

## PowerTRONIC Installation Manual- Husqvarna Vitpilen 401/ Svartpilen 401 (2017-2019)

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Application information	Vehicle Specific
Vehicle	<b>Husqvarna</b>
Model	<b>Vitpilen 401 / Svartpilen 401</b>
Year of manufacture	<b>2017-2019</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 connector</li> <li>Spark/Ignition coil connector</li> <li>Throttle position sensor connector (TPS)</li> <li>Crankshaft position sensor connector (CKP)</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	Main tools	Optional tools
1	M10, M12, M17 Hexagonal socket	Spinner handle
2	M10 T bar Hexagonal Socket wrench	Ratchet handle
3	Wire cutter	*Tools may be different depending on the model and year of manufacture. Choose appropriate tools
4	Phillips head screwdriver	

### 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). Refer [Image 1](#)



Image 1

Note the position of the connector/hoses/wires to be removed. Refer [Image 2](#)

Identify the position of the connectors

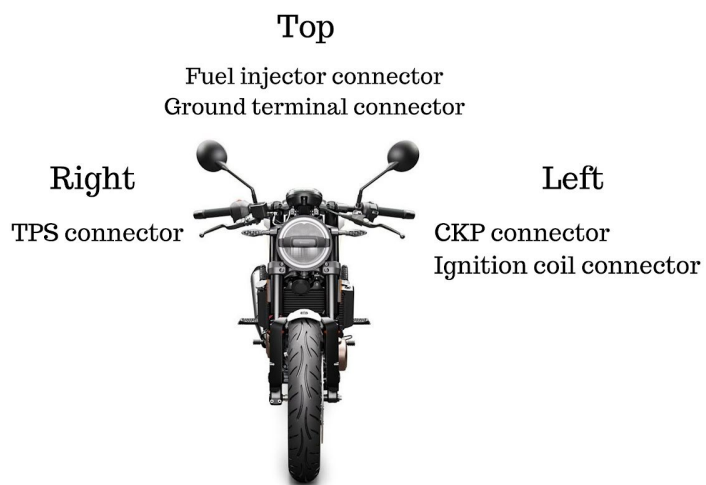


Image 2

**3.1.1** Detach the pillion seat as shown in **Image 3**.



Image 3

**3.1.2** Unscrew the fuel tank screws at the rear end. Refer **Image 4**.



Image 4



**3.1.3** Unscrew the fuel tank screws at the front end. Refer [Image 5](#).



Image 5

**3.1.4** Unscrew the side panel screws. Refer [Image 6](#).

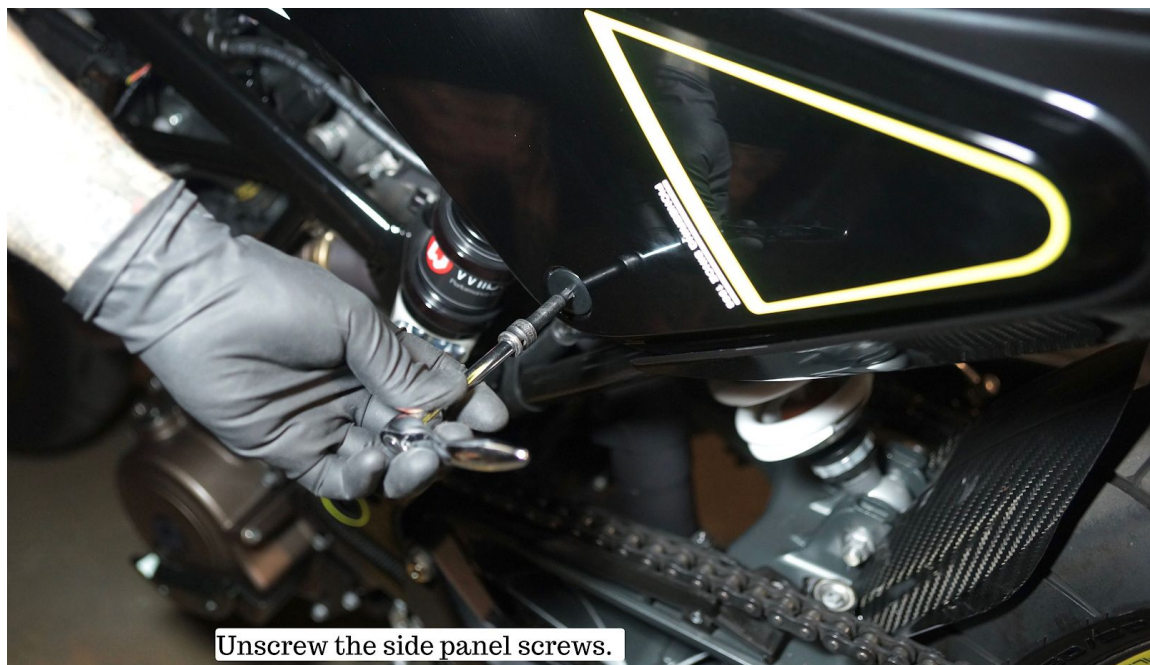


Image 6

**3.1.5** Unscrew the inside panel screws. Refer [Image 7](#)



Image 7

**3.1.6** Gently detach the side panel. Refer [Image 8](#)

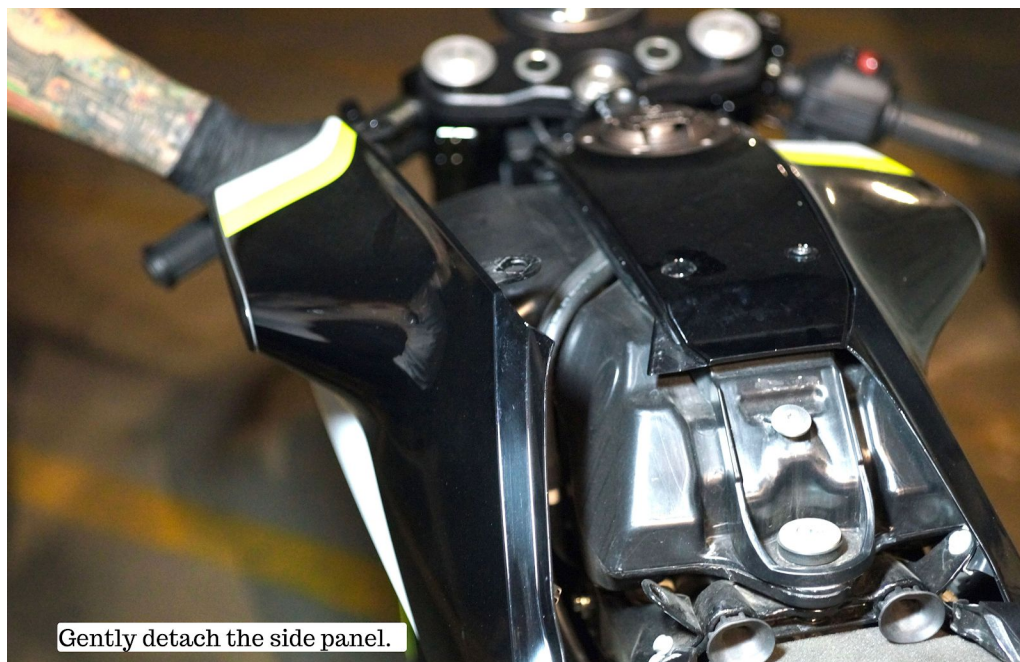


Image 8



