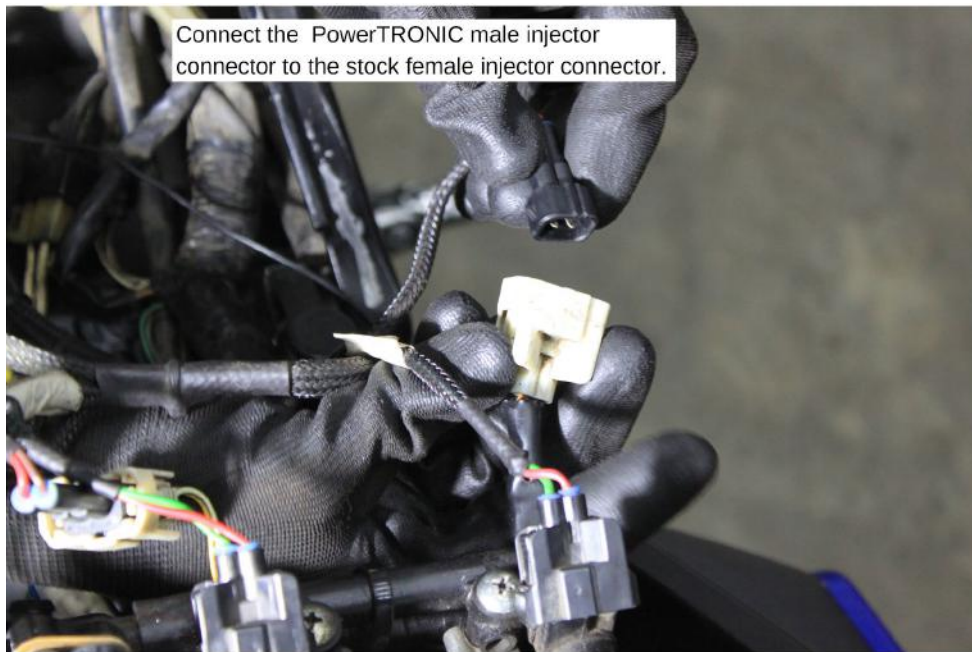


Image 37

3.4 Ignition Coil Connector

3.4.1 Locate the Ignition coil mounted bolts and unscrew them. Refer **Images 38** and **Image 39**

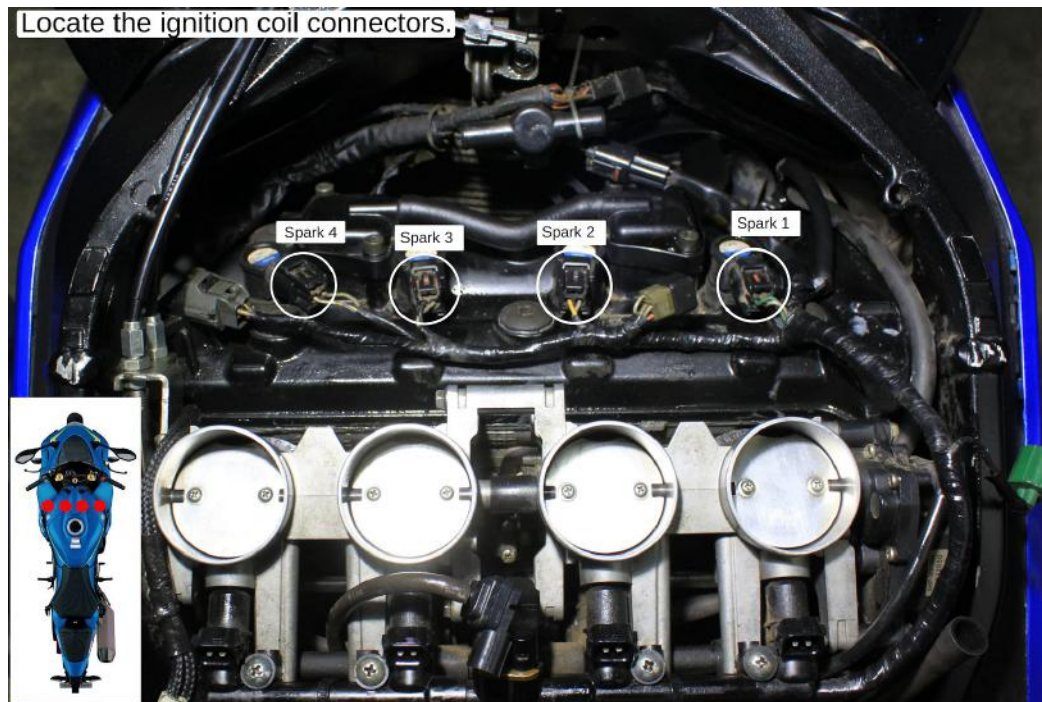


Image 38



Image 39

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. Refer **Image 40**

