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## Contact Us:

### Phone

Tech Support	(719) 633-3811
Fax	(719) 633-3496
Tech Support Line (Toll Free)	(866) 365-2762

### Web

<http://www.snowperformance.net>

### Email

[tech@snowperformance.net](mailto:tech@snowperformance.net)

### Mail

Snow Performance, Inc  
1017-A East Highway 24  
Woodland Park, CO 80863

# INSTALLATION INSTRUCTIONS FOR PART #60500 VC-50 WATER-METHANOL INJECTION CONTROLLER



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## Have a question?

**Online: [www.snowperformance.net](http://www.snowperformance.net)**

**Tech Email: [tech@snowperformance.net](mailto:tech@snowperformance.net)**



### CAUTION

You must completely read through these instructions before installing and operating this product. Failure to do so can result in damage to this product and the vehicle.

### Parts

- Gauge Pod Assembly
- VC-50 Controller

### Electrical Packet

- 2 Blue Butt Connectors
- 3 Large Eyehooks
- 2 Wire Splice
- 10 Tie Wraps
- 1 Vacuum “T”
- 1 Running S Decal

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5. Parts Warranty ~ 90 day warranty on parts purchased separately if used in conjunction with a Snow System. No warranty implied if used with a non-Snow part/system. Subject to Snow's inspection of the product, Snow will remedy defects in materials and/or workmanship by repairing or replacing, at Snow's option, the defective product without charge for parts or labor, subject to the limitations and exclusions described in this warranty.

This warranty does not cover problems caused by normal wear and tear including aesthetic oxidation of surfaces, accidents, unlawful vehicle operation, or modifications or repairs to product not performed or authorized by Snow. This includes any product that is disassembled or taken apart for any reason.

In addition, this warranty does not cover problems resulting from conditions beyond Snow's control including, but not limited to, theft, misuse, overloading, or failure to assemble, mount or use the product in accordance with Snow's written instructions or guidelines included with the product or made available to the original retail purchaser. In the event of failure, Snow will repair or replace the part at Snow's sole discretion. Failures resulting from misapplication or misuse of the Product, failure to adhere to any specifications or instructions, or failure resulting from neglect, abuse, accidents, or act of nature are not covered under this warranty.

Warranty service may be obtained by calling 719-633-3811, getting an RMA (Return Merchandise Authorization), delivering the part to Snow along with proof of purchase. Customer agrees to insure the Product or assume the risk of loss or damage in transit, to prepay shipping charges to Snow, and to use the original shipping container or equivalent. Shipping for Warranty replacement parts shipped outside the continental US will be charged to customer.

### **Non-Warranty Repair/Retest**

Products returned due to damage or misuse and Products retested with no problem found are subject to repair/retest charges. Product will be returned to customer at customer's expense. A credit card number must be provided in order to obtain an RMA (Return Merchandise Authorization) number prior to returning Product.

### **Distributor/Dealer Warranty:**

All customers/dealers must deal directly with Snow performance to receive warranty. No warranty will be issued through a distributor for any reason.

### **Return Policy:**

All returns must be called in for RMA #. Snow Performance will not take used kits or parts for refund. If you are returning an unused kit there is a 15% restocking fee minus shipping/handling. All returns must be made within 90 days of purchase date. No exceptions.

### **LIMITATION OF LIABILITY:**

REPAIR OR REPLACEMENT OF A DEFECTIVE PRODUCT IS THE ORIGINAL RETAIL PURCHASER'S EXCLUSIVE REMEDY UNDER THIS WARRANTY. DAMAGE OR INJURY TO THE ORIGINAL RETAIL PURCHASER, TO HIS OR HER VEHICLE, CARGO, OR PROPERTY, AND/OR TO ANY OTHER PERSON OR PROPERTY IS NOT COVERED BY THIS WARRANTY. THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER EXPRESS WARRANTIES, WHETHER ORAL OR WRITTEN. SNOW'S SOLE LIABILITY IS LIMITED TO THE REMEDY SET FORTH ABOVE. IN NO EVENT WILL SNOW BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL,

