

## PowerTRONIC Installation Manual- Kawasaki Ninja ZX 25R (2020)

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Application information	Vehicle Specific
Vehicle	<b>Kawasaki</b>
Model	<b>Ninja ZX 25R</b>
Year of manufacture	<b>2020</b>
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"> <li>• Can be connected in place of the PowerTRONIC to run the bike in stock mode if need be.</li> <li>• Used for the verification of the connectors involved.</li> </ul>
3	Harness	Bike specific harness contains the following connectors <ul style="list-style-type: none"> <li>• Fuel injector connectors</li> <li>• Ignition coil connectors</li> <li>• Throttle position sensor connector (TPS)</li> <li>• O<sub>2</sub> Override patch</li> <li>• Map selection connector</li> <li>• Quick shifter connector</li> <li>• Ground terminal</li> </ul>
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 handle
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

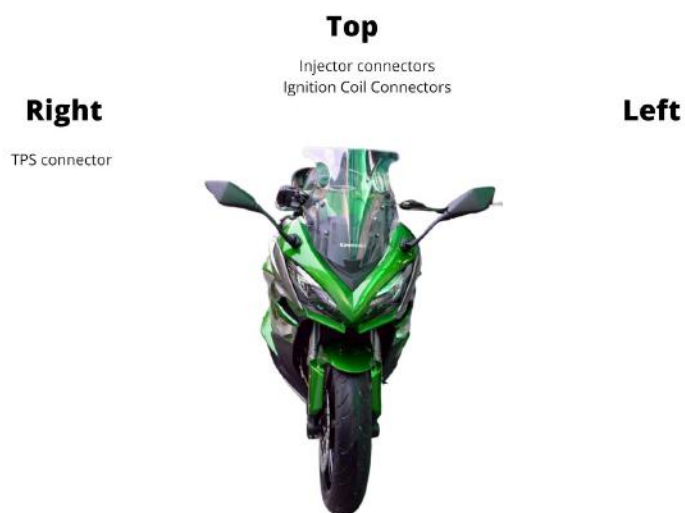


Image 2

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** Locate the battery negative terminal and disconnect. Refer **Image 5**



