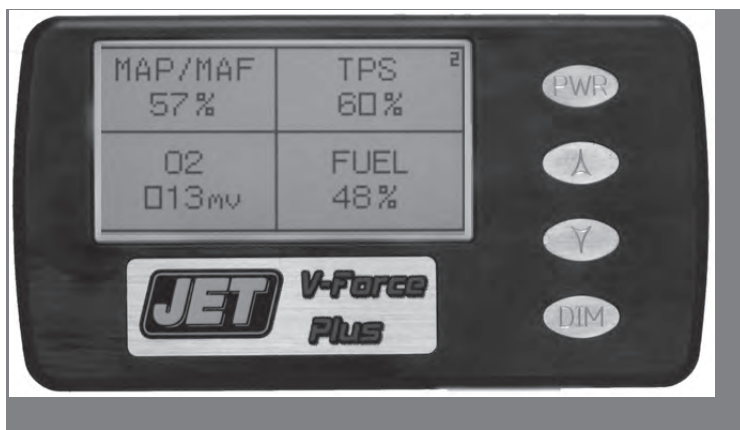# PCU Plus ™
V-FORCE Plus™

Engineered For Power!

INSTALLATION & USER GUIDE

Installation Instructions
JET V-Force / Power Control Unit

1. **Mounting the V-Force / PCU**

Using the supplied Velcro, Suction Cups or L-Brackets, locate the V-Force / PCU in a convenient location that does not obstruct your view.

TIP: Clean the mounting area with alcohol or another nonabrasive cleaner to ensure the Velcro or Suction Cups adhere properly.

2. **Disconnect the Negative Battery Cable**

Locate the battery and remove the negative battery cable.

3. **Routing the Wiring Harness**

The wiring harness must be routed through the firewall to reach under the hood. Under the dash near the location that you mounted the V-Force / PCU, locate an existing plug or wiring harness that goes out under the hood and route the V-Force / PCU wiring through the firewall.

TIP: Make sure the wiring harness does not interfere with any moving parts (i.e.: gas or brake pedal) or touch anything under the hood that produces excessive heat, such as the exhaust system.

4. **Connecting the V-Force / PCU + 12 V Power Connection (RED WIRE)**

Locate the vehicles fuse box. It is normally located on the drivers side of the vehicle under the dash or in the driver's side kick panel or under the hood. Included in the V-Force / PCU installation parts you have two brass fuse adaptors. Depending on which type of fuses your vehicle uses, select the one that fits your type of fuse. Connect the fuse adaptor to a fuse that has +12 volts all the time. Connect the **RED WIRE** from the V-Force / PCU to the fuse adaptor you just installed.

5. **Connecting the V-Force / PCU ground wire (BLACK WIRE)**

Connect the **Black Wire** from the V-Force to a suitable ground point. Existing screws or nuts that are attached to metal are a good location for this purpose.

6. **Connecting the TPS (Throttle Position Sensor) Wire (BROWN WIRE)**

Using the V-Force / PCU wiring pin out chart (included) locate the correct wiring color and location of the TPS for your vehicle. After locating the TPS you will note that the TPS has multiple wires going to it. Crimp a RED Scotch lock connector (this is the type that wraps around the wire and is then crimped closed to pierce the wire) to the wire color that matches the chart for your vehicle. Plug the **BROWN WIRE** from the V-Force / PCU into the scotch lock connector.

7. **Connecting the MAP (Manifold Absolute Pressure) / MAF (Mass Air Flow Meter) Input Wire (GREY WIRE)**

Use the V-Force / PCU wiring chart to determine the correct wire color and if you will be connecting to the MAP or MAF sensor (Most vehicles will be connecting to the MAP. There will be a note on the wiring chart for your specific vehicle if your vehicle connects to the MAF). CUT the wire color that matches the chart for your vehicle about 2 inches away from the sensor, leaving enough room to crimp on a new connector. Strip about 1/4 of an inch of insulation off of both ends of the wire that you just cut. Crimp a PINK MALE spade connector to the portion of the wire that is still attached to the MAP / MAF Sensor. Plug the **GREY WIRE** from the V-Force into the MALE connector that is now attached to the MAP / MAF wire.

8. **Connecting the MAP (Manifold Absolute Pressure) / MAF (Mass Air Flow Meter) Output Wire (GREEN WIRE)**

Crimp a PINK FEMALE spade connector to the other portion of the above wire that you previously stripped. Plug the **GREEN WIRE** from the V-Force / PCU into the female connector that you just attached.

9. **Securing the wiring harness**

Route the wiring harness away from any moving engine parts or any exhaust components. With the supplied cable ties you can now secure the wiring harness away from any moving engine parts or anything that may get hot enough to melt the wiring insulation.

OPTIONAL: Air/Fuel Monitor

The Purple wire is for the air/fuel meter in the V-Force / PCU Plus. This optional connection will allow you to monitor your vehicles air/fuel mixture ratio in millivolts or in graph form on the screen.
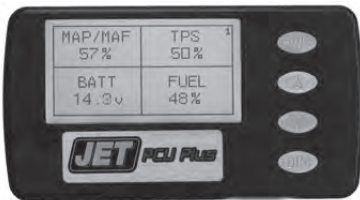
Because of the many types of Oxygen Sensors in vehicles today, you will need access to a factory repair manual that has wiring diagrams for your specific vehicle or there are online sources such as OnDemand5.com or Alldata.com that can provide wiring diagrams online for a minimal fee.