## Disclaimer

Do not use this product until you have carefully read the following agreement. This sets forth the terms and conditions for the use of this product. The installation of this product indicates that the BUYER has read and understands this agreement and accepts its terms and conditions. Performance products by their nature are designed to increase horsepower and performance not engineered in the original vehicle and the increased stress could result in damage to related systems. This is a high performance product – use at your own risk. Snow Performance Inc., Its agents, employees or owners shall not be under any liability whether in contract or otherwise whether or not resulting from our negligence or contents of information supplied for any damage or loss resulting from such information. The BUYER is responsible to fully understand the capability and limitations of his/her vehicle according to manufacturer specifications and agrees to hold the SELLER harmless from any damage resulting from failure to adhere to such specifications. The SELLER disclaims any warranty and expressly disclaims any liability for personal injury or damages. The BUYER acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the BUYER agrees to indemnify the SELLER and to hold the SELLER harmless from any claim related to the item of the equipment purchased. Under no circumstances will the SELLER be liable for any damages or expenses by reason of use or sale of any such equipment. The BUYER is responsible to obey all applicable federal, state, and local laws, statutes, and ordinances when operating his/her vehicle, and the BUYER agrees to hold SELLER harmless from any violation thereof. The SELLER assumes no liability regarding the improper installation or misapplication of its products. It is the installer's responsibility to check for proper installation and if in doubt, contact the manufacturer.

Notes: The contents of this document are subject to change without prior notice. No part of or this entire document may be reproduced in any form without prior written permission of Snow Performance, Inc under the copyright except for private use. The names, addresses and telephone numbers mentioned are current as of December 8, 2014. Note that this information is subject to change. Please refer to [www.snowperformance.net](http://www.snowperformance.net) for current information.

### Warranty Policy:

Snow Performance, Inc. warrants that the Product shall conform to and perform in accordance with published technical specifications and shall be free of defects in materials and workmanship for 1-year providing:

1. You are the original purchaser and provide proof of purchase.
2. The system was purchased from a Snow Performance Authorized Dealer at MRP pricing set by Snow Performance.\*

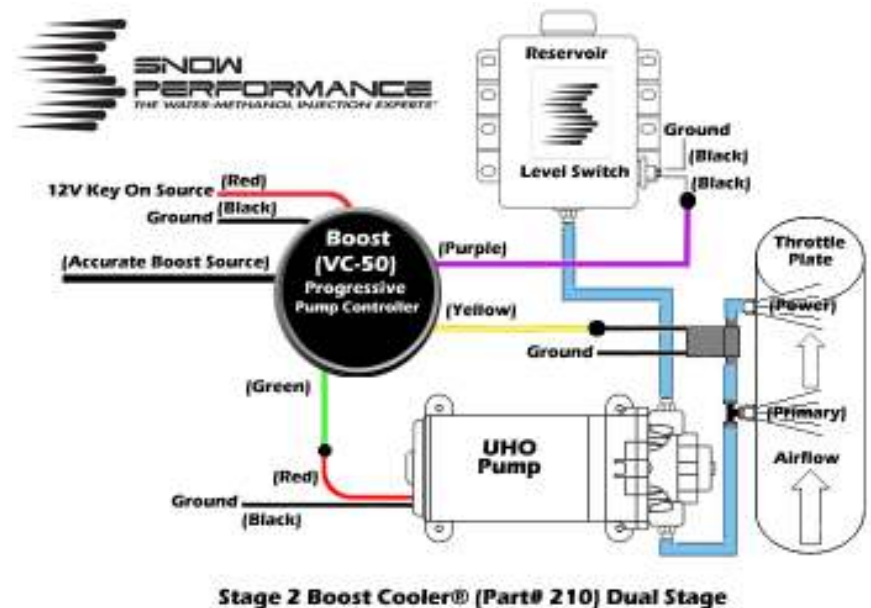
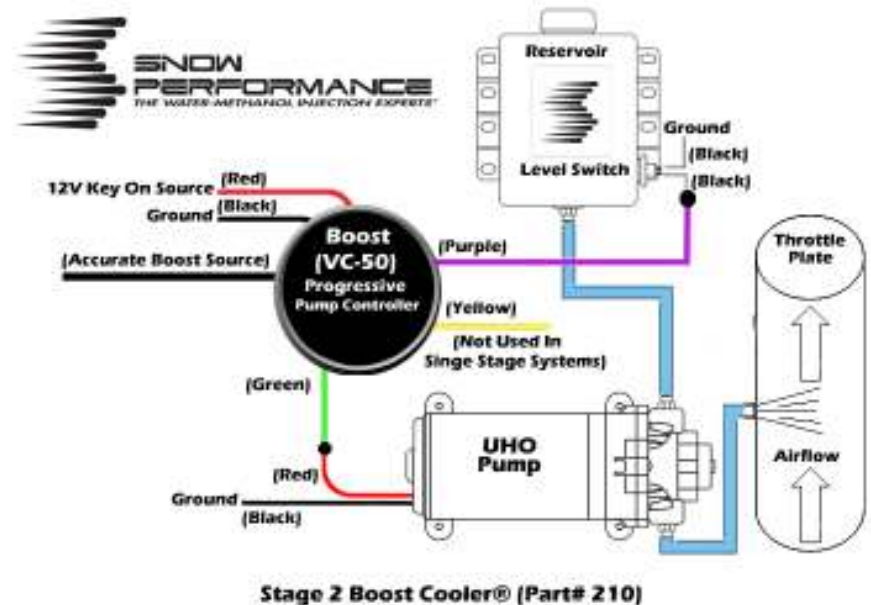
\*No warranty will be offered for any Snow Performance products if purchased below MRP.

