IGNITION MODULE

FOR USE WITH

2010-2014 BMW S1000RR
2014-2015 BMW S1000R

Installation Instructions

[POWER COMMANDER V]

PARTS LIST

1	Ignition Module
1	Installation Guide
2	Velcro strips
1	Alcohol swab
1	CAN link cable
1	USB cable

THE VEHICLE'S IGNITION MUST BE TURNED OFF DURING THIS INSTALLATION!
BEFORE THIS MODULE CAN BE USED THE POWER COMMANDER 5 MAY NEED TO BE UPDATED. (SEE INCLUDED INSTRUCTIONS.)

PLEASE READ ALL DIRECTIONS BEFORE STARTING INSTALLATION

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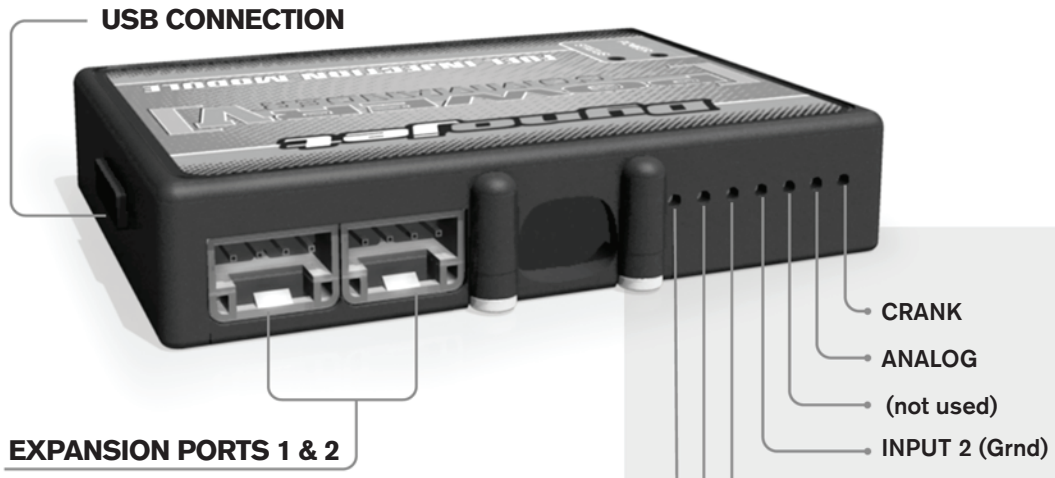
IGNITION MODULE V
INPUT ACCESSORY GUIDE

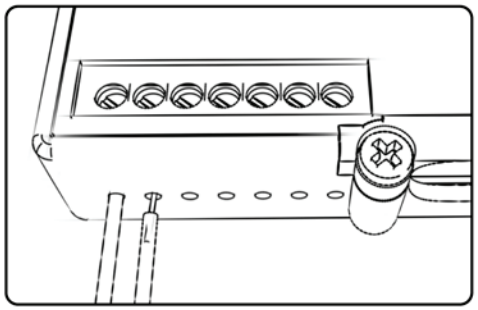


Connect to PCV, SFM, Auto-tune, etc.

Wire connections:

To input wires into the IM 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 IM until is 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

Speed - The Speed Limiter feature uses Switch Input #1 or #2. This feature gives the ability to activate a limiter based on vehicle speed. This is intended to be used as a pit lane speed limiter. You can use any OPEN / CLOSED type switch to activate this feature. The feature is configured to Switch Input #1 by default.

