



## FUEL MOTO MICRO EFI TUNER INSTALLATION INSTRUCTIONS

2012  
HARLEY-DAVIDSON  
V-ROD MODELS



### PARTS LIST

1	Micro Tuner Module	2	Velcro
1	USB Cable	1	Alcohol swab
1	CD-ROM	1	Posi-Tap
1	Installation Guide	1	Front O2 Optimizer
1	Zip-tie	1	Rear O2 Optimizer

### PLEASE READ ALL DIRECTIONS BEFORE STARTING INSTALLATION

Note: Fuel Moto USA and Fuel Moto Micro EFI Tuner fuel management systems are not legal for use or installation on motor vehicles operated on public highways in the State of California or other States where similar emission and decibel regulation laws may apply. The user shall determine suitability of the product for his or her use. The user shall assume all risk and liability in violation of regulations and any incurred financial obligations due to vehicle inspections or emissions tests.

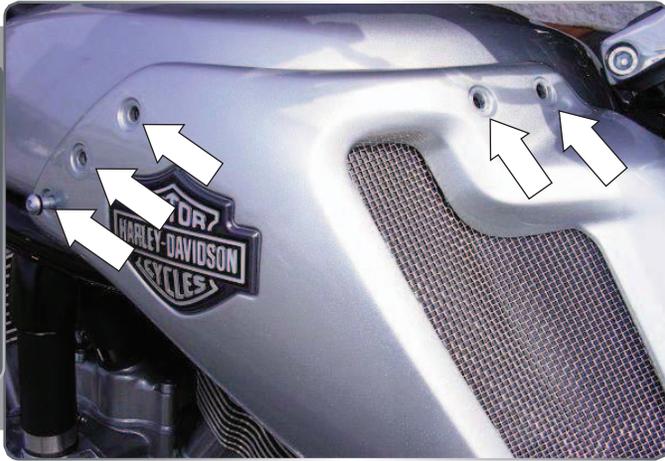
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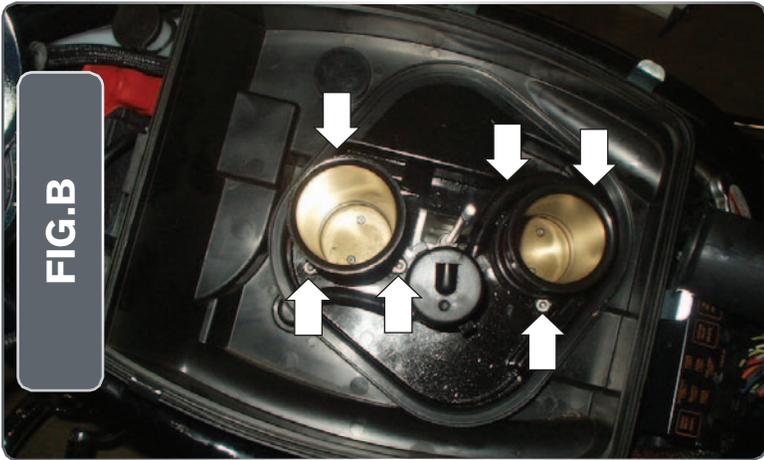
FIG.A



- 1 Remove the 5 hex bolts that attach the airbox side air intake and remove left and right sides (Fig. A).

*(This step only applies to the V-Rod VRSCF Muscle.)*

FIG.B

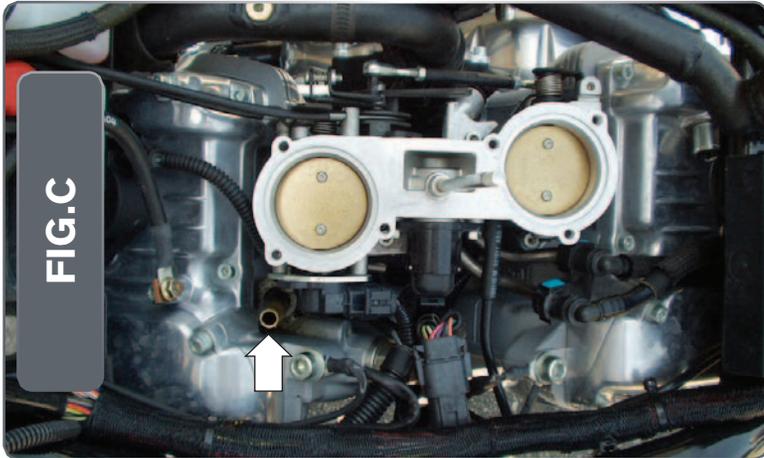


- 2 Lift the seat. Turn the ballhead fastener counter clockwise and slide the airbox cover toward the rear of the bike.
- 3 Remove the airbox cover. Unplug the Intake Air Temperature sensor at the front of the airbox. Undo the 8 clamps on the airbox, and remove the lid. Remove the air filter.