3. For Lifetime warranty, the Warranty Card that came with system (not applicable to separate parts purchases) is returned to Snow within 45-days of purchase and Boost Juice® injection fluid is used exclusively.\*

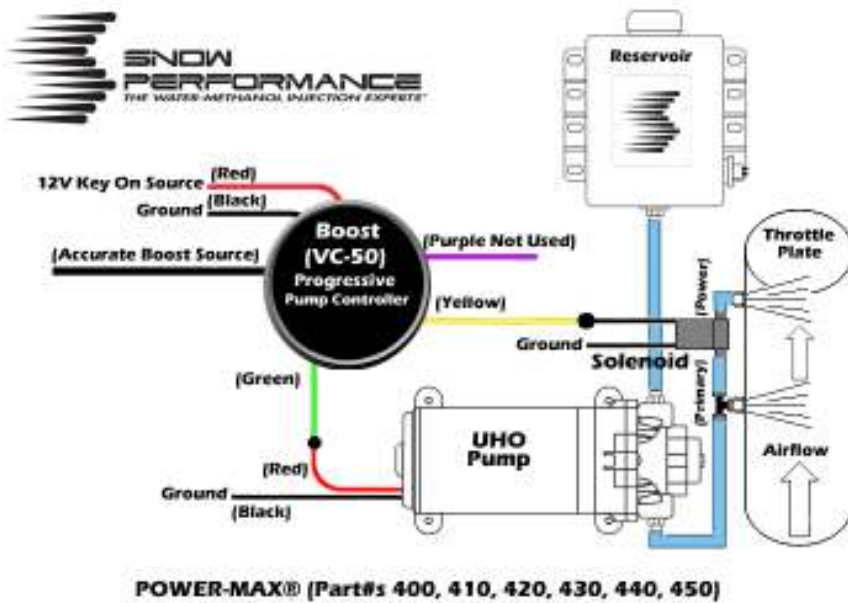
\* Boost Juice® usage evidenced by invoices/ receipts.

4. An RMA # has been attained and is displayed on package containing returned part.

## Wiring Diagram (Gas)



## Wiring Diagram (Diesel)



### Step 1 Variable Controller Installation

- Mount controller in desired location using gauge pod assembly and o-ring or other 2 1/16 gauge pod.
- Connect vacuum/boost hose (black silicon hose) from controller to accurate boost source using included “T” fitting. Secure connections with supplied tie wraps.

**⚠ CAUTION: Disconnect the negative battery terminal while connecting wires to prevent electrical fire or damage to controller.**

## Testing the System

### Step 1 Priming The System

**\*\*Before operating the system, it is recommended that the lines are first primed with fluid and the spray pattern checked\*\***

- Fill reservoir with water
- Remove the nozzle from the intake tube.
- With the nozzle temporarily placed inside an empty container, purge the system by pushing the “prime” button (left hand button) on the controller until fluid flows consistently through the nozzle.



**\*\*If pump goes on and fluid level doesn't go down, there is an obstruction in the tube or nozzle.\*\***

**\*\* spray pattern should be 120° and a fine mist. See photo.**



**\*\*If the pump fails to activate, check power and ground wiring\*\***

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## Other Controller Functions

### Low Level Alert

- When the fluid in the reservoir is running low the border of the graph for injection will blink yellow alerting the user to fill the water-methanol reservoir.

