POWER COMMANDER V

FUEL AND IGNITION

2012-2014 Suzuki DL650 (V-Strom)

Installation Instructions

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**

PLEASE READ ALL DIRECTIONS BEFORE STARTING INSTALLATION

Dynojet

2191 Mendenhall Drive   North Las Vegas, NV 89081   (800) 992-4993   www.powercommander.com
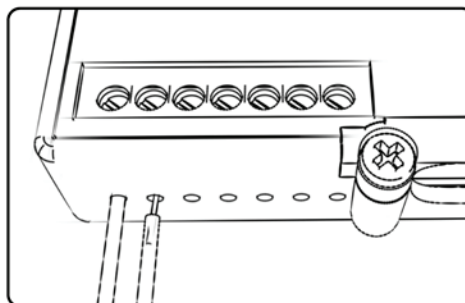
POWER COMMANDER V
INPUT ACCESSORY GUIDE

ACCESSORY INPUTS

USB CONNECTION

EXPANSION PORTS 1 & 2
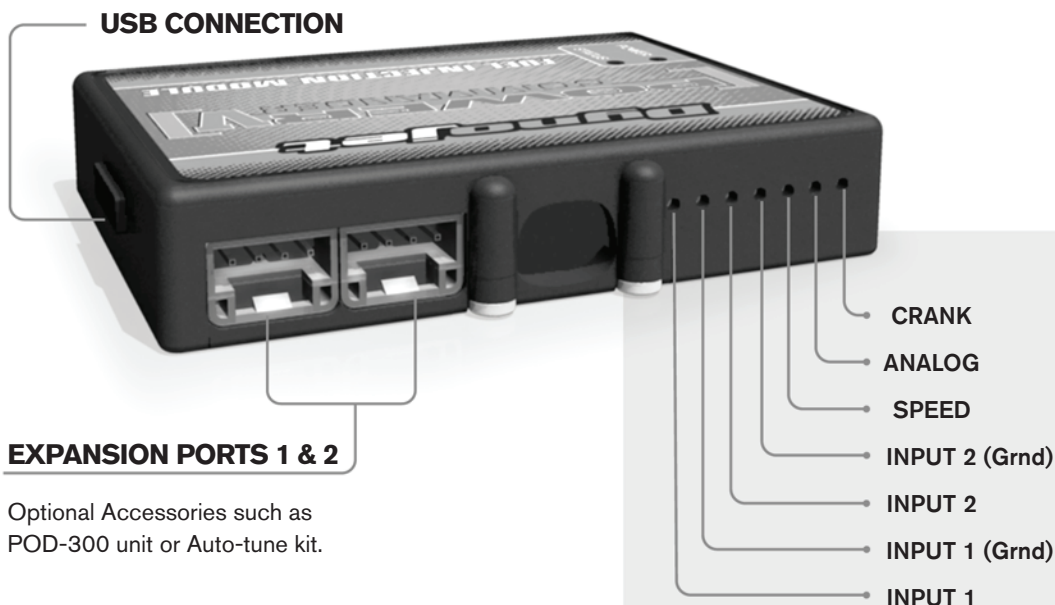
Optional Accessories such as POD-300 unit or Auto-tune kit.

