

# FUEL TUNER Installation Guide

2006-2010  
Harley-Davidson V-Rod Models



## Parts List

1 - Fuel Tuner      1 - Installation Guide      2 - O2 Eliminators  
1 - Velcro® Strip      1 - Alcohol Swab      1 - Posi-Tap

Part number TABFI3

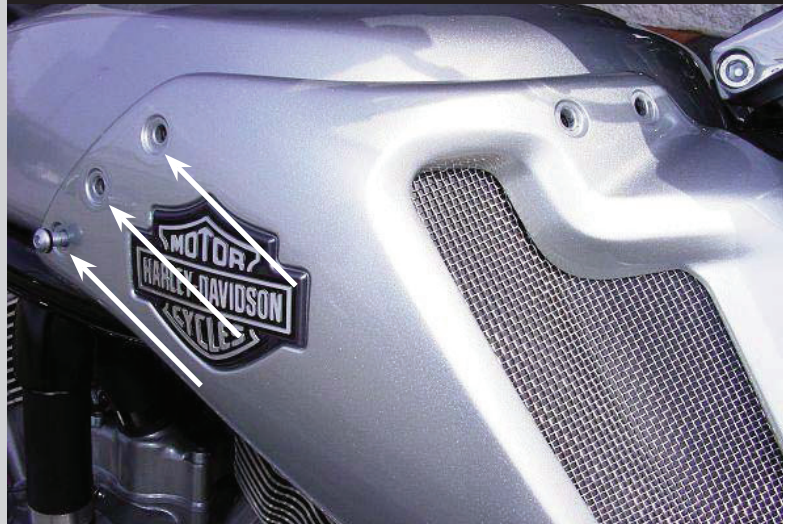
**The ignition MUST be turned OFF before installation!**

## STEP 1

Tools required: 4mm, 5mm hex wrench, 10mm socket, pliers, and straight screw driver.

**(Step 1 only applies to the V-Rod VRSCF Muscle)**

Remove the 5 hex bolts that attach the airbox side air intake and remove left and right sides.

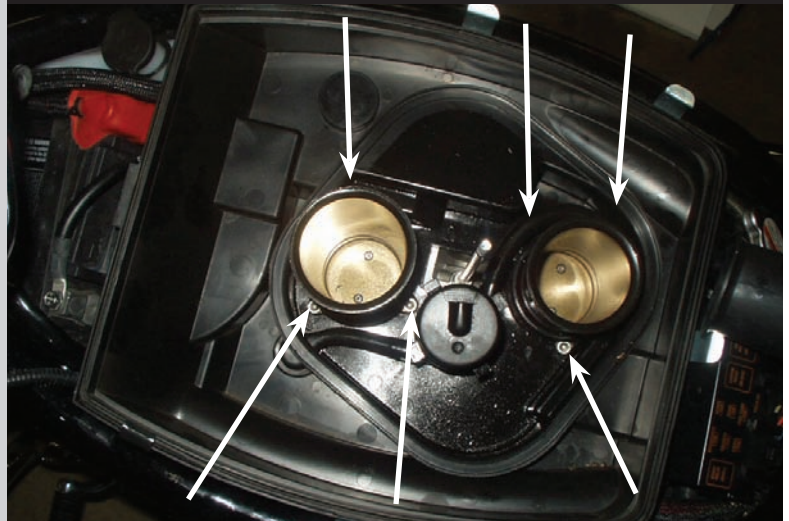


## STEP 2

Lift the seat. Turn ballhead fastener counter clockwise and slide airbox cover toward rear of bike.

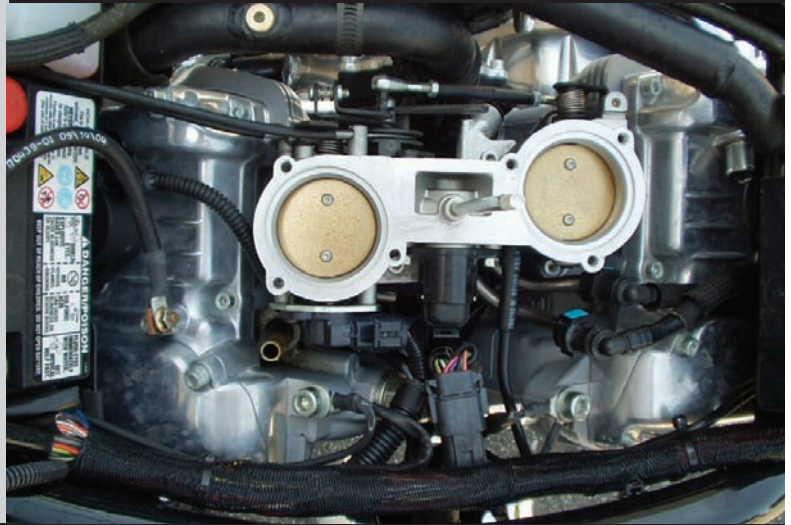
Remove the airbox cover. Disconnect the IAT sensor at the front of the airbox by pressing down wire. Undo the 8 clamps on the airbox, and remove the lid. There are 3 clamps on each side, 1 at the front and 1 at the rear. Remove the air filter.

