

PowerTRONIC Installation Manual- Kawasaki Ninja 1000 (2018-2019)

Document Version	1	Release Date	05 March 2019
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Application information	Vehicle Specific
Vehicle	Kawasaki
Model	Ninja 1000
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.

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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• Ignition coil connectors• Throttle position sensor connector (TPS)• Crank position (CKP) sensor * if applicable• 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	3, 4, 5, 6 mm Allen T ahndle
2	M8, M10, M12 Hexagonal socket
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 position of the connectors



Image 2

3.1.1 Locate the pillion rider seat lock shown in **Image 3** and unlock the pillion rider seat as shown in **Image 4**.



Image 3



Image 4

3.1.2 Detach the pillion rider seat. Gently detach the rider seat also. Refer [Image 5](#)



Image 5

3.1.3 Unscrew the rider seat bolts using 6mm Allen key T- handle. Refer [Image 6](#)

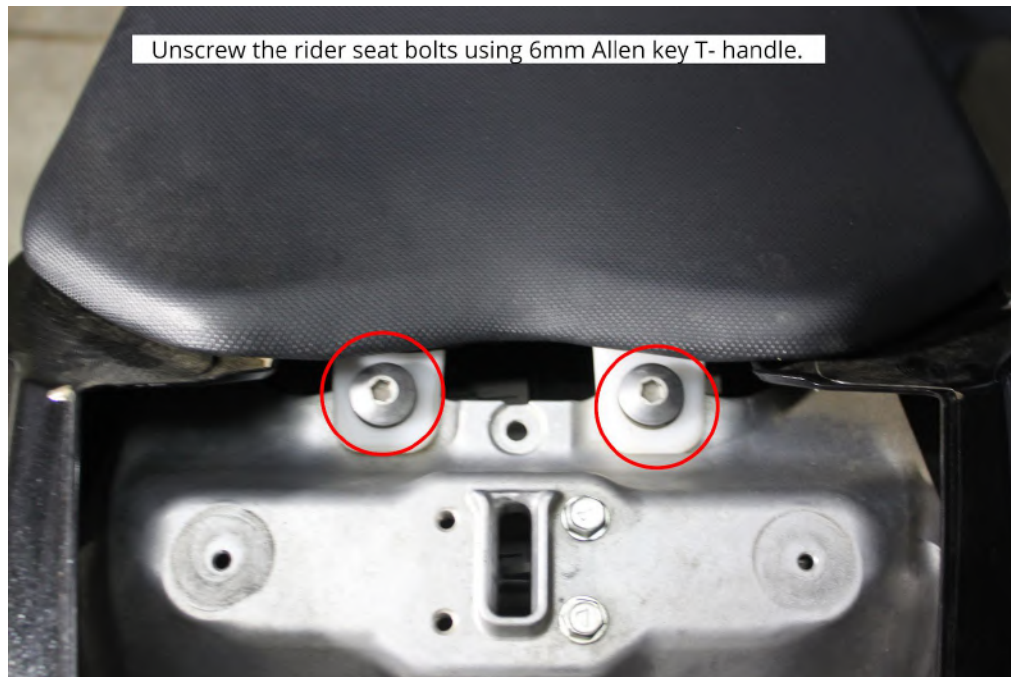


Image 6

3.1.4 Detach the rider seat. Refer the **Image 7**



Image 7