**3.1.7** Unscrew the tank mounting bolts. Refer [Image 9](#)

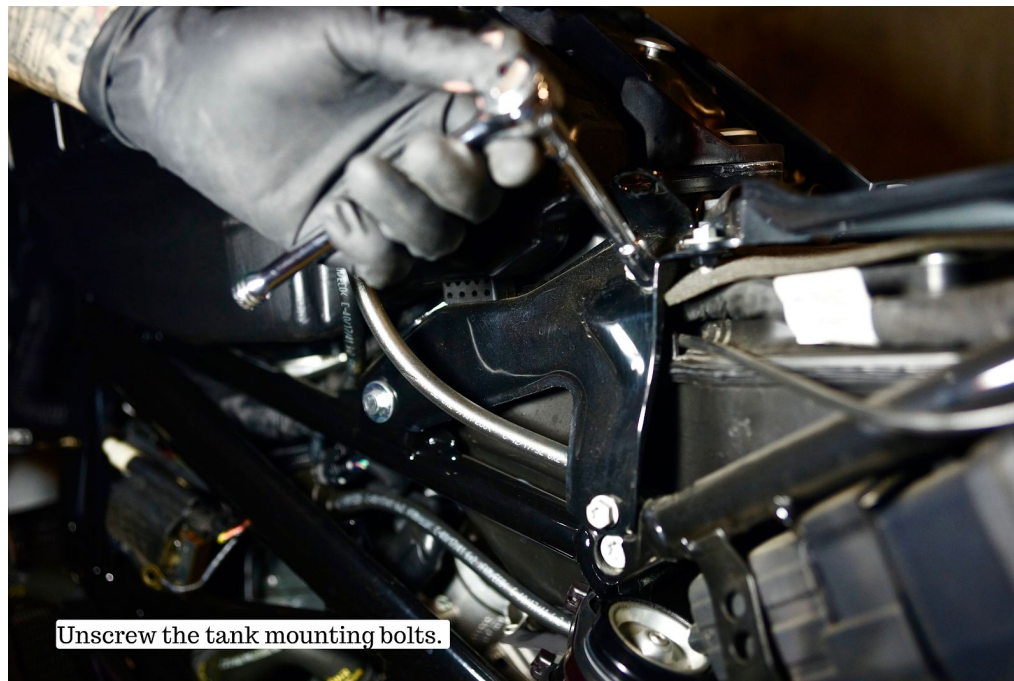


Image 9

**3.1.8** Unscrew the ignition coil cover bolts and detach the cover. Refer [Image 10](#)

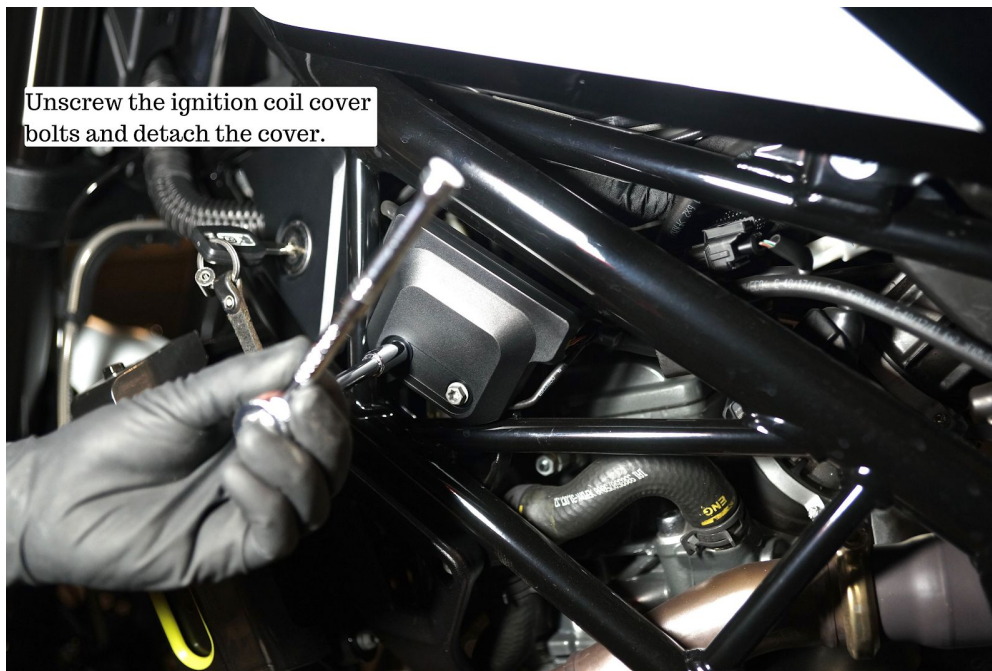


Image 10

### 3.2 Routing the harness

**3.2.1** Start from the mid section. Route the PowerTRONIC harness 24 pin main connector to the rear end under the side panel. Refer **Image 11** and **Image 12**

Start from the mid section. Route the PowerTRONIC harness 24 pin main connector to the rear end under the side panel.

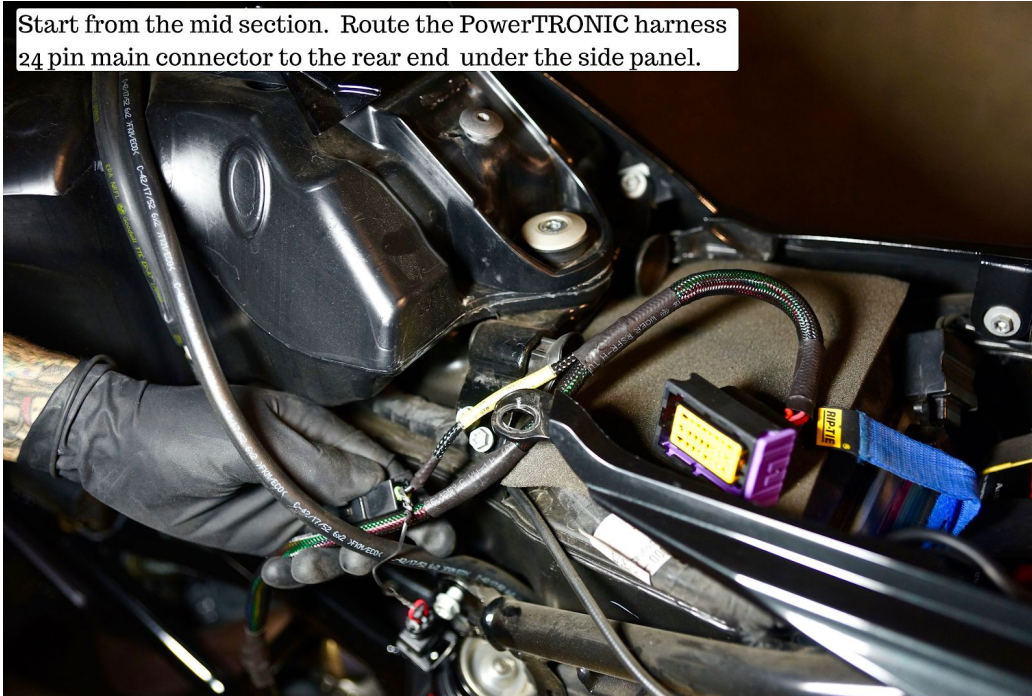


Image 11

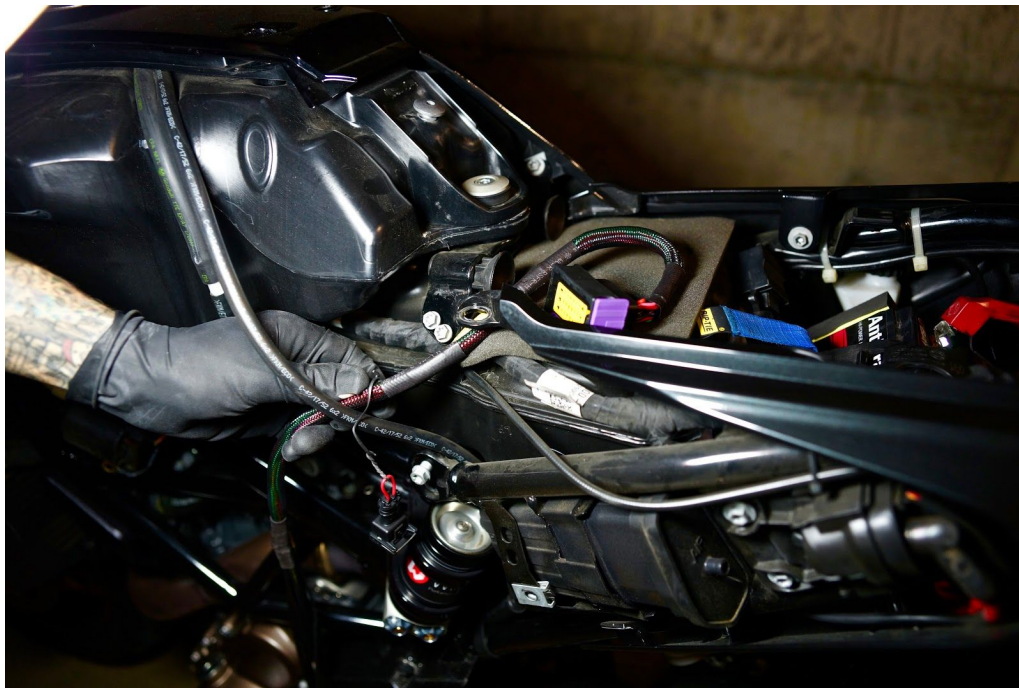


Image 12



**3.2.2** Route the harness to the left side of the bike, under the tank. Route the TPS to the right side. Refer **Image 23**.

