



## 2008-10 Yamaha R6

### Installation Instructions



# JUICEBOX<sup>PRO</sup>

Premium Fuel Controller

## PARTS LIST

- |   |                    |
|---|--------------------|
| 1 | Juice Box Pro™     |
| 1 | USB Cable          |
| 1 | Top Tune CD-ROM    |
| 1 | Installation Guide |
| 2 | Velcro             |
| 1 | Alcohol swab       |
| 1 | Posi-tap           |

**FOR RACE USE ONLY**

DOWNLOAD THE TOPTUNE SOFTWARE  
AND LATEST MAPS FROM OUR  
WEBSITE:

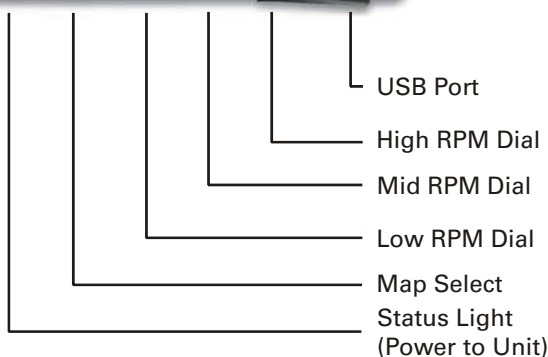
[www.twobros.com](http://www.twobros.com)

**PLEASE READ ALL DIRECTIONS BEFORE STARTING INSTALLATION**

401 S. Grand Ave. Santa Ana, CA 92705  
(800) 211-2767 [www.twobros.com](http://www.twobros.com)

# JUICEBOX PRO<sup>®</sup>

Premium Fuel Controller



## Selecting the Map Position

The Juice Box Pro comes loaded with up to ten maps. Using a #1 Phillips screwdriver, turn the map select dial to toggle between the loaded maps. Refer to the map position table below for the maps included in your Juice Box Pro.

## Using the RPM Range Dials

The Low, Mid, and High RPM Dials refer to the RPM range, in thirds, of your vehicle. Each dial allows +/- 10% fuel adjustment on top of what fuel changes are done in the map. With the dial facing straight up, there is no additional fuel change. For example, if your vehicle revs to 15,000 RPM:

- the low RPM dial will adjust 0-5000 RPM
- the mid RPM dial will adjust 5001-10000 RPM
- the high RPM dial will adjust 10001-15000 RPM

## Using Top Tune

Take your tuning to the next level with the Top Tune software.

## Installing the Top Tune Software

- 1 Insert the CD provided into your computer's cd-rom drive. The launch program will run automatically.  
If auto-run is disabled, double-click the My Computer icon then double-click the CD drive icon. Double-click TBR TopTune.exe to manually start the CD.
- 2 Click Install Software and follow the on-screen instructions to install the Top Tune software. The Top Tune software and maps will be stored in C:\Program Files\TBR TopTune.
- 3 Click Map Database. All maps will automatically be installed to the C:\Program Files\TBR TopTune\maps folder.

## Loading Additional Maps

- 1 Connect the USB cable from the computer to the Juice Box Pro. Verify the cable is fully seated in the Juice Box Pro.
- 2 Run the TopTune software by double-clicking the program icon installed on your desktop or on your start menu.
- 3 Click Open Map File and select a map file.
- 4 Click Send Map. You can send the map to any of the ten map positions.

## Altering Maps Using Top Tune

The values in the map represent a percentage of fuel change over stock. A value of 10 in the map indicates at that throttle position and RPM range the vehicle will be 10% richer than stock. If the value is -10, then it would be 10% leaner than stock. You have the ability to fine tune your fuel curve by altering these values. The Top Tune software allows a value of +250 to -100 in each cell.

Position 0	Zero map	
Position 1	Stock exhaust Stock air filter	2008-2009 Yamaha R6
Position 2	Two Brothers slip-on Stock or aftermarket air filter	2008-2009 Yamaha R6
Position 3	Two Brothers full exhaust Stock or aftermarket air filter	2008-2009 Yamaha R6
Position 4	Stock exhaust Stock or after market air filter	2010 Yamaha R6
Position 5	Two Brothers slip-on Stock or aftermarket air filter	2010 Yamaha R6
Position 6	Two Brothers full exhaust Stock or aftermarket air filter	2010 Yamaha R6

## **WARNING**

**The ignition must be turned OFF before installation.**

- 1 Remove the main seat.
- 2 Lift the front of the fuel tank up and use something to keep it propped up.
- 3 Route the Juice Box Pro harness down the left hand side of the bike.
- 4 Route the Juice Box Pro harness underneath the fuel tank bracket as shown in Figure A.

**Note:**The bolts securing the fuel tank bracket will need to be loosened to allow room for the Juice Box Pro harness to fit underneath. Tighten these bolts after installation is complete.

