Two Brothers Racing U.S.A.
Absolute Top Level™
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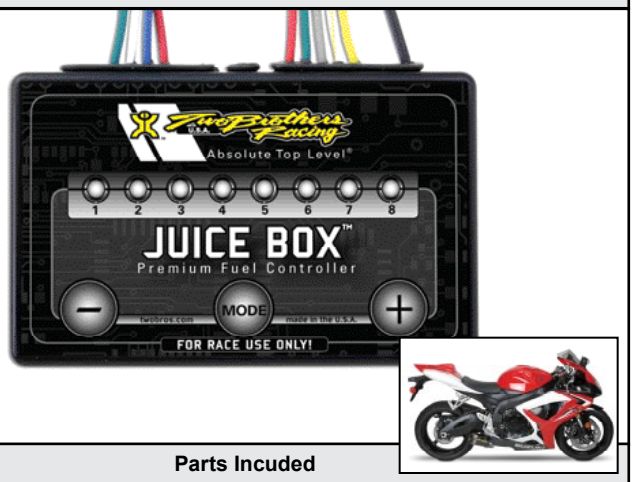
V.A.L.E. VARIABLE AXIS LOCKING EXHAUST

Two Brothers Racing
Juice Box™ – Fuel Controller
2006-07 Suzuki GSX-R600/750 Installation & Operation Manual
Part # 008-147-6 / 008-147-7



Parts Incuded

Qty.	Description	Part Number
1	Juice Box™ Fuel Control Kit	008-147-6/7
3	Zip Ties	
1	Adhesive Velcro Square	

Tools Needed For Install

- 8mm Wrench
- 5mm, 6mm Allen Wrench

IMPORTANT - PLEASE READ CAREFULLY

We recommend that this performance part be installed by a qualified motorcycle technician. If you have any doubts as to your ability to install this performance part, please consult with your local motorcycle dealer. Read all instructions first before starting installation. Make sure the vehicle and exhaust system are completely cool before starting the installation. Also, make sure the vehicle is secure during installation. Be sure to save all stock components for possible use later.

The Juice Box™ is legal ONLY for closed course race vehicles. The Juice Box™ is not applicable, nor inteded for use on EMISSIONS CONTROLLED street, highway or off-road vehicles. The Juice Box™ is not applicable, nor inteded for use on aircraft.

Warranty

Two Brothers Racing warrants that this product carries a warranty for 2 years from date of purchase against original defects in materials and workmanship. Should this product fail to perform for either of the above reasons, Two Brothers Racing will repair or replace it with an equivalent product at no charge, except for postage, to the original retail purchaser.

To obtain the benefits of this warranty, the retail purchaser must return the product and proof of purchase to the place of original purchase.

Installation Instructions

Thank you for purchasing a genuine Two Brothers Racing JUICE BOX™. This product represents a radical step forward in tuning fuel-injected motorcycles and ATVs for optimal performance using "load-based" technology. We at Two Brothers Racing hope that you will find this development as exciting and useful as we do. And remember: Proper Fuel = Maximum Power!

1. Make sure the vehicle is completely cool before starting the installation. Also, make sure the vehicle is secure and will not roll around.

2. Remove 2 bolts (1 right side and 1 left side) that secure tank side panels and front seat in place. (Fig 1)

Fig 1

3. Remove front rider seat, exposing battery. (Fig 2)

Fig 2

4. Remove right and left tank side panels by pulling gently out and to the rear of the bike. (Fig 3)

Fig 3

5. Remove 1 bolt that secures gas tank to frame near triple tree. (Fig 4a) Lift gas tank up and support with tank support rod found in rear passenger seat compartment. (Fig 4b)

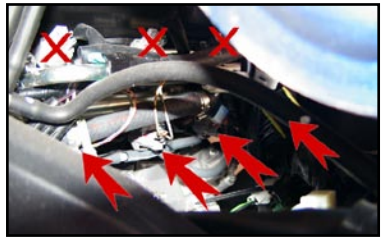
Fig 4a

Fig 4b

6. The JUICE BOX™ can be mounted under the rear passenger seat or near the gauge pod at the front of the bike. If the desired mounting location is under the rear passenger seat, the JUICE BOX™ wire harness should be routed starting from under the rear seat, then under the front seat and under the tank hinge to the rear of the engine. If the desired mounting location is at the front of the bike, skip this step.