### Fail Safe Alerts

### Clogged Line

- In the event of a clogged line the psi reading on the main screen will turn to stars and begin flashing. If this occurs, fix the problem and press the middle red button to clear the code.

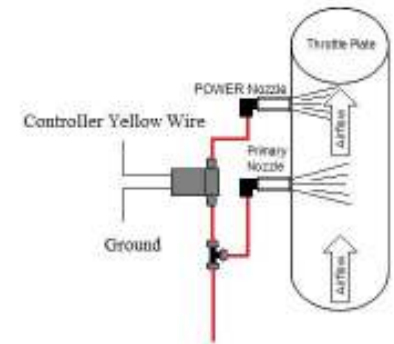
### Broken Line

- In the event of a broken line the psi reading on the main screen will turn to stars and begin flashing. If this occurs, fix the problem and press the middle red button to clear the code.

### Solenoid Not Engaging (Dual Stage Systems Only)

- In the event of a solenoid not opening to engage a second stage of water-methanol the psi reading on the main screen will turn to stars and begin flashing. If this occurs, fix the problem and press the middle red button to clear the code.

- Using Supplied Large Eyehook connect BLACK wire to good ground location.
- Using Supplied Blue Butt connect GREEN wire to Pump RED power wire.
- (Level Switch Systems Only)Using Supplied Blue Butt connect PURPLE wire to one level switch black wire. Using Supplied Large Eyehook connect other level switch black wire to good ground location. These wires are interchangeable and either one can connect to controller/ground.
- Using Supplied wire splice connect RED wire to 12Volt key on source.
- YELLOW wire is used to control a second stage of water/methanol. Connect to (1) of the black wires coming from the solenoid. The other black wire will need to connect to a good ground. These wires are interchangeable and it does not matter which wire connects to the yellow wire/ground.



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### \*\*\*Caution\*\*\*

Do not route wires near hot or moving parts. Use corrugated wire loom and tie wraps to protect and route wires.

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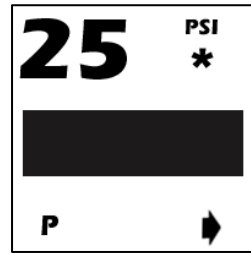
Always have a good electrical ground connection. Poor ground will result in erratic operation of controller.

## Variable Controller Settings/Functions

### GAS

#### Main Screen

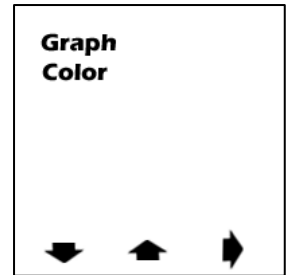
- Main Screen (see right) is used to monitor boost pressure, injection, low level, second stage activation, and to prime the system.
  - To prime the system press the red button underneath "P". This will command 100% injection briefly to fully prime the system. ONLY ENGAGE PRIME WHEN ENGINE IS RUNNING!
- Boost pressure is displayed in PSI on the upper left of the screen
- Percentage of Injection is displayed using the graph in the middle of the screen. When injection is turned "Off" the graph will display the text "Off".
- When a low level situation occurs the outside of the screen will blink yellow alerting the user to fill the water-methanol reservoir.
- (Dual Stage Systems Only) When a second stage of water-methanol is activated a asterisk will appear where "PSI" is located alerting the user or both stages injecting.
- To enter the setting screens press the red button directly under the arrow on the bottom right.



**CAUTION:** Do not operate the prime button when the engine is not running. Only engage priming of the system when the engine is on.

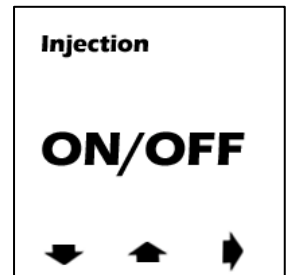
#### Graph Color

- Setting screen 5 (see right) is used to select what Graph color will be displayed on screen. Using the red buttons below the up and down arrows adjust the color to the desired setting (Red, Blue, Green, Yellow, Orange, Purple, White) available. Press the red button underneath the arrow pointing right to move to setting screen 6.