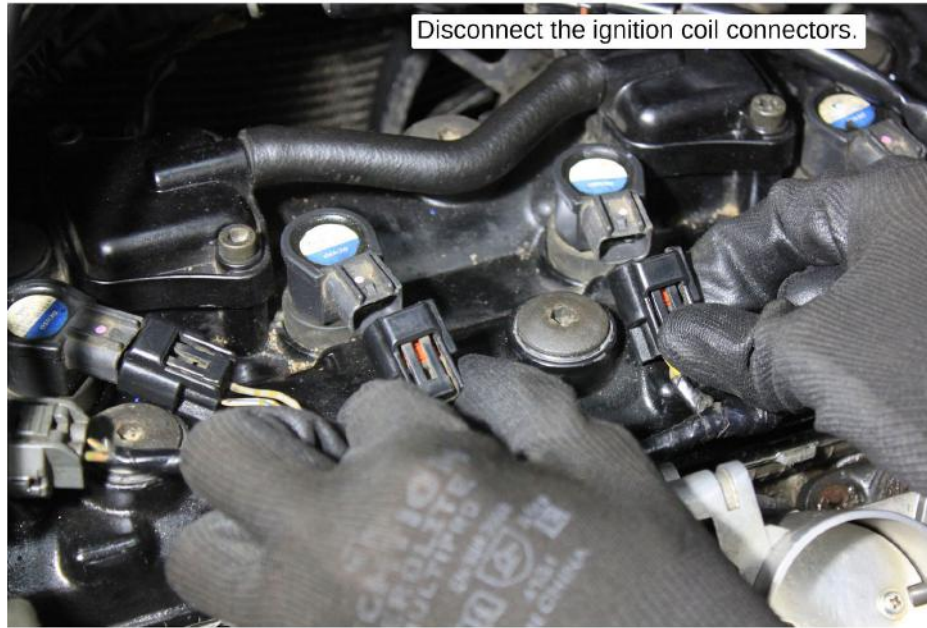


Image 40

3.4.4 Connect the PowerTRONIC Ignition coil female connector to the stock ignition coil male connector. Refer **Image 41**.

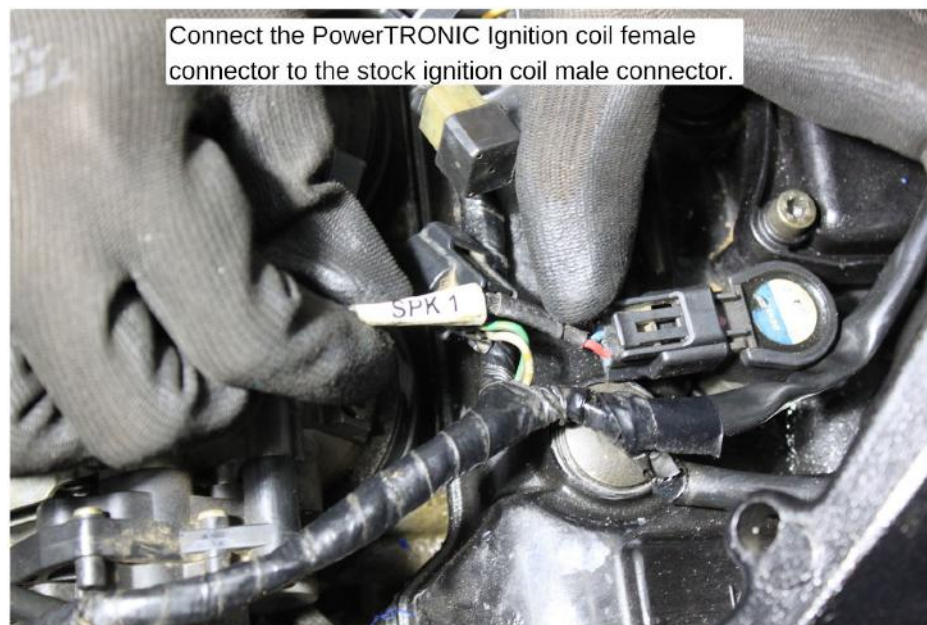


Image 41

3.4.5 Connect the PowerTRONIC Ignition coil male connector to the stock ignition coil female connector. Refer **Image 42.**