CRANK
ANALOG
SPEED
INPUT 2 (Grnd)
INPUT 2
INPUT 1 (Grnd)
INPUT 1

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) These inputs are for use with the Dynojet quickshifter. Insert the wires from the Dynojet quickshifter into the SHIFTER inputs. The polarity of the wires is not important. (Set to Switch Input #2 by default.)
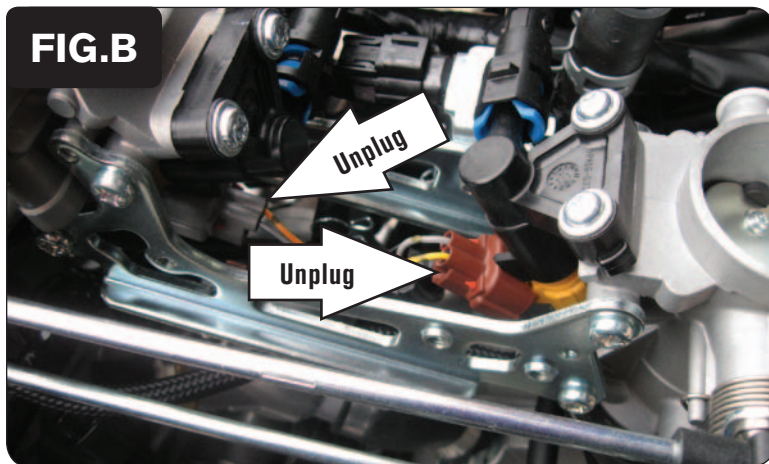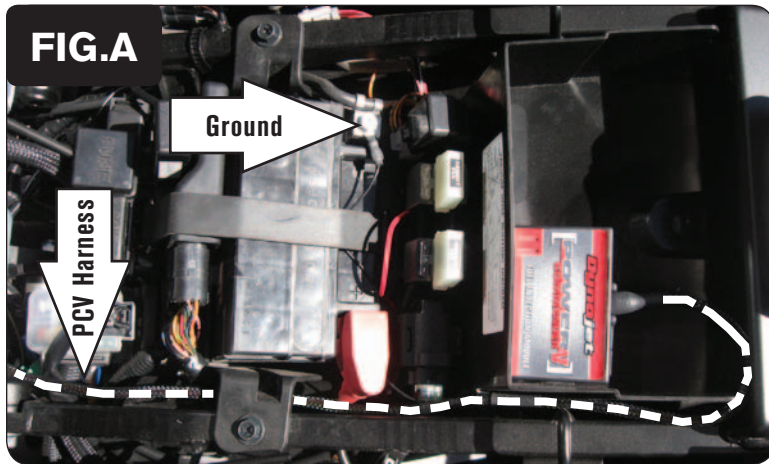
Speed- If your application has a speed sensor then you can tap into the signal side of the sensor and run a wire into this input. This will allow you to calculate gear position in the Control Center Software. Once gear position is setup you can alter your map based on gear position and setup gear dependent kill times when using a quickshifter.

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.

Crank- Do **NOT** connect anything to this port unless instructed to do so by Dynojet. It is used to transfer crank trigger data from one module to another.

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 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.

FIG.A

Ground

PCV Harness

FIG.B

Unplug

Unplug

FIG.C

1   Remove the seat, the fuel tank covers, and the fuel tank.

2   Remove the air box.

3   Store the PCV module in the compartment under the seat (Fig. A).

   Use the supplied Velcro to secure the module. Clean both surfaces with the supplied alcohol swab prior to applying the velcro.

4   Route the PCV harness from the tail section towards the engine following the left hand frame rail.

5   Secure the ground (BLACK) wire with the ring lug to the negative terminal of the bike's battery.

6   Route the PCV wiring harness up to the throttle bodies. Locate and unplug the stock wiring harness from the fuel injectors (Fig. B).

   The FRONT cylinder fuel injector has a stock BROWN connector.

   The REAR cylinder fuel injector has a stock GREY connector.

7   Plug the pair of PCV wiring harness connectors with ORANGE colored wires in-line of the FRONT cylinder fuel injector and the stock BROWN wiring harness connector.

8   Plug the pair of PCV wiring harness connectors with YELLOW colored wires in-line of the REAR cylinder fuel injector and the stock GREY wiring harness connector (Fig. C).
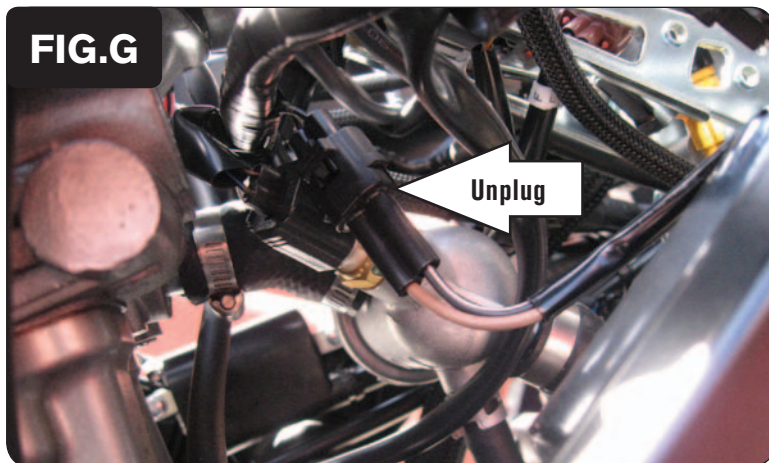
FIG.D