Image 5

**3.1.3** Disconnect the connectors. Refer **Image 6**

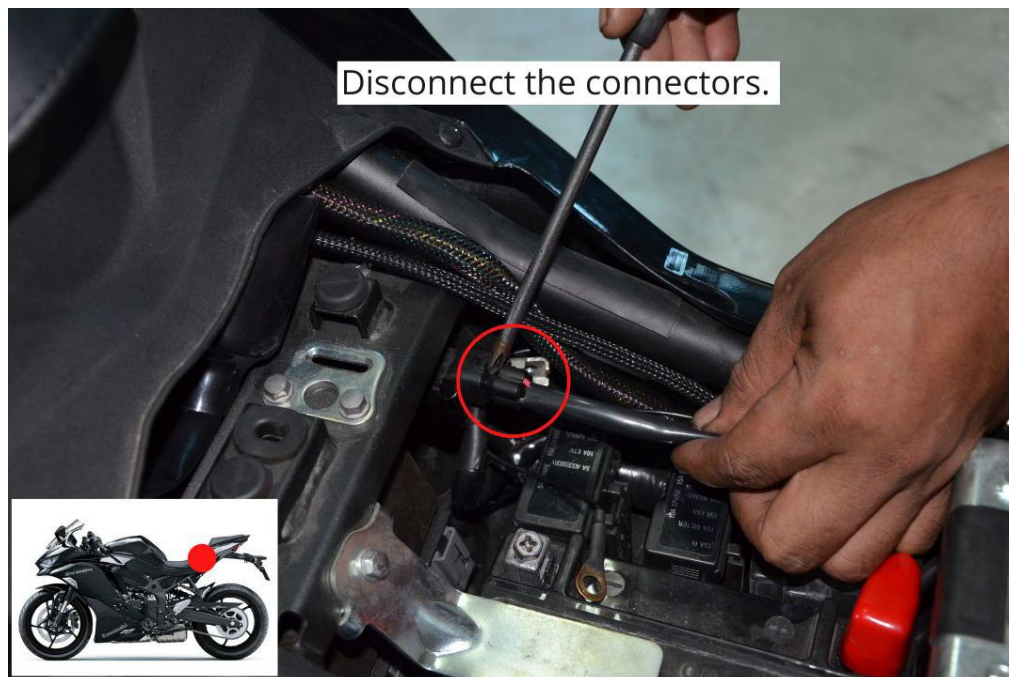


Image 6

**3.1.4** Unscrew the 4 bolts using a 5mm Allen key. Refer the **Image 7**



Image 7

**3.1.5** Unscrew the side panel bolts using 4 mm Allen key. Refer **Image 8A** and **Image 8B**.

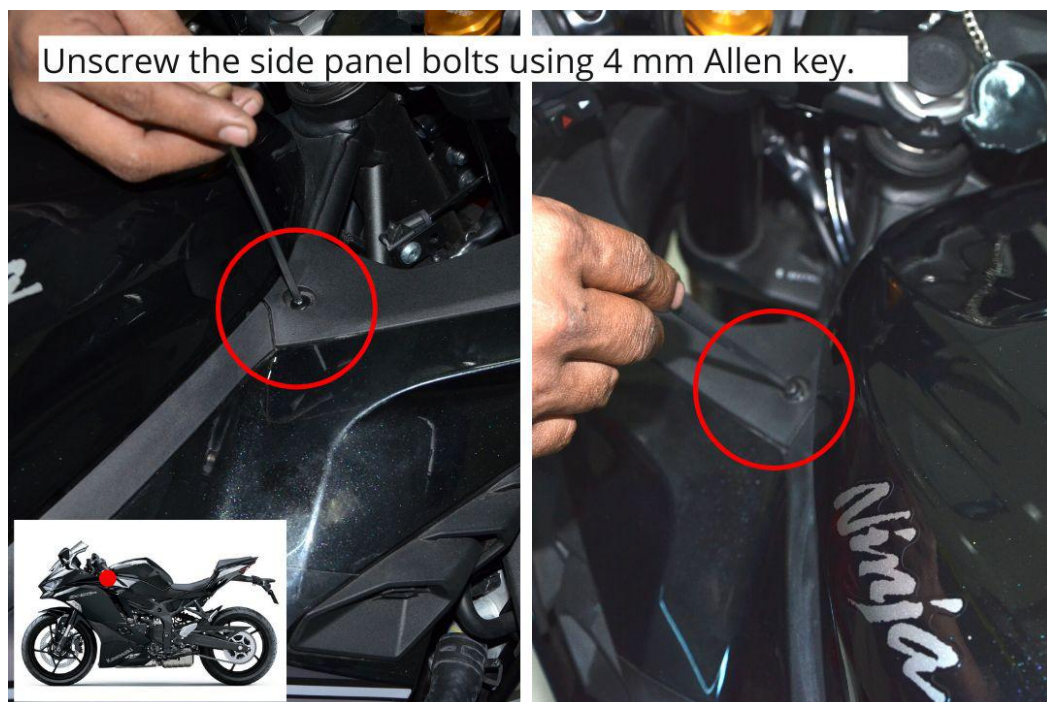


Image 8A and Image 8B



**3.1.6** Locate and unscrew the side panel bolts using 4 mm Allen key. Refer **Image 9**.

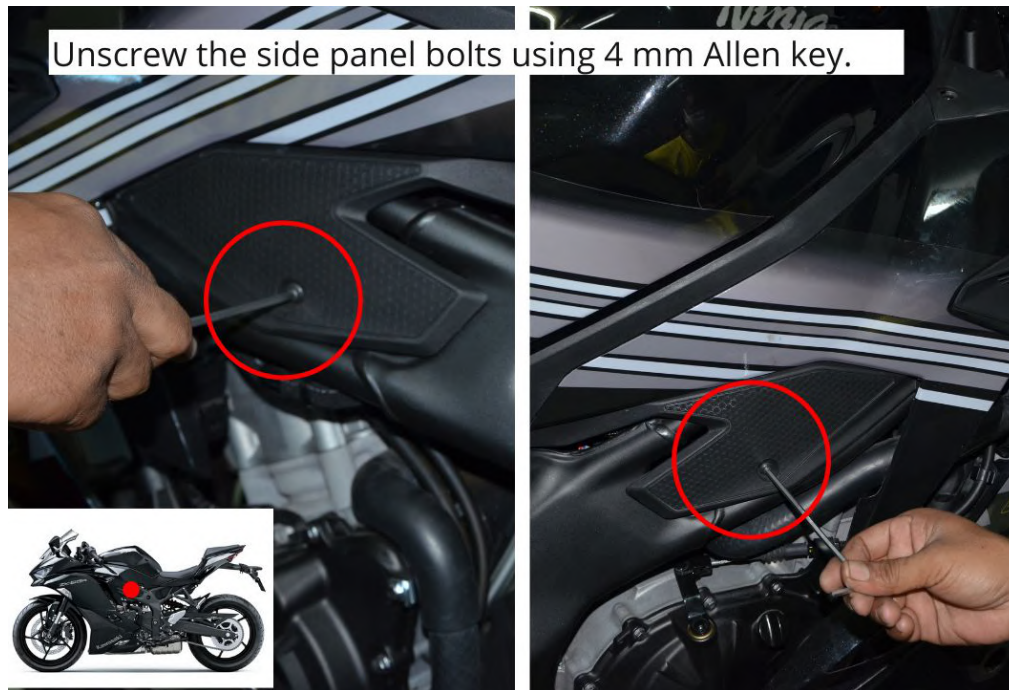


Image 9

**3.1.7** Locate and detach the press clips on the front end of the bike. Refer **Image 10** and **Image 11**.



Image 10



Image 11

**3.1.8** Locate and detach the press clips on the side panels of the bike. Refer [Image 12](#).



Image 12



3.1.9 Detach the crash protectors from the sides. Refer [Image 13](#) and [Image 14](#).



Image 13



Image 14

**3.1.10** Remove the press clip from the underbelly panel of the bike. Refer **Image 15**.



Image 15

**3.1.11** Disconnect the indicator light connectors. Refer **Image 16**.

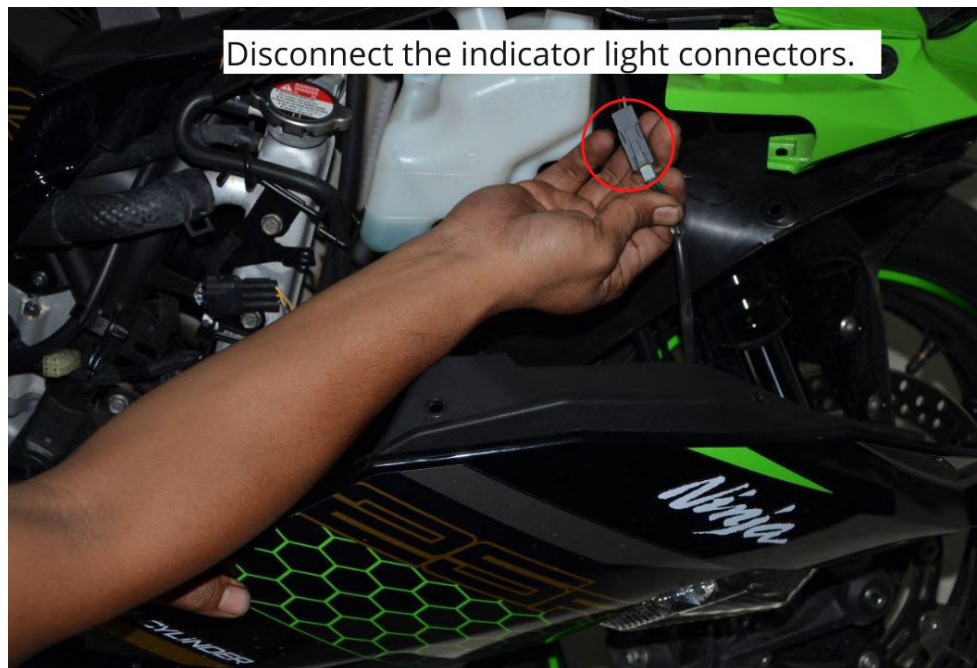


Image 16



**3.1.12** After removing all the bolts, detach the right side panel. Disconnect wires/connections if any. Refer **Image 17**



Image 17

**3.1.13** After removing all the bolts, detach the left side panel. Disconnect wires/connections if any. Refer **Image 18**.



