

# INSTALLATION INSTRUCTIONS



# UNLEASH.

THE SMARTEST PERFORMANCE TUNING TECHNOLOGY

## KTM 690 DUKE 2013 - 2014 F591 FUEL CONTROL

# 1 > READ

## WARNINGS > INSTALLING



- We strongly suggest that an experienced technician install this product.
- Read through all instructions before beginning installation.
- This document is intended for use by qualified technicians.
- This is not a replacement for the factory Engine Control Unit (ECU).
- Refer to a factory service manual for more specific stock component identification/location information and removal/assembly procedures.

## WARNINGS > USING



- Use only in race or other closed-course applications and never on public roads.
- Z-Fi products are not certified by the California Air Resource Board (CARB) for use on CA public lands.

## GETTING HELP



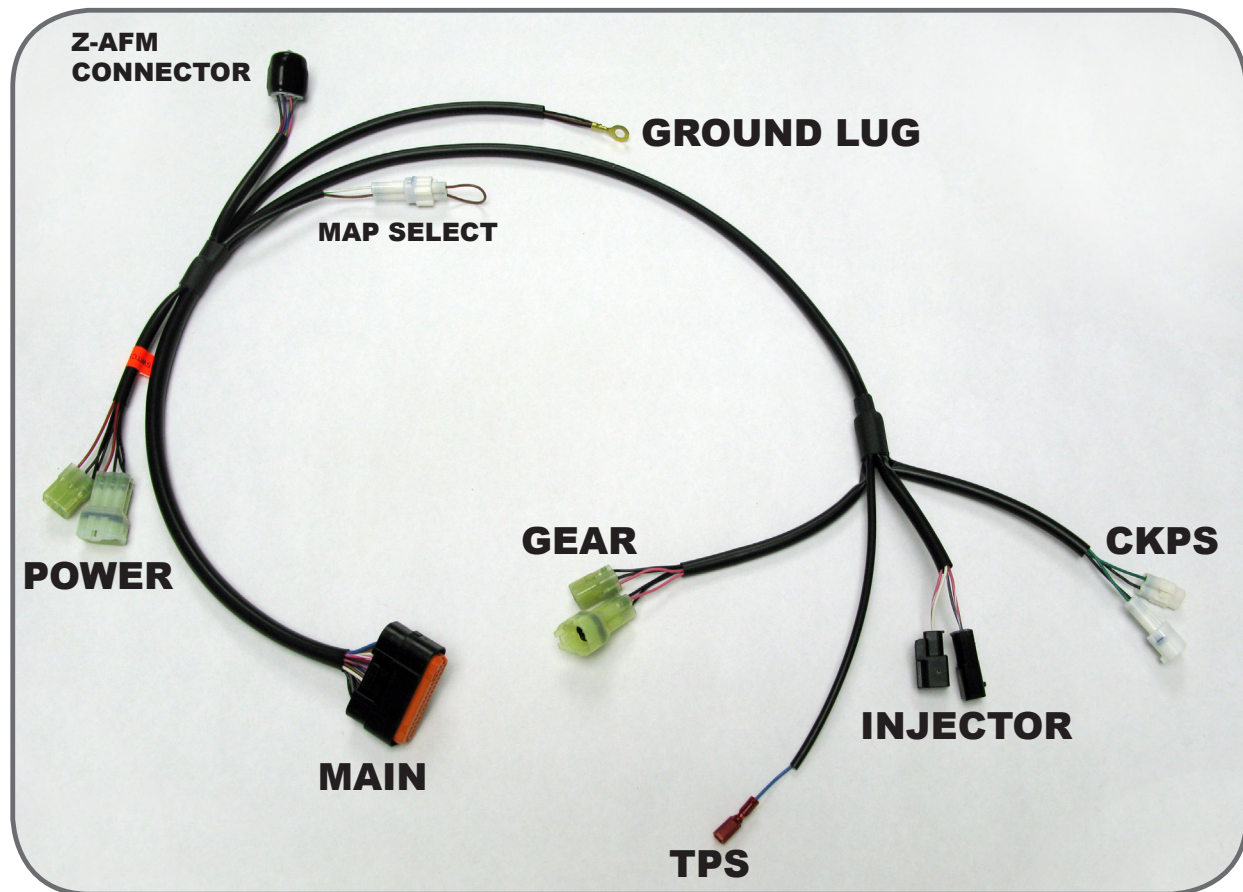
- Factory support is available in the US at 909-597-8300.
- For fastest support outside of the US, find your local importer at [bazzaz.net](http://bazzaz.net).