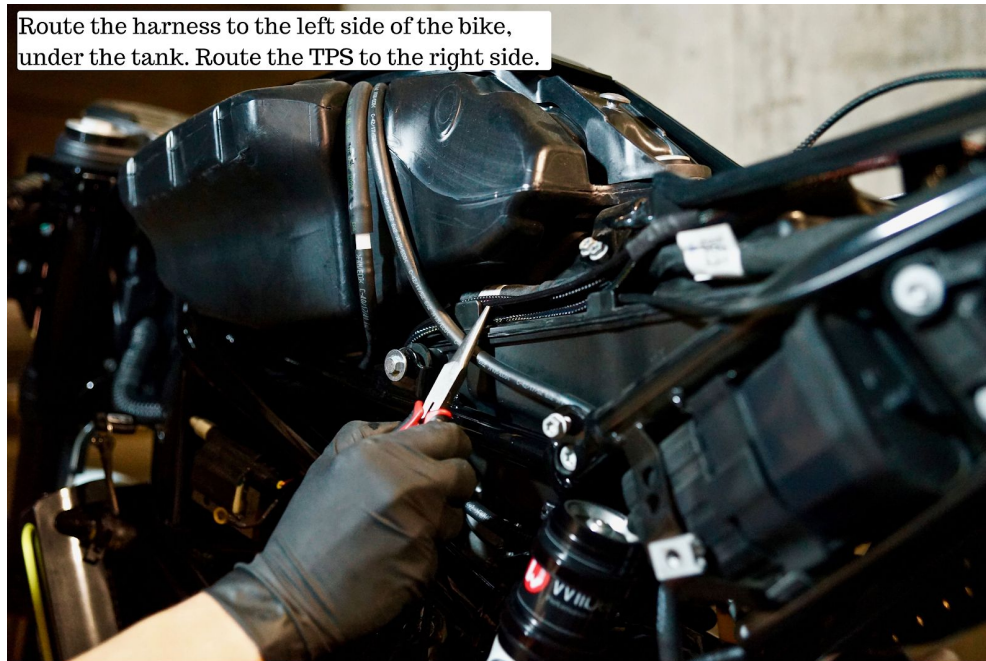


Image 13

### 3.3 Fuel Injector Connector (Left side of the bike)

**3.3.1** Locate the stock injector connector of your bike. Refer to **Image 14** and **Image 15** below.

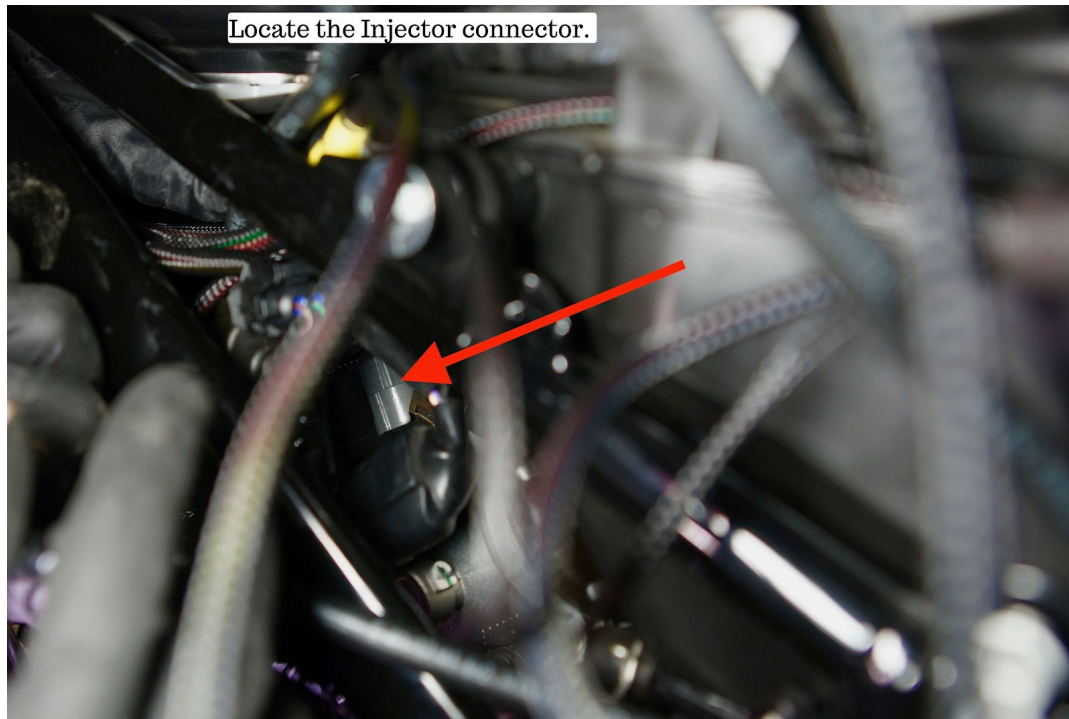


Image 14

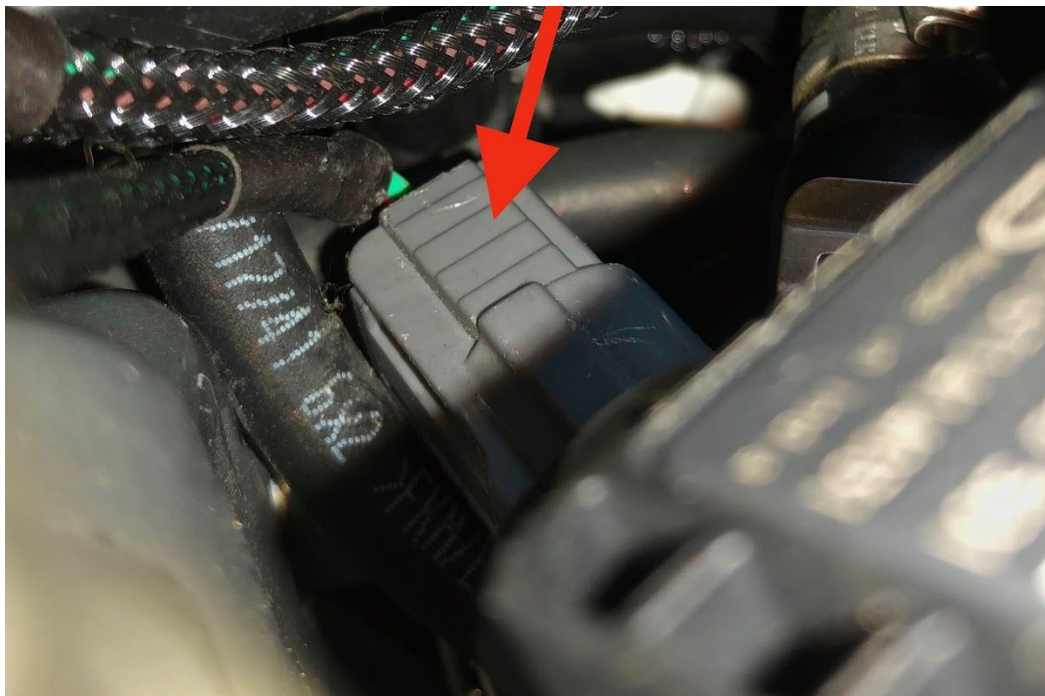


Image 14