Slide the rubber rings to the top of air horns then using the 5mm Hex wrench, remove the 6 bolts at the base of the airhorns inside the airbox.



## STEP 3

Use the 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.



## STEP 4

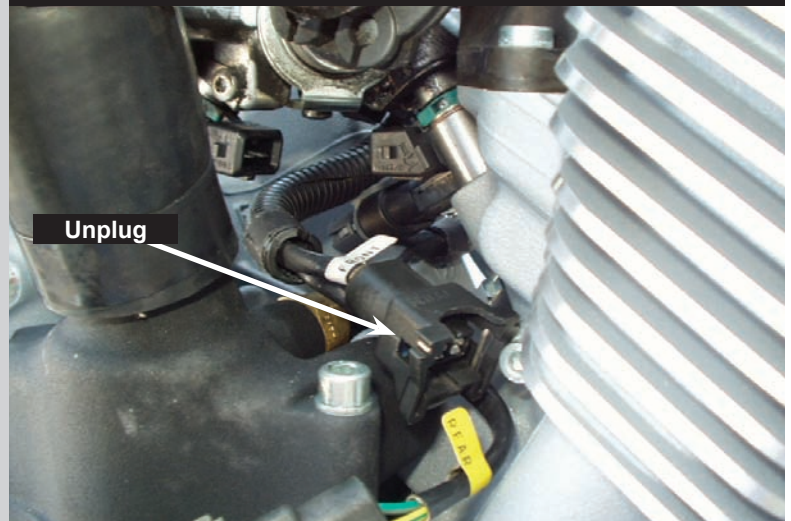
Place Fuel Tuner on battery. Route wiring harness down left side of bike. On the Fuel Tuner harness, locate the black wire with with the ring terminal. This needs to be grounded to the bolt that is on the front cylinder head. Use a wire tie to secure the Fuel Tuner harness to the stock wiring harness.



## STEP 5

From the right side of the bike, unplug the fuel injector connectors. Pull the harness down so it is out of the way. Note that there is a label on them for "FRONT" and "REAR" cylinder.

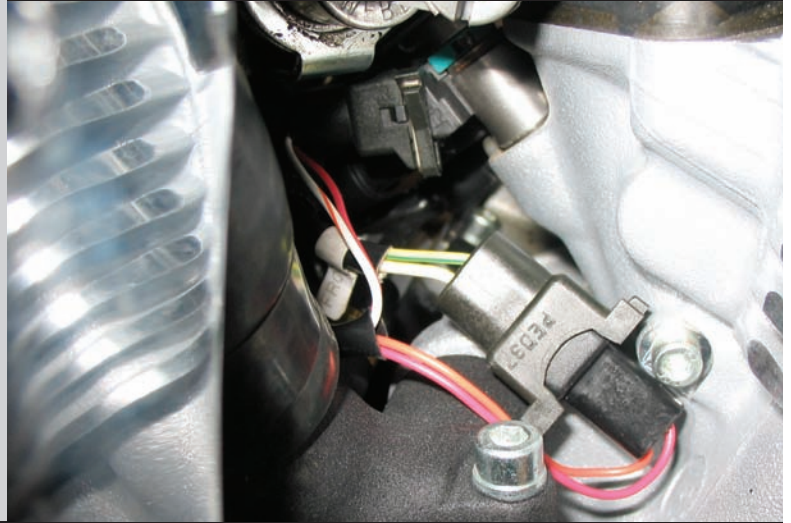
Take the Fuel Tuner harness, and feed it under the throttle bodies, then through to the right side of the bike.



## STEP 6

When connecting the 2 Fuel Tuner injector connectors to the motorcycles injector wiring harness make sure that the “front cylinder” injector plug wires are lined up as follows; the Fuel Tuners (red) wire should connect to the bikes (yellow/green) wire and the Fuel Tuners (orange) wire should connect to the bikes (yellow/white) wire.