Image 18



**3.1.14** Locate and unscrew the side panel bolt using a 4mm Allen T handle. Refer **Image 19**



Image 19

**3.1.15** Locate and gently detach the vacuum hoses. Refer **Image 20**



Image 20

**3.1.16** Carefully lift the rear end of the fuel tank and gently detach the fuel line. Refer [Image 21](#)

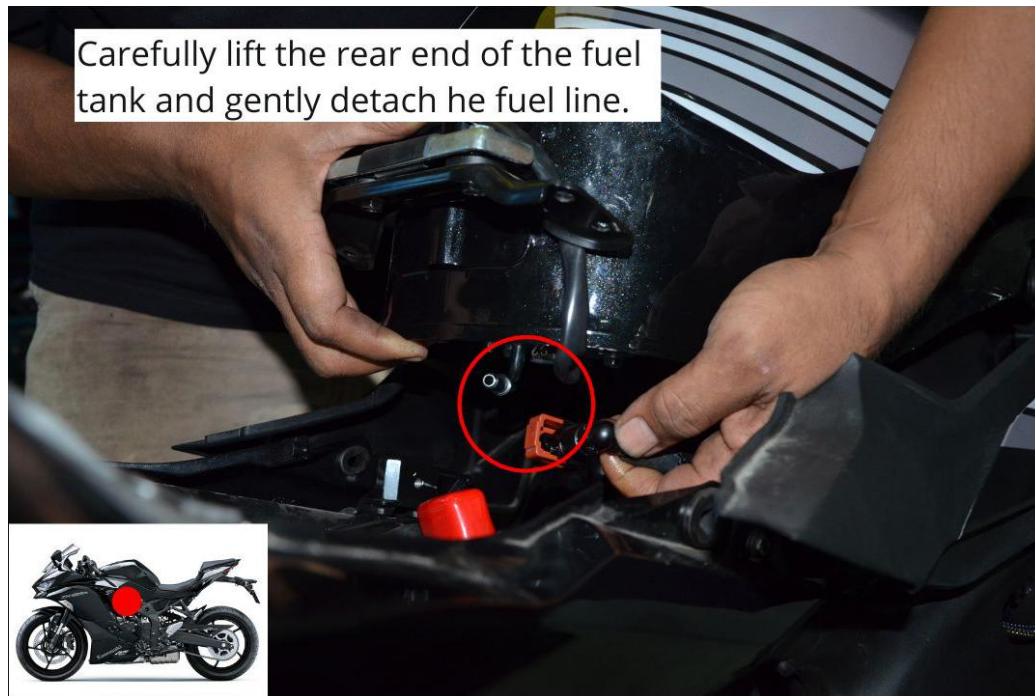


Image 21

**3.1.17** Carefully lift the tank after disconnecting all the connections. Refer [Image 22](#)



Image 22



**3.1.18** Disconnected View of the tank. Refer **Image 23**



Image 23

**3.1.19** Remove the press clips on the rear end of the bike. Refer **Image 24**

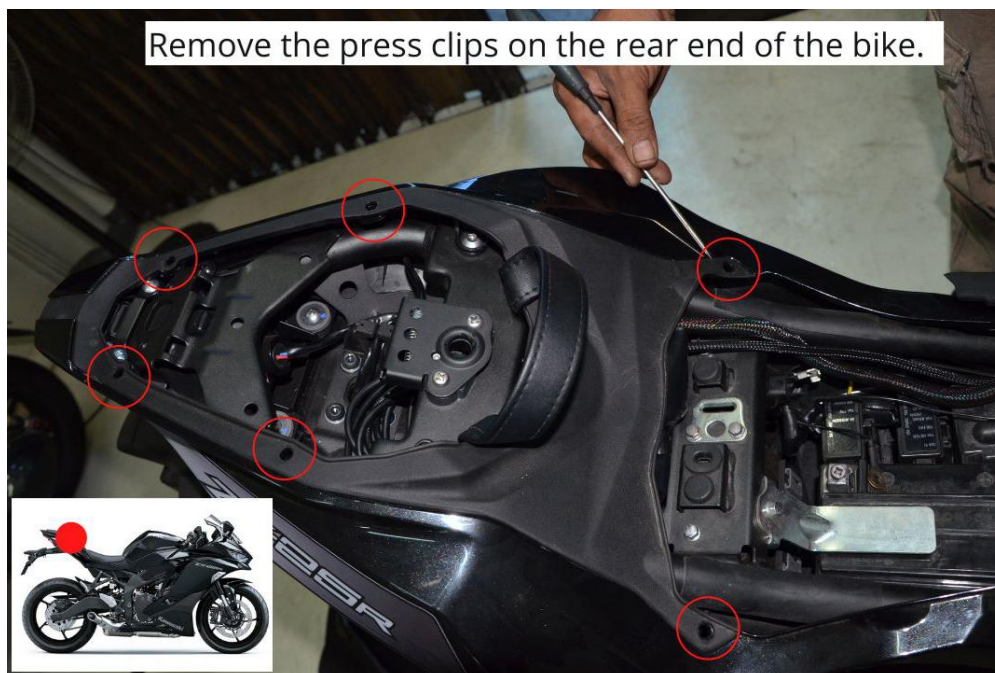


Image 24



**3.1.20** Remove the press clips on the rear end of the bike. Refer **Image 25**

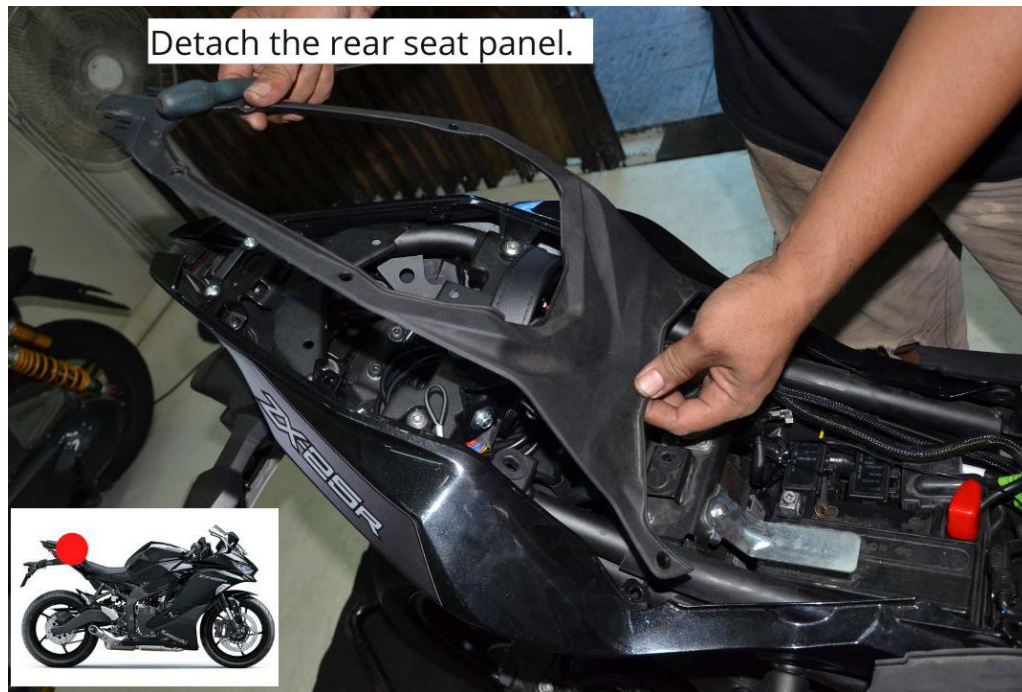


Image 25