**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 15**) below.

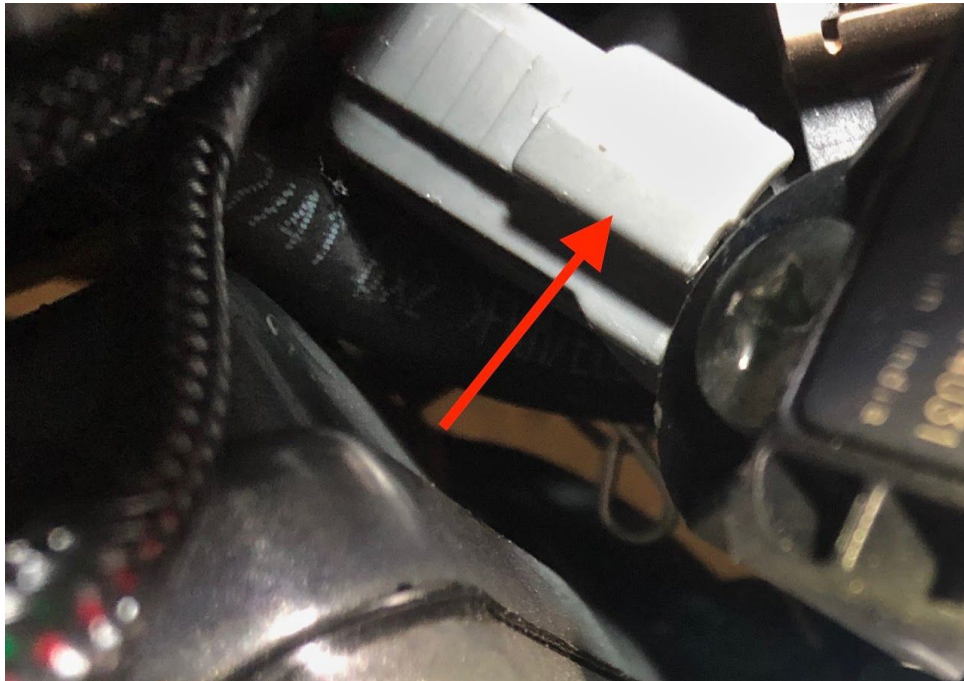


Image 15

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

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



### 3.4 Crank position sensor (Left side of the bike)

**3.4.1** Locate the stock crankshaft position sensor connector on the bike. Usually located right above the engine. Refer **Image 16**.