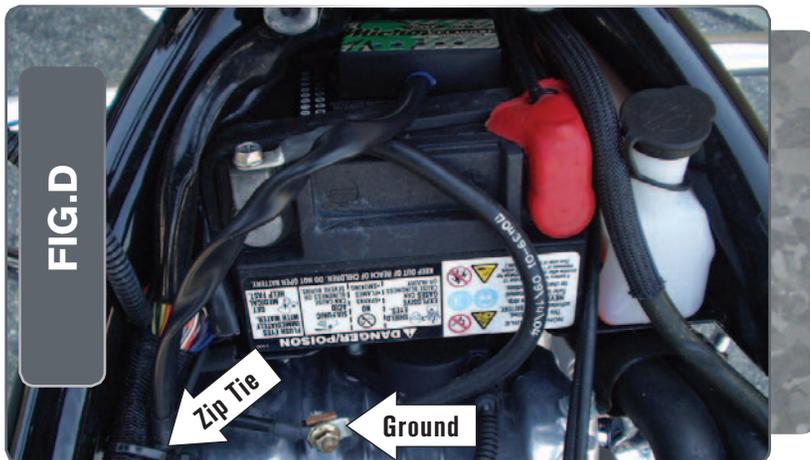
*There are 3 clamps on both sides of the airbox, 1 at the front, and 1 at the rear.*

- 4 Slide the rubber rings to the top of the air horns. Then, using a 5mm hex wrench, remove the 6 bolts at the base of the air horns inside of the airbox (Fig. B).

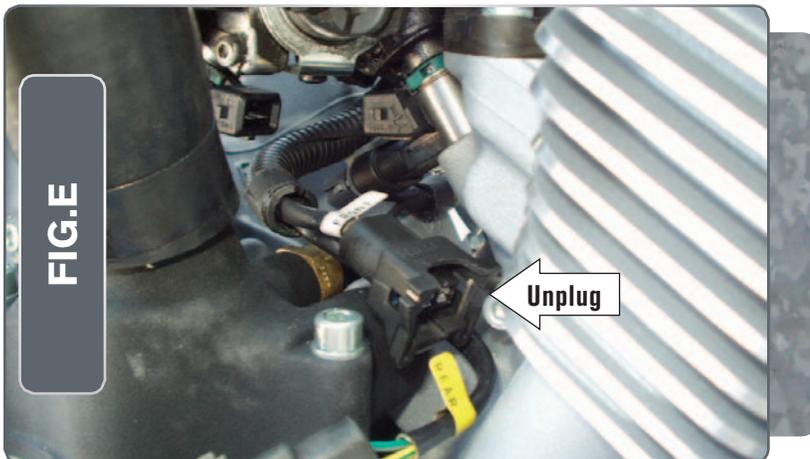
FIG.C



- 5 Use a pair of pliers to loosen the clamp on the breather hose that goes from the airbox to the rear cylinder head. Remove the breather hose. Lift and remove the airbox (Fig. C).



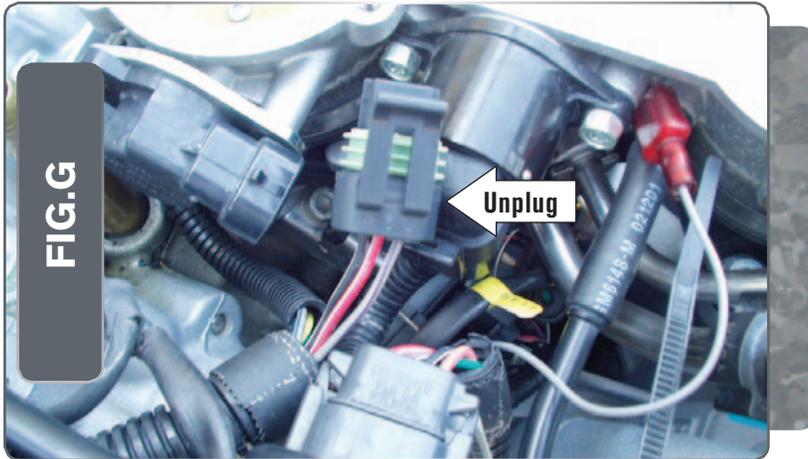
- 6 Use the supplied Velcro to secure the Micro EFI Tuner module on to the front of the battery. Clean both surfaces with the supplied alcohol swab prior to applying the Velcro. Route the wiring harness down the left side of the bike. On the Micro EFI Tuner harness, locate the BLACK wire with the ring eyelet. This needs to be grounded to the bolt that is on the front cylinder head (Fig. D). Use a zip tie to secure the Micro EFI Tuner harness to the stock wiring harness.