3.1.5 Locate and unscrew the left side panel bolt 4mm Allen T handle. Refer **Image 8**.



Image 8

3.1.6 Locate and detach the press clip. Refer [Image 9](#).



Image 9

3.1.7 Gently detach the side panel. Refer [Image 10](#)



Image 10

3.1.8 Refer **Image 11** for the position of the push locks.

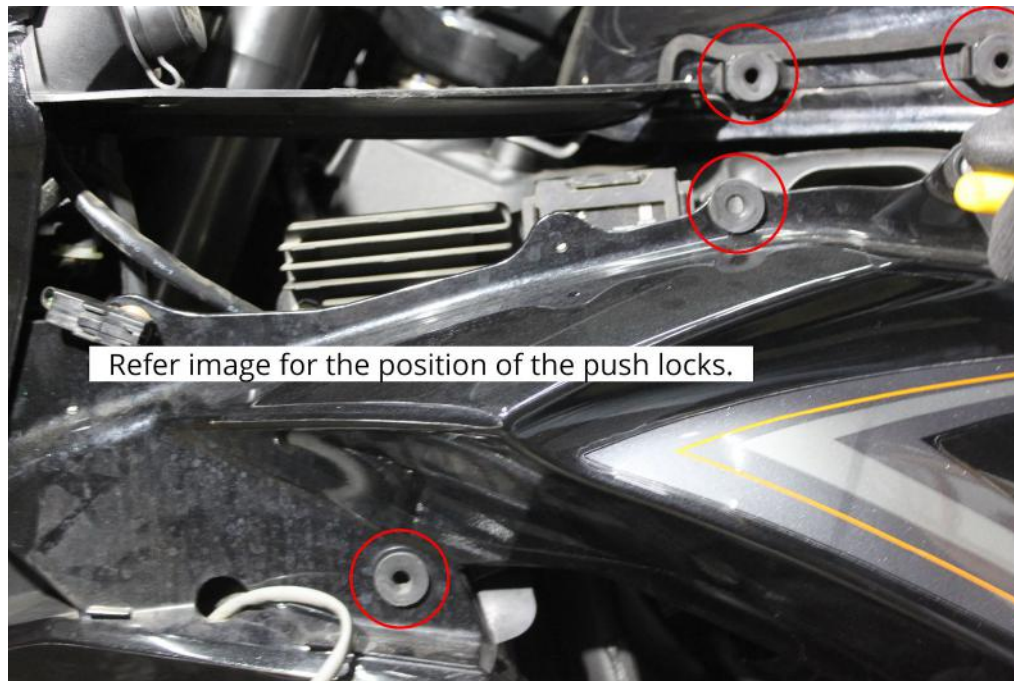


Image 11

3.1.9 Locate and unscrew the side panel bolt using a 4mm Allen T handle. Refer **Image 12**

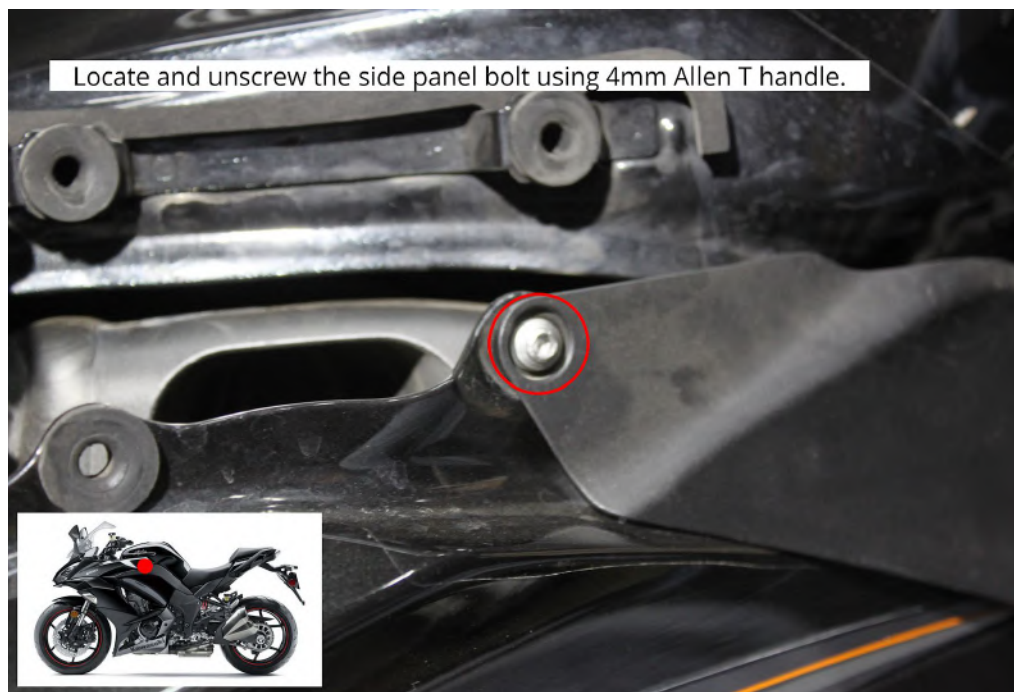


Image 12

3.1.10 Locate and unscrew the side panel bolt using a 4mm Allen T handle. Refer **Image 13**



Image 13

3.1.11 Detach the panel carefully. Refer **Image 14**



Image 14

3.1.12 Locate and unscrew the tank rear bolts using M8 Hexagonal socket. Refer **Image 15**

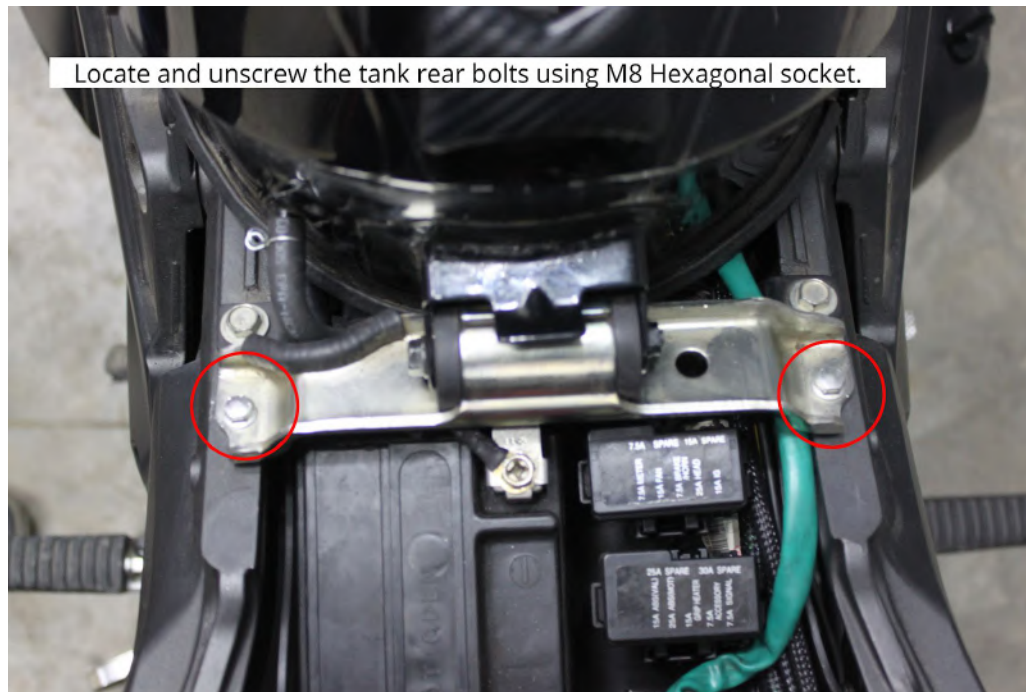


Image 15

3.1.13 Locate and unscrew the tank front bolts using 5mm Allen T handle. Refer **Image 16**

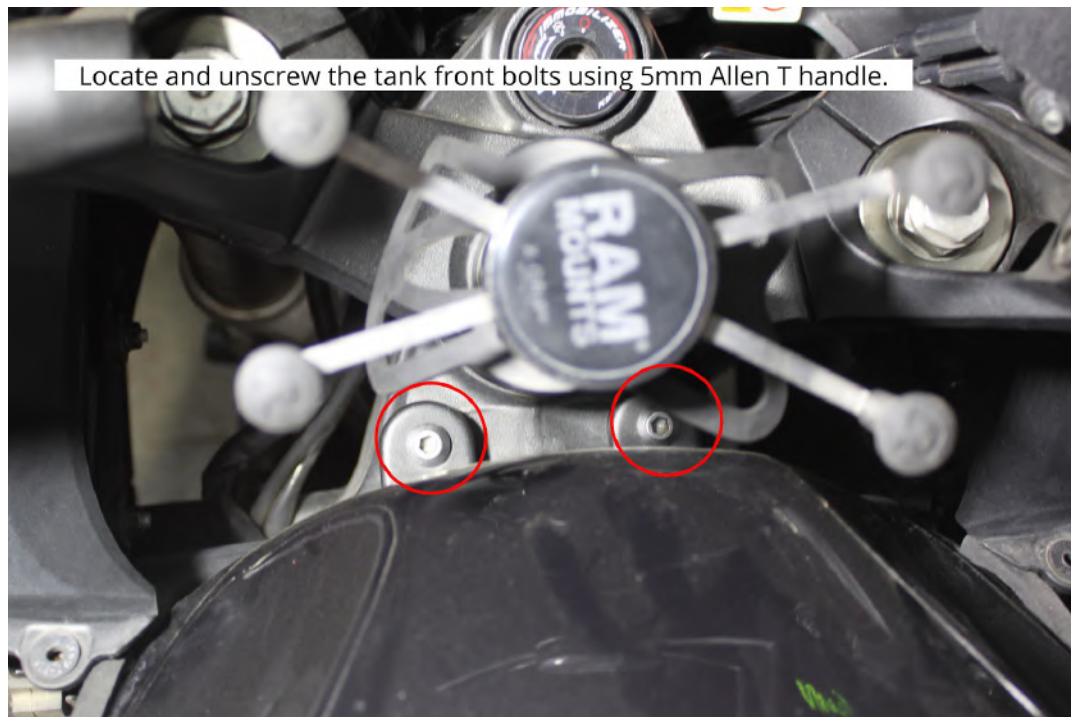


Image 16

3.1.14 Locate and carefully unscrew the vacuum hose from the tank. Refer **Image 17**

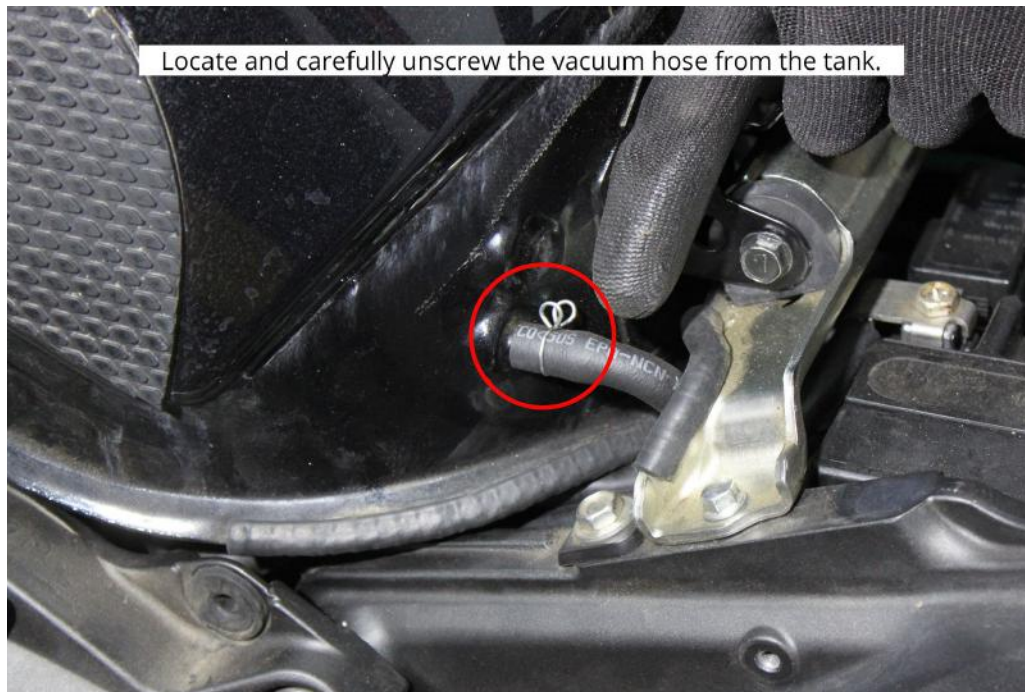


Image 17

3.1.15 Lift the tank gently and locate and carefully unscrew the vacuum hose from the tank. Refer **Image 18A** and **18B**