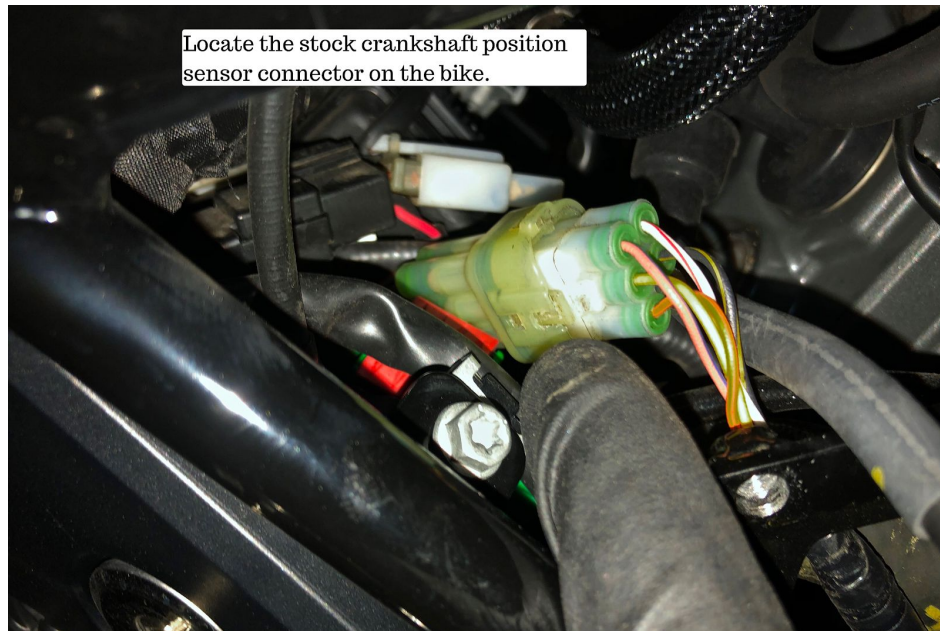


Image 16

**3.4.2** Disconnect the stock CKP connector. Refer **Image 17**.



Image 17

**3.4.3** Connect PowerTRONIC male CKP connector to the stock female CKP connector. Connect the PowerTRONIC female CKP connector to the stock male connector. Refer **Image 18**

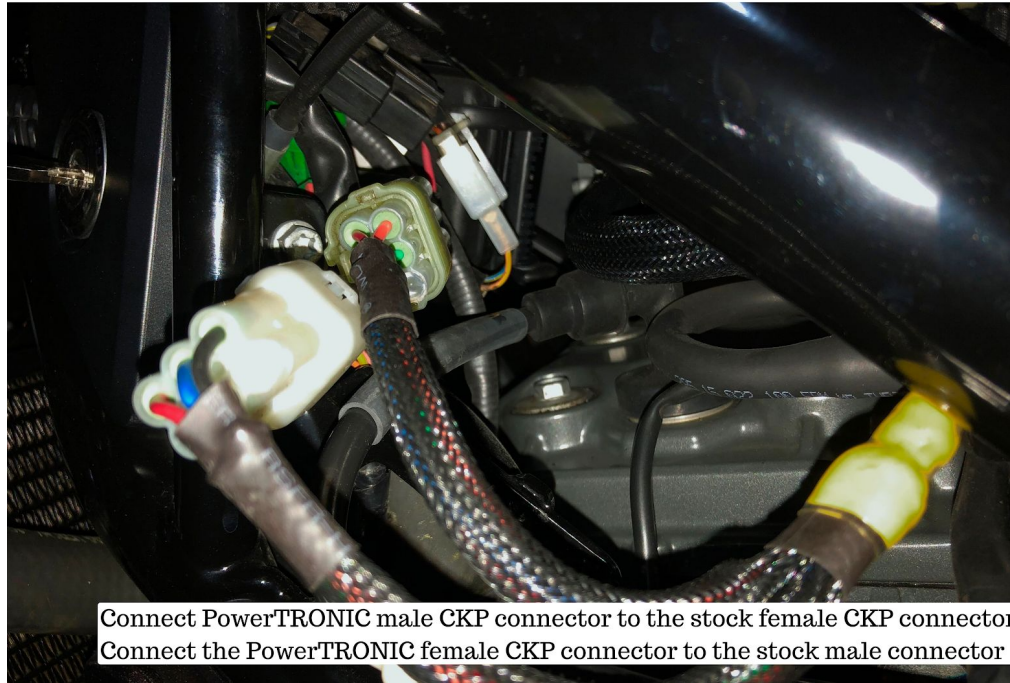


Image 18

### 3.5 Ignition Coil Connector (Left side of the bike)

**3.5.1** Locate the stock Spark/Ignition coil connector on the ignition coil. Usually located right above the engine. Refer Images 19.