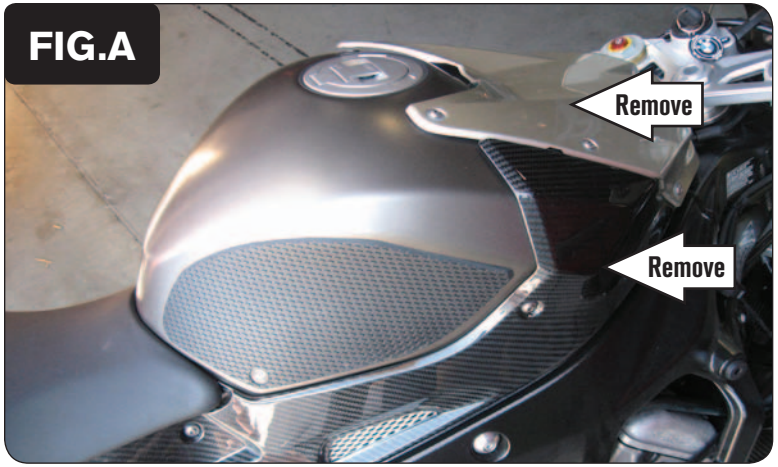
Launch - The Launch Control feature also uses Switch Input #1 or #2. This feature is intended to be used as a two stage rev-limiter. You can set a target RPM to limit the bike to when the clutch lever is activated. Once the clutch lever is released full RPM can be achieved. This requires a wire be connected to the grounding side of the clutch switch and the other end into this input. The feature is configured to Switch Input #2 by default.

Ground - These are constant digital grounds. You can connect the BLACK/WHITE crank wire of the SFM (if installed) to either of these locations if necessary.

Analog - Not currently used - updates to follow

Crank - Connect the WHITE crank wire from the SFM (if installed) to this input. This is only needed if you are going to use the Rev Xtend feature.

FIG.A



1 Remove the seat.

2 Remove the fuel tank covers (Fig. A).

3 Remove the fuel tank.

FIG.B

4 Install the Ignition Module in the tail section with the PCV module using the supplied Velcro (Fig. B).

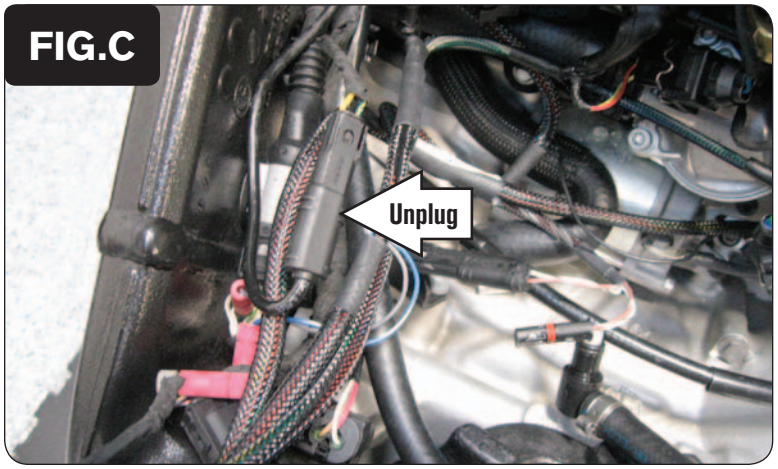
Use the supplied alcohol swab to clean the surface prior to applying the Velcro.

5 Use the supplied CAN link cable to link one of the expansion ports of the Ignition Module to an available expansion port on the PCV module.

It doesn't matter which ports you use.

Older Ignition Modules with a serial number beginning with 14 or less might also require a CAN termination plug to be installed in an empty port. Newer Ignition Modules with a serial number starting with 15 or higher do NOT require CAN termination plugs.

FIG.C

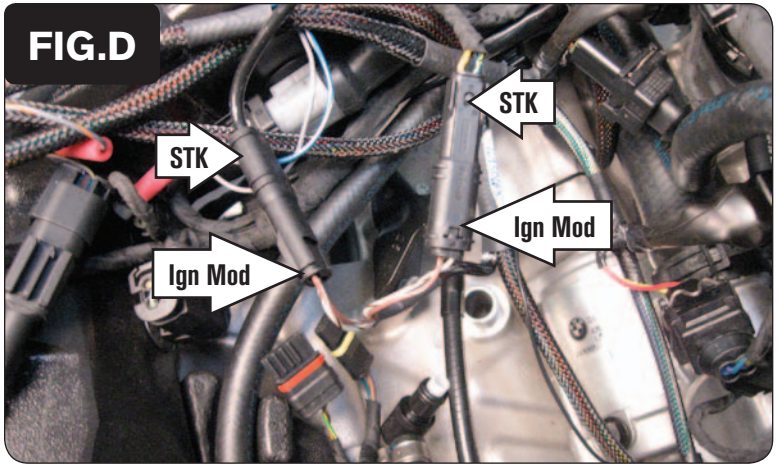


6 Route the Ignition Module harness forward towards the engine following alongside the PCV wiring harness down the left side frame rail.