# 2>IDENTIFY

## INCLUDED PARTS

1. Z-Fi control unit
2. Fuel harness
3. USB cable
4. O2 eliminator
5. Scotchlok (1)
6. Zip ties
7. Velcro

## FUEL HARNESS

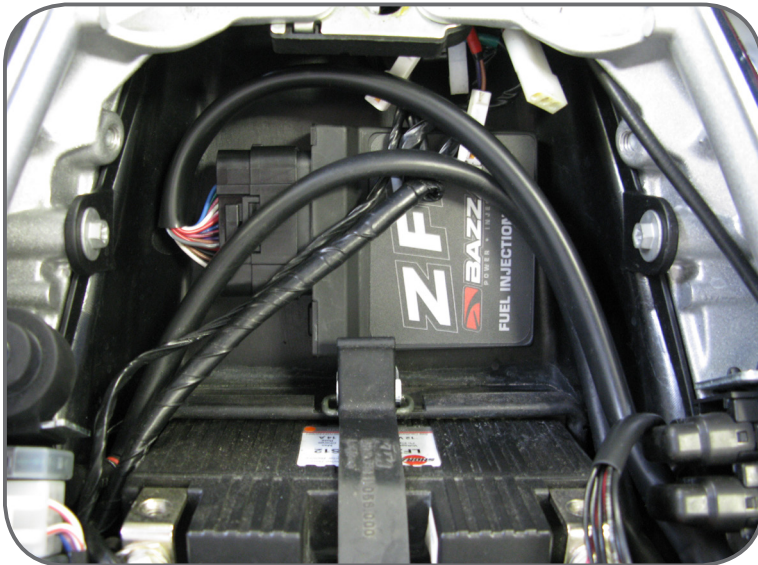


## 3> REMOVE

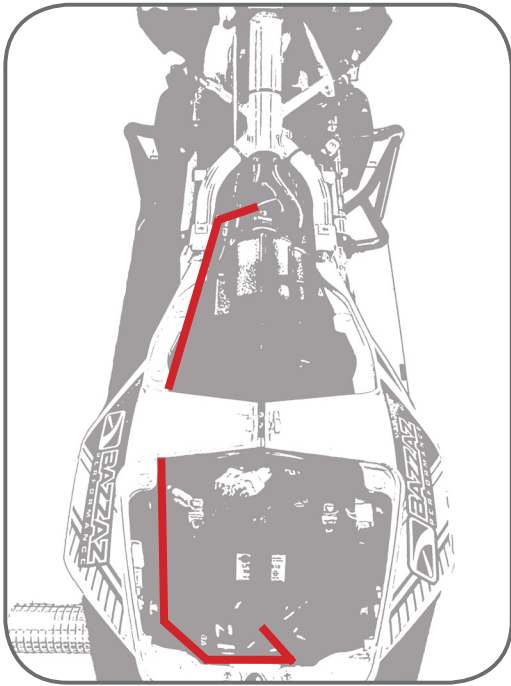
1. Seats
2. Tank covers
3. Tank
4. Both black side panels below the fuel tank