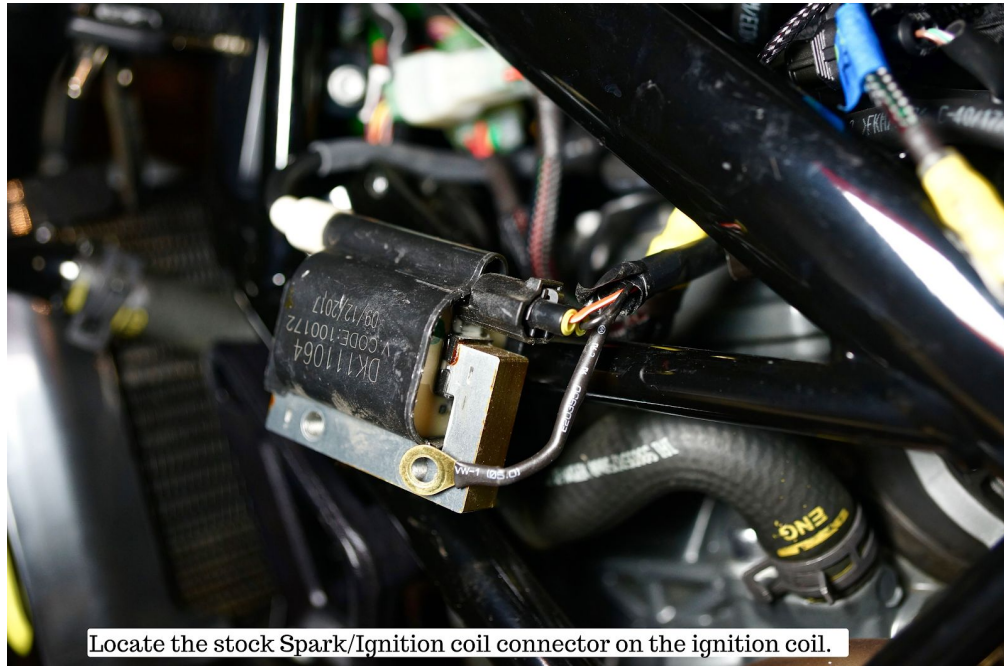


Image 19

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

**3.5.3** Disconnect the stock ignition coil connectors. Refer Image 20 below.

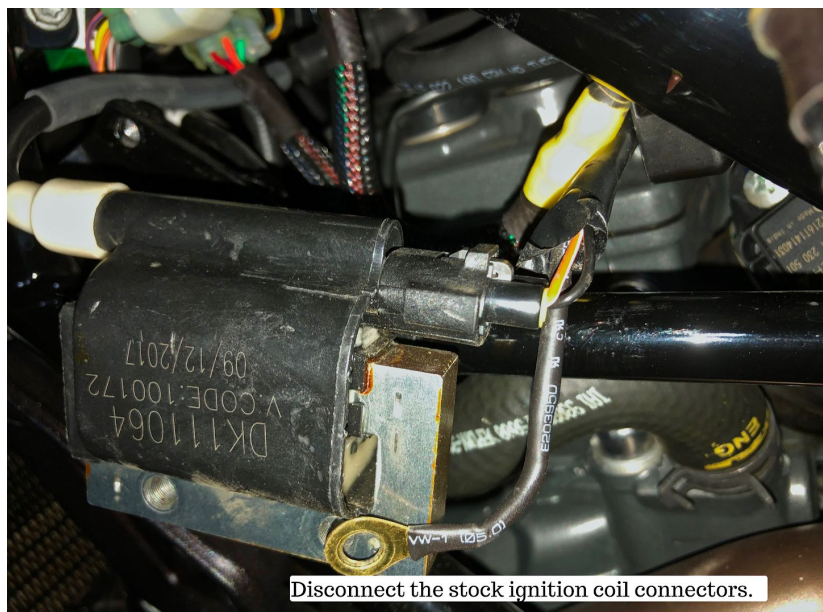


Image 20



**3.5.4** Connect the PowerTRONIC Ignition coil male connector to the stock ignition coil female connector. Refer **Image 21** below.



Image 21

**3.5.5** Connect the PowerTRONIC Ignition coil female connector to the stock ignition coil male connector. Refer **Image 22** below.