Image 18A 18B

3.1.16 Locate and carefully unscrew the fuel line from the tank. Refer [Image 19](#)



Image 19

3.1.17 Locate and carefully disconnect the sensor connector. Refer [Image 20](#)



Image 20

3.1.18 After disconnecting all the tank connections, gently lift the tank.

3.1.19 Carefully unscrew the panel bolts using 4 mm Allen T handle. Refer **Image 21**

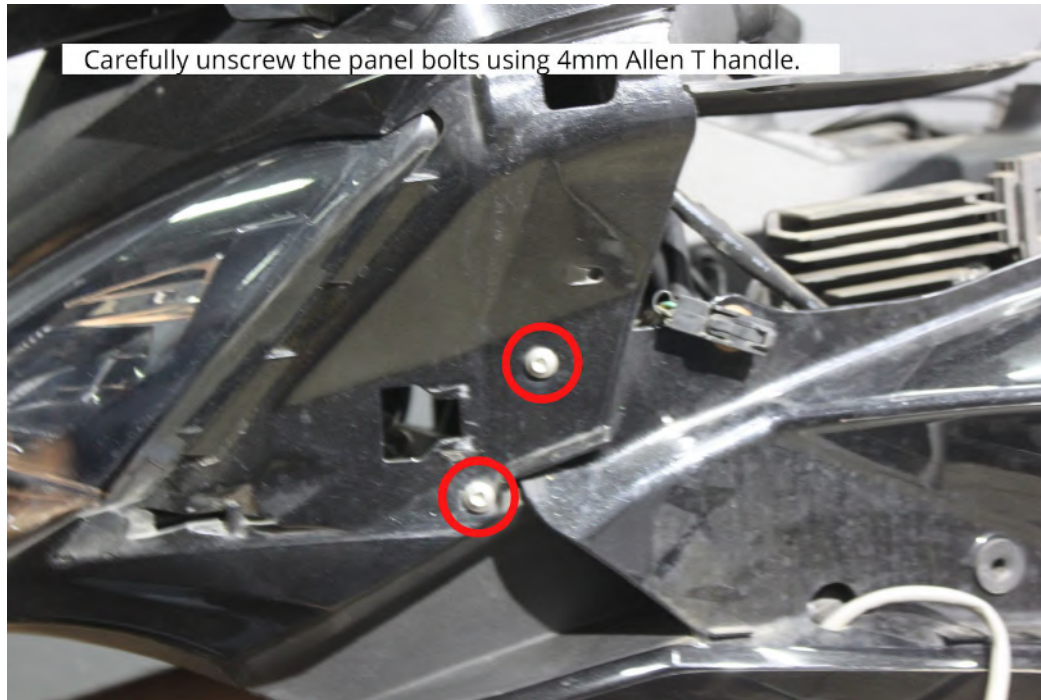


Image 21

3.1.20 Carefully unscrew the panel bolts using 4 mm Allen T handle. Refer **Image 22**



Image 22

3.1.21 Carefully unscrew the panel bolts using 6 mm Allen T handle. Refer **Image 23**



Image 23

3.1.22 Carefully unscrew the panel bolts using 6 mm Allen T handle.. Refer **Image 24**



Image 24

3.1.23 Carefully disconnect the sensor connector from the left side panel.. Refer **Image 25**



Image 25