## 4> SECURE

1. Mount the control unit in the tail section of the bike using the supplied velcro.

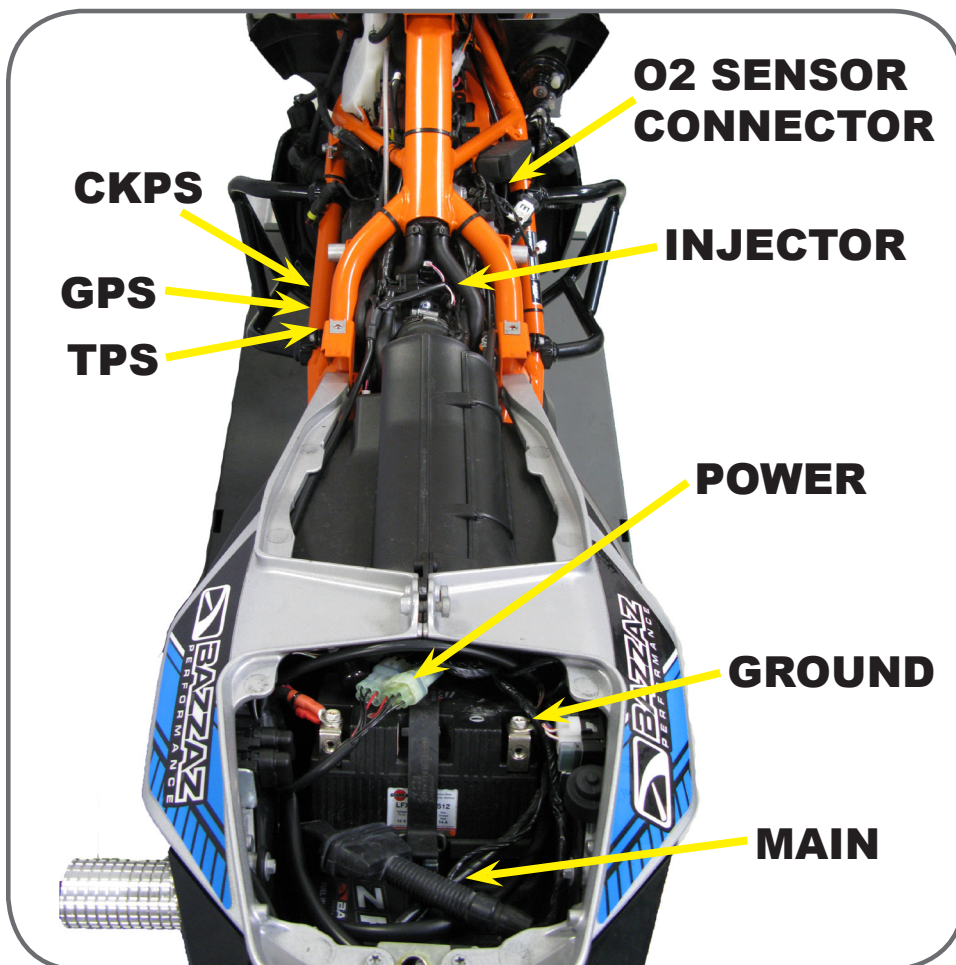


# 5 > CONNECT



## 5.1

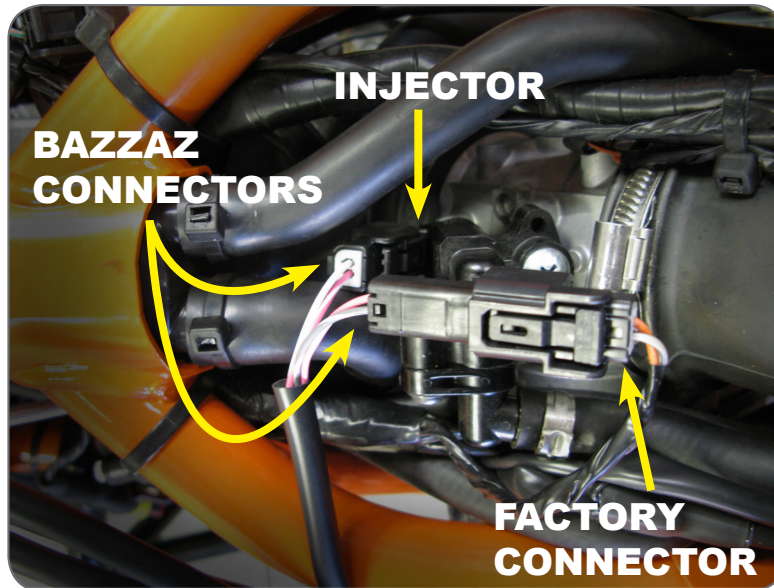
1. Connect the main connector of the Bazzaz fuel harness to the control unit.
2. Route the Bazzaz fuel harness along the left side of the bike, towards the throttle body.