7 Just behind the engine, on the left hand side, locate and unplug the pair of stock Crank Position Sensor connectors (Fig. C).

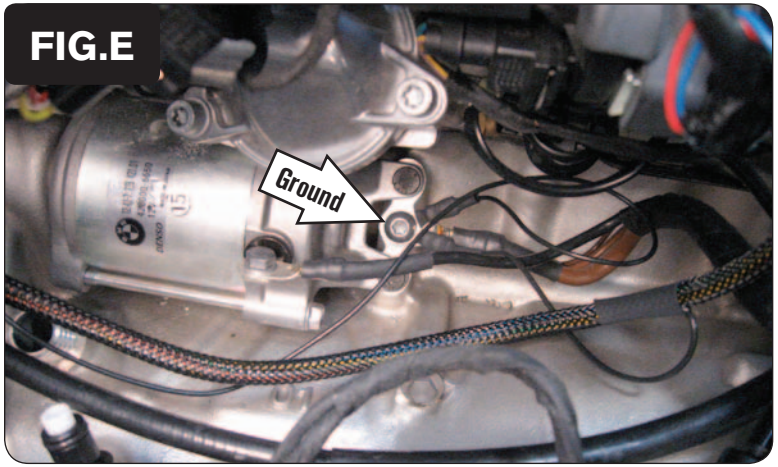
This is a 2-pin connector pair. It has YELLOW and BLUE/YELLOW wires.

FIG.D



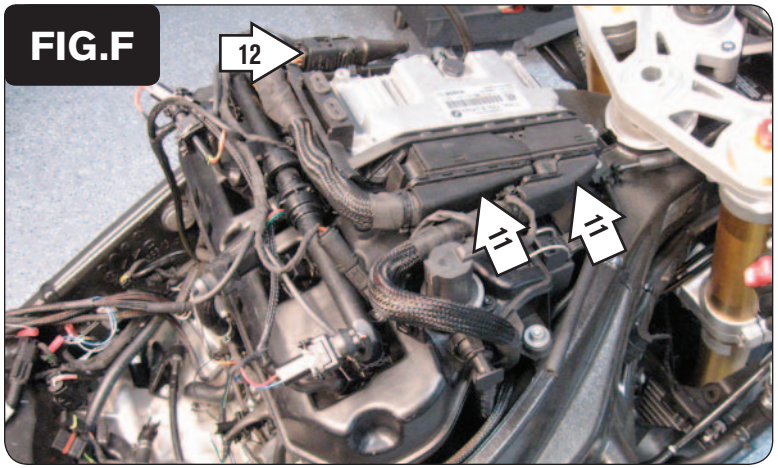
8 Plug the pair of 2-pin connectors from the Ignition Module wiring harness in-line of the stock Crank Position Sensor connectors (Fig. D).

FIG.E



9 Secure the ground wire of the Ignition Module with the ring terminal to the stock common ground bolt at the rear of the starter (Fig. E).

FIG.F



10 Remove the airbox (Fig. F).

It is not critically essential that the entire airbox be disassembled and completely removed to install the Ignition Module, but it can certainly help. At the very least, it needs to be loosened enough to remove the air filter in front of it and access the ignition coils beneath it.

Steps 12-19 will describe how to just loosen the air box enough to access the coils beneath.