Unplug

FIG.E

Unplug

FIG.F
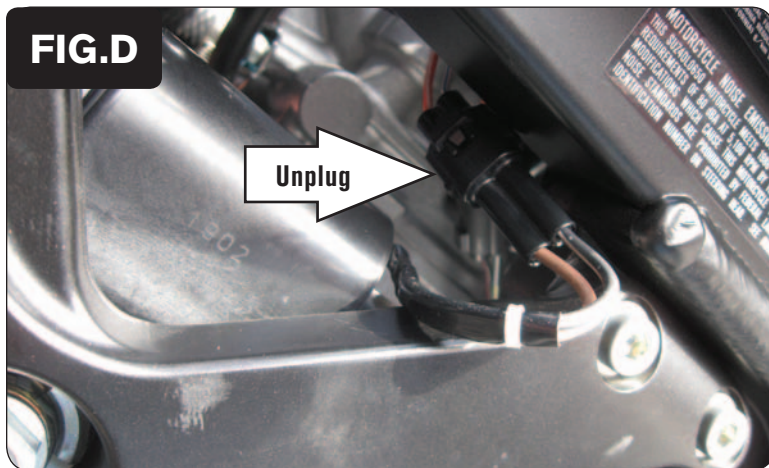
9   Locate the FRONT cylinder ignition coil on the left hand side of the bike. Trace the stock wiring harness from the FRONT coil to its connectors. Unplug the connectors for the FRONT cylinder ignition coil. (Fig. D).

10   Plug the pair of PCV wiring harness leads with GREEN colored wires in-line of the FRONT coil and the stock wiring harness.
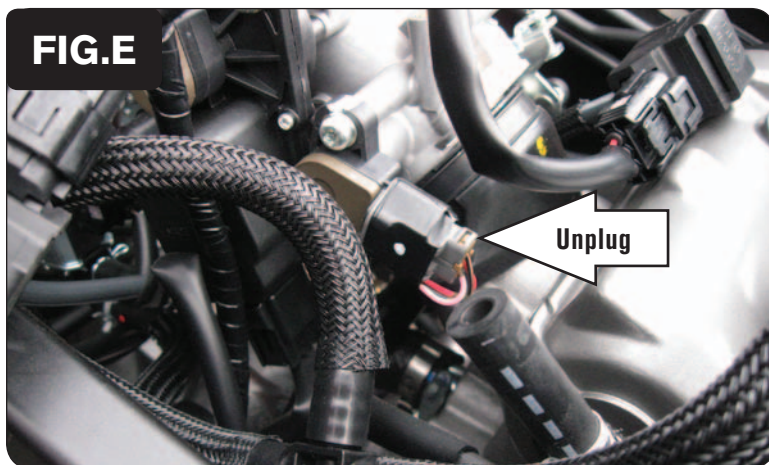
11   Locate the lower (primary) Throttle Position Sensor on the left side of the rear throttle body. Unplug the stock wiring harness from the TPS (Fig. E).

There is a similar upper (secondary) TPS here, also. Be sure to connect the PCV only to the lower (primary) TPS.

12   Plug the pair of PCV wiring harness leads with 3-pin connectors in-line of the bike's TPS and the stock wiring harness (Fig. F).

FIG.G

Unplug

FIG.H

Unplug

FIG.I

Unplug

13   Locate the REAR cylinder ignition coil on the right hand side of the bike. Trace the stock wiring harness from the REAR coil to its connectors. Unplug the connectors for the REAR cylinder ignition coil. (Fig. G).

14   Plug the pair of PCV wiring harness leads with BLUE colored wires in-line of the REAR coil and the stock wiring harness.
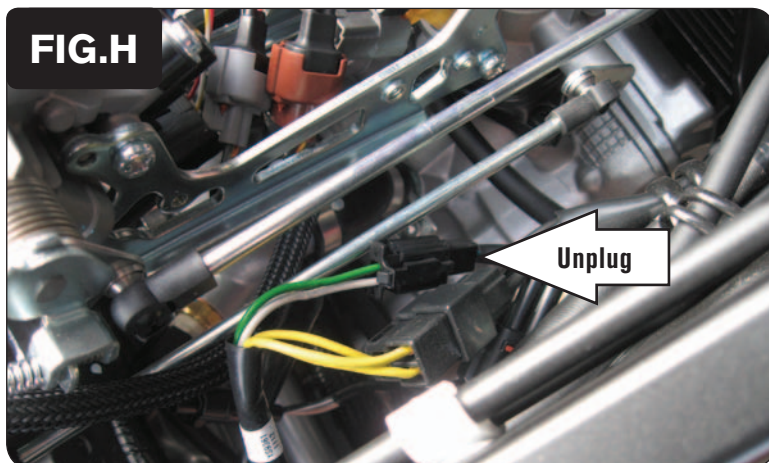
15   Locate the BLACK 2-pin connectors on the right hand side of the throttle bodies for the bike's Crank Position Sensor. Unplug the connectors for the CPS (Fig. H).