**3.1.21** Unscrew the air box mounting bolt. Refer **Image 26**



Image 26

**3.1.22** Detailed view of air box mounting screw removal. Refer [Image 27](#)



Image 27

**3.1.23** Disconnect the sensor connector from air box. Refer [Image 28](#)

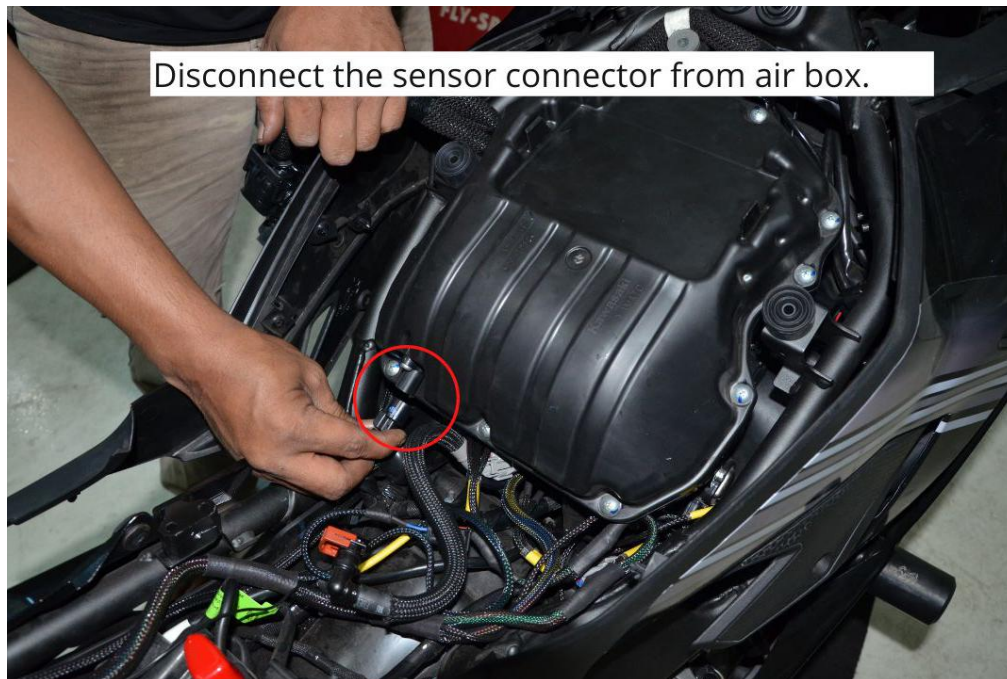


Image 28



**3.1.24** Unscrew the air vent clamp screw. Refer **Image 29**



Image 29

**3.1.25** Unscrew the throttle body clamp screws 1, 2 3 and 4. Refer **Image 30**

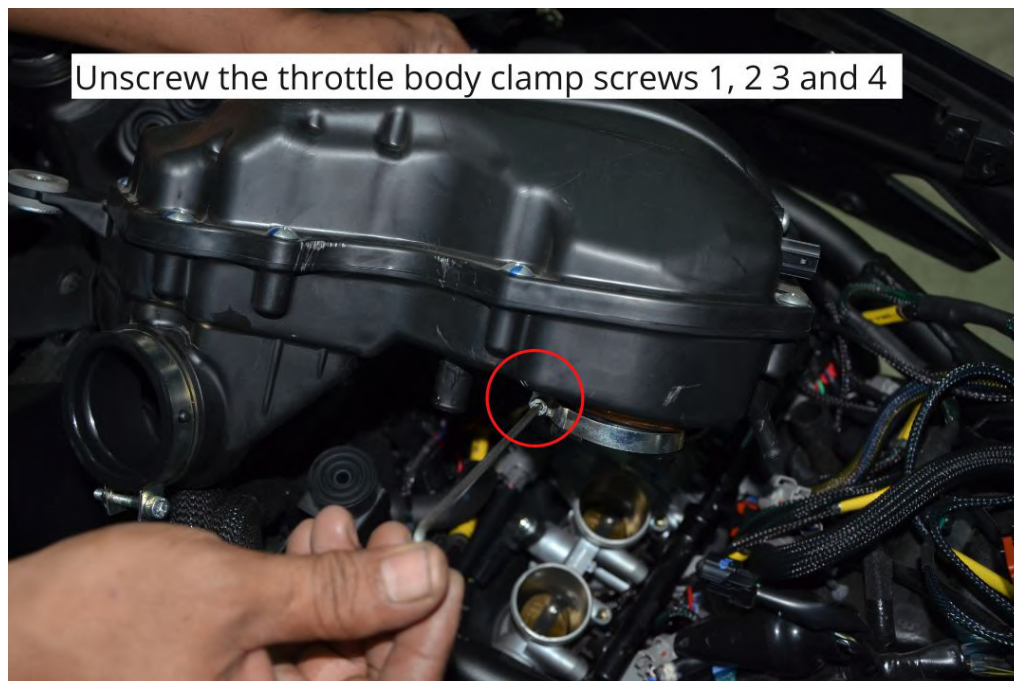


Image 30



**3.1.26** Disconnect the hose 1 and 2 from air box. Refer **Image 31**

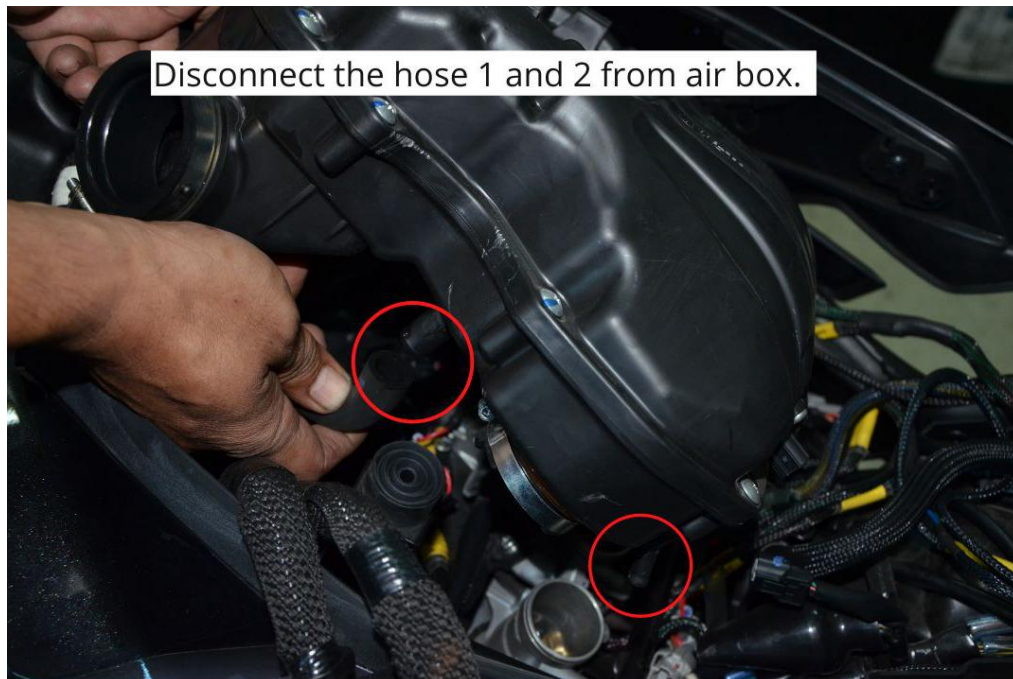


Image 31

**3.1.27** Disconnect the hose 3 from the air box. Refer **Image 32**

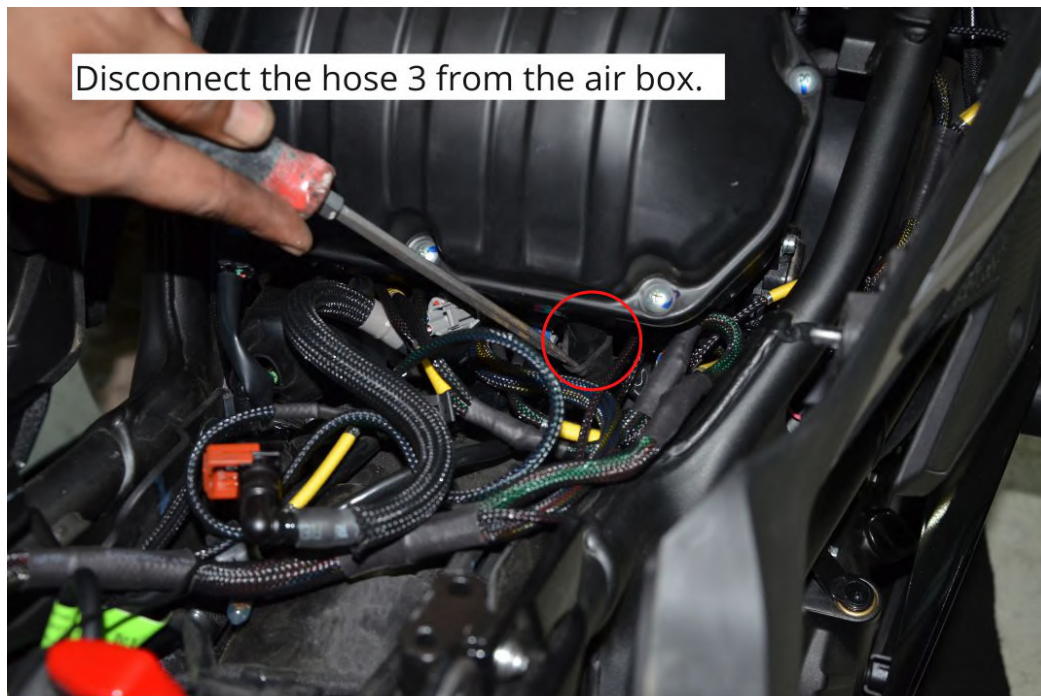


Image 32

3.1.28 Gently lift the air box. Refer Image 33

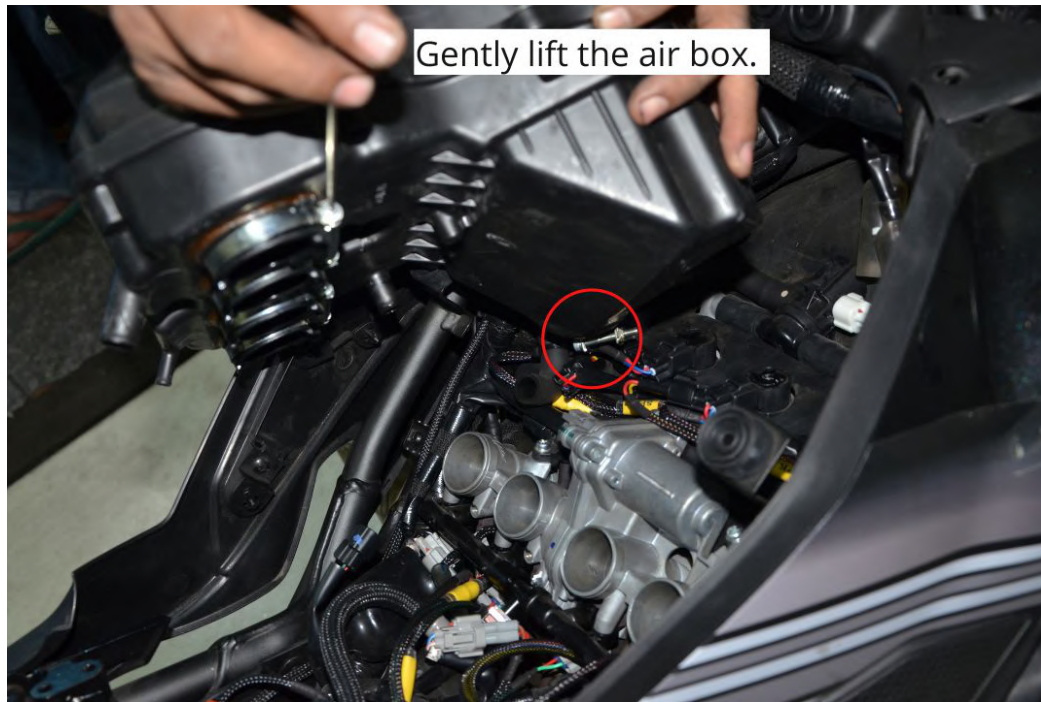


Image 33