When connecting the “rear cylinder” injector plug the wires are lined up as follows; the Fuel Tuners (red) wire should connect to the bikes (yellow/green) wire and the Fuel Tuners (yellow) wire should connect to the bikes (green/white) wire.



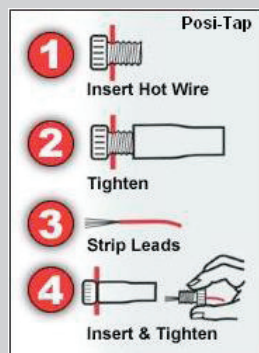
## STEP 7

Unplug the Throttle Position Sensor (TPS) connector from the throttle body on the front cylinder. If there is a black wire loom over the 3 wires to the TPS, remove this loom.



## STEP 8

Using the supplied Posi-tap attach the GREY wire of the Fuel Tuner to the grey wire with the purple stripe on the TPS connector. Plug the TPS connector back into the throttle body.



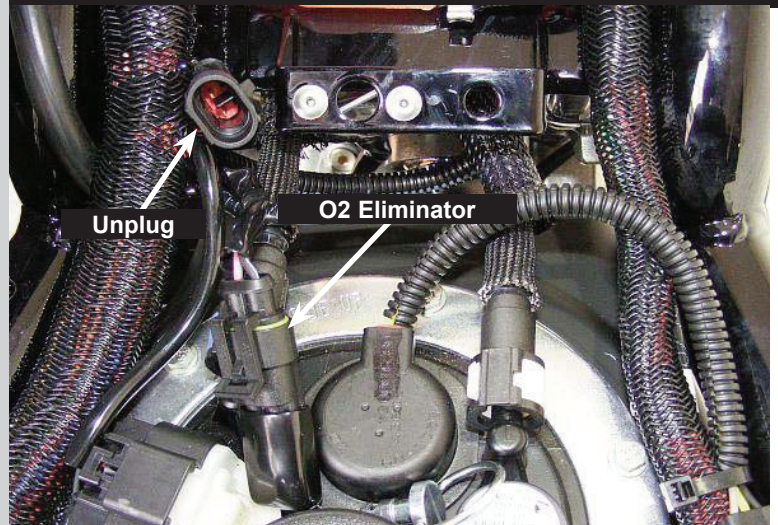
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## STEP 9

Unplug the rear O2 sensor from the stock wiring harness.

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

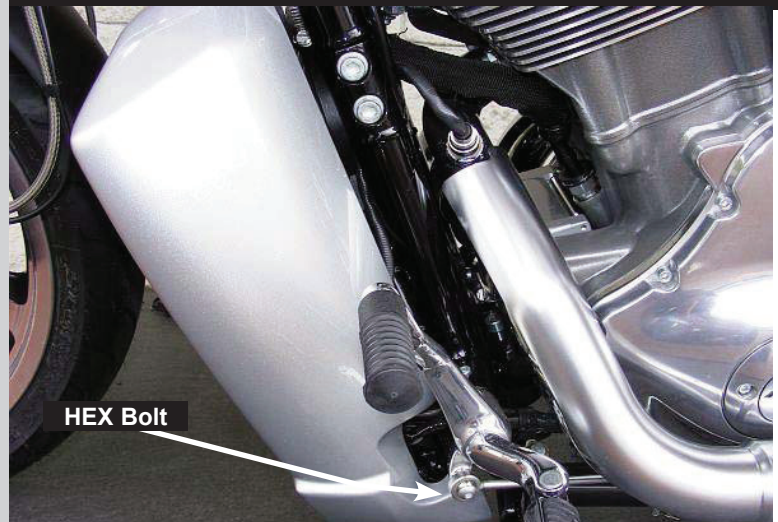
Plug one of the O2 eliminators into the stock wiring harness.



## STEP 10

(The VRSCD, VRSCDX and VRSCAW bikes do not require the removal of the radiator side cover. The O2 connector can be accessed between the frame and side cover.) (For the VRSCF Muscle) Remove radiator side cover by removing the 4mm hex bolt located on the bottom side of the cover.

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



## STEP 11

After locating the front O2 connectors, un-plug the stock wiring harness and plug in the TAB O2 sensor eliminator.

The actual stock O2 sensors are no longer active though they should remain in the exhaust pipes.