- 7 From the right side of the bike, unplug the stock wiring harness from the fuel injectors. Pull the harness down so it is out of the way. Note that there are labels on them designating them for the "Front" and "Rear" cylinders.
- 8 Feed the Micro EFI Tuner wiring harness under the throttle bodies, then through to the right side of the bike (Fig. E).



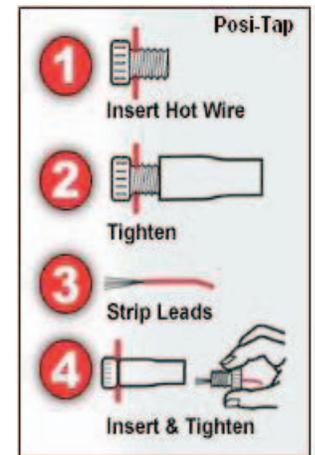
- 9 Plug the Micro EFI Tuner wiring harness in-line of the stock wiring harness and the fuel injectors (Fig. F).  
*There are 2 pairs of fuel injector connectors on the Micro EFI Tuner wiring harness. Plug the connector pair with ORANGE colored wires in-line of the front fuel injector and stock wiring harness labeled "Front." Plug the connector pair with YELLOW colored wires in-line of the rear fuel injector and stock wiring harness labeled "Rear."*



- 10 Unplug the stock wiring harness from the bike's Throttle Position Sensor on the throttle body for the front cylinder. If there is a black wire loom over the 3 wires to the TPS, remove the loom (Fig. G).



- 11 Use the supplied Posi-tap to attach the GREY wire of the Micro EFI Tuner wiring harness to the GREY/PURPLE wire of the bike's stock TPS wiring harness. Plug the stock TPS connector back on to the TPS (Fig. H).



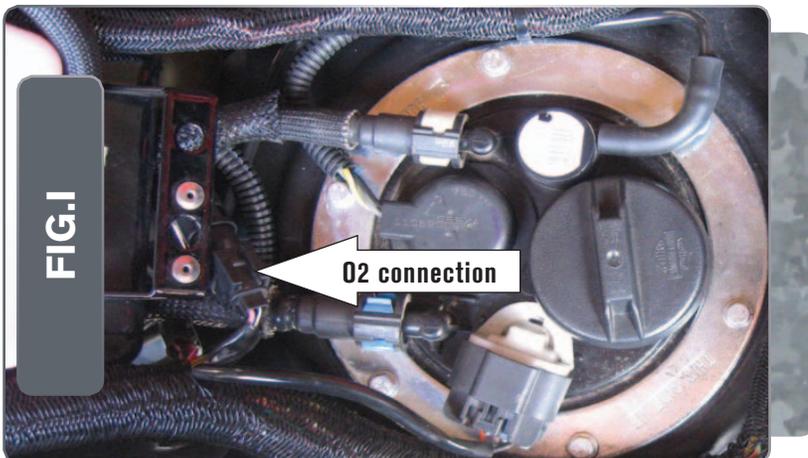
- 12 Unplug the rear O2 sensor from the stock wiring harness (Fig. I).