3.1.24 Carefully disconnect the indicator connector from the left side panel. Refer **Image 26**

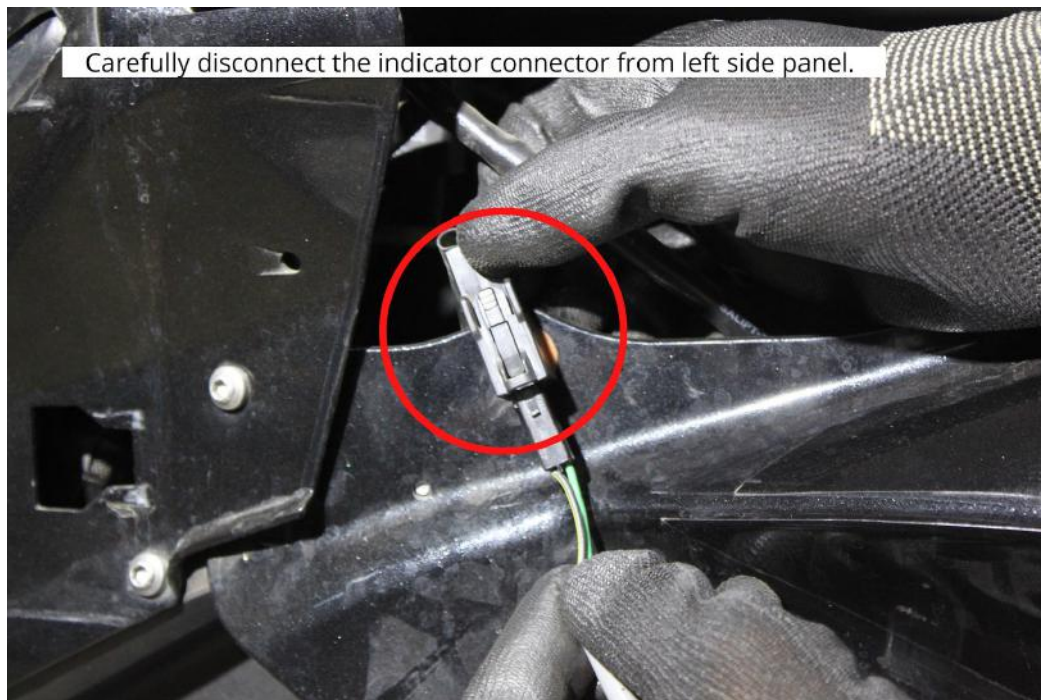


Image 26

3.1.25 Carefully unpin the indicator connector from left side panel. Refer [Image 27](#)

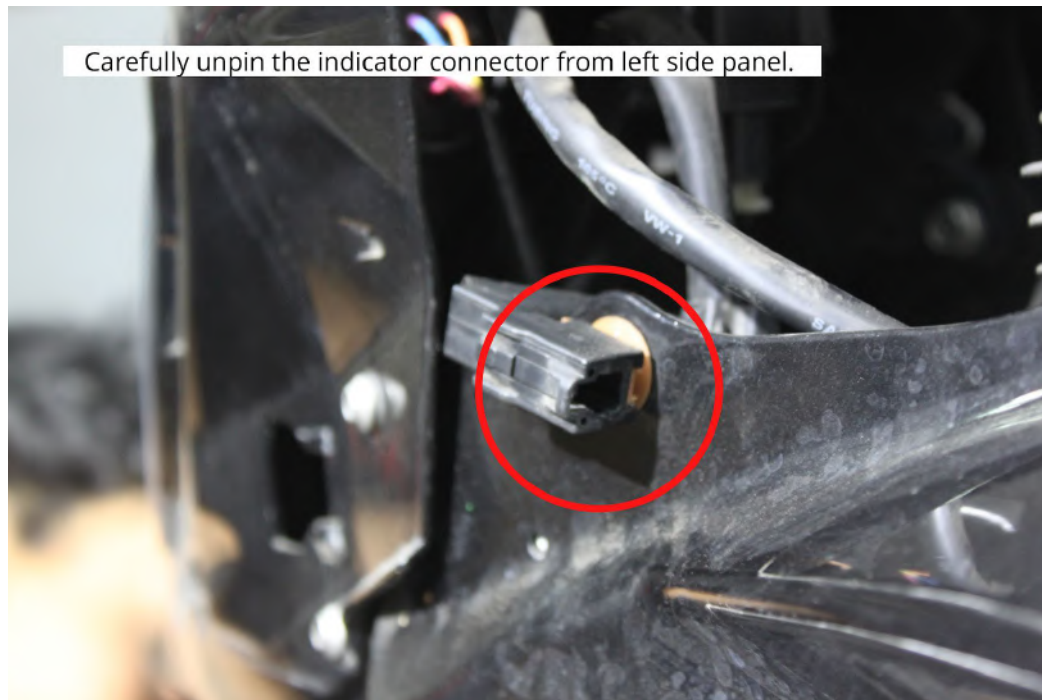


Image 27

3.1.26 Carefully unpin the pressing clip from the under belly panel.. Refer [Image 28](#)

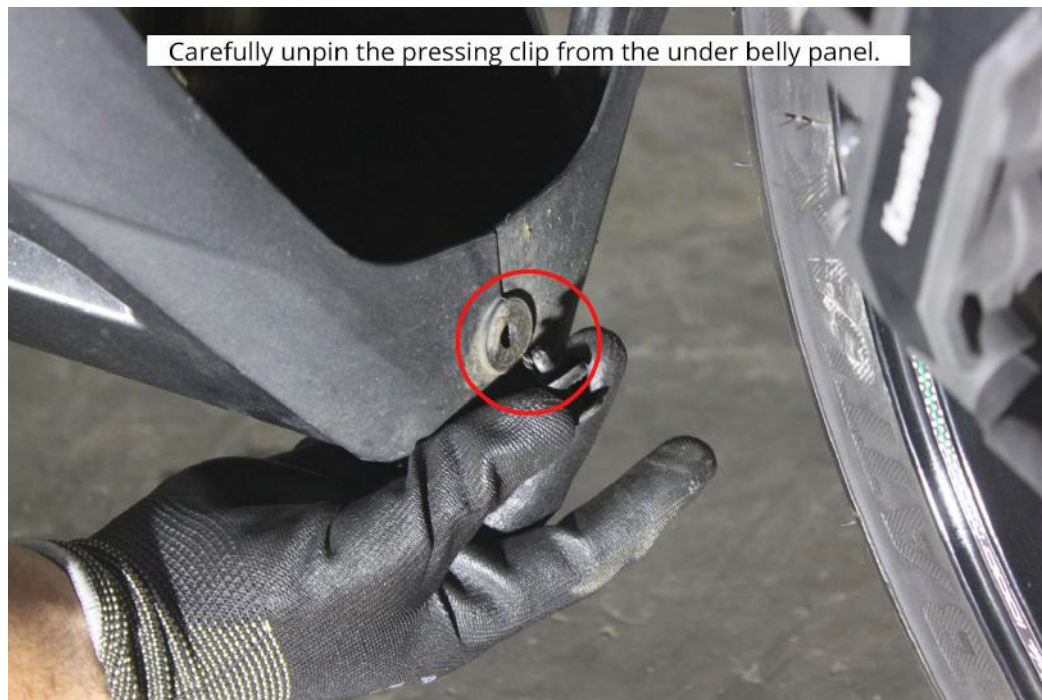


Image 28

3.1.27 Carefully unpin the pressing clip from the under belly panel. Refer [Image 29](#)



Image 29

3.1.28 Carefully unpin 3 pressing clip from left side panel. Refer [Image 30](#)

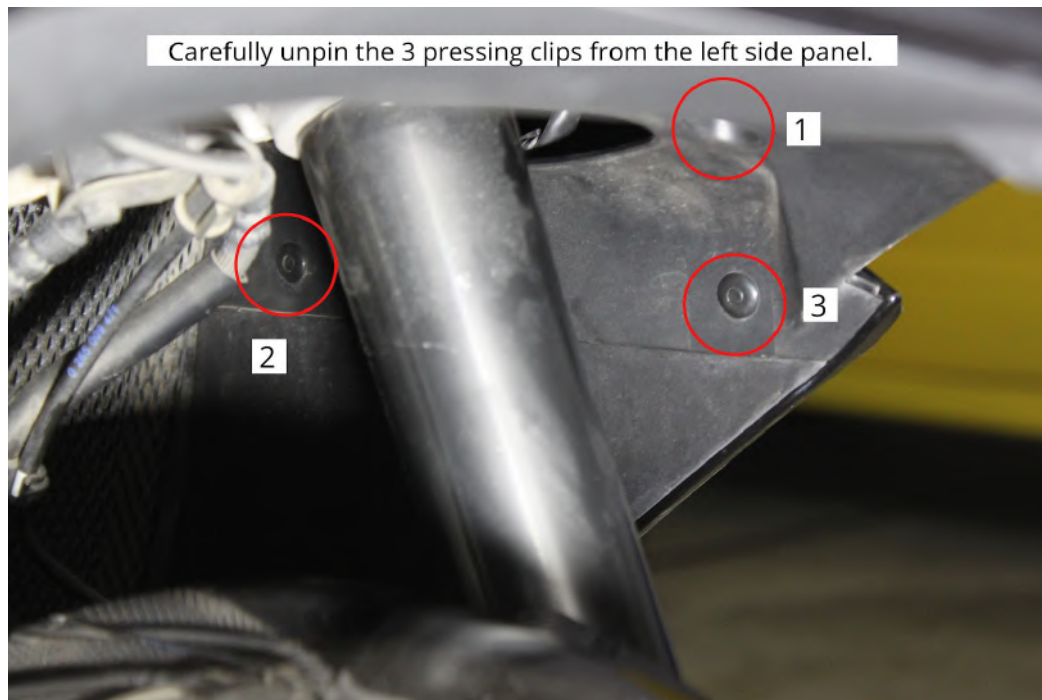


Image 30

3.1.29 Refer the image and understand the position of pressing clip 1. Refer **Image 31** Carefully remove panel and repeat the process on the other side.