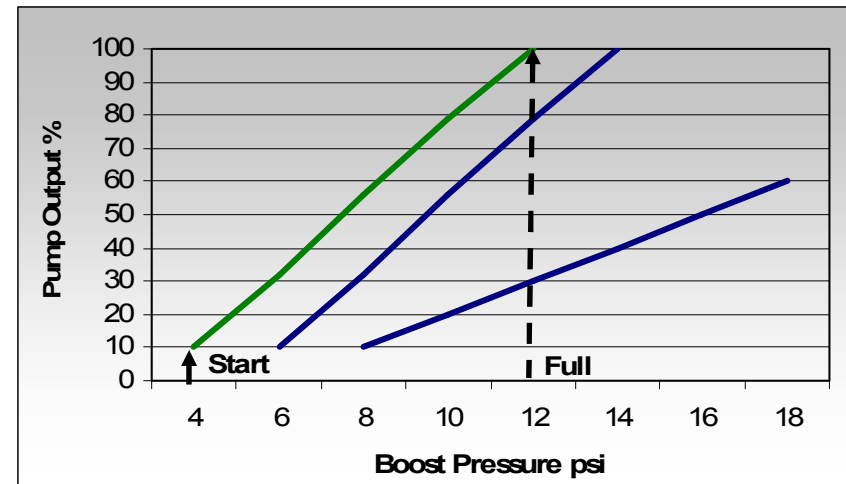


#### Injection On/Off

- Setting screen 6 (see right) is used to toggle between on/off mode. In on mode injection will take place based off the boost settings in the unit. In off mode no injection will take place and the "off" icon will be shown on the main screen. In this mode the controller will only function as a boost gauge.



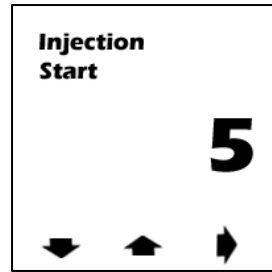
#### Controller Operation Example



For the middle line, the chart shows the Start dial at 6 psi and the Full dial at 13 psi. At 6 psig of boost pressure the pump will operate at 10%. At 13 psig of boost pressure, the pump will deliver 100% of injection pressure. For boost pressure readings between the Start and Full settings, the controller will linearly adjust the pump pressure as shown on the graph.

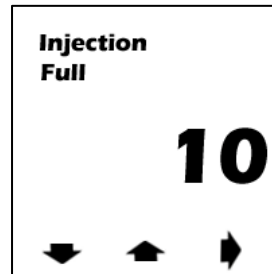
### Injection Start

- Setting screen 1 (see right) is used to select what boost pressure will start injection. This should be set 2psi above your vehicle's unloaded flat land cruising boost using the red buttons below the up and down arrows to adjust the PSI to desired setting. Press the red button underneath the arrow pointing right to move to setting screen 2.



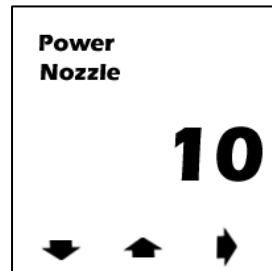
### Max Injection

- Setting screen 2 (see right) is used to select what boost pressure will correlate to max injection. This should be set to 1/2 of the vehicles maximum boost level using the red buttons below the up and down arrows to adjust the psi to desired setting. Press the red button underneath the arrow pointing right to move to setting screen 3.



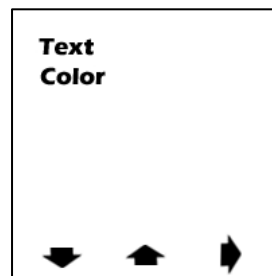
### Power Nozzle

- Setting screen 3 (see right) is used to select what boost pressure a second stage of injection will be triggered. This should be set to 75% of the vehicles maximum boost level using the red buttons below the up and down arrows to adjust. **If a dual stage system is not being used this must be set above 50 psi to the "off" setting to avoid fault code.** Press the red button underneath the arrow pointing right to move to setting screen 4.