16   Plug the pair of PCV wiring harness leads with BROWN colored wires in-line of the CPS and the stock wiring harness.

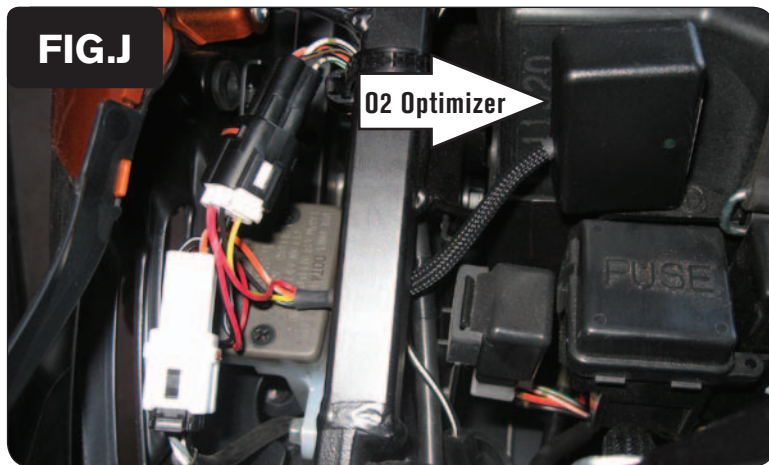17   Locate the wiring harness connectors for the bike's stock O2 sensor. These connectors are on the right side of the bike under the seat and directly above the rear brake fluid reservoir. Unplug the connectors for the stock O2 sensor (Fig. I).

FIG.J

O2 Optimizer

FIG.K

	0	2	5	10	15	20	45	60	80	100
500	0	0	0	0	0	0	0	0	0	0
750	0	0	0	0	0	0	0	0	0	0
1000	0	0	0	0	0	0	0	0	0	0
1250	0	0	0	0	0	0	0	0	0	0
1500	0	0	0	0	0	0	0	0	0	0
1750	0	8	8	8	8	8	0	0	0	0
2000	0	8	8	8	8	8	-7	-5	-4	-5
2250	0	8	8	8	8	8	-8	-9	-8	-9
2500	0	8	8	8	8	8	-6	-5	-7	-9
2750	0	8	8	8	8	8	-7	-7	-9	-10
3000	0	8	8	8	8	8	-7	-8	-8	-8
3250	0	8	8	8	8	8	-6	-7	-5	-6
3500	0	8	8	8	8	8	-5	-5	-5	-5
3750	0	8	8	8	8	8	-4	-4	-3	-3
4000	0	8	8	8	8	8	-5	-4	-5	-2
4250	0	0	0	8	8	8	-4	-4	-6	-2
4500	0	0	0	8	8	8	-4	-5	-7	-3
4750	0	0	0	8	8	8	-5	-4	-7	-4
5000	0	0	0	8	8	8	-4	-3	-7	-6
5250	0	0	0	8	8	8	-4	-5	-7	-5
5500	0	0	0	8	8	8	-6	-4	-7	-5
5750	0	0	0	8	8	8	-5	-4	-6	-5
6000	0	0	0	8	8	8	-6	-5	-5	-4
6250	0	0	0	8	8	8	-4	-4	-3	-4
6500	0	0	0	8	8	8	-4	-5	-4	-4
6750	0	0	0	0	8	8	-3	-4	-3	-3
7000	0	0	0	0	8	8	-3	-5	-6	-4
7250	0	0	0	0	0	-2	-3	-7	-5	-4
7500	0	0	0	0	0	-2	-3	-5	-4	-3
7750	0	0	0	0	0	-2	-5	-7	-3	-2
8000	0	0	0	0	0	-2	-5	-7		
8250	0	0	0	0	0	0	-5	-4		
8500	0	0	0	0	0	0	-4	-5		

18   Plug the supplied O2 optimizer in-line of the bike's stock O2 sensor and wiring harness.

The stock O2 sensor will need to remain in the exhaust and active, even if using the Auto-tune accessory.

19   Secure the O2 Optimizer module to the ECM (Fig. J).

Use the supplied Velcro to secure the module. Clean both surfaces with the supplied alcohol swab prior to applying the velcro.

20   Reinstall the air box, fuel tank, body panels, and seat.

Tuning Notes:

The O2 optimizer for this model controls the fueling in the stock closed loop area. The RPMs and throttle positions of the stock closed loop area are represented by the highlighted cells shown in Figure K. The O2 Optimizer is designed to achieve a target AFR of 13.6 : 1 in this stock closed loop range. To use this optimizer you must retian your stock O2 sensor, (even if using the Auto-tune accessory).

It is recommended to input values of 8 the highlighted area of the fuel tables in your map file. If using the Auto-tune accessory do NOT input values in this range of your Target AFR table/tables.

The optimizer will blink while the stock O2 sensor is being heated up. The unit is not functioning until the light is lit solid.