# 5>CONNECT (CONT.)

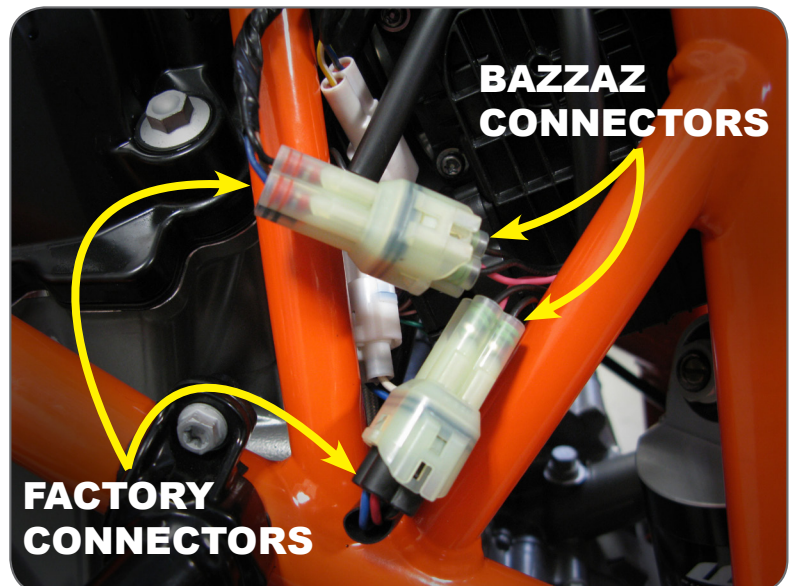
## 5.2

1. Locate the factory injector, found on the top of the throttle body.
2. Disconnect the factory injector connector from the injector.
3. Connect the Bazzaz injector connectors in-line with the factory connector and injector.



## 5.3

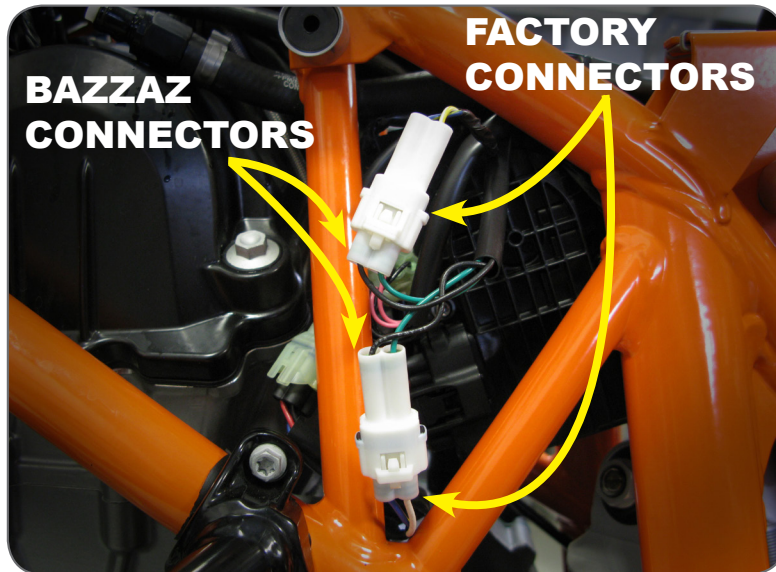
1. Locate the factory, four-pin, Gear Position Sensor (GPS) connectors which can be found on the left side of the bike, between the frame and the throttle body.
2. Disconnect the GPS connectors.
3. Connect the Bazzaz GPS connectors in-line with the factory connectors.



# 5>CONNECT (CONT.)

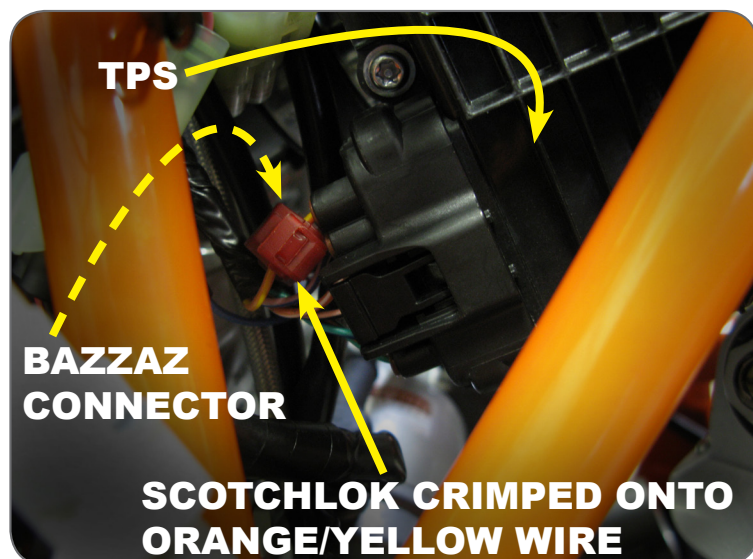
## 5.4

1. Locate the white factory, two-pin, Crank Position Sensor (CKPS) connector, found near the factory GPS connectors.
2. Disconnect the factory CKPS connectors.
3. Connect the Bazzaz CKPS connectors in-line with the factory connectors.