Image 22

Move to the right side of the bike



Image 23

### 3.6 Throttle position sensor connector (Right side of the bike)

**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 24**.

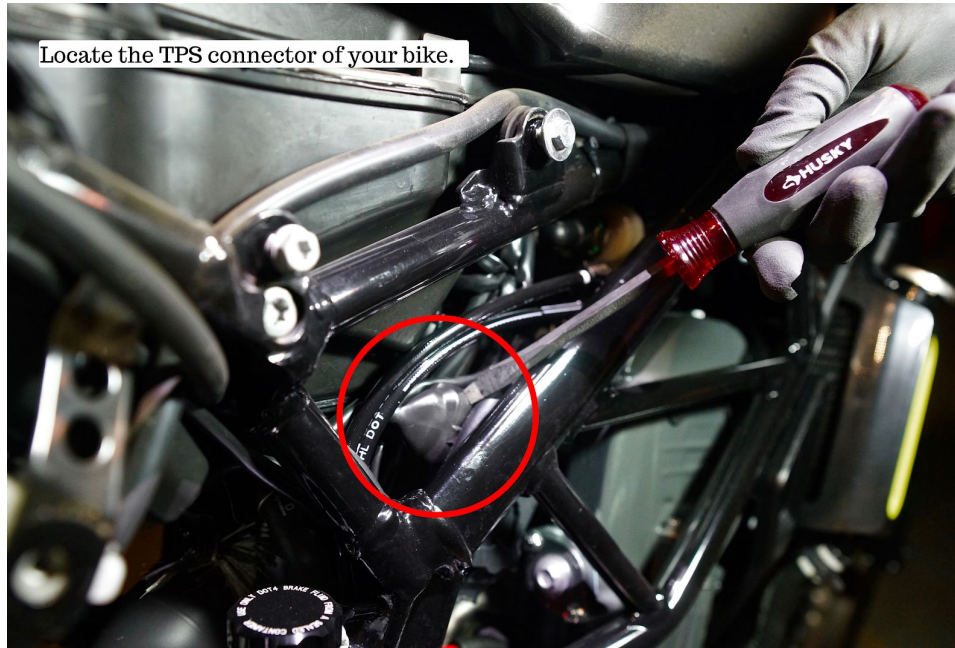


Image 24

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

**3.6.3** Disconnect the stock TPS connector. Refer **Image 24**

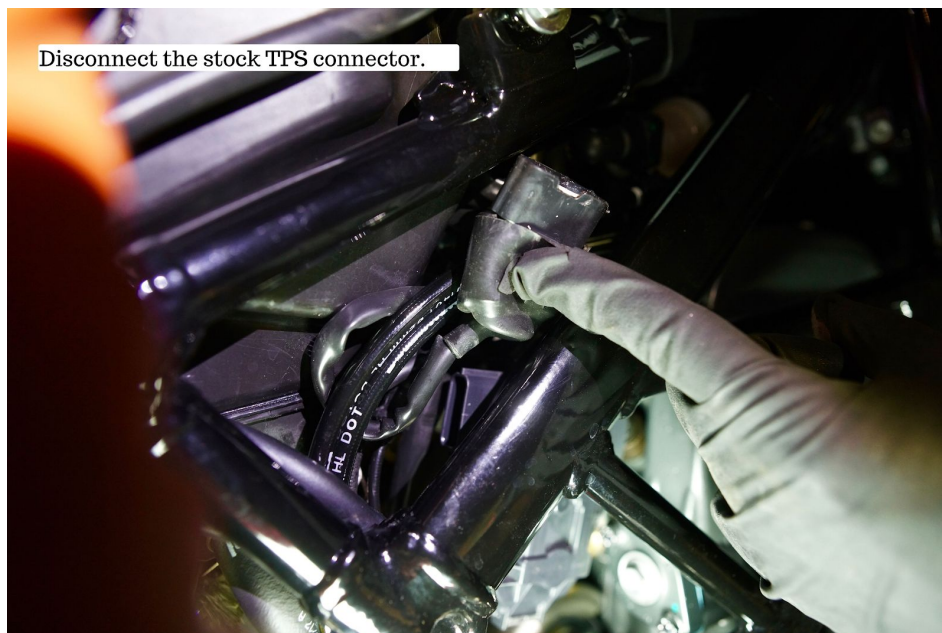


Image 25



**3.6.4** Connect the PowerTRONIC male TPS connector to stock female connector. Refer [Image 26](#).

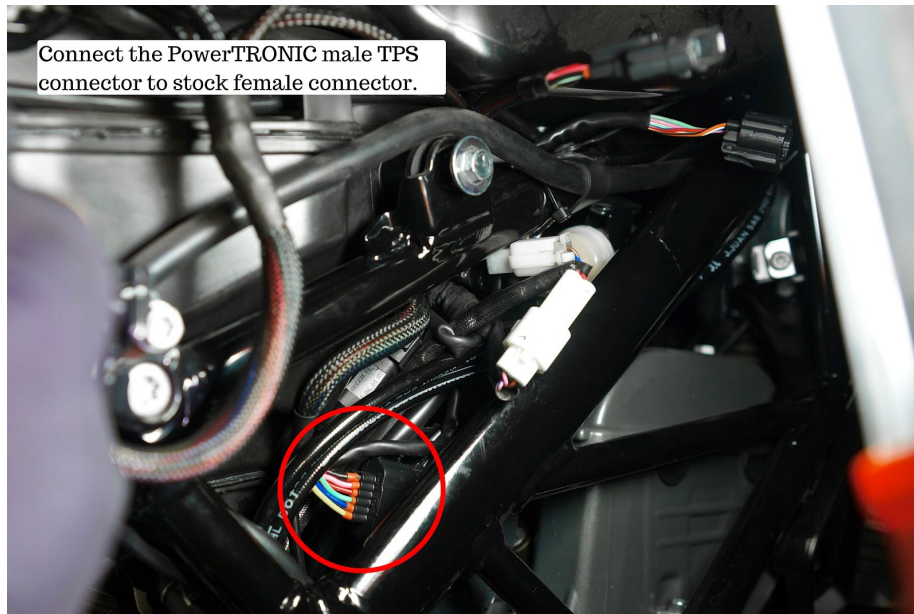


Image 26

**3.6.5** Connect the PowerTRONIC female TPS connector to stock male connector. Refer [Image 27](#).

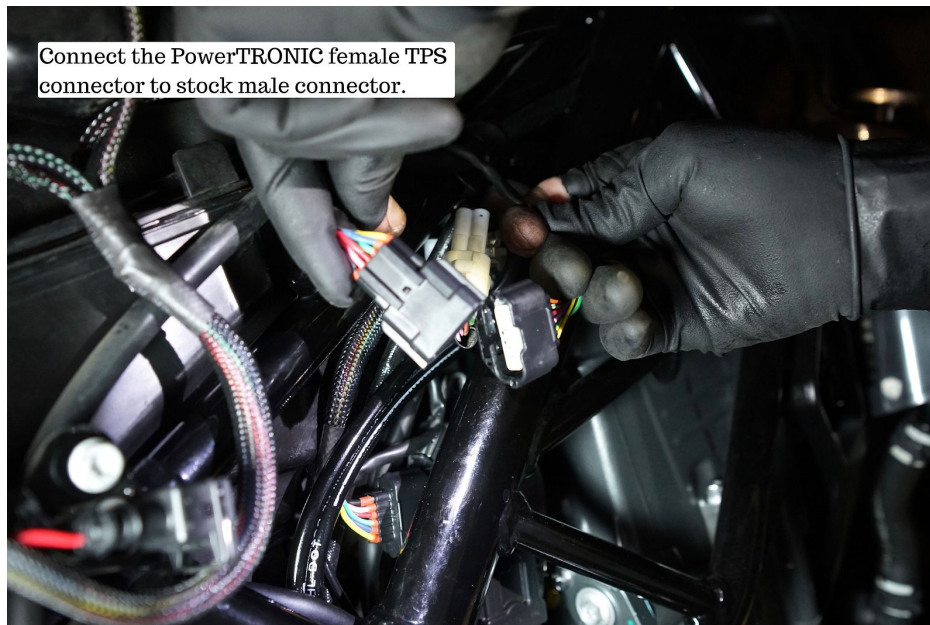


Image 27

**3.6.6** We advise you to perform a TPS calibration after the installation of PowerTRONIC ECU.  
Refer to the detailed TPS calibration document.

### 3.7 Ground Terminal Connector

3.7.1 Identify the Ground terminal connector labelled GND. Refer **Image 28**



Image 28

3.7.2 Connect the ground terminal connector to the negative terminal of the battery. Refer the **Image 29**.



Image 29

### 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.

**Important note:** The PowerTRONIC harness contains a Quick shifter connector. If you have bought the Quickshifter please attach the connector to it.

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.***



### 3.10 Plugging in the PowerTRONIC ECU.

Connect the PowerTRONIC to the harness by connecting the 24 pin connector. Secure it in the glove box. Refer [Image 30](#).



Image 55

### 3.11 Attaching the panels/fairing etc

Attach the panels, fairing as removed from the bike.