Image 31

3.1.30 Locate and unscrew the air box screws using a Phillips head screwdriver Refer **Image 32**

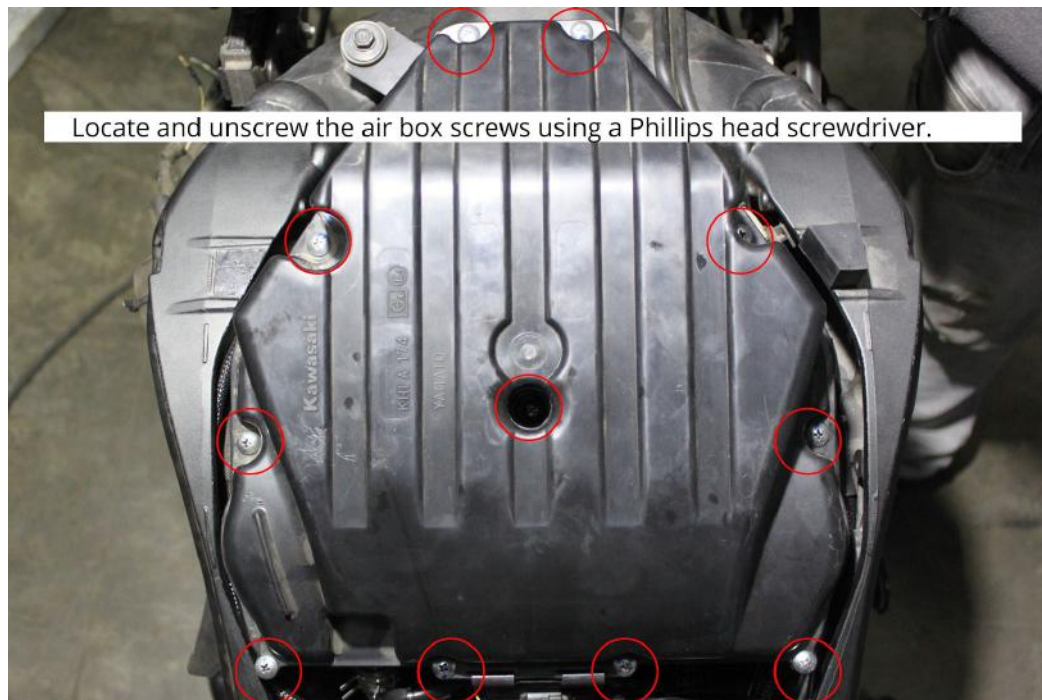


Image 32

3.1.31 Carefully disconnect the air box cover. Refer **Image 33**



Image 33

3.1.32 Disconnect the hose from the air box. Refer **Image 34**



Image 34

3.1.33 Disconnect the sensor connector from the air box. Refer [Image 35](#)

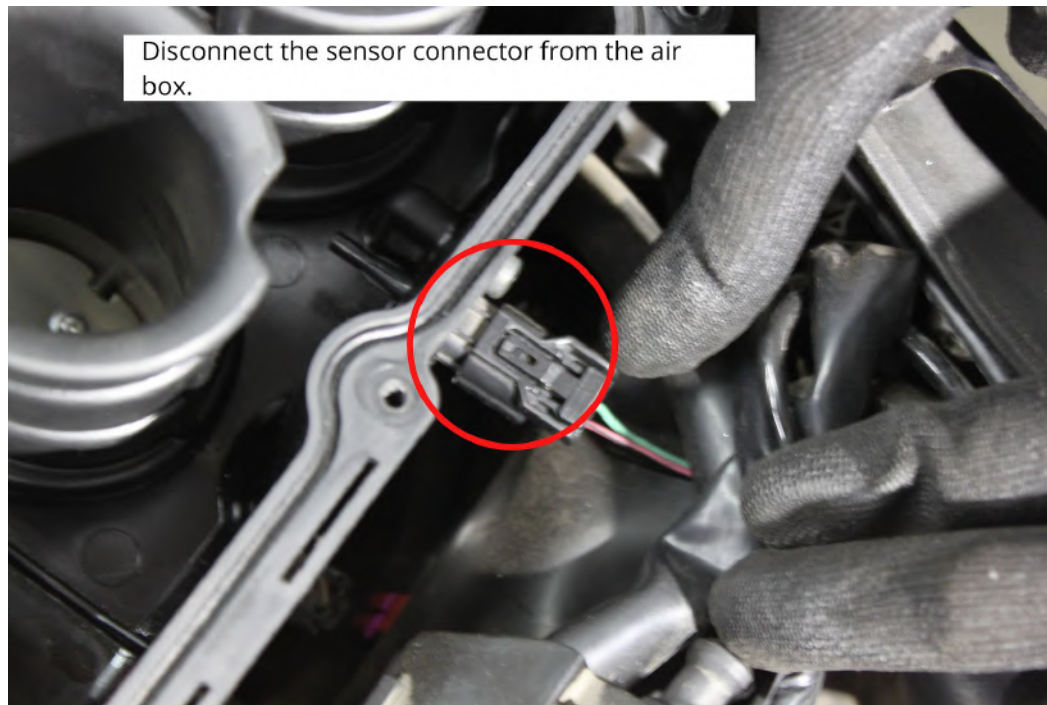


Image 35

3.1.34 Unscrew the air box bolt using M 10 hexagonal socket. Refer [Image 36](#)



Image 36

3.1.35 Carefully unscrew air box mounting bolts using 3 mm Allen key. Refer [Image 37A](#) and [37B](#)

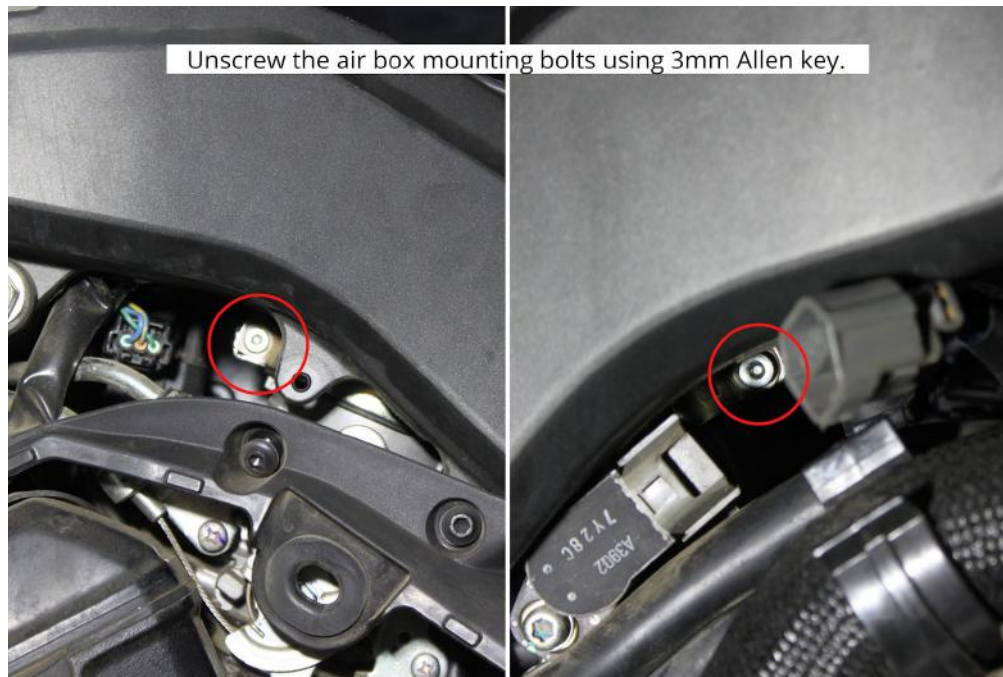


Image 37A 37B

3.1.36 Disconnect the vacuum hose from the air box. Refer [Image 38](#)



Image 38

3.1.37 Gently lift the air box.

3.2 Routing the harness

3.2.1 Starting from the glove compartment, route each connector terminal between the welded plate and the mud guard. Refer **Image 39**.

PowerTRONIC harness routing sequence

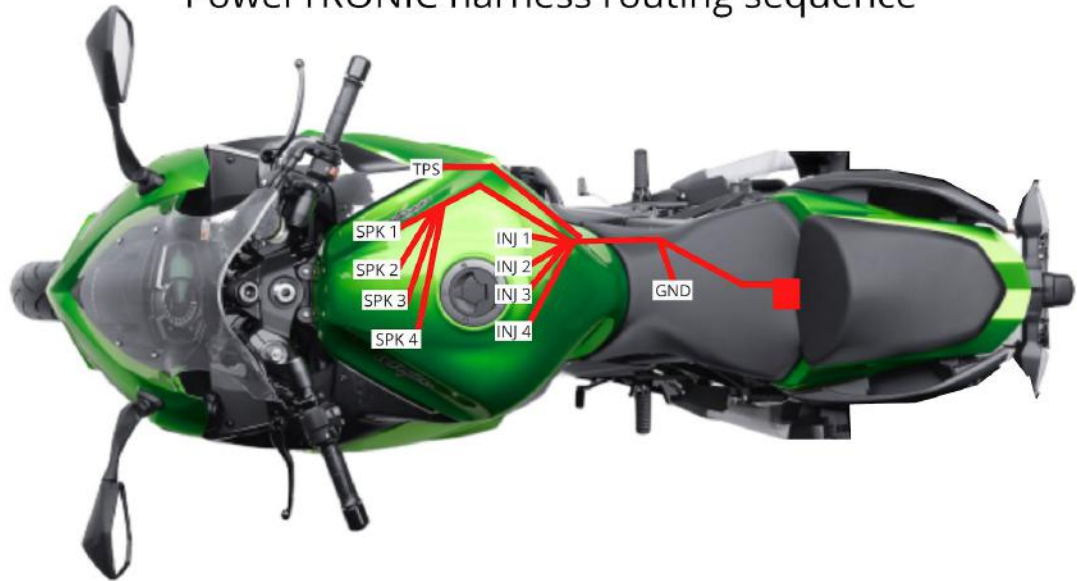


Image 39

3.2.2 Start from the glove compartment, route each connector terminal between the mudguard and seat centre panel. Refer **Image 40** and **Image 41**.



Image 40

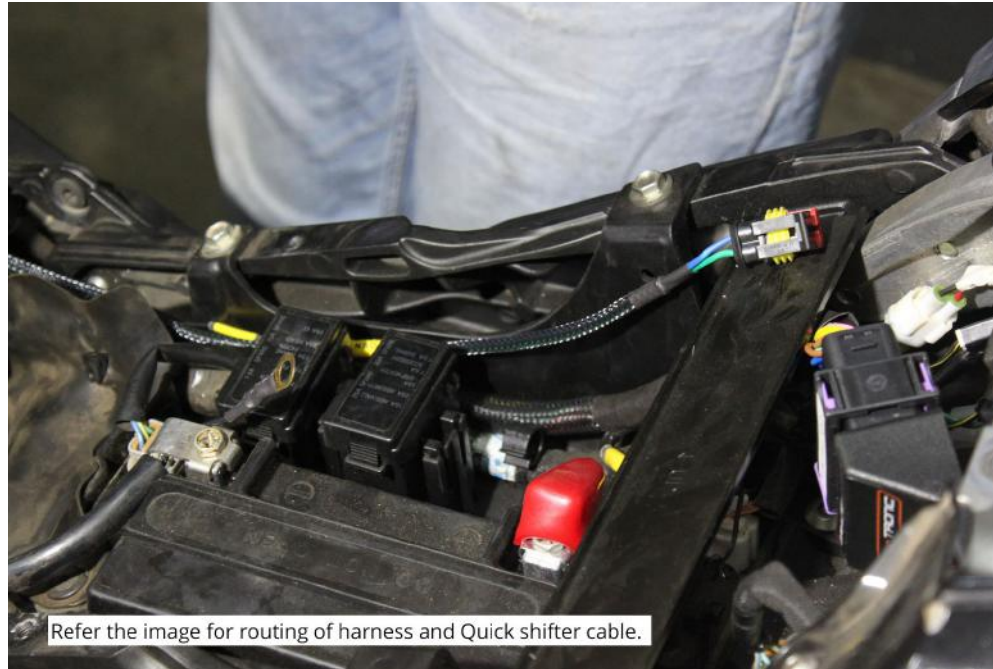


Image 41

3.2.3 Route each connector through the panel carefully and route the entire harness. Refer [Image 42](#) and [Image 43](#)