## 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 34**.

### PowerTRONIC harness routing sequence

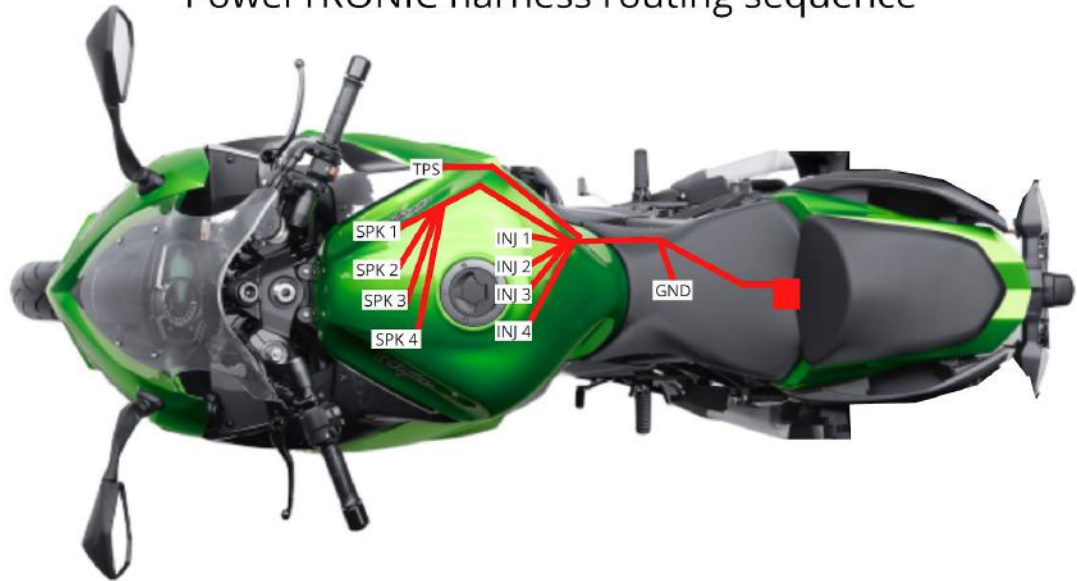


Image 34

**3.2.2** Place the harness on the bike, 24 pin main connector goes to the glove compartment and the connectors go to the front end. Refer **Image 35**.

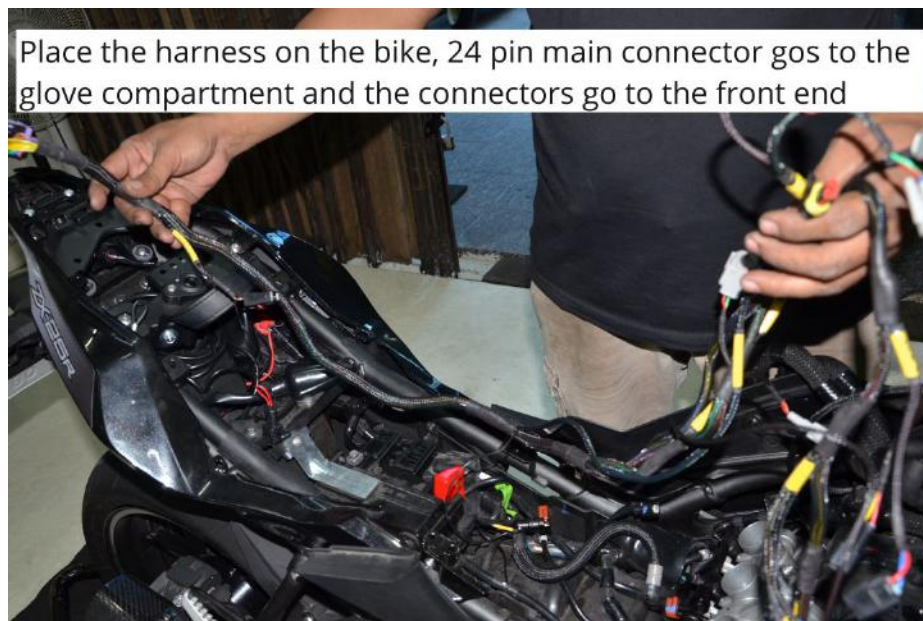


Image 35



**3.2.3** Start from the glove compartment, route each connector terminal between the mudguard and seat centre panel. Refer **Image 36.**



Image 36

**3.2.4** The Quick shifter connector should route to the gear lever if a Quick shifter is purchased with the PowerTRONIC. Else it can be secured within the glove box under the seat. Refer **Image 37.**

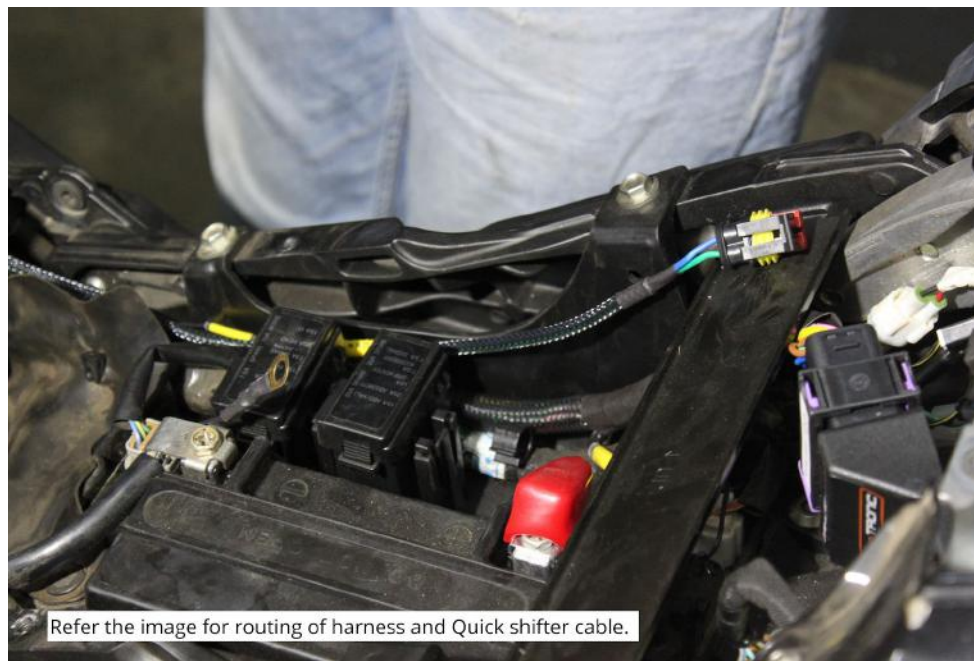


Image 37

3.2.5 Route each connector through the panel carefully and route the entire harness. Refer [Image 38](#) and [Image 39](#)