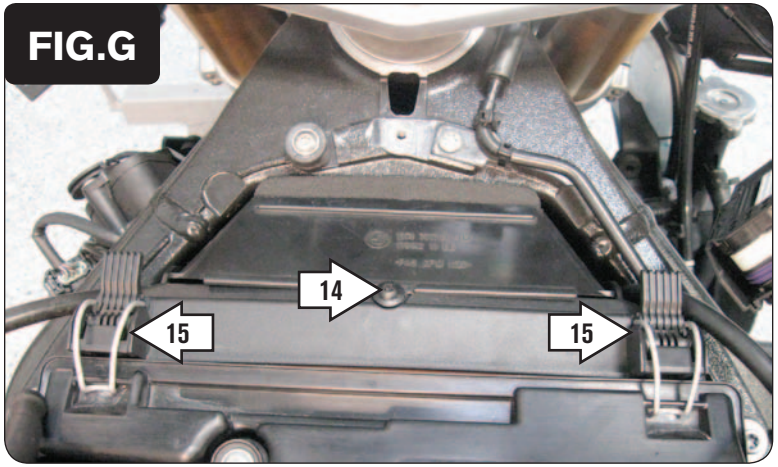
11 Unplug the 2 large main connectors from the ECM.

There are plastic tabs on the sides of the connectors that need to be pulled outward to make the connector unseat itself from the ECM.

12 Pop the connector pair off of the left side of the ECM bracket.

13 Remove the ECM and the ECM bracket.

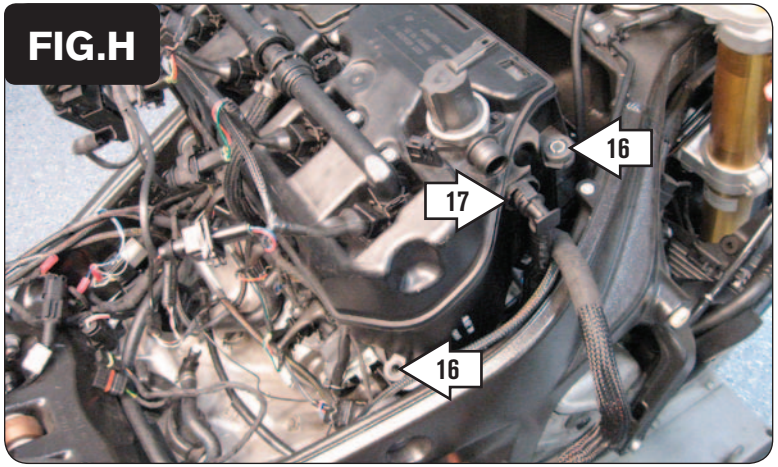
FIG.G



14 Unscrew and remove the plastic reusable rivet at the top of the intake duct. Remove the intake duct from the front of the air filter.

15 Unlatch the air filter housing and remove the air filter and the air filter housing from the front of the airbox (Fig. G).

FIG.H



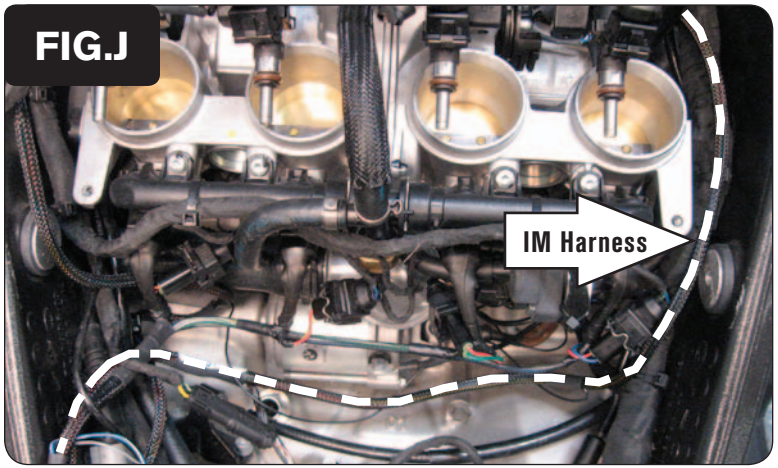
16 Remove the 4 bolts at all 4 corners of the airbox.

The locations of only 2 of the 4 can be seen here.

17 Disconnect the hose for the clean air injection valve on the right side of the airbox.

18 Lift the airbox up and out of place enough to be able to access the coils beneath it (Fig. H).

FIG.J



19 Route the Ignition Module harness along the back side of the engine, then forward along the right side of the engine, and then across the top of the valve cover where the coils are (Fig. J).