You will be connecting the **PURPLE WIRE** from the V-Force / PCU Plus to the OXYGEN (O2) SENSOR SIGNAL wire. The sensor is located in the exhaust system, on applications that use multiple sensors, make sure that you connect to a sensor that is located before the Catalytic Converter or you will not get accurate readings.

OPERATING THE V-FORCE / PCU

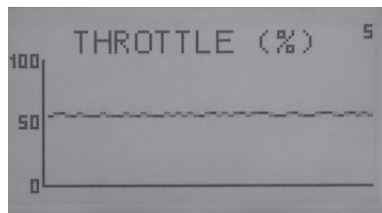Reconnect the negative battery cable that you removed during the first part of the installation.
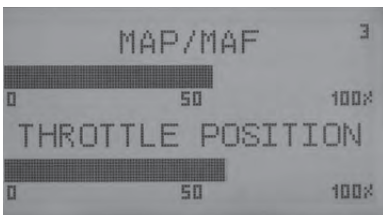
1. The Power Button (PWR) will turn the unit ON / OFF. When Powering the V-Force / PCU Plus for the first time, the display will show the Jet Logo then display the version number of the current software. The V-Force / PCU Plus can be left ON from this point. The unit will go into StandBy mode when the vehicle is turned off and will come out of StandBy mode when the vehicle is restarted. After the first power up the V-Force / PCU Plus will automatically revert back to the last screen used the next time you start the vehicle.

2. The Arrow Buttons allow the user to scroll forward or back through the screens.

3. The DIM button adjust the Brightness of the display, by repeatedly pressing the DIM button the Brightness will continue to increase.

4. Pushing the DIM button and then using the arrow keys, you can control the contrast of the display.
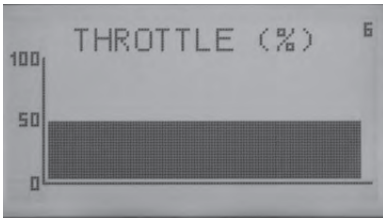
SCREENS

The V-Force / PCU has fourteen different screens to chose from. These screens allow the user to monitor the following vehicle sensors. Manifold Absoulte Pressure / Mass Air Flow; Throttle Position; Battery Voltage; Fuel Economy; Air / Fuel mixture ratio (Please see OPTIONAL for O2 sensor connection). The display makes use of three different types of display. A Bar Graph, Line Graph and Data Display.

NOTE: Some vehicles that connect to the MAF Sensor may not get accurate readings or may not receive any readings at all on the MAP/MAF or Fuel Economy screens.
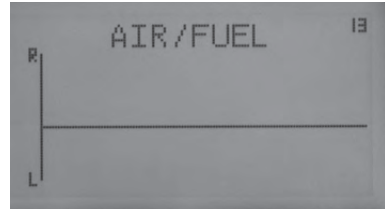
Reading the Air/Fuel Meter:

   The Oxygen Sensor must be at operating temperature before you will get any reading on the screen, normally it must reach 600 degrees F before you will get an accurate reading. Once up to operating temperature at idle and cruise the air/fuel ratio will cycle up and down, this is normal, it is the vehicles PCM trying to maintain a perfect air/fuel ratio. this ratio is called stoichiometric, at this ratio all of the fuel and oxygen is burned. During accleration you will notice that the meter will move to a richer mixture, this is also normal, by accelerating you have increased the amount of fuel the sensor is reading.

<u>TECHNICAL ASSITANCE</u>

Technical Assitance is avaiable Monday through Friday between 8:00 am to 5:00 pm Pacific Standard Time. Technical Assitance is provided by Jet Performance Products by calling 1-714-848-5515 or by email at customerservice@powerbyjet.com. **<u>DO NOT CALL THE PLACE OF PURCHASE FOR TECHINCAL ASSITANCE</u>**

Limited Warranty

     Jet Performance Products warrants Chips and Modules to be free from defects in material and workmanship under normal use and if properly installed. This limited lifetime warranty is to the original purchaser for as long as he or she owns the vehicle on which the product was originally installed, provided all information requested is furnished. If found to be defective as mentioned above, it will be replaced or repaired at the sole discretion of Jet if returned prepaid along with proof of purchase.

     All other products and services performed by Jet are warranted to be free of defects in material and workmanship for a period of 6 months from date of purchase. This warranty is to the original purchaser for as long as he or she owns the vehicle on which the product was originally installed. Repair, Replacement or Credit will be based on the date of purchase. Costs for labor are specifically excluded and are the sole responsibility of the purchaser.

     This warranty does not apply to Custom Programming or any product incorrectly installed, modified by the purchaser, or to any product that has been subjected to misuse, negligence or accident.

     To obtain warranty service and Return Authorization Number, contact our Customer Service Department at 714-848-5515 between 8 am and 5 pm Pacific Standard Time, Monday through Friday.

     Defective Products may be brought or sent prepaid (with Return Number) to Jet Performance Products, 17491 Apex Circle, Huntington Beach, CA 92647.

For Warranty Registration go to www.jetchip.com/register.asp

JET Performance Products
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Huntington Beach, CA 92647
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