Image 42

3.4.6 Repeat the above steps for the other 3 ignition coils. Refer **Image 43** for completed view.



Image 43

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 44](#) and [Image 45](#).

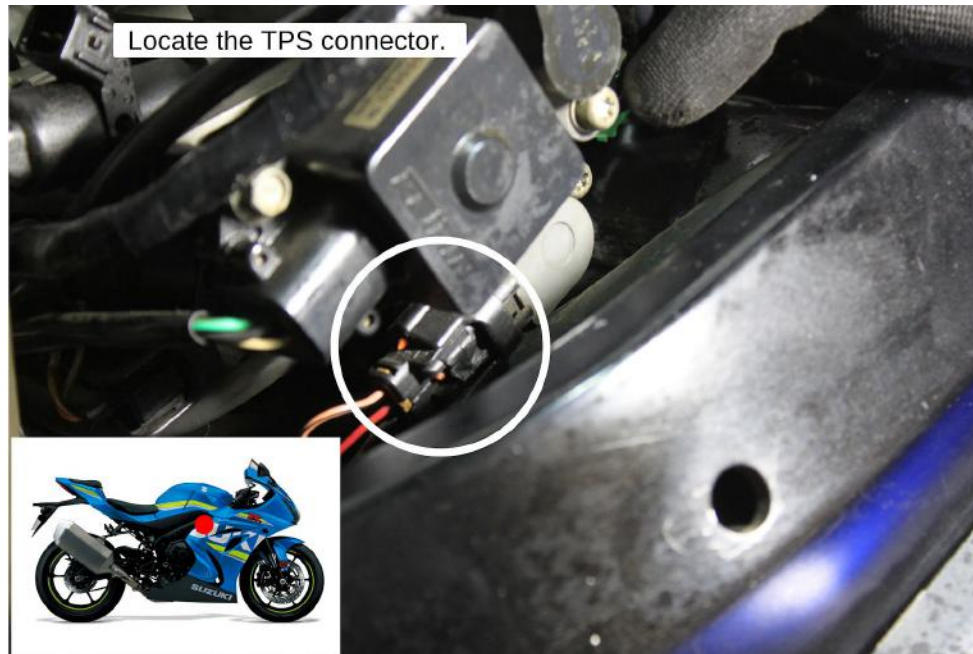


Image 44



Image 45

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 46](#)

