

# [POWER COMMANDER V]

## FUEL AND IGNITION

### 2007-2011 Harley Davidson Softail Models

#### Installation Instructions

\*These instructions do not cover the Crossbones model\*



#### Parts List

- 1 Power Commander
- 1 USB Cable
- 1 Installation Guide
- 2 Power Commander Decals
- 2 Dynojet Decals
- 3 Dual lock Velcro® Strips
- 1 Zip tie
- 1 Alcohol Swab
- 2 O2 Optimizers

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

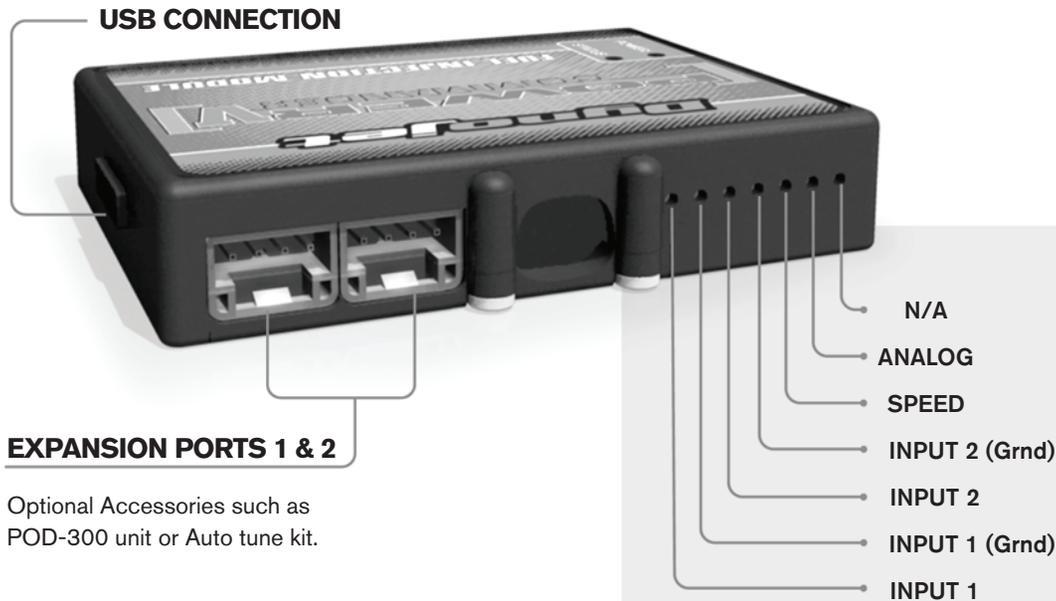
THE LATEST POWER COMMANDER  
SOFTWARE AND MAP FILES CAN BE  
DOWNLOADED FROM OUR WEB SITE AT:  
[www.powercommander.com](http://www.powercommander.com)

**PLEASE READ ALL DIRECTIONS BEFORE STARTING INSTALLATION**

**Dynojet**

2191 Mendenhall Drive North Las Vegas, NV 89081 (800) 992-4993 [www.powercommander.com](http://www.powercommander.com)

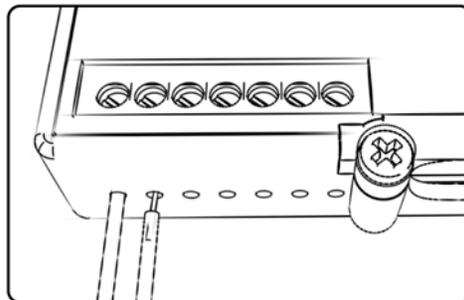
# POWER COMMANDER V INPUT ACCESSORY GUIDE



## Wire connections:

To input wires into the PCV first remove the rubber plug on the backside of the unit and loosen the screw for the corresponding input. Using a 22-24 gauge wire strip about 10mm from its end. Push the wire into the hole of the PCV until it stops and then tighten the screw. Make sure to reinstall the rubber plug.