- 5 Unplug the 9-pin black connector from the throttle bodies to the main wiring harness as shown in Figure B.

- 6 Attach the Juice Box Pro connectors to the stock connector and wiring harness as shown in Figure C.

Verify these connectors are positioned so they do not interfere with the fuel line when the fuel tank is installed back into position.



Figure A

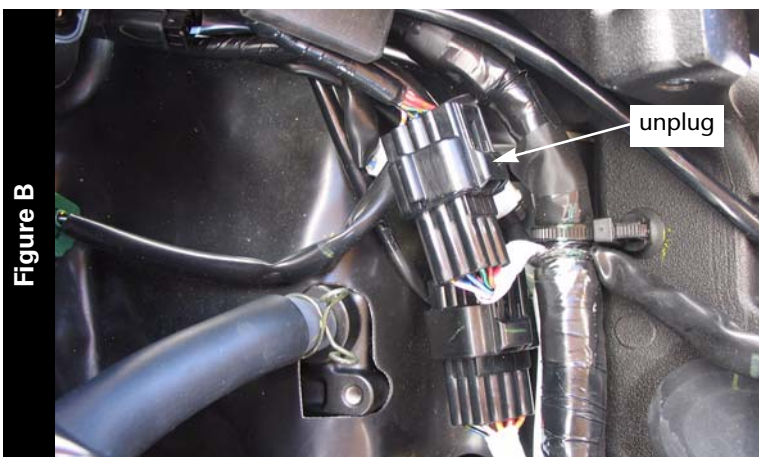


Figure B



Figure C



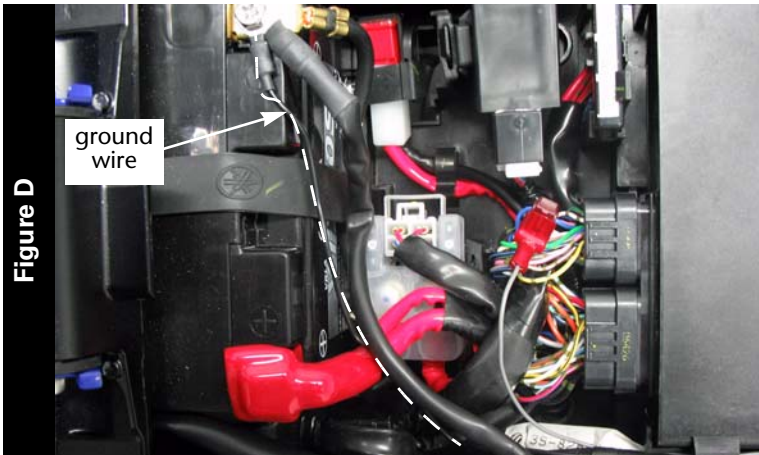


Figure D

7 Attach the ground wire from the Juice Box Pro to the negative side of the battery as shown in Figure D.

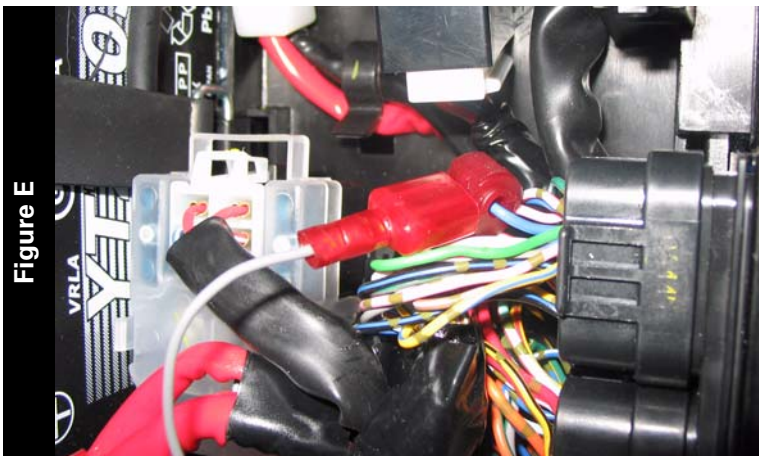
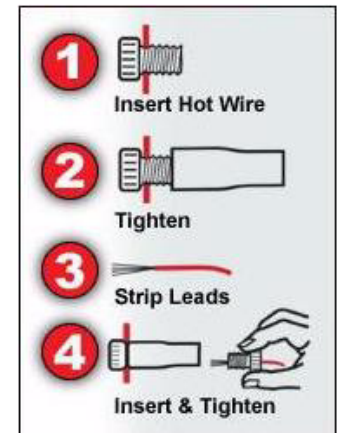


Figure E

8 Using the supplied posi-tap, attach the grey wire from the Juice Box Pro to the blue wire of the ECU as shown in Figure E.