Image 42

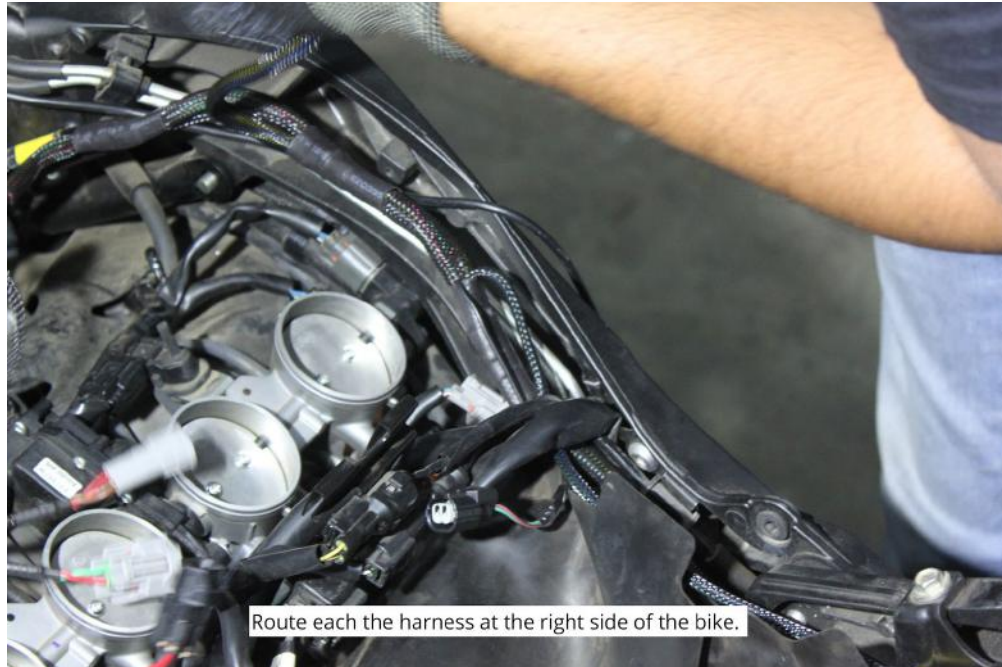


Image 43

3.2.4 Route the GND terminal connector around the battery casing. Refer [Image 44](#)

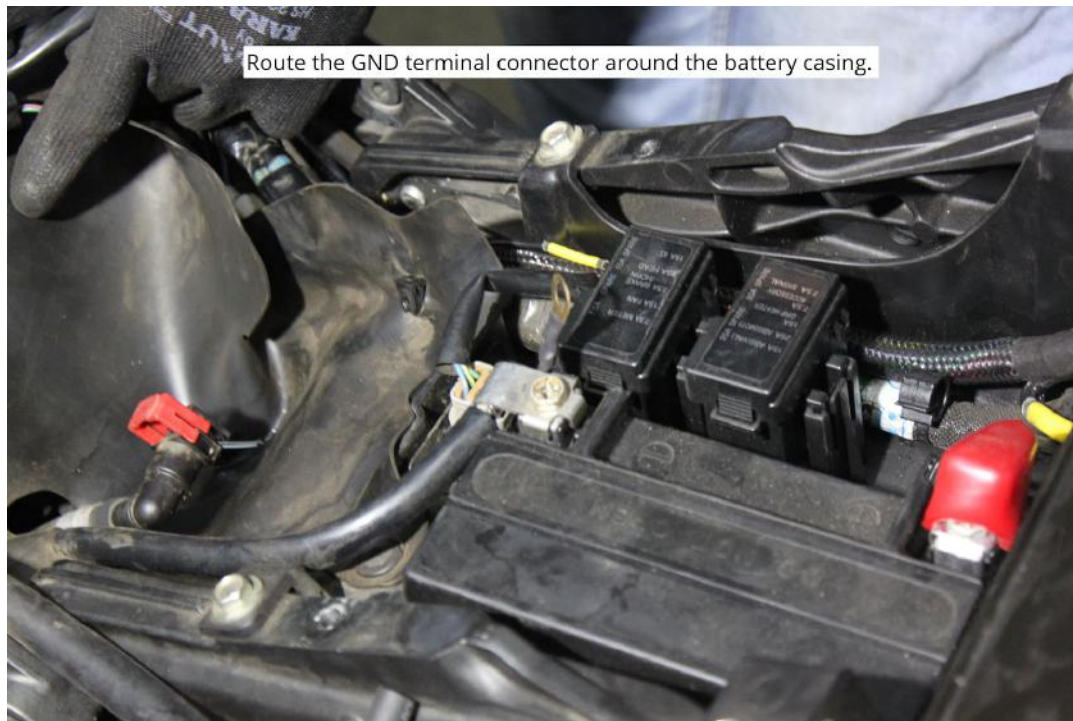


Image 44

3.2.5 Route the Injector connectors and Ignition coil connectors to their respective positions. Refer **Image 45**

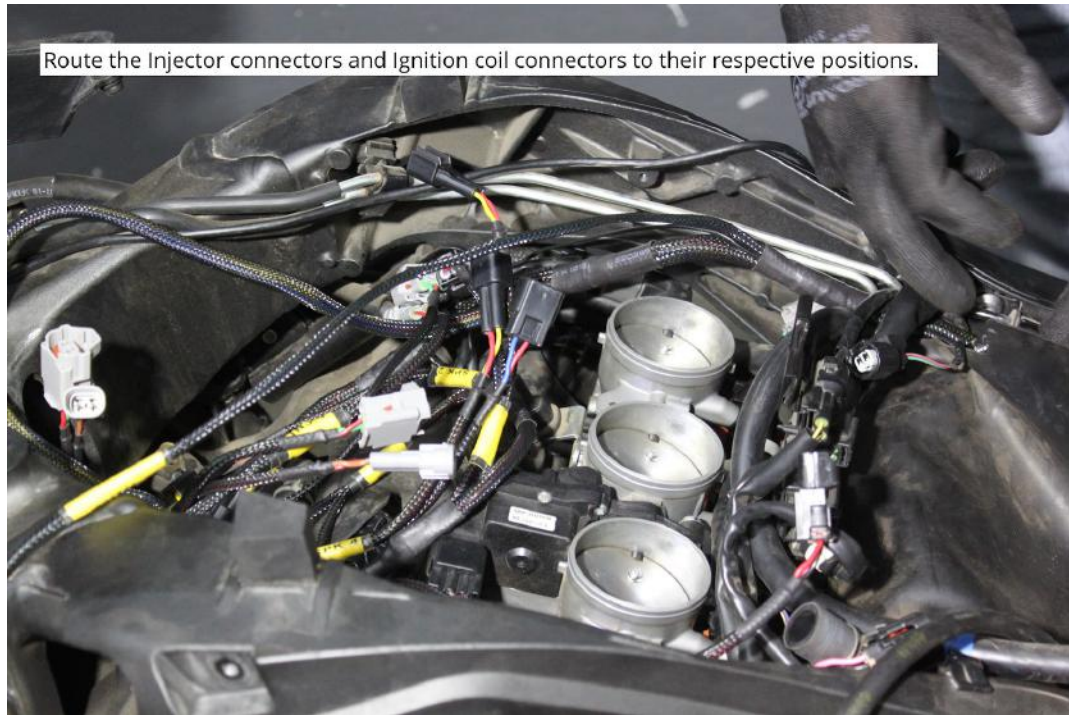


Image 45

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. ie Connect the same number of INJ and SPK to connectors which goes to same cylinder.