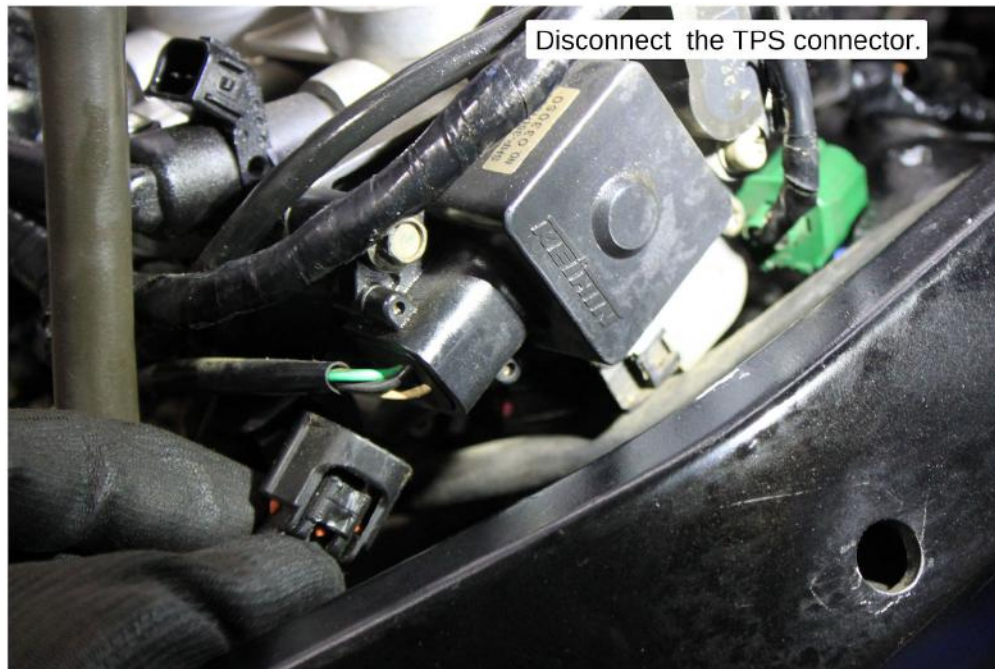


Image 46

3.5.4 Connect the PowerTRONIC female TPS connector to the stock TPS male connector. Refer [Image 47](#).

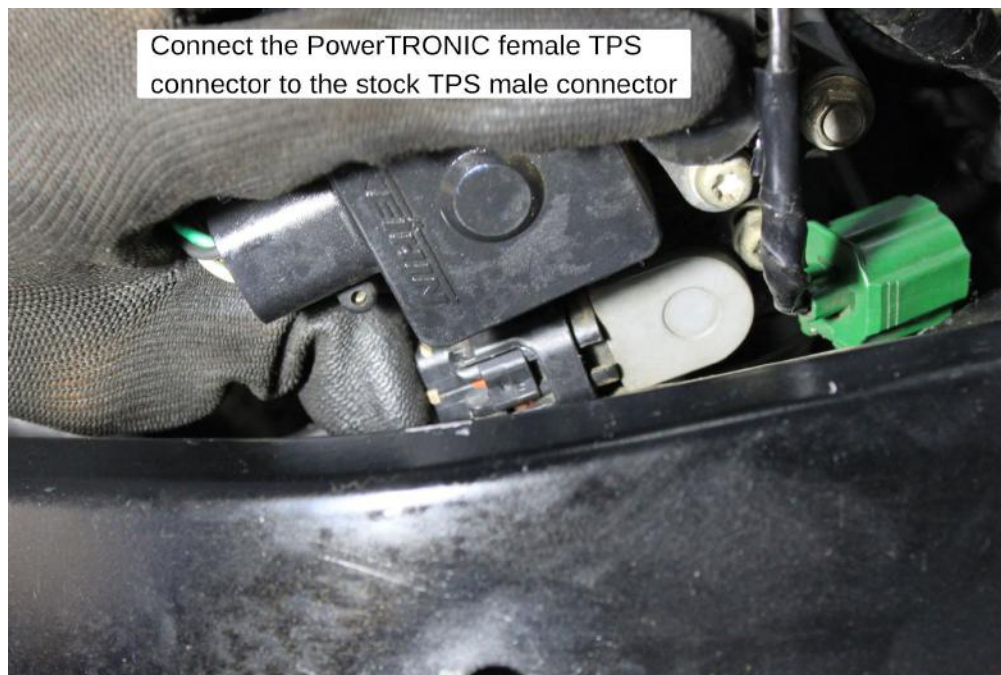


Image 47

3.5.5 Connect the PowerTRONIC male TPS connector to the stock TPS female connector. Refer **Image 48**.



Image 48

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 Ground Terminal Connector

3.6.1 Attach the battery back to the bike. Refer [Image 49](#)

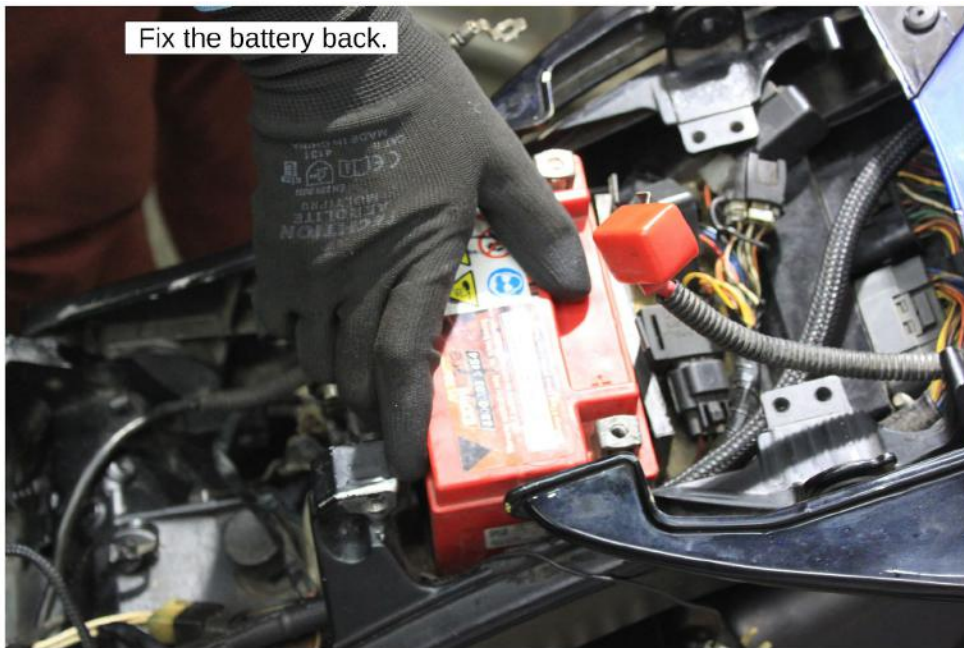


Image 49

3.6.2 Identify the Ground terminal connector labelled as GND and connect it to the negative terminal of the battery. Refer [Image 50](#)



Image 50