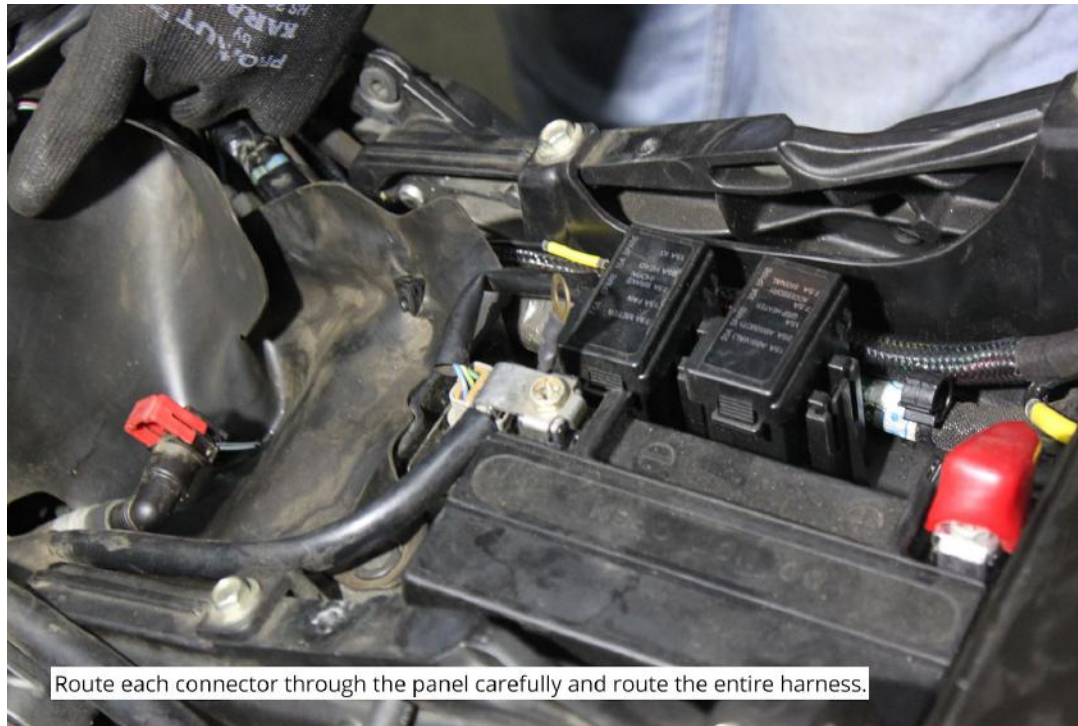


Image 38

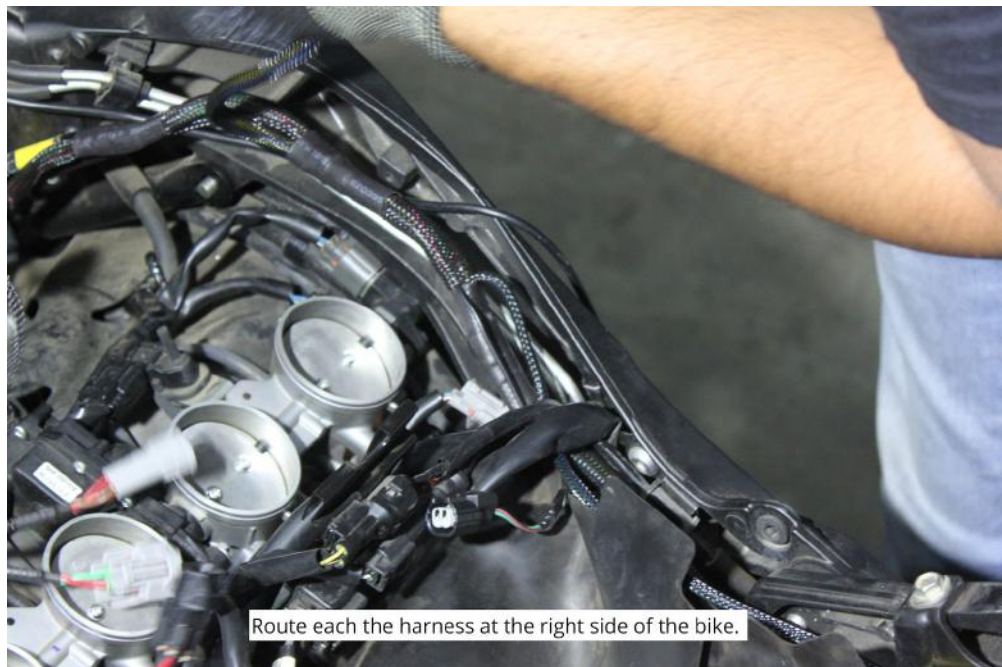


Image 39



**3.2.6** Route the GND terminal connector around the battery casing. Refer **Image 40**



Image 40

**3.2.7** Route the Injector connectors and Ignition coil connectors to their respective positions. Refer **Image 41**

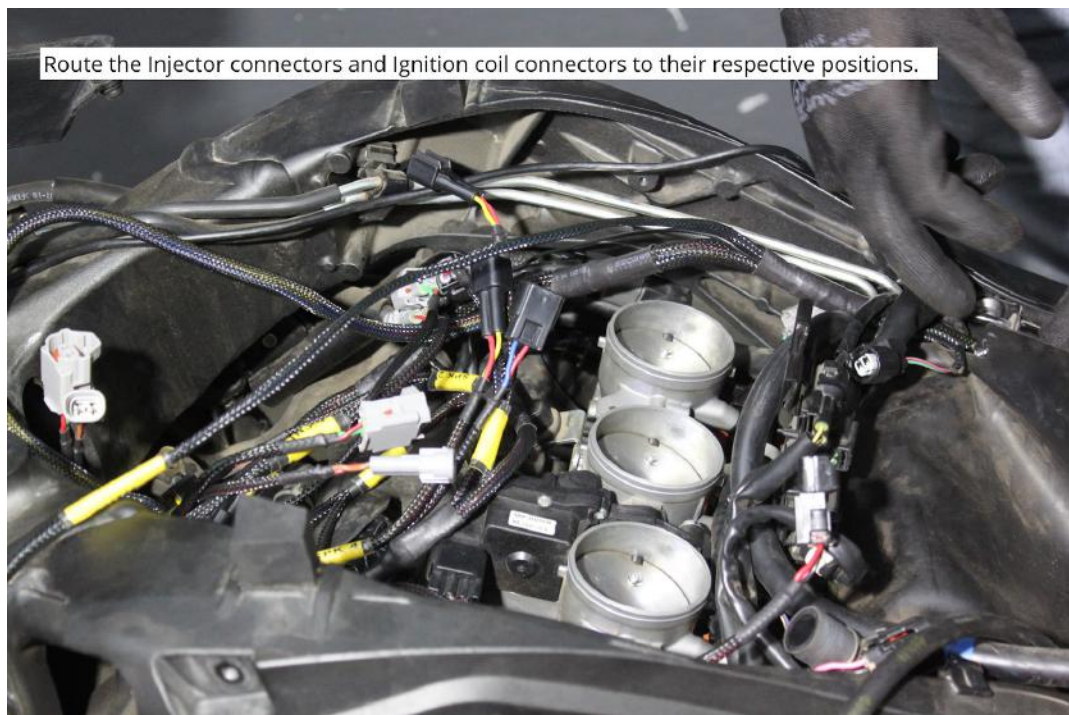


Image 41

**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. I.e Connect the same number of INJ and SPK to connectors which go to the same cylinder.



### 3.3 Fuel Injector Connector

**3.3.1** Locate the stock injector connector of your bike. Refer [Images 42](#).

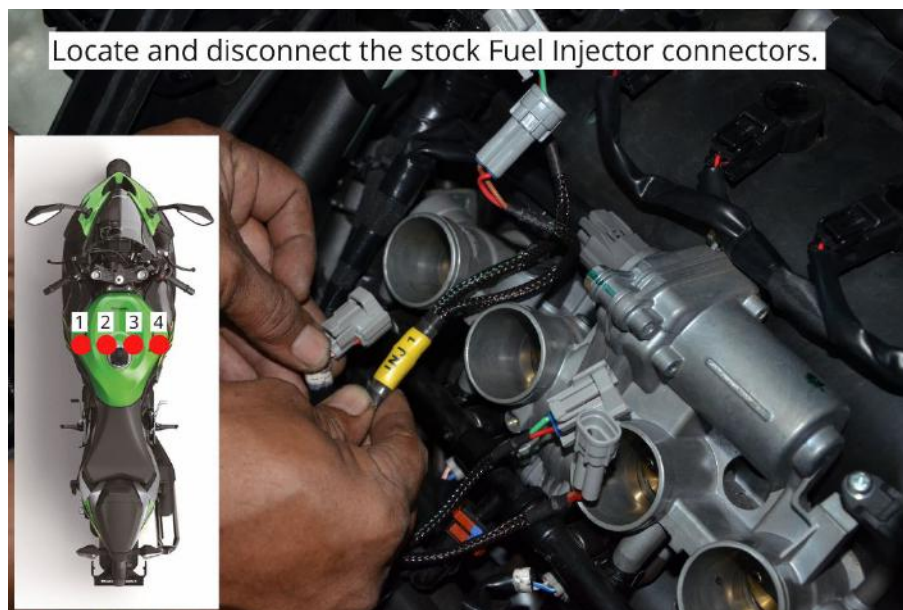


Image 42

**3.3.2** Identify the fuel injector connector in the PowerTRONIC wiring harness. The connectors are labeled 'INJ'

**3.3.4** Connect the PowerTRONIC female injector connector harness to the stock male injector connector. Refer [Image 43](#)