NOTE: If you tin the wires with solder it will make inserting them easier.



## ACCESSORY INPUTS

### Map -

(Input 1 or 2) The PCV has the ability to hold 2 different base maps. You can switch on the fly between these two base maps when you hook up a switch to the MAP inputs. You can use any open/close type switch. The polarity of the wires is not important. When using the Autotune kit one position will hold a base map and the other position will let you activate the learning mode. When the switch is "CLOSED" Autotune will be activated. (Set to Switch Input #1 by default.)

### Shifter-

(Input 1 or 2) Used for clutch-less full throttle upshifts. Insert the wires from the Dynojet quickshifter into either INPUT 1 or INPUT 2. The polarity of the wires is not important. (Set to Switch Input #2 by default.)

### Speed-

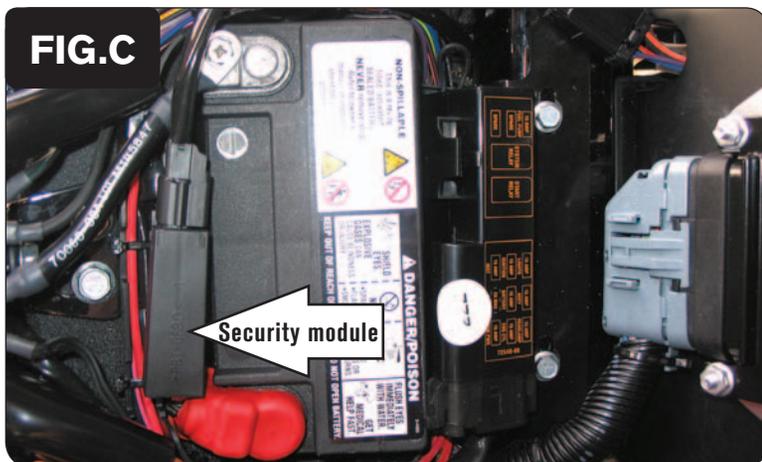
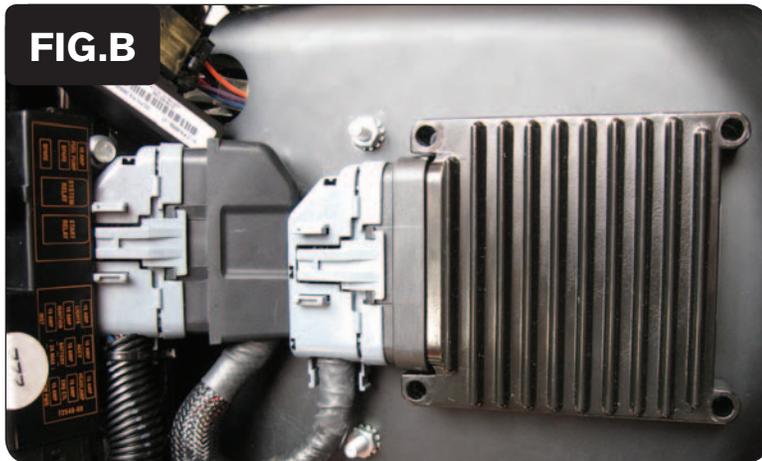
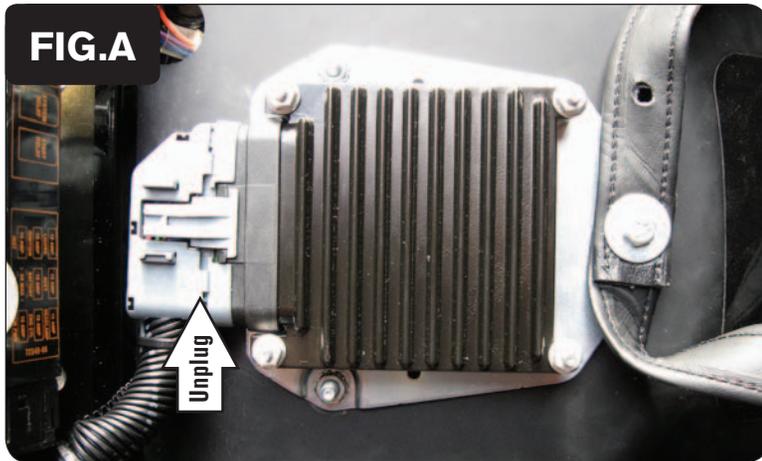
Not needed on Harley applications as the speed signal wire is built into the main wiring harness of the PCV.