Be sure to route the harness beneath the throttle cables such that they will not interfere with throttle movement.

FIG.K

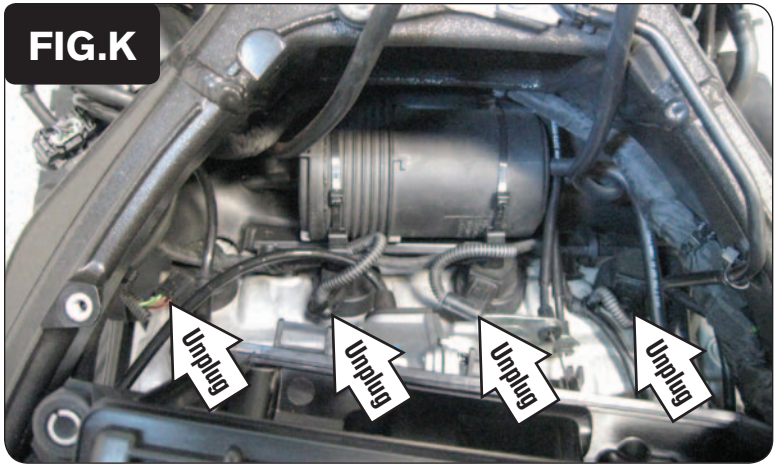
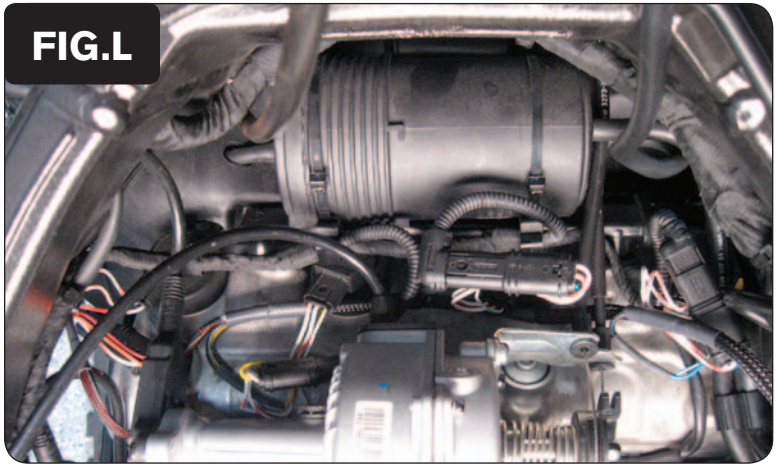


FIG.L



20 Locate and unplug the stock wiring harness from each ignition coil (Fig. K).

21 Plug the 4 pairs of Ignition Module leads in-line of the stock coil connectors and the coils.

The Ignition Module leads with ORANGE colored wires go to the cylinder #1 (left most) ignition coil.

The Ignition Module leads with YELLOW colored wires go to the cylinder #2 ignition coil.

The Ignition Module leads with GREEN colored wires go to the cylinder #3 ignition coil.

