



PCV & AutoTune Installation Operation and Adjustment



This guide will show you the process of installing and adjusting this state of the art tuning module.

Installation

The PC5 installs in-line of the stock wiring harness and each injector (the black connector from the PC5 harness should plug into the factory wiring harness connectors for each injector). A red wire is common to each PC5 injector connector. The other wire will vary by cylinder number. Cylinder#1 is located closest to the left side of the engine. Connect the PC5 injector connectors as follows.

- Cyl#1 – Orange
- Cyl#2 – Yellow
- Cyl#3 – Green
- Cyl#4 - Blue

The PC5 requires that throttle position be monitored. The Grey wire from the PC5 harness is for this purpose. Each engine manufacturer designates a different wire color to represent throttle position. First, find the throttle position sensor. Then, find your engines respective wire color representing throttle position.

The throttle position wire can also be found at the ECU connector. Connect the Grey wire from the Power Commander to the throttle position wire on your engines electronics. Hardware for this is included in the PC5 kit.

If you have an engine wiring harness converted by Hyper Racing for the PC5, you will notice two loose wires near the ECU connectors. The gray wire is wired into the harness and should be connected to the gray wire from the PC5. If you do not have a harness converted by Hyper Racing, connect the gray wire from the PC5 as follows.

- Honda - Red with Yellow stripe
- Kawasaki – Yellow with White stripe
- Suzuki – Pink with Black stripe
- Yamaha – Blue

The PC5 kit gives the option and in some cases requires that engine temperature is monitored. Each manufacturer designates a specific color to monitor engine temp. This wire can be easily accessed at each engines coolant temperature sensor or at the ECU connector. Use the supplied wire tap to connect the loose wire from the side of the PC5 to the coolant temperature sensor wire.

If you have an engine wiring harness converted by Hyper Racing for the PC5, you will notice two loose wires near the ECU connectors. The orange wire is connected to the coolant temp sensor inside the harness and should be connected to the PC5. You will notice seven small holes on the side of the PC5. The second hole from the corner of the module will accept the orange wire from your Hyper harness. Strip the wire, then twist it tightly or solder the tip and push the wire through the hole and tighten the screw. If you do not have a harness converted by Hyper Racing, connect the coolant temp wire as follows.

- Honda – Blue/Yellow
- Kawasaki – Orange
- Suzuki – Black/Blue
- Yamaha - Green/White





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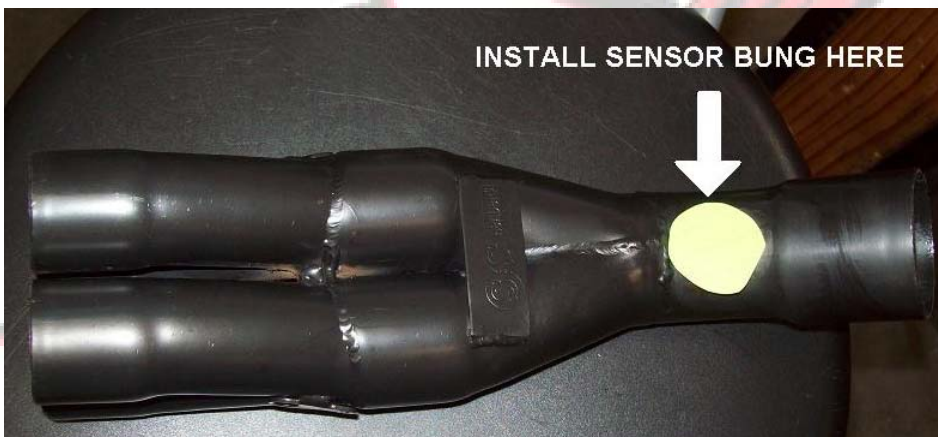
The Black wire with a ring terminal should be grounded. We recommend using a ground to the engine case or direct battery ground.

From the AutoTune module you will notice 2 loose wires. The Red one must go to switched ignition power (12volts). Typically the easiest place to connect the Red wire is the switched (cold) side of the ignition switch. The Black wire from the AutoTune module must be grounded. Often the easiest ground under the hood is located on the rear of the electric wing switch. Otherwise, ground this wire to the engine case.

If using the optional AutoTune Module, ensure that the CAN communication cable is connected from the AutoTune Module to the Power Commander 5 using the ports on the side of each module. The CAN cable is 6-7 inches in length and has 4 small wires. Also, for the oxygen sensor to work correctly the CAN termination plug must be plugged into the second port on the side of the AutoTune Module. This plug looks like a blank plug with no wires but serves an important function for the module to operate correctly.