3.3 Fuel Injector Connector

3.3.1 Locate the stock injector connector of your bike. Refer **Images 46.**

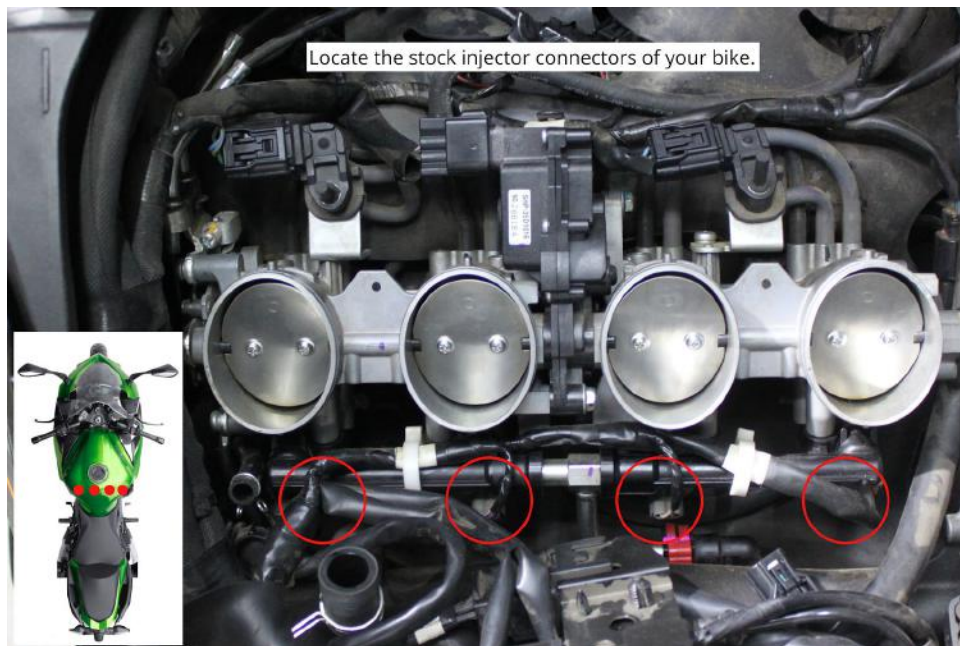


Image 46

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 47**)

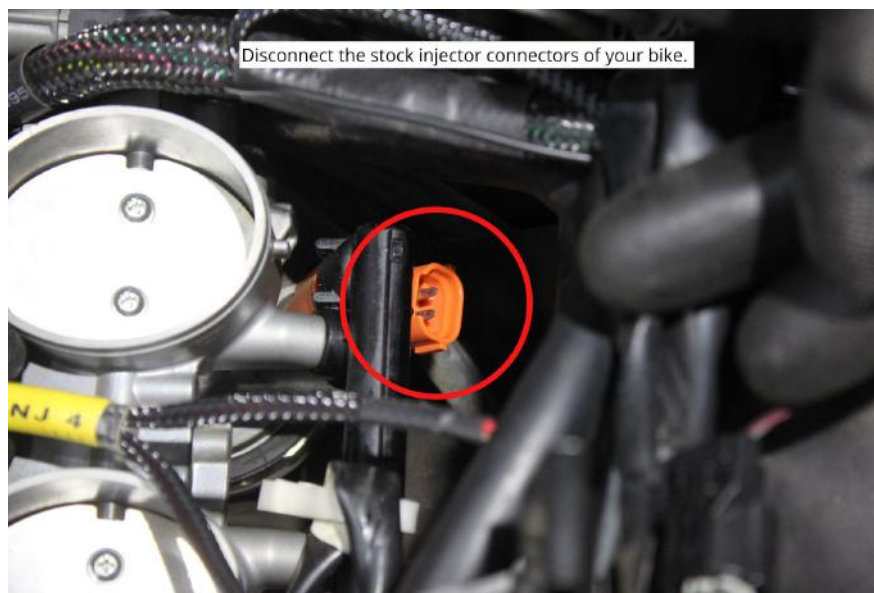


Image 47

3.3.4 Connect the PowerTRONIC female injector connector harness to the stock male injector connector. Refer **Image 48**

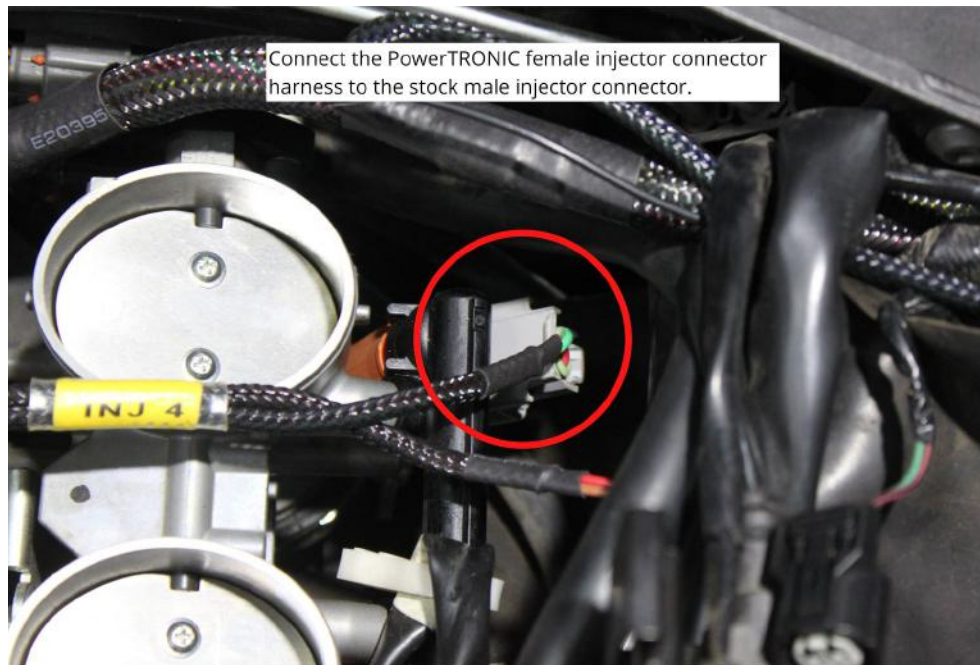


Image 48

3.3.5 Connect the PowerTRONIC male injector connector to the stock female injector connector. Refer **Image 49**

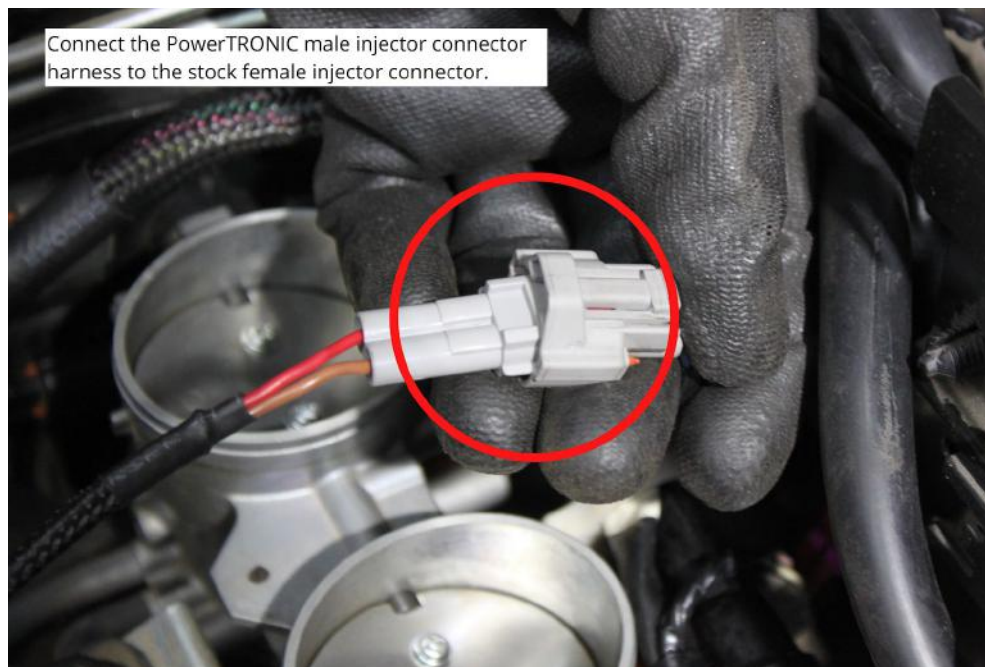


Image 49

3.4 Ignition Coil Connector

3.4.1 Locate the stock Ignition coil connectors. Refer [Images 50](#)

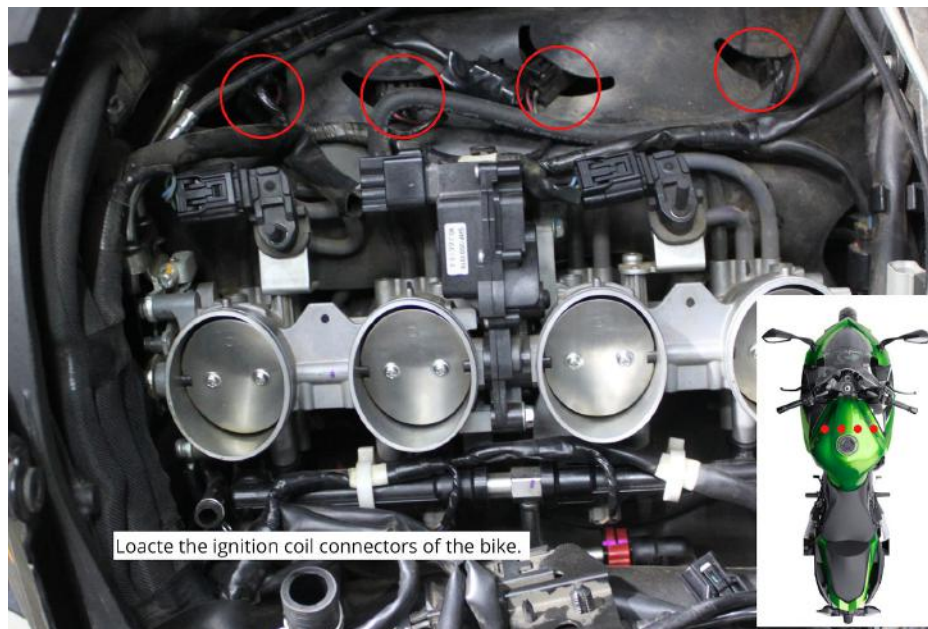


Image 50

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 51](#)