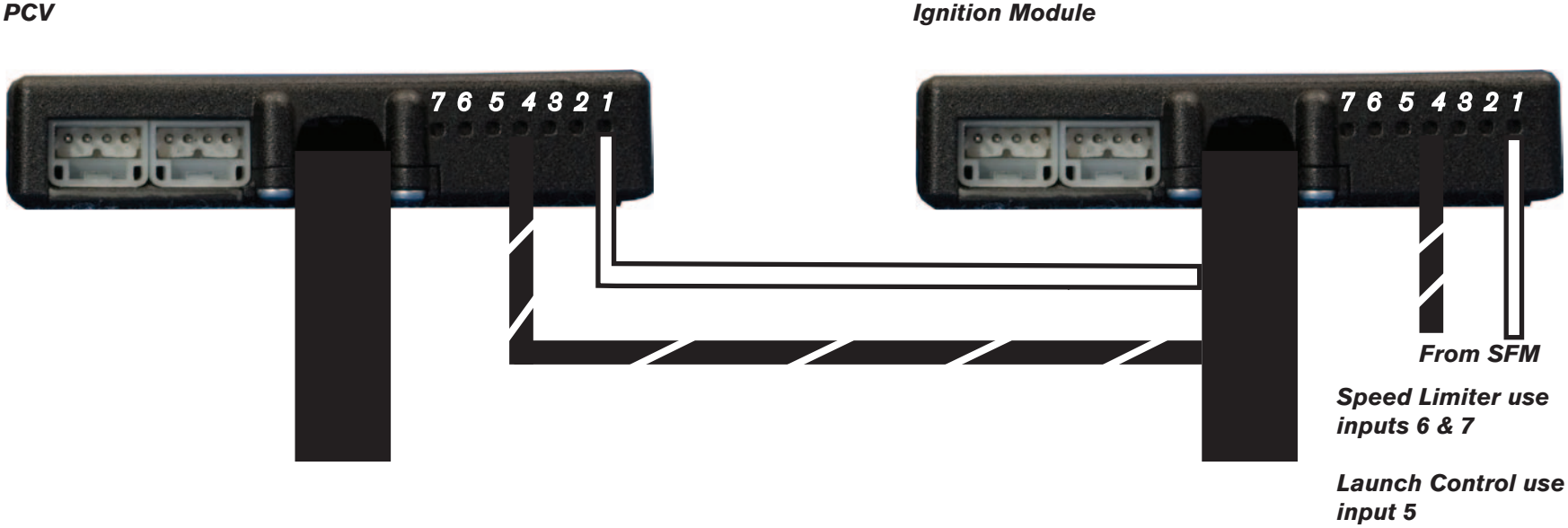
The Ignition Module leads with BLUE colored wires go to the cylinder #4 (right most) ignition coil.

22 Reassemble the bike.

Tuning Notes:

It is recommended to input values of 4 in the Ignition table from 6000rpm to redline for best performance. This may vary depending on engine spec and fuel used.

If you find that the BMW quickshifter is not as smooth as before the Ignition Module installation run a wire from the PCV shifter input to the GREY/RED wire (#2) of the stock shifter connector. This will make the PCV/IM handle the quickshifter duties allowing a smoother shift in the upper RPM range.



Connecting the Ignition Module to the PCV:

- The WHITE and the BLACK/WHITE wires from the Ignition Module are used ONLY if you want to use the Rev Xtend feature of the PCV. If you do NOT plan on using this feature, than just tape the wires out of the way.
- If you DO plan on using the Rev Xtend feature, than connect the WHITE wire from the Ignition Module to the #1 input position of the PCV. Connect the BLACK/WHITE wire to the #4 input position of the PCV. The BLACK/WHITE wire can also be connected to the #6 input position of the PCV, if necessary. If both inputs on the PCV are already occupied, you can splice the BLACK/WHITE wire to either wire currently occupying the #6 or #4 PCV inputs.
- If you are also using the SFM (Secondary Fuel Module), than you will need to connect the WHITE and BLACK/WHITE wires from the SFM into the Ignition Module. Connect the WHITE wire from the SFM to the #1 input position of the Ignition Module. Connect the BLACK/WHITE wire to the #4 input position of the Ignition Module. The BLACK/WHITE wire can also be connected to the #6 input position of the Ignition Module, if necessary.

Adding the Ignition Module to the PCV network:

- First download and install the latest version of the PCV Control Center Software (which is version 1.0.6.4.) from the PCV - Downloads page of www.powercommander.com.
- To use the Ignition Module you may need to update your firmware in the PCV (and SFM if being used). Make sure the PCV, SFM, and Ignition Module are all updated to PCV firmware version 0.1.10.6 or newer. Go to View -> Device Information in the software to see the current versions. If you need to update the firmware, go to Power Commander Tools -> Update Firmware. The latest version of the PCV firmware and software can be found on the PCV - Downloads page of www.powercommander.com.
- Connect a USB cable to the PCV and another USB cable to the Ignition Module. The software will ask you to add the Ignition Module to the network. Click OK. Go to Power Commander Tools -> Manage Network and click on Sync Devices Utility. Follow the on screen instructions.