

## Items Supplied >

- 1 – Fi2000R Fuel Injection Module
- 2 – Zip Ties, (2): 3/32" x 6"
- 1 – Velcro Strip

## Application(s) >

- |                 |           |
|-----------------|-----------|
| VN1600 Classic, | 2003 - UP |
| VN1600 Nomad,   | 2005 - UP |
| VN1500 Nomad,   | 2000 - 04 |

## Instruction Manual >

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**Read all instructions carefully and completely before installing your new Fi2000R module. It is recommended that a qualified mechanic or technician install this product.**

***“Before installing the Fi2000R it is recommended that the gas tank be low on fuel.”***

1. Remove both seats and fuel tank console cover. Remove the one front and two rear bolts securing the fuel tank. To enable raising the fuel tank, disconnect the wire connectors mounted on top of the battery behind the fuel tank, they are connected with two harnesses running under the left side of the fuel tank, (Fig. 1.)
2. Raise the rear of the fuel tank enough to unplug the two vent hoses, then raise the rear of the fuel tank 7 to 8 inches and **SECURELY** prop it up in this position. Unlock the left hand side cover and remove it.
3. Position the Fi2000R in the left hand storage area and feed the wire harness through the oval hole in the back of this case, (Fig. 1.) Next, feed the harness through the frame opening behind the rear cylinder and follow the bike's wire harness towards the front of the engine.
4. Locate the gray factory fuel injector connectors and disconnect each one by depressing the locking tab and replace it with the Fi2000R gray connector. Then plug the original connector into the corresponding Fi2000R black connector. Connect one cylinder at a time to prevent from mixing up the injector harness order. The longer Fi2000R harness is mated to the front injector and connector, (Fig. 2.)
5. Zip tie the Fi2000R along the bike's main harness as shown in, (Fig. 3.) Attach the black ground wire from the Fi2000R to the negative post of the battery. Secure the Fi2000R body to the inside of the storage box with the Velcro strip, (Fig. 1.)
6. Lower the fuel tank and reconnect the tank console cover so the key and ignition are functional. **NOTE:** When lowering fuel tank, pay attention that the fuel line on the left side of the bike locates properly behind the air cleaner housing and is not pinched. Before reinstalling side cover, seats and remaining body pieces verify connections.
7. Remove the door from the Fi2000R module to expose the LED's. **NOTE:** The Fi2000R pot settings come preset from the factory for the VN1600 Classic, (Fig.4), for VN1600 & VN1500 Nomad owners, please adjust the Fi2000R to the base pot settings shown in (Fig. 5 or 6), prior to proceeding further. Verify the wire connections by, (1), turning on the ignition while watching the 3 LED's. They will all light up for a few seconds, and then go off. This is correct.

**\* Cobra recommends you always wear a helmet while riding. Please never operate your motorcycle while under the influence of alcohol and/or drugs. Enjoy the new look of your motorcycle and please ride safely.**

7. Cont. If there are no lights visible, make sure the side stand is up, bike is in neutral, clutch is in and handlebar engine switch is set to run. If there are still no lights visible, re-check that all connectors are fully engaged and the ground wire is connected correctly. (2), After achieving a steady light from all three LED's, start the motorcycle; the green light should now be the only LED on. If all three LED's are still on after start up, verify the injector connectors are correctly attached. Reattach the access door when finished and install remaining components. **NOTE:** Make sure the ignition is turned off before changing any connection.

### ADVANCED TUNING

The Fi2000R has the ability to efficiently tune the EFI system on your motorcycle for slip-on or full exhaust systems. It comes pre-set from the factory for popular brand name slip-on mufflers. Both dyno testing and on-road exhaust gas analysis have been used to develop the best base settings for drivability and power. Not all slip-on mufflers flow exactly the same. Some eliminate power valves and others don't. Some are made with street baffles, other with race or competition baffles. Full exhaust systems offer even greater variation in construction, features and performance. The Fi2000R has the ability to tune the EFI system on your motorcycle to any of these exhausts by applying a logical and systematic approach to altering the base settings supplied with your Fi2000R. These suggestions should be followed step by step and help you achieve success.