7. This bike has primary (lower) and secondary (upper) injectors. Locate primary (lower) injector connectors under tank, to the rear of the air box on the throttle bodies and under the fuel rail. DO NOT connect the TBR Juice Box to the secondary (upper) injectors. (Fig 5)

Fig 5



8. Disconnect stock injector (one at a time) and connect the JUICE BOX™ gray connector to bike's injector then connect stock injector connector to Juice Box's black connector. Repeat for the remaining 3 cyl's. (Fig 6)

Fig 6

9. Route black ground wire from JUICE BOX™ to crank case breather vapor separator. Remove just 1 mounting bolt and attach JUICE BOX™ black ground wire to bolt and tighten bolt. (Fig 7)

Fig 7

Continued on page 2

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Installation Instructions continued...

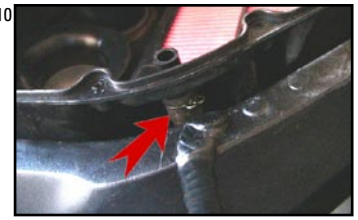
10. Alternate JUICE BOX™ mounting location: Route JUICE BOX™ wire harness up over the air box (tuck harness into slot in top of air box) and route harness between right fork tube and steering stem. (Fig 8) Attach JUICE BOX™ to front sub frame below gauge pod assembly with the supplied adhesive backed hook and loop material. Insure that the JUICE BOX™ wire harness does not interfere with the steering of the bike. (Fig 9)

Fig 8

Fig 9

11. If tuning is performed with an air fuel meter, the fresh air system needs to be disabled to get accurate air fuel readings. Also, if deceleration "popping" is a concern, this step will also reduce or eliminate deceleration "popping." Remove fresh air system hose from air box, block with a marble and reattach hose. The hose is located at the front right of the air box. (Fig 10)

Fig 10



12. Start the bike. The green LED should scroll left to right and back for about 3-5 seconds and then go to 1-2 steady or slowly flashing green LED's. If the number 1 green LED and number 8 red LED's continue flashing after startup or idling, an injector wiring error is indicated. Re-check the wires from the JUICE BOX and make sure they are connected to the proper wire of your bike's stock harness. MAKE SURE you have the correct wires selected in the stock harness. DO NOT PROCEED UNLESS ABOVE CONDITIONS ARE MET.

13. Bike reassembly is opposite of disassembly.

14. NOTE: Re check your wire routing and JUICE BOX™ location and make certain that in no way the wires can come into contact with any moving parts or high heat source and that the JUICE BOX™ is mounted in a way as to not cause a handling problem with the machine.

Operation Manual

1. It is recommended that the pre-programmed settings of the Juice Box™ be used. However, the Juice Box™ can be adjusted to suit different engine modifications, states of tune and environmental conditions. To begin this process, press the mode button. To enter each successive mode, just press the mode button again. Note that every mode will be identifiable by the color(s) of the flashing LED(s) on the LED display. **There are six modes** that are distinguished by an LED color or color combination. **The 6 modes are as follows, respectively: Green, Yellow, Red, Green-Blue, Yellow-Blue and Red-Blue.**

2. You are now ready to manually program each mode. Consult the base settings supplied with the unit.

   To program the Juice Box™, the bike must be running in order to supply power to the Juice Box™.

   Simply press the mode button to activate the first mode. If at anytime you stay in an adjustment mode for longer **than 5 seconds** without pressing any buttons, the Juice Box™ will exit the adjustment mode and will return to the operational mode.

   To save settings in a particular mode press the MODE button which goes to the next adjustable mode or wait for the Juice Box™ to exit back to the operational mode.

   The settings in each mode are adjusted by pressing the (+) and (-) buttons located on the right and left side of the mode button, respectively. For easy reference, the LEDs are numbered 1 through 8. However, the LEDs can be adjusted to the following positions: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8. For example, in a particular mode, if LED 4 is flashing then the LED display is set to 4 in that mode. If the (+) button is pressed once then LEDs 4 and 5 will flash simultaneously and the LED display is set to 4.5. If the (+) button is pressed once again, only LED 5 will flash and the LED display is set to 5. The LED display can also be set to 0.5 by pressing the (-) button and scrolling the colored LED to position 1 and then pressing the (-) button once more until the LED in position 1 is flashing twice as fast as normal.