Image 51

3.4.4 Connect the PowerTRONIC Ignition coil female connector to the stock ignition coil male connector. Refer [Image 52.](#)

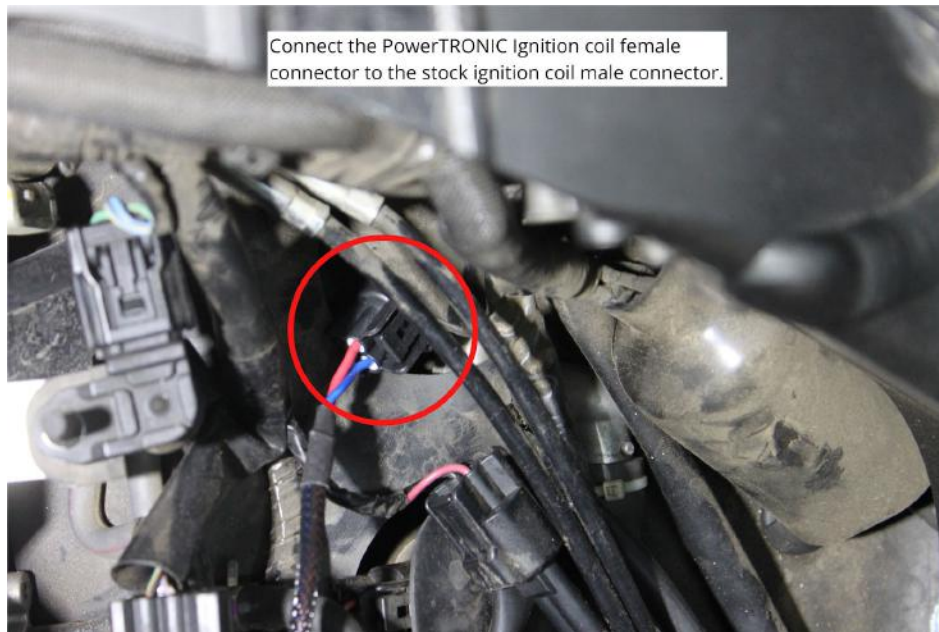


Image 52

3.4.5 Connect the PowerTRONIC Ignition coil male connector to the stock ignition coil female connector. Refer [Image 53.](#)



Image 53

3.4.6 Repeat the above steps for the other 3 ignition coils.

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 54](#)

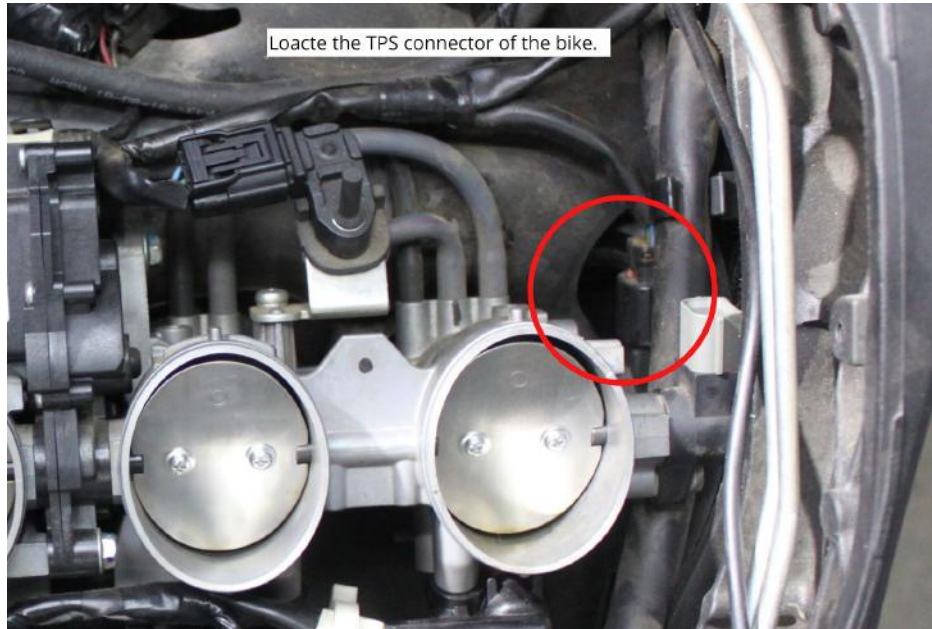


Image 54

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 55](#)



Image 55

3.5.4 Connect the PowerTRONIC female TPS connector to the stock TPS male connector. Refer [Image 56](#)



Image 56

3.5.5 Connect the PowerTRONIC male TPS connector to the stock TPS female connector. Refer [Image 57](#).



Image 57

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 Unscrew the battery negative terminal and Identify the Ground terminal connector labelled as GND and connect it to the negative terminal of the battery. Refer [Image 58](#)

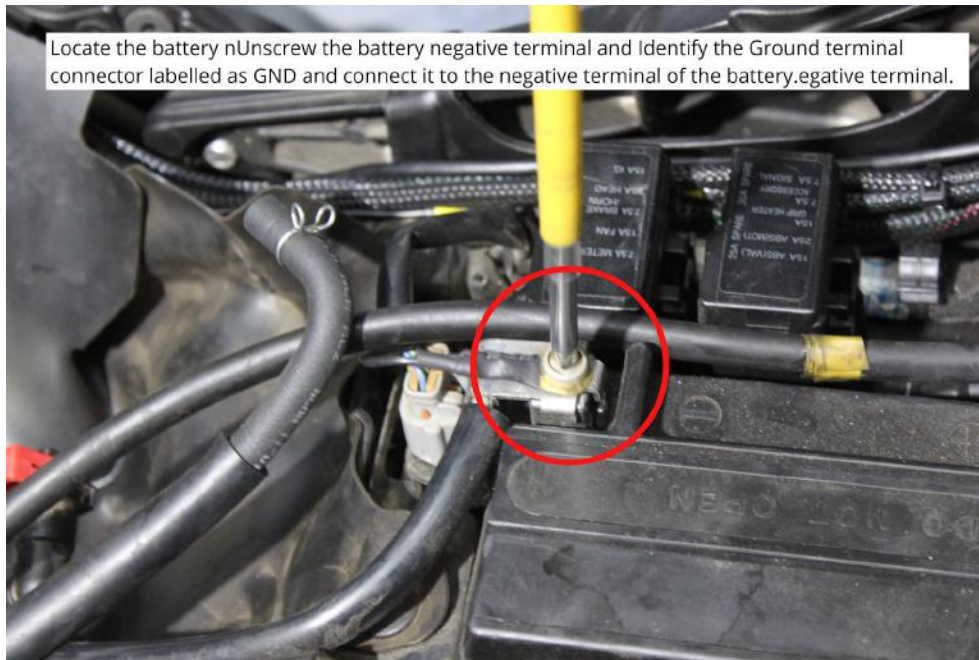


Image 58

3.6.2 Refer the completed view. Refer [Image 59](#)



Image 59

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 60**



Image 60

Important note: The PowerTRONIC harness contains a 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 to the detailed Stock coupler test document.

3.8.3 ***DO NOT proceed with PowerTRONIC ECU without verifying the connections with stock coupler.*** Refer **Image 61**.



Image 61

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 62](#)



Image 62

3.10 Attaching the panels fairing etc

Attach the panels, fairing as removed from the bike.