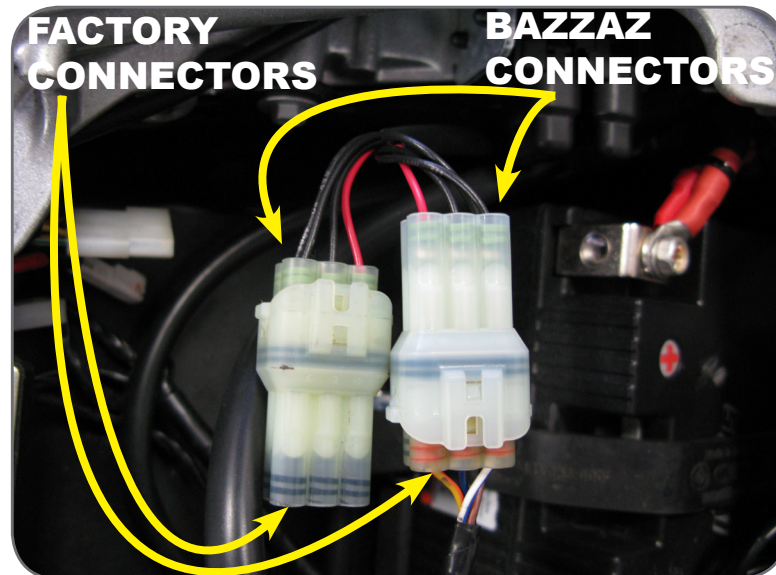
## 5.5

1. Locate the factory Throttle Position Sensor (TPS) and its connector, found on the left side of the throttle body.
2. Disconnect the TPS connector from the sensor.
3. Crimp a supplied Scotchlok onto the orange/yellow wire of the factory TPS connector.
4. Connect the Bazzaz TPS connector into the Scotchlok.
5. Reconnect the factory TPS connector with the sensor.



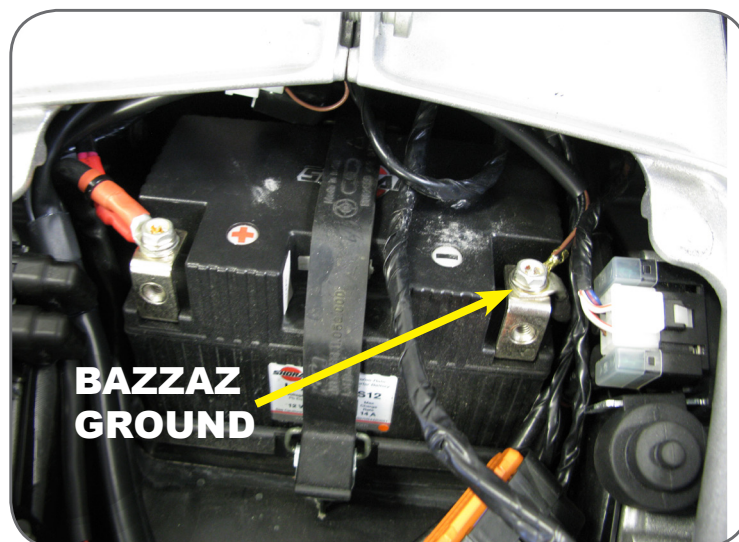
# 5>CONNECT (CONT.)

- 5.6**
1. Locate the factory, six-pin, diagnostic connectors found in the tail section of the bike.
  2. Disconnect the factory diagnostic connectors.
  3. Connect the Bazzaz +12V switched power connectors in-line with the factory connectors.