### Analog-

This input is for a 0-5v signal such as engine temp, boost, etc. Once this input is established you can alter your fuel curve based on this input in the control center software.

### Launch-

You can connect a wire to either input 1 or 2 and then the other end to a switch. This switch when engaged (continuity) will only allow the RPM to be raised to a certain limit (Set in the software). When released you will have full RPM.



- 1 Remove the seat
- 2 Unplug the stock wiring harness from the ECM (Fig. A)
- 3 Remove the 4 nuts that hold the ECM to the bracket and remove the ECM.
- 4 Remove the bolt that holds the seat strap to the rear fender.
- 5 Remove the ECM bracket from the fender. *Remove one nut at a time or the bracket will fall into the tire.* Reinstall the nuts to support the inner fender bracket.

*Due to the limited amount of room on this bike the seat strap and ECM bracket can NOT be re-used.*

- 6 Connect the PCV harness in-line of the stock wiring harness and ECM (Fig. B).
- 7 Place the BLACK PCV to GREY stock connector as close to the fuse box as possible. *This connection will NOT lay flat against the frame.*
- 8 Using the supplied Velcro, secure the ECM to the rear fender. Place the ECM as far down as possible. *The upper part of the ECM will just overlap the bolt hole for the seat strap.* Make sure to clean both surfaces with the alcohol swab before attaching.

*If using the Autotune kit offset the ECM about 1" from center to the right side of the bike.*

- 9 Remove the security module from the top of the battery (Fig. C).

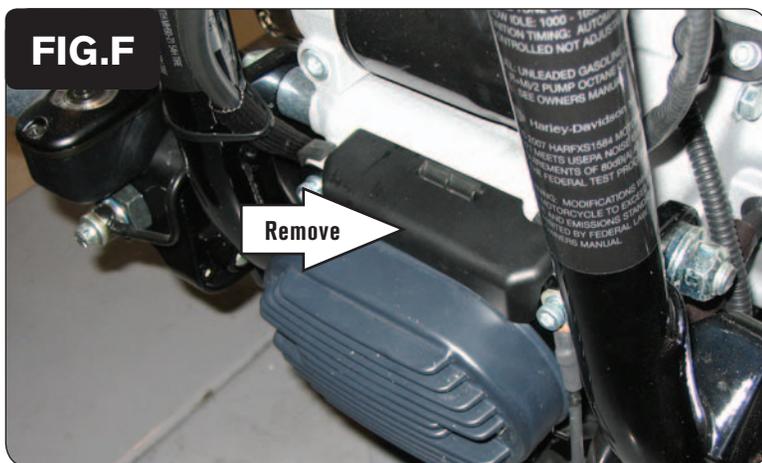
*This unit slides to the right of the bike.*