In order for the AutoTune to monitor the air/fuel ratio in the exhaust stream, an oxygen sensor must be placed into the exhaust system. Included with every kit is the weld-in bung to accept the sensor. Use a 7/8" hole saw to drill the hole for the sensor. The hole should be located just after the header tubes blend into one pipe at the collector.





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Operation and Adjustment

The Power Commander 5 with AutoTune has the ability to adjust your fuel injection system automatically based on the amount of fuel measured in the exhaust stream. All units purchased from Hyper Racing will be set up and calibrated before being sold. A fuel map will be installed that should be close for your combination. We still recommend that the Power Commander 5 is tuned for your fuel injection system on a dyno. This will eliminate the possibility of the engine running lean which often results in melted pistons or further internal engine damage and poor performance.

If your Power Commander 5 has been set up and dyno tuned to your injection system by the professionals at Hyper Racing, there should be no need to make adjustments for approximately 5 races. Of course, if your comfort level allows, adjusting more often will not hurt.

Now that you have received your New Power Commander 5, take some time to familiarize yourself with the software and its features. Install the Dynojet program from the included disk onto your laptop or personal computer. Connect the included USB cable from the computer to the small port on the side of the Power Commander 5. Open the software and click Get Map.

		Map 1 - Fuel - Cylinder 1,2,3,4 - Gear 1,2,3,4,5,6									
		% Throttle									
		0	2	5	10	15	20	40	60	80	100
RPM	7750	0	4	6	19	24	21	-4	-17	-31	-33
	8000	0	4	6	21	28	24	-5	-18	-35	-41
	8250	0	0	6	20	27	28	-5	-22	-37	-55
	8500	2	0	6	20	27	28	-11	-25	-44	-54
	8750	5	0	6	18	27	26	-14	-30	-50	-55
	9000	5	0	6	17	27	28	-15	-37	-54	-56
	9250	5	0	6	12	24	26	-16	-44	-55	-56
	9500	5	0	6	12	24	24	-16	-44	-55	-55
	9750	5	0	6	12	20	22	-14	-44	-57	-52
	10000	5	0	6	12	18	19	-12	-44	-57	-54
	10250	5	0	3	16	18	20	-12	-41	-59	-55
	10500	5	0	3	16	16	21	-10	-44	-61	-55
	10750	5	0	3	12	12	16	-10	-44	-62	-54
	11000	5	0	3	12	12	20	-9	-44	-60	-53
	11250	5	0	3	12	12	20	-12	-44	-61	-51
	11500	5	0	0	12	12	20	-10	-44	-59	-51
11750	5	0	0	12	12	16	-10	-44	-59	-50	
12000	5	0	0	12	12	20	-10	-41	-56	-50	
12250	5	0	0	9	9	12	-8	-40	-55	-50	
12500	5	0	0	9	9	12	-10	-38	-55	-48	

A screen similar to the image above should be displayed on the computer. Clicking on Table will display the current fuel map loaded into the Power Commander.

Making unsupervised manual changes to this map is not recommended



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Map 1 - Auto Tune - Target AFR - Cylinder 1,2,3,4 - Gear 1,2,3,4,5,6

RPM	% Throttle										
	0	2	5	10	15	20	40	60	80	100	
3000	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
3250	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
3500	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
3750	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
4000	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
4250	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
4500	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
4750	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
5000	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
5250	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
5500	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
5750	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
6000	0	0	0	12.5	12.5	12.5	12.5	12.6	12.6	12.6	
6250	0	0	0	12.5	12.5	12.5	12.5	12.4	12.4	12.4	
6500	0	0	0	12.5	12.5	12.5	12.5	12.4	12.4	12.4	
6750	0	0	0	12.5	12.5	12.5	12.5	12.4	12.4	12.4	
7000	0	0	0	12.5	12.5	12.5	12.5	12.4	12.4	12.4	
7250	0	0	0	12.3	12.3	12.3	12.3	12.4	12.4	12.4	
7500	0	0	0	12.3	12.3	12.3	12.3	12.4	12.4	12.4	
7750	0	0	0	12.3	12.3	12.3	12.3	12.3	12.3	12.3	

Map 1 Notes
2006 Kawasaki ZX6R
Hyper FIT Ram Air Injection
FTZ Exhaust
60psi Fuel Pressure
NPS Racing Engines Stage 5P*

The view above shows the Target Air/Fuel Ratio which the AutoTune module will try to achieve. This screen can be accessed by clicking "Target AFR" on the left of the screen. Please note that every engine performs best at a different air/fuel ratio.