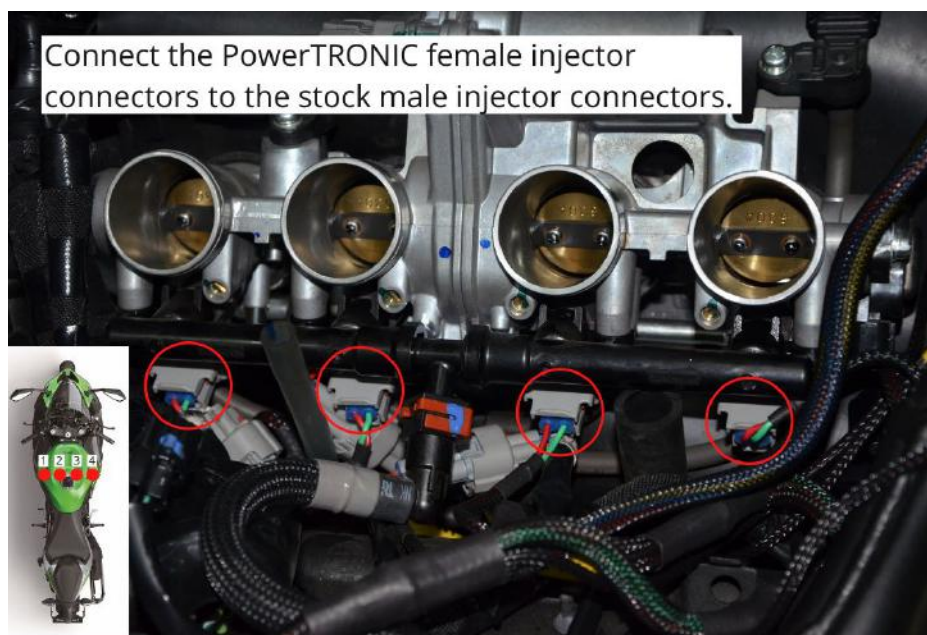


Image 43

**3.3.5** Connect the PowerTRONIC male injector connector to the stock female injector connector. Refer **Image 44**

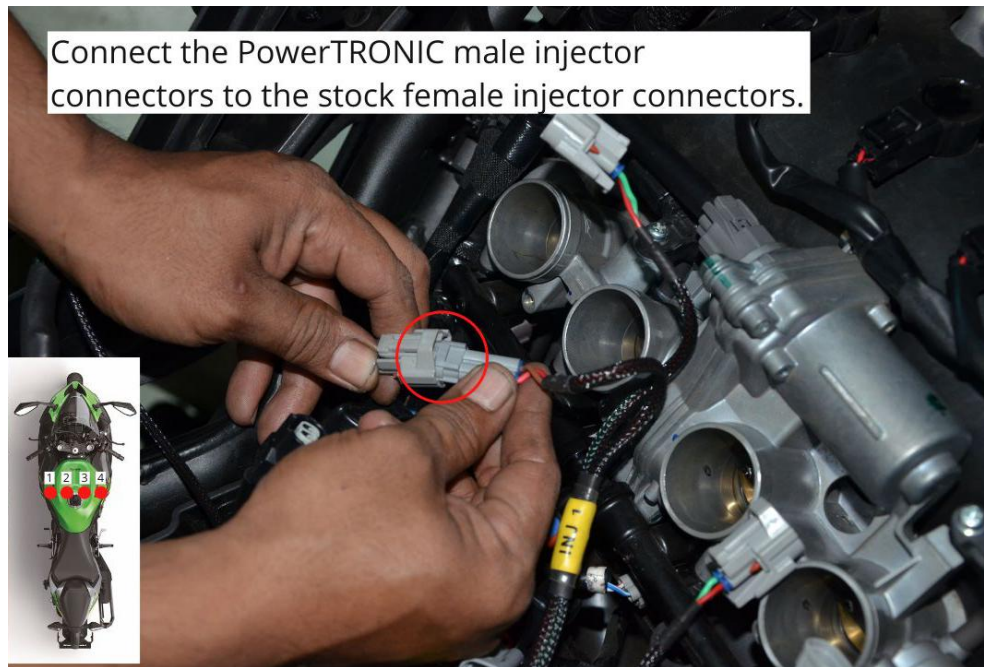


Image 44

**3.3.6** Refer the completed view. Refer **Image 45**



Image 45



### 3.4 Ignition Coil Connector

**3.4.1** Locate the stock Ignition coil connectors. Refer Images 46



Image 46

**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 47



Image 47

**3.4.4** Connect the PowerTRONIC Ignition coil female connector to the stock ignition coil male connector. Refer [Image 48](#).



Image 48

**3.4.5** Connect the PowerTRONIC Ignition coil male connector to the stock ignition coil female connector. Refer [Image 49](#).