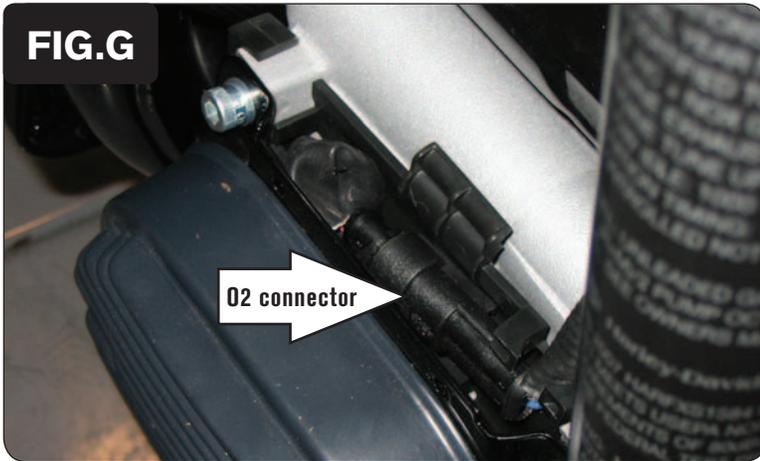
- 10 Move the security module to the right side of the bike. Use a zip tie to secure the module to the tail light connector (Fig. D).



- 11 Using the supplied Velcro secure the PCV to the top of the battery (Fig. E).



- 12 Remove the cosmetic cover on the front of the bike to access the O2 sensor (Fig. F).

**FIG.G**

- 13 Unplug the front O2 sensor from the stock wiring harness.
- 14 Plug the Dynojet O2 Optimizer into the stock wiring harness (Fig. G).

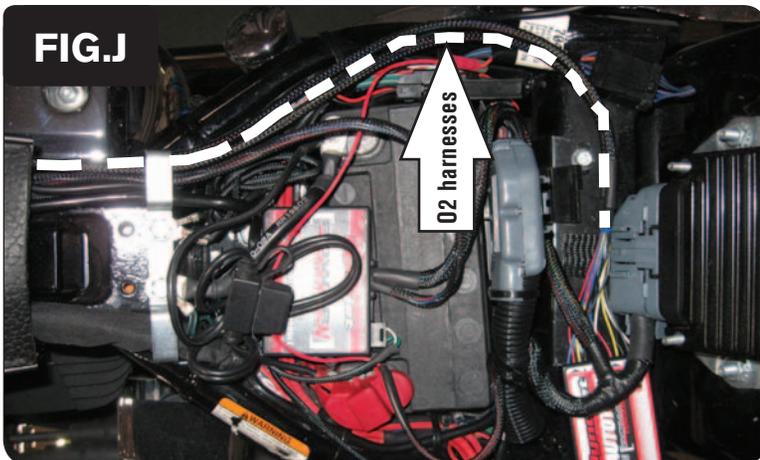
The stock O2 sensor will not be connected to anything at this time. If using the Autotune kit (part #AT-100) remove the stock sensor and replace with the Auto-tune wideband O2 sensor.

- 15 Reinstall the cover.

**FIG.H**

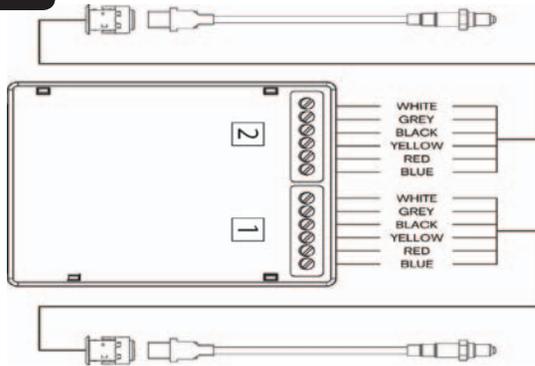
- 16 Unplug the rear O2 sensor from the stock wiring harness. This connector is located under the right hand side of the oil tank.
- 17 Plug the Dynojet O2 Optimizer into the stock wiring harness (Fig. H).

The stock O2 sensor will not be connected to anything at this time. If using the Autotune kit (part #AT-100) remove the stock sensor and replace with the Auto-tune wideband O2 sensor.