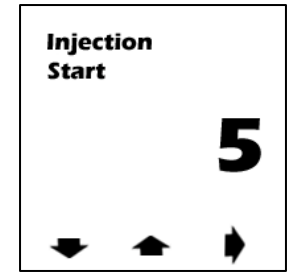
### Text Color

- Setting screen 4 (see right) is used to select what text color will be displayed on screen. Using the red buttons below the up and down arrows adjust the color to the desired setting (Red, Blue, Green, Yellow, Orange, Purple, White) available. Press the red button underneath the arrow pointing right to move to setting screen 5.



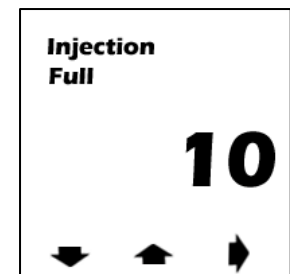
### Injection Start

- Setting screen 1 (see right) is used to select what boost pressure will start injection. This should be set to 1/3<sup>rd</sup> to 1/2 the engines max boost output using the red buttons below the up and down arrows to adjust the PSI to desired setting. Press the red button underneath the arrow pointing right to move to setting screen 2.



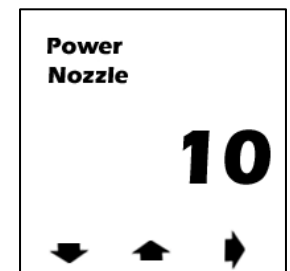
### Max Injection

- Setting screen 2 (see right) is used to select what boost pressure will correlate to max injection. This should be set to the vehicles maximum boost level using the red buttons below the up and down arrows to adjust the psi to desired setting. Press the red button underneath the arrow pointing right to move to setting screen 3.



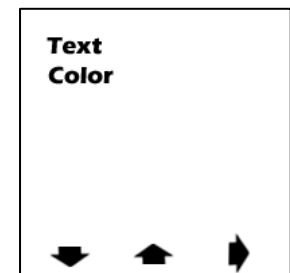
### Power Nozzle

- Setting screen 3 (see right) is used to select what boost pressure a second stage of injection will be triggered. This should be set to the vehicles maximum boost level using the red buttons below the up and down arrows to adjust. **If a dual stage system is not being used this must be set above 50 psi to the "off" setting to avoid fault code.** Press the red button underneath the arrow pointing right to move to setting screen 4.



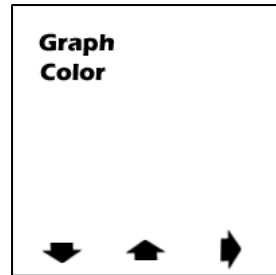
### Text Color

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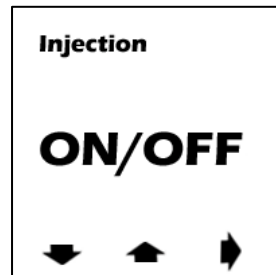
## Graph Color

- Setting screen 5 (see right) is used to select what Graph color will be displayed on screen. Using the red buttons below the up and down arrows adjust the color to the desired setting (Red, Blue, Green, Yellow, Orange, Purple, White) available. Press the red button underneath the arrow pointing right to move to setting screen 6.



## Injection On/Off

- Setting screen 6 (see right) is used to toggle between on/off mode. In on mode injection will take place based off the boost settings in the unit. In off mode no injection will take place and the "off" icon will be shown on the main screen. In this mode the controller will only function as a boost gauge.

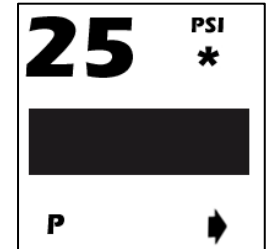



## Variable Controller Settings/Functions

### Diesel

#### Main Screen

- Main Screen (see right) is used to monitor boost pressure, injection, second stage activation, and to prime the system.
  - To prime the system press the red button underneath "P". This will command 100% injection briefly to fully prime the system. ONLY ENGAGE PRIME WHEN ENGINE IS RUNNING!
  - Boost pressure is displayed in PSI on the upper left of the screen
  - Percentage of Injection is displayed using the graph in the middle of the screen. When injection is turned "Off" the graph will display the text "Off".
  - (Dual Stage Systems Only) When a second stage of water-methanol is activated a asterisk will appear where "PSI" is located alerting the user or both stages injecting.
  - To enter the setting screens press the red button directly under the arrow on the bottom right.



 **CAUTION: Do not operate the prime button when the engine is not running. Only engage priming of the system when the engine is on.**