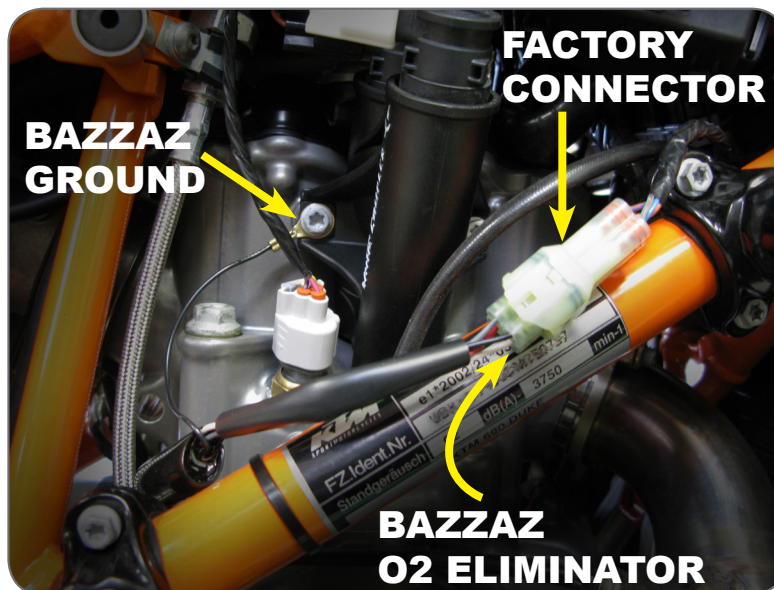
## 5.7

1. Locate the negative battery terminal.
2. Unbolt the factory 10mm bolt.
3. Install the Bazzaz ground lug.
4. Replace the factory bolt and tighten.



# 6>O2 SENSOR

1. Locate the factory O2 sensor connector, which can be found by following the factory sensor wires to the connector on the right side of the bike.
2. Disconnect the sensor connector from the factory harness, as it will no longer be used.
3. The wires should be neatly secured away from any moving components, or the sensor may be removed and the remaining port/bung in the exhaust can then be plugged.
4. Install the Bazzaz O2 eliminator in place of the factory sensor connector.
5. Attach the O2 eliminator ground lug to the coil coupler using one of the 8mm bolts of the coil coupler.





# 7>CHECK



1. In order to check that the system is installed correctly, download the Bazzaz Z-Fi Mapper software at [bazzaz.net](http://bazzaz.net).
2. Plug the USB cable into the control unit and computer.
3. Locate and open the Z-Fi Mapper software.
4. Check that the pre-programmed map matches the model of your bike on the fuel map page within the software. You can switch from map 1 to map 2 by unplugging the map select jumper on the Bazzaz fuel harness. Map 1 will be pre-programmed; depending on your model, there may be a pre-programmed map in the map 2 slot. If map 2 is blank, stock ECU settings are used. Make sure that the jumper is left plugged in or unplugged, depending on which map you choose.
5. Start the vehicle and begin to check that the following inputs read correctly on the fuel map page.
  - RPM - Make sure that the RPM is reading near what the vehicle is idling at.
  - GPS - The vehicle should read neutral (or whichever gear it is in). For motorcycles that use a Gear Position Sensor, the bike does not need to be running to do this. For motorcycles that use a speed sensor, the wheel must be spinning to read gear properly. This can be checked on a dynamometer or by using a rear stand. Use caution when testing componentry.
  - TPS - When throttle is applied, the TPS should read accordingly. Fly-by-wire models must be running to check TPS. Normal cable operated throttles can be checked with just the key on, not running.

## **Also use software to:**

- View and/or make adjustments to fuel maps
- Activate Z-AFM self mapper (sold separately)
- Save and load new fuel maps
- Re-calibrate throttle position sensor after throttle modifications
- View diagnostics for troubleshooting



If any problem is found, please carefully follow through the installation steps again.



If problem still persists, please contact Bazzaz tech support

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- For fastest support outside of the US, find your local importer at [bazzaz.net](http://bazzaz.net)

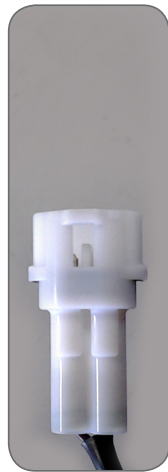
## 8>REINSTALL

After it is determined that everything is correct, reinstall the components removed in step 3.

## 9>USE



**MAP 1**



**MAP 2**

### MAPS

The Bazzaz controller is capable of storing two maps.

Switch maps by connecting or disconnecting the map select jumper supplied with the kit.

Or use the optional handlebar-mounted switch to switch maps on the fly (sold separately).

# 10>NEXT LEVEL



## ZAFM SELF MAPPER

Purchased separately.

Build race-level fuel maps for your specific modifications, fuel type, engine, and atmospheric conditions simply while riding.

O2 sensor mounts into exhaust and control box easily plugs in to any Bazzaz Z-Fi product.

**299.95**

## MAP SELECT SWITCH

Purchased separately.

**79.95**

Switch maps on the fly with this handlebar-mounted switch. Weatherproof toggle and easy installation.





**THE SMARTEST PERFORMANCE TUNING TECHNOLOGY**



Proudly made in the  
**United States**

**F591**