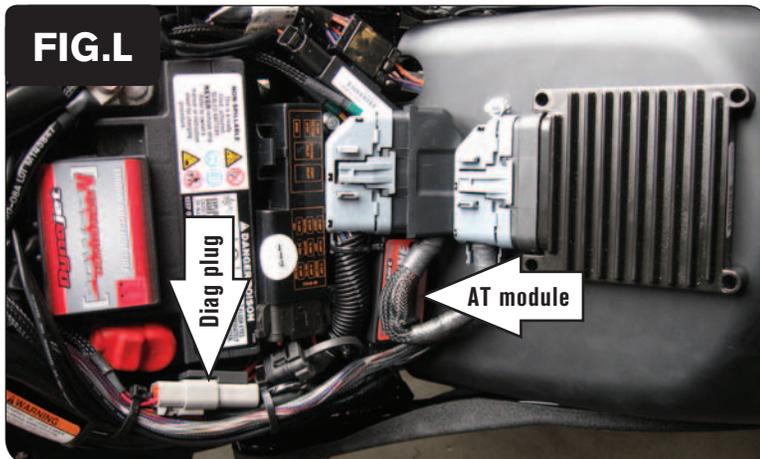
**FIG.J**

**Follow these instructions when installing the Auto-tune kit (part #AT-100)**

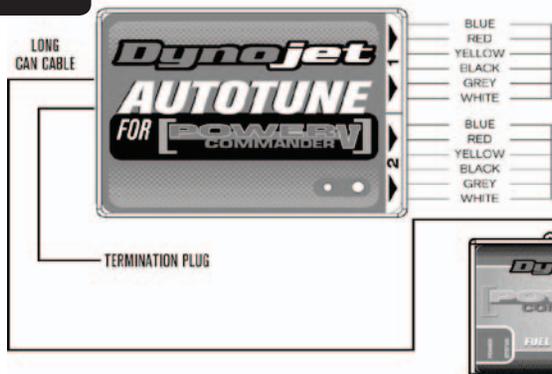
- 1 Remove the seat.
- 2 Connect the longer O2 sensor harness to the front wideband O2 sensor. Route the harness along the frame and go around the right hand side of the battery
- 3 Repeat step 2 for the rear wideband O2 sensor using the shorter harness.