Reinstall the radiator side cover using stock hex bolt.

Reinstall airbox and breather hose. Reinstall air filter and airbox lid. Place fuel tuner between battery and airbox as this will be its permanent location.

Reconnect IAT sensor at front of airbox. Reinstall airbox cover, and close seat.



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# Part number TABFI3 Installation Guide

## Controls

The Fuel Tuner is preprogrammed with 10 base fuel curves. The curves are selected using the switch labeled BASE. These curves adjust fuel delivery based on throttle position and RPM, providing the right amount of fuel under all conditions. The 10 fuel curves correspond to varying levels of performance modifications. The levels of modification are broken down into the following groups.

### MAP DESCRIPTIONS FOR TAB PERFORMANCE

(MAPS 1-6 FOR 2008-2010 VRSCF, VRSCAW, VRSCD, VRSCDX APPLICATIONS)

(MAPS 7-9 FOR 2006-2007 VRSCD, VRSCDX, VRSCR APPLICATIONS)

- Map# 1:** For all **NON-BAFFLED** pipes. Fits 2008-2010 VRSCAW model with 1250cc engine and O2 sensors.
- Map# 2:** For all **BAFFLED** pipes. Fits 2008-2010 VRSCAW model with 1250 cc engine and O2 sensors.
- Map# 3:** For all **NON-BAFFLED** pipes. Fits 2008-2010 VRSCD/DX models with 1250cc engine and O2 sensors
- Map# 4:** For all **BAFFLED** pipes. Fits 2008-2010 VRSCD/DX models with 1250cc engine and O2 sensors.
- Map# 5:** For MAC (Angle Cut Pipes 2.5" baffles) Fits 2009-2010 VRSCF Muscle.
- Map# 6:** For MAC (Angle Cut Pipes 2.0" baffles) Fits 2009-2010 VRSCF Muscle.
- Map#7:** For MAC (Angle Cut Pipes 1.75" baffles) Fits 2009-2010 VRSCF Muscle.
- Map# 8:** For all **NON-BAFFLED** pipes. Fits 2008-2010 VRSCD/DX models with 1250cc engine and O2 sensors. (fuel consumption)
- Map# 9:** For all **BAFFLED** pipes. Fits 2008-2010 VRSCD/DX models with 1250cc engine and O2 sensors. (fuel consumption)
- Map# 10:** Base Stock Setting (fully adjustable for any exhaust configuration by using the 3 lean/rich pots)

In addition to the 10 curves, there are 3 potentiometers that allow you to fine tune the curve you select. These potentiometers allow you to adjust the fuel curve from +20% to -20% in 3 different RPM ranges.

To add fuel, turn the potentiometer clockwise. To subtract fuel, turn the potentiometer counterclockwise. With the potentiometer pointed straight up at the thick tick mark, that is 0% adjustment. Fully counterclockwise is -20%, and fully clockwise is +20%. Adjusting the potentiometer between these points will result in adding or subtracting an amount of fuel proportional to how far the knob was moved from zero.

Tab Performance  
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[www.tabperformance.com](http://www.tabperformance.com)

## Calibration

To select the right curve, start by making sure that all 3 of the RPM pots are set to zero adjustment. Then select the base curve which corresponds to the bikes level of modification. This should make the bike run better at all RPMs. The AF ratio if measured on a dyno should be much smoother throughout the RPM range than without the Fuel Tuner. If it feels worse or the AF ratio gets too lean at any RPM compared to stock, try a different curve.

Once you have selected the correct curve, then you can fine tune any problems with the map by using the potentiometers. With the arrows on the pot straight up and down, the pots are at 0% adjustment. To add more fuel, turn the pots clockwise. To subtract fuel, turn the pots counterclockwise. Do not attempt to adjust while riding!

## Troubleshooting

If the STATUS LED does not come on when the ignition is switched on, there is no power to the Fuel Tuner. Make sure that you have the ground hooked up properly either directly to the battery ground, or to a lug on the frame that is grounded.

If bike fails to start return to steps 4, 5, and 7 to make sure that all connections are made correctly.

Bluing and/or discoloration is not covered under warranty, it is a result of improper tuning, cam timing, engine timing, jetting, overheating etc. It is not caused by defective manufacturing. The mufflers and components offered may not meet EPA emissions and noise guidelines and may be restricted to off-road use only. The name Harley-Davidson® are trademarks of Harley-Davidson® and is utilized for reference purpose only, and in no way are they intended to imply any association with Harley-Davidson.