3.7 Securing the harness using ties

3.7.1 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 51**

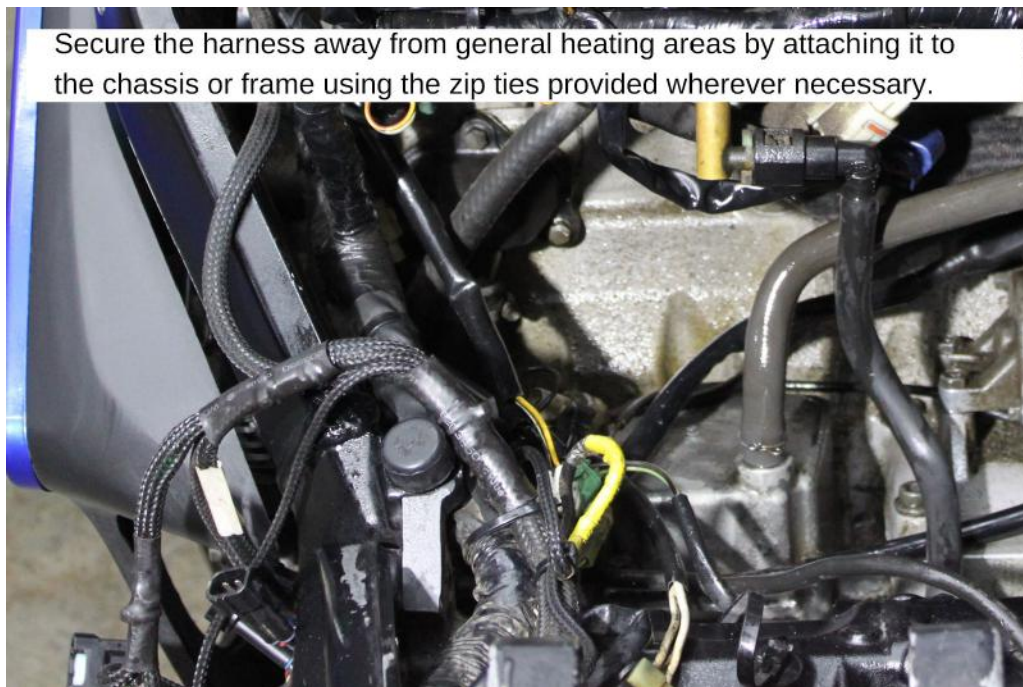


Image 51

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.

3.8 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 detailed Stock coupler test document.

3.8.3 ***DO NOT proceed with PowerTRONIC ECU without verifying the connections with stock coupler.*** Refer **Image 52**



Image 52

3.9 Plugging in the PowerTRONIC

Connect the PowerTRONIC to the harness by connecting the 24 pin connector. Secure it in the glove box. Refer **Image 53**



Image 53

3.10 Attaching the panels fairing etc

Attach the panels, fairing as removed from the bike.