**FIG.K**

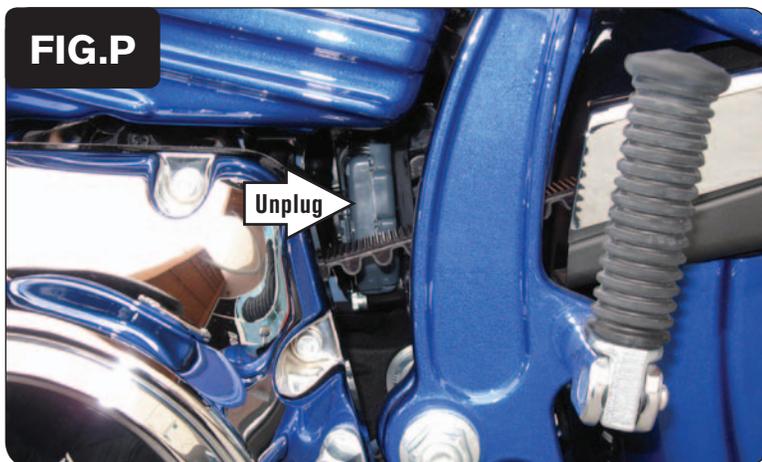
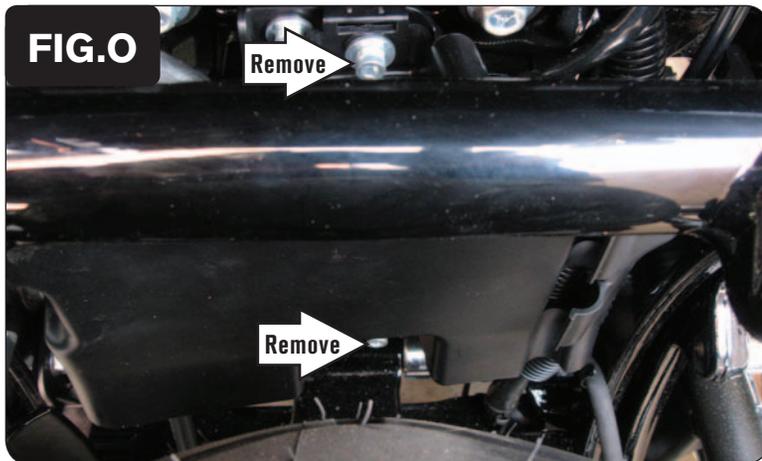
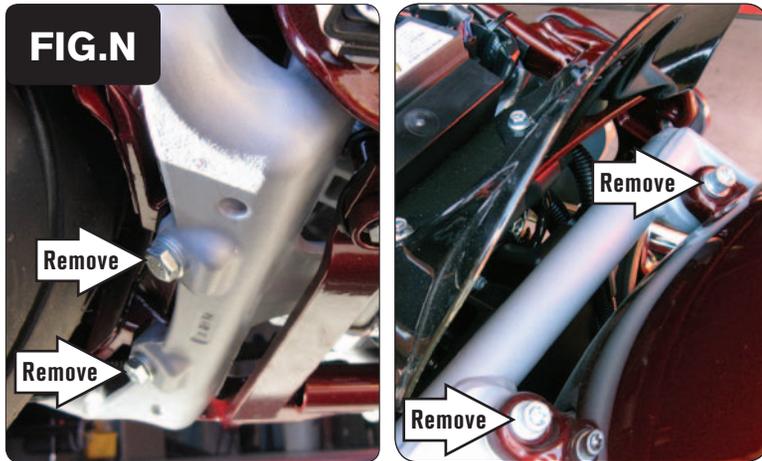
- 4 Connect the longer harness to the front O2 sensor. Route the harness along the front down tube and along the backbone of the frame to the Autotune module. Wire the harness to the #1 sensor input on the Auto-tune module per Figure K. The harness can be cut to length if desired.
- 5 Repeat step 4 for the rear cylinder. Wire the harness to Auto-tune Module sensor input #2. The harness can be cut to length if desired.

**FIG.L**

- 6 Remove the rubber plug from the stock diagnostic plug. Connect the power lead from the Auto-tune module into the diagnostic plug (Fig. L).
- 7 Place the module under the PCV harness.

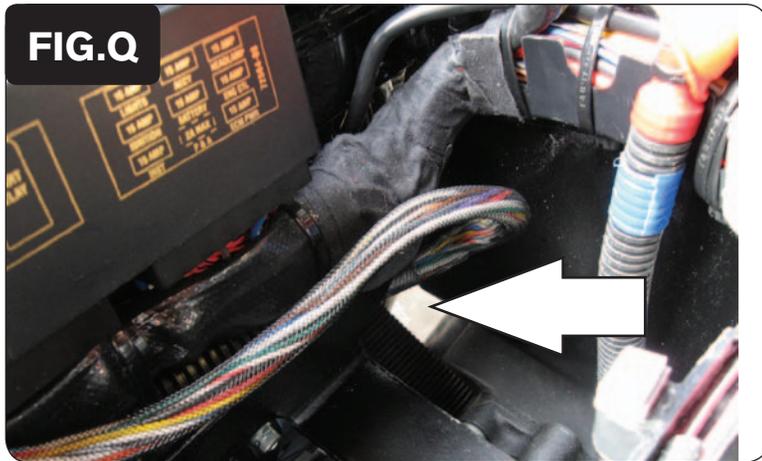
**FIG.M**

- 8 Plug the CAN bus cable to one port of the Auto-tune module and the other end to the PCV. It does not matter what ports are used.
- 9 Install the CAN termination plug into the open port of the Auto-tune module. **This is the BLACK plastic connector in the kit.**
- 10 Secure the harnesses in place as to not contact the exhaust.  
Check [www.powercommander.com](http://www.powercommander.com) for maps and software updates.