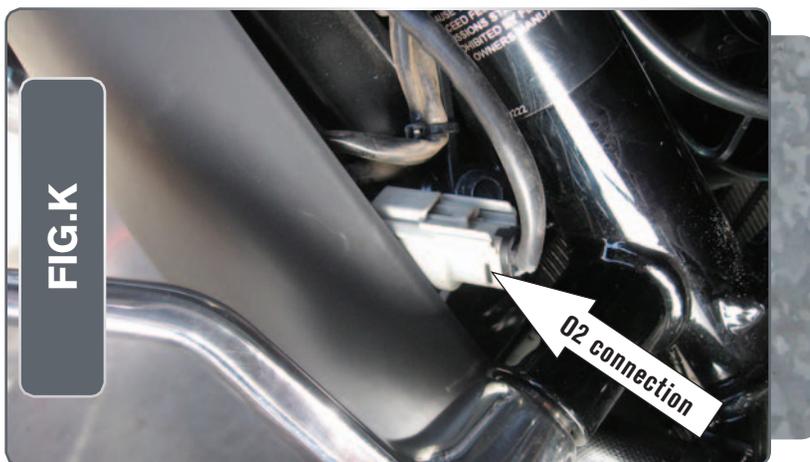
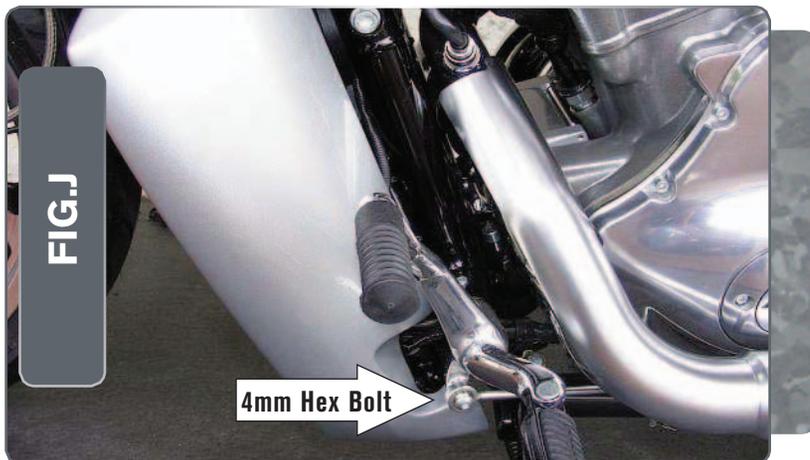
*This connector is located in the frame opening below the seat toward the front.*

- 13 Plug the rear O2 optimizer into the stock wiring harness in place of the stock O2 sensor.

*The stock O2 sensor will no longer be used. It can be removed from the exhaust, if desired.*

*There is a BLACK O2 Optimizer and a WHITE O2 Optimizer supplied in the kit. They are indexed so that they can NOT be connected incorrectly.*





- 14 Remove the left radiator side cover by removing the 4mm hex bolt located on the bottom side of the cover (Fig. J).

*(This step only applies to the V-Rod VRSCF Muscle. On VRSCD, VRSCDX, and VRSCAW models the stock O2 sensor connector can be accessed between the frame and side cover.)*

- 15 Locate the front O2 sensor connector in the stock wiring harness. This connector is located behind the left radiator side cover.

- 16 Unplug the stock wiring harness for the front O2 sensor.

- 17 Plug the front O2 optimizer into the stock wiring harness in place of the stock O2 sensor.

*The stock O2 sensor will no longer be used. It can be removed from the exhaust, if desired.*

- 18 Reconnect the IAT sensor at the front of the airbox and reinstall the airbox, seat, and covers.



- USB Port
- HIGH RPM Dial
- MID RPM Dial
- LOW RPM Dial
- MAP Select
- STATUS Light

### Selecting the Map Position

The Fuel Moto Micro EFI Tuner 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 Micro EFI Tuner Module.

### 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 6000 RPM:

- The low RPM dial will adjust 0-2000 RPM
- The mid RPM dial will adjust 2001-4000 RPM
- The high RPM dial will adjust 4001-6000 RPM

### Using Fuel Moto Micro EFI Tuner Control Center

Take your tuning to the next level with the Fuel Moto Micro EFI Tuner Control Center 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 Fuel Moto Micro EFI Tuner setup.exe to manually start the CD.
- 2 Click Install Software and follow the on-screen instructions to install the Micro Tuner software. The Micro EFI Tuner software and maps will be stored in C:\Program Files\Fuel Moto Micro EFI Tuner Control Center.
- 3 Click Map Database. All maps will automatically be installed to the C:\Program Files\Fuel Moto Micro EFI Tuner Control Center\maps folder.

### Loading Additional Maps

- 1 Connect the USB cable from the computer to the Fuel Moto Micro EFI Tuner Module. Verify the cable is fully seated in the Fuel Moto Micro EFI Tuner Module.
- 2 Run the Fuel Moto Micro EFI Tuner Control Center 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 Software

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 Control Center software allows a value of +250 to -100 in each cell.