   I. ***The first mode*** (Green Mode) represents an additional amount of fuel added under cruise conditions. A flashing green LED should appear on the LED display. To add more fuel, scroll the flashing green LED to the right using the (+) button. To add less fuel, scroll the flashing green LED to the left using the (-) button. If you set the flashing green LED to the 0.5 position on the LED display, **no fuel will be added to the stock fuel curve.**

   II. ***The second mode*** (Yellow Mode) represents an additional amount of fuel added during acceleration. A flashing yellow LED should appear on the LED display. To add more fuel, scroll the flashing yellow LED to the right using the (+) button. To add less fuel, scroll the flashing yellow LED to the left using the (-) button. If you set the flashing yellow LED to the 0.5 position on the LED display, **no fuel will be added to the stock fuel curve.**

   III. ***The third mode*** (Red Mode) represents an additional amount of fuel added during full throttle conditions. A flashing red LED should appear on the LED display. To add more fuel, scroll the flashing red LED to the right using the (+) button. To add less fuel, scroll the flashing red LED to the left using the (-) button. If you set the flashing red LED to the 0.5 position on the LED display, **no fuel will be added to the stock fuel curve.**

   Note: If the flashing green, yellow and red LEDs in modes 1 through 3 (Green, Yellow and Red) are set to the 0.5 position on the LED display then the Juice Box™ will not add any fuel to the bike's stock fuel curve. This setting will essentially turn off the Juice Box™ even though it is still attached to the bike's fuel injection system. The bike will run as though the Juice Box™ is not installed. The Juice Box™ LEDs will still operate normally even though no fuel is being added.

   IV. **The fourth mode** (Green-Blue Mode) is an adjustment to determine the point on the RPM range when the cruise/Green Mode fuel turns OFF. A flashing green LED appears on the LED display while at the same time a flashing blue LED appears on the 8th LED. The cruise/Green Mode fuel can be set to turn OFF during high cruise rpms at a point selected by the user by adjusting the green LED in this mode. The Green-Blue mode is RPM based only. Each LED position represents a specific RPM on your bike. In this case, LED 0.5 will turn OFF the cruise/Green Mode fuel at 4,000 RPM and LED 8 will turn OFF the cruise/Green Mode fuel at 8,000 RPM. Each LED setting in between 0.5 and 8 will turn ON the cruise/Green Mode fuel in between the above-mentioned RPM points. You can calculate what RPM corresponds to what LED by interpolation. If during cruise, the Green LED is solid, then the Green Mode is active; Green Mode fuel is being added during cruise. If during cruise, the Green LED is slowly flashing, then the Green Mode is NOT active; Green Mode fuel is NOT being added during cruise.

   V. ***The fifth mode*** (Yellow-Blue Mode) is an adjustment to determine the time when the acceleration/Yellow Mode fuel amount turns on. A flashing yellow LED appears on the LED display while at the same time a flashing blue LED appears on the 8th LED. To increase the sensitivity and therefore cause the Yellow Mode fuel to turn on sooner, scroll the flashing yellow LED to the left using the (-) button. To decrease the sensitivity and therefore cause the Yellow Mode fuel to turn on later, scroll the flashing yellow LED to the right using the (+) button.

   VI. ***The sixth mode*** (Red-Blue Mode) is an adjustment to determine the time when the full throttle/Red Mode fuel amount turns on. A flashing red LED appears on the LED display while at the same time a flashing blue LED appears on the 8th LED. To increase the sensitivity and therefore cause the Red Mode fuel to turn on sooner, scroll the flashing red LED to the left using the (-) button. To decrease the sensitivity and therefore cause the Red Mode fuel to turn on later, scroll the flashing red LED to the right using the (+) button.

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Cleaning

If the unit requires cleaning, use a cloth that is only lightly dampened with water or mild detergent.

For Race Use Only

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Operation Manual - JUICE BOX™ Settings

The 600 and 750 have identical install procedures and pictures. The maps are different

GSX-R600 Pre-set Settings: GSX-R600 baseline settings with stock air filter and TBR slip-on system. (G=2.5, Y=3.5, R=3, GB=4.5, YB=4, RB=3)

Mode 1 - Green

Mode 2 - Yellow

Mode 3 - Red

Mode 4 - Green/Blue

Mode 5 - Yellow/Blue

Mode 6 - Red/Blue

GSX-R750 Pre-set Settings: GSX-R750 baseline settings with stock air filter and TBR slip-on system. (G=2.5, Y=3.5, R=3, GB=2, YB=4, RB=3)

Mode 1 - Green

Mode 2 - Yellow

Mode 3 - Red

Mode 4 - Green/Blue

Mode 5 - Yellow/Blue

Mode 6 - Red/Blue

For additional settings please visit our website at www.twobros.com.