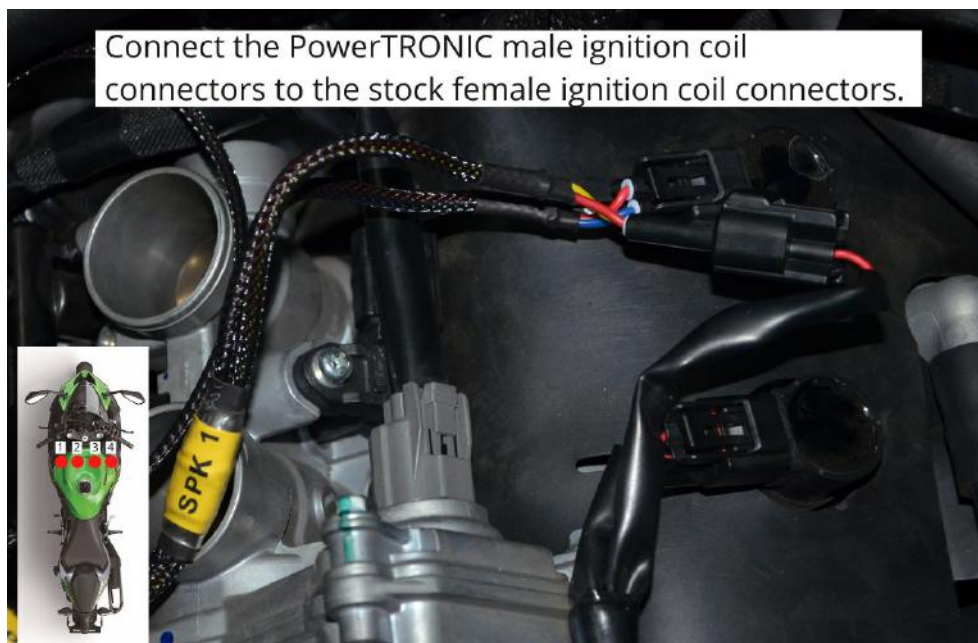


Image 49

**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 50](#)

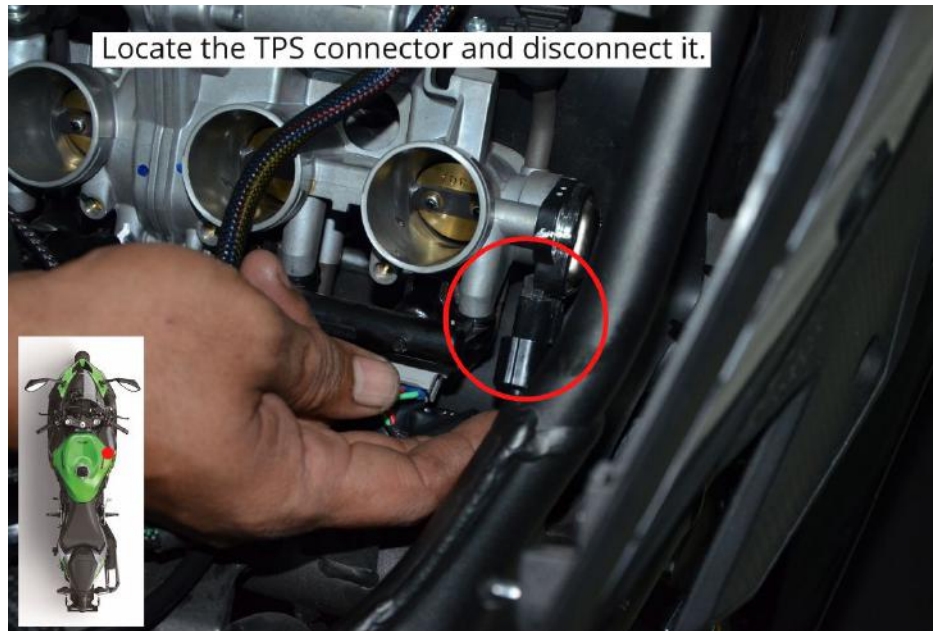


Image 50

**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 51](#)

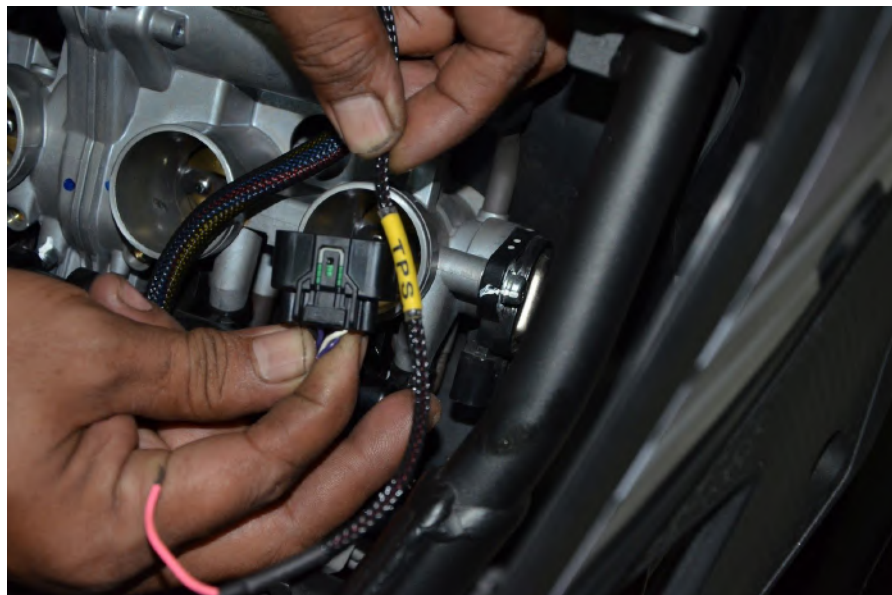


Image 51

**3.5.4** Connect the PowerTRONIC female TPS connector to the stock TPS male connector. Refer [Image 52](#)

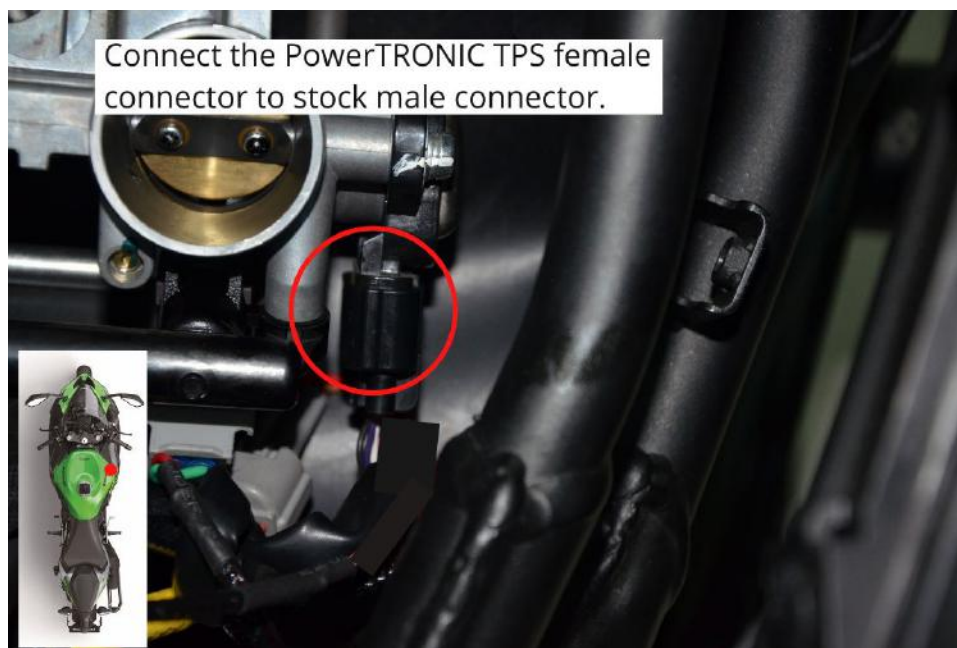


Image 52

**3.5.5** Connect the PowerTRONIC male TPS connector to the stock TPS female connector. Refer [Image 53](#).

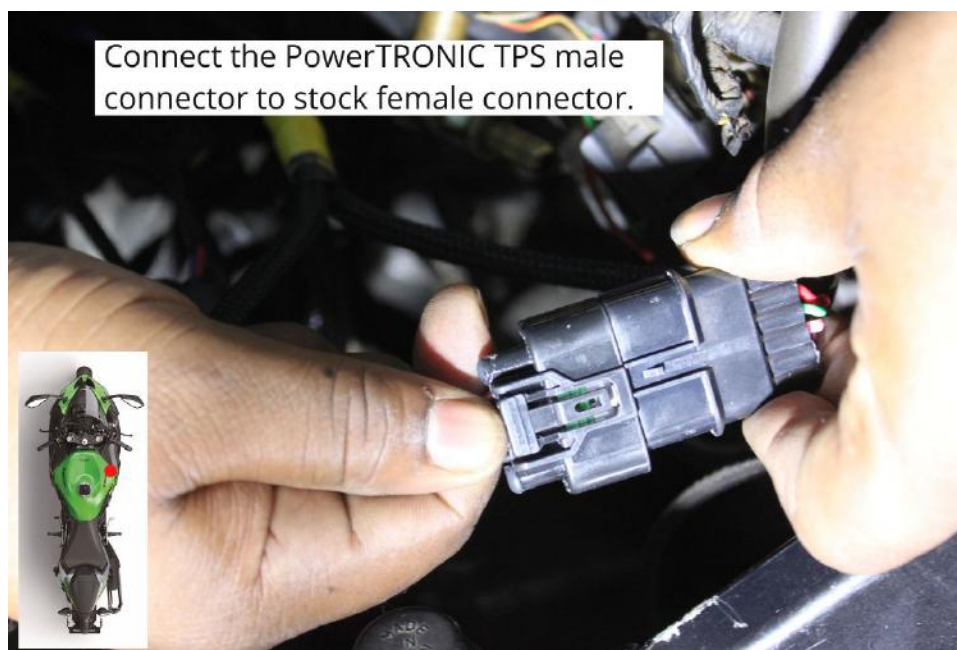


Image 53

**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 Connecting the lambda (O<sub>2</sub>) override patch

#### 3.6.1 Locate the Lambda sensor connector. Refer [Image 54](#)



Image 54

#### 3.6.2 Disconnect the Lambda sensor connector. Refer [Image 55](#)



Image 55

**3.6.3** Connect the Lambda sensor patch to the female connector. Refer **Image 56**



Image 56



### 3.7 Ground Terminal Connector

**3.7.1** 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 57](#)



Image 57

**3.7.2** Refer the completed view. Refer [Image 58](#)



Image 58

### 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 59**

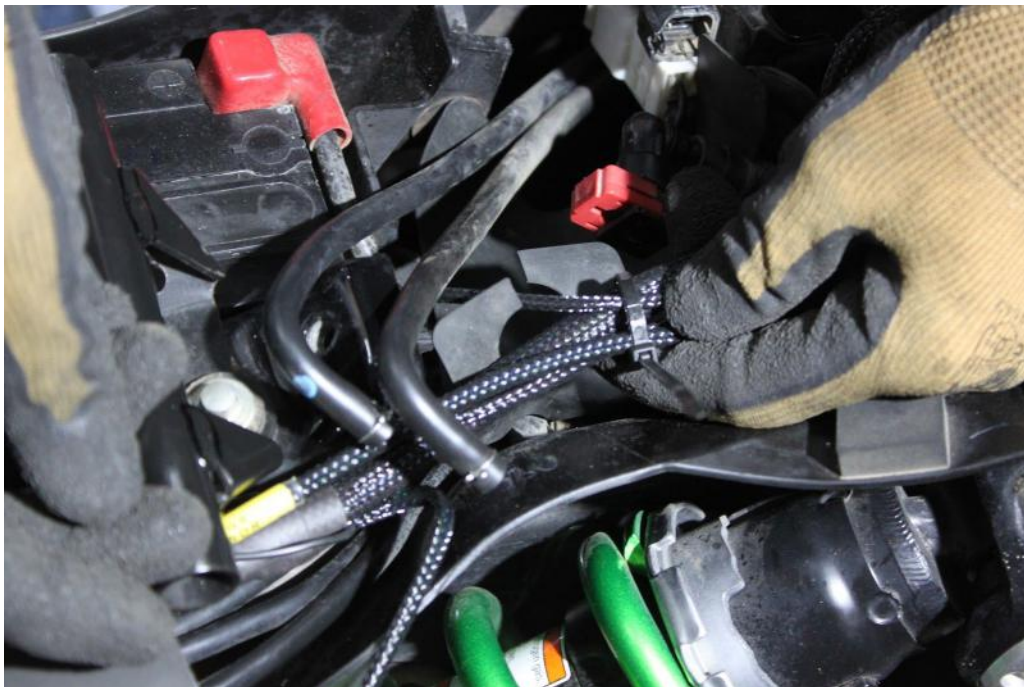


Image 59

**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.



### 3.9 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.

**3.9.3** ***DO NOT proceed with PowerTRONIC ECU without verifying the connections with stock coupler.*** Refer **Image 60**



Image 60

### 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 61](#)



Image 61

### 3.11 Attaching the panels fairing etc

Attach the panels, fairing as removed from the bike.