Making unsupervised manual changes to this map is not recommended

Map 1 - Auto Tune - Trim - Cylinder 1,2,3,4 - Gear 1,2,3,4,5,6

RPM	% Throttle										
	5	10	15	20	40	60	80	100			
11500	0	0	0	5	4	2	0	0	0	0	
11750	0	0	0	3	5	2	0	0	2	0	
12000	0	0	0	4	6	0	-2	2	-2	-2	
12250	0	0	0	3	5	1	-1	0	-1	-1	
12500	0	0	0	3	5	0	-2	1	-2	-1	
12750	0	0	0	4	6	0	-2	0	-2	-2	
13000	0	0	0	6	5	1	-1	0	-1	-1	
13250	0	0	0	8	7	1	1	1	1	1	
13500	0	0	0	7	6	2	3	3	3	3	
13750	0	0	0	4	6	1	2	5	4	4	
14000	0	0	0	4	5	1	2	4	2	2	
14250	0	0	0	4	3	1	1	4	1	1	
14500	0	0	0	3	2	1	-1	3	0	0	
14750	0	0	0	3	2	2	-2	1	0	0	
15000	0	0	0	3	-1	3	-2	0	0	0	
15250	0	0	0	0	0	0	3	-2	0	0	
15500	0	0	0	0	0	0	0	0	0	0	

Map 1 Notes
2006 Kawasaki ZX6R
Hyper FIT Ram Air Injection
FTZ Exhaust
60psi Fuel Pressure
NPS Racing Engines Stage 5P*

The Trim table allows the user to see what changes the module is making to the fuel map. By clicking "Trim" at the left of the screen, the Trim Table is displayed. After the first week of racing, take a look at the Trim changes which the AutoTune has made. Notice any cells where the value is not zero. This indicates an area where the AutoTune is changing the fuel map. Each number represents a percentage of change. A positive number indicates an area where more fuel is desired and a negative number indicates an area where less fuel is desired. Click Accept Trims to permanently change the fuel map.



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Dynojet - Power Commander V - 1.0.3.3

File View Options Map Tools Power Commander Tools Help

POWER COMMANDER V

- Device Network
 - Map Position 1
 - Primary Module
 - Auto Tune
 - Target AFR
 - Trim
 - Fuel
 - Table

Open Map Save Map

Get Map Send Map

Get Table Send Table

Map 1 - Fuel - Cylinder 1,2,3,4 - Gear 1,2,3,4,5,6

RPM	% Throttle									
	0	2	5	10	15	20	40	60	80	100
8000	0	4	6	21	28	24	-5	-18	-35	-41
8250	0	0	6	20	27	28	-5	-22	-37	-55
8500	2	0	6	20	27	28	-11	-25	-44	-54
8750	5	0	6	18	27	26	-14	-30	-50	-55
9000	5	0	6	17	27	28	-15	-37	-54	-56
9250	5	0	6	12	24	26	-16	-44	-55	-56
9500	5	0	6	12	24	24	-16	-44	-55	-55
9750	5	0	6	12	20	22	-14	-44	-57	-52
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11250	5	0	3	12	12	20	-12	-44	-61	-51
11500	5	0	0	12	12	20	-10	-44	-59	-51
11750	5	0	0	12	12	16	-10	-44	-59	-50
12000	5	0	0	12	12	20	-10	-41	-56	-50
12250	5	0	0	9	9	12	-8	-40	-55	-50
12500	5	0	0	9	9	12	-10	-38	-55	-48
12750	5	0	0	9	9	12	-7	-33	-57	-51

Map 1 Notes

2006 Kawasaki ZX6R
Hyper FIT Ram Air Injection
FTZ Exhaust
60psi Fuel Pressure
NPS Racing Engines Stage SP*

Dynojet

RPM

88880

% Throttle

88880

AFR

888.000

Duty %

888880

Engine Temp

888.00

Fuel Adj

888880

After the trim changes have been accepted click Send Map. Map Sent Successfully displayed at the bottom of the screen verifies that the map has been sent.

It is always a good idea to save the latest changes made to the module for your records.