This wire is from the smaller of the two ECU connectors in position 5.

**Note:**The wire location is numbered on the back of the connector.



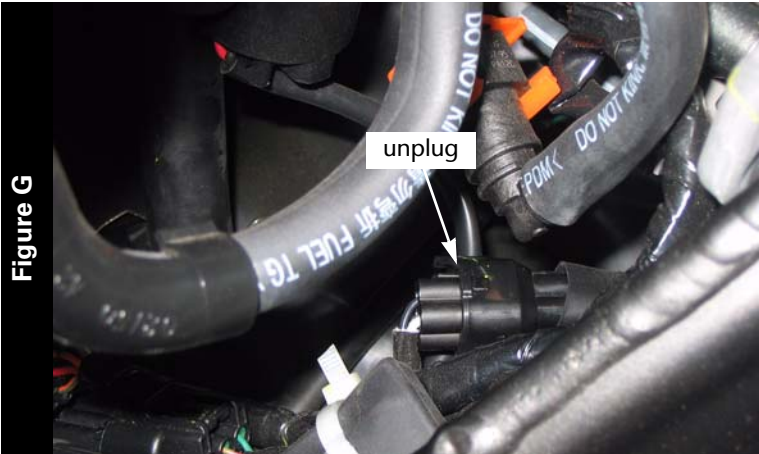
9 Using the supplied velcro, secure the Juice Box Pro in the tail section of the bike as shown in Figure F.

Make sure to clean both surfaces with the alcohol swab before attaching.

It is recommended to route the Juice Box Pro harness underneath the sub-frame bracket.



Figure F



- 10 Unplug the stock wiring harness from the O2 sensor as shown in Figure G.  
The O2 sensor connector is a black 4-pin connector located under the fuel tank near the right hand side of the frame.
- 11 Route the Juice Box Pro 4-pin connectors to the location shown in Figure G.
- 12 Attach the 4-pin connectors from the Juice Box Pro to the stock wiring harness and O2 sensor.
- 13 Lower the fuel tank and verify the connectors and harness do not interfere with or get pinched by the fuel tank.
- 14 Reinstall the main seat.

The Juice Box Pro for this model controls the stock closed loop area. This area is represented by the highlighted cells shown in Figure H. The Juice Box Pro is designed to achieve a target AFR of 13.6:1. To use this Juice Box Pro you must retain your stock O2 sensor.

It is not recommended to alter the values in the highlighted area unless instructed to do so by a Juice Box Pro technician.

**Note:**For the closed loop area to work correctly, you must block the clean air injection system. Block the hose on the right side of the air box that leads to a valve sitting on top of the cylinder head cover.

**Figure H**

ENGINE RPM	THROTTLE (%)									
	0	2	5	10	15	20	40	60	80	100
500	0	0	0	0	0	0	0	0	0	0
1000	0	0	0	0	0	0	0	0	0	0
1500	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	12	0	0	0	0
2500	0	0	0	0	0	7	3	0	0	0
3000	0	0	0	0	0	8	6	0	0	0
3500	0	0	0	0	0	12	13	0	0	0
4000	0	0	0	0	0	5	2	0	0	0
4500	0	0	0	0	0	10	4	0	0	0
5000	0	0	0	0	0	15	8	0	0	0
5500	0	0	0	0	0	13	12	-4	0	0
6000	0	0	0	0	0	8	9	-4	0	0
6500	0	0	0	0	0	4	1	-6	0	0
7000	0	0	0	0	0	3	1	-6	4	0
7500	0	0	0	0	0	1	2	-4	4	0
8000	0	0	0	0	0	7	6	0	12	0
8500	0	0	0	10	15	13	6	-3	13	4
9000	0	0	0	10	12	11	7	-7	-20	-19
9500	0	0	0	10	10	9	4	-10	-33	-43
10000	0	0	0	0	10	9	4	-7	-20	-31
10500	0	0	0	0	10	10	4	-3	-7	-7
11000	0	0	0	0	9	9	5	-5	-3	-7

## Tuning Notes

This bike uses a fly-by wire system therefore conventional tuning can not be performed for all RPM and throttle ranges.

The grey wire from the Juice Box Pro is attached to the throttle blade angle sensor of the throttle bodies which is not directly correlated to the throttle grip position. When setting the throttle position in the Top Tune software, we recommend on resetting only the closed position after the bike has completely warmed up. Use the arrow key (<) next to CLOSED to perform this step and then click OK. Do not try to set the OPEN position unless you are on a dyno and above 9000 RPM.

You will notice in the maps there are not detailed values below 7000 RPM at 100% throttle and below 5250 RPM at 60-80%. This is because the throttle blades will not open more than 60% below this RPM range no matter how much throttle input is given. Therefore this area can not be tuned.