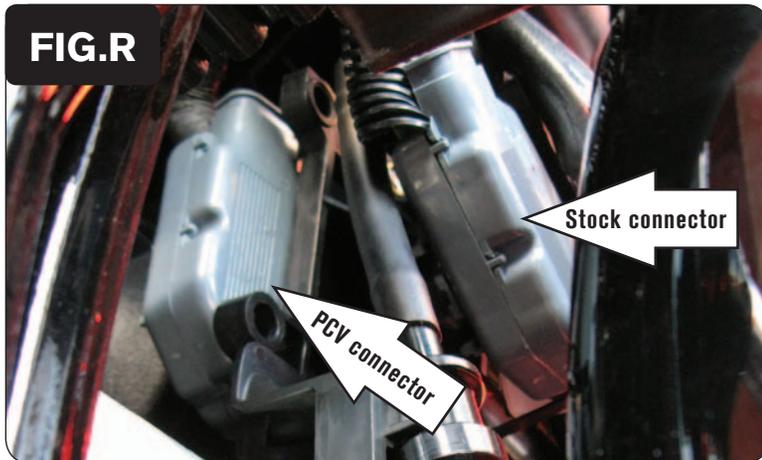


**Follow these instructions for the Rocker models**

- 1 Hinge the seat up or remove completely. Remove the plastic cover over the battery area.
- 2 Remove the battery and the plastic tray underneath the battery.
- 3 Remove the rear fender. There are four bolts that hold the fender in place. Unplug the taillight wiring harness from the main harness before removing bolts. This connection is the large plug to the right of the battery.
- 4 Remove the plastic cover that sits in front of the rear fender and covers the electronics (Fig. O) by removing the two allen head bolts.  
Slide the cover out the right side of the bike.
- 5 Unplug the stock wiring harness from the ECM (Fig. P).  
*This connector can be accessed from the left side of the bike.*



- 6 Route the PCV harness thru the hole in the battery box on the left side of the bike (Fig. Q).



- 7 Plug the GREY connector of the PCV into the ECM. Route the stock connector to the backside of the ECM (Fig. R).

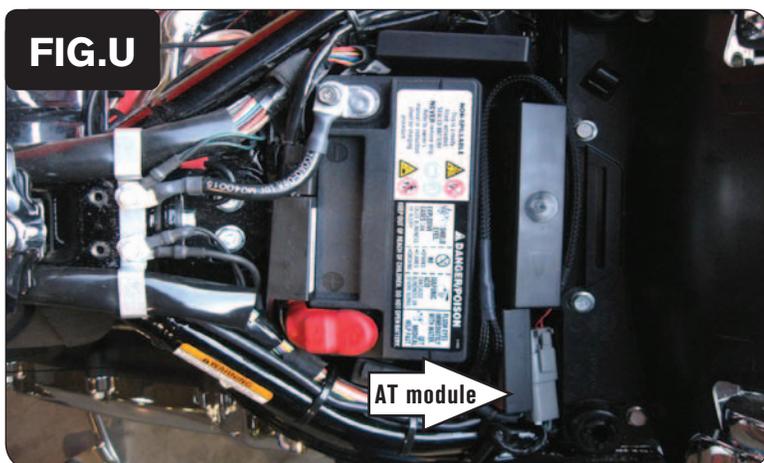


- 8 Plug the BLACK connector of the PCV into the stock wiring harness.
- 9 Using a supplied zip tie secure the PCV/stock harness connection to the electrical components (Fig. S)





- 10 Reinstall the battery tray and battery. Make sure the PCV harness stays underneath the stock relay assembly.
- 11 Secure the PCV to the right side of the battery (Fig. T).



- 12 If using the Auto-tune kit install the unit as shown in Fig. U.  
Follow the Auto-tune instructions for the standard Softail guide.
- 13 Follow steps 13-17 of the standard Softail guide to install the Dynojet O2 Optimizers.