#### **\*\* Only attempt adjustments on a fully warmed motor \*\***

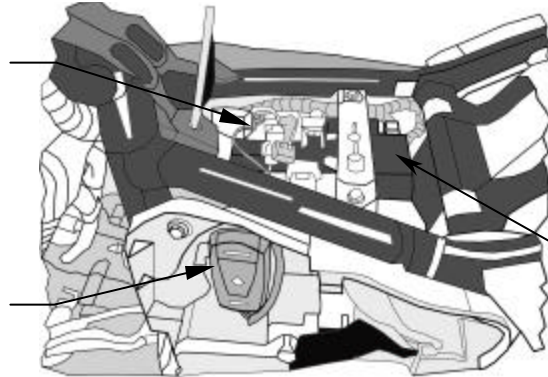
1. Start with the base setting, even if you have a full exhaust system. Adjust and test only *ONE* adjustment pot at a time until you are happy with the result.
2. Start with the left hand or green light pot. This adjustment works either from idle or above idle (varies with bike) to a R.P.M. of about 5000 (also varies with bike) while the bike is driven at a steady throttle or slowly increasing throttle. This is the cruise range and is where the emissions leanness creates issues like choppy on-off throttle application, surging, and backfiring on trailing throttle.
3. Turn this pot back to zero, and make one position increases until you feel the best performance in this range. Do this test a few times to make sure you have it right.
4. The middle or yellow pot is an engine load- triggered fuel adding adjustment. A rapid increase of the throttle at any R.P.M. will add additional fuel and as long as that predetermined load is present, fuel will continue. As engine loads increase in higher gears the acceleration fuel will stay on longer and be more effective. Starting with the base setting, test ride the motorcycle in 4<sup>th</sup> or 5<sup>th</sup> gear and perform moderately fast roll-on throttle from a repeating standard R.P.M. or speed. Increase the pot one position at a time and stop as soon as you don't feel any improvement.
5. The right hand or red pot is for the fuel setting required when the engine is maximizing its R.P.M. and power delivery. This pot is similar to the main jet in a carburetor. It will take a combination of a minimum R.P.M. and a predetermined amount of engine load to initiate this fuel. The straightaway on a racetrack or an inertia dyno are the best places to set this pot. Full exhaust systems of high quality construction increase flow characteristics and will increase fuel demands over our base settings. Also, air filters specifically designed for higher than stock airflow can create need for higher fuel setting. Try an additional one-position pot setting at a time.
6. Camshaft changes can alter an engine's volumetric efficiency and create a greater demand on the engine's fuel system than the Fi2000R may have the ability to adjust for.

### TROUBLE SHOOTING

If you have any problems refer to: step 7, in the installation body of these instructions.

Black ground wire  
to battery negative  
terminal

Fi2000R  
Module placement  
Inside left storage  
compartment

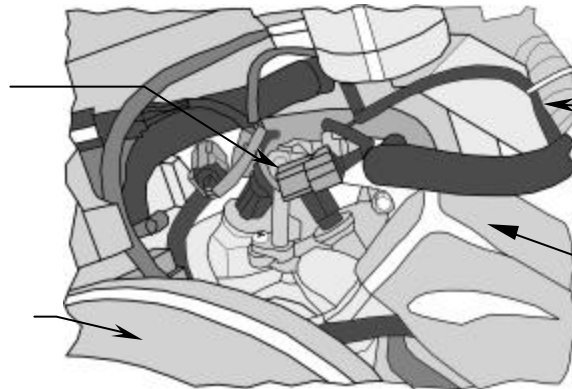


Battery

**FIGURE 1**

Fi2000R  
connectors to  
Injector  
connectors

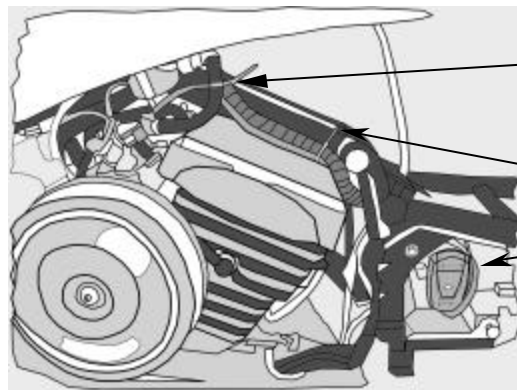
Left air cleaner  
housing



Fi2000R  
Harness

Cylinder head

**FIGURE 2**



Zip tie location

Zip tie location

Fi2000R Module  
secured inside  
storage  
compartment with  
Velcro

**FIGURE 3**

### VN1600 - Classic

Default Pot Settings:

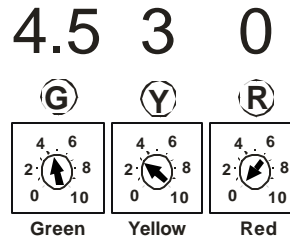


FIGURE 4

### VN1600 - Nomad

Default Pot Settings:

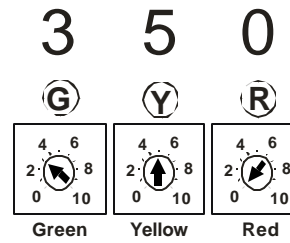


FIGURE 5

### VN1500 - Nomad

Default Pot Settings:

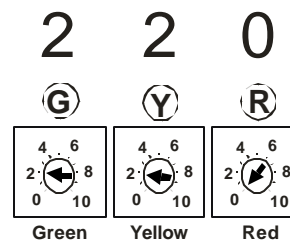


FIGURE 6