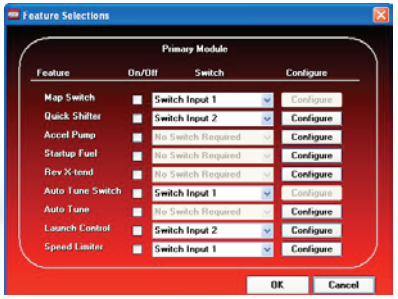
Basic installation and placement instructions are included in the PCV installation guide for Harley Davidson models.

- Some aftermarket exhausts come equipped with an O2 sensor bung. If your system uses a M18x1.5mm thread then you can simply use this location for the Auto tune sensors. If you have to drill holes for a new bung (mild steel bung included), we recommend doing so before the catalytic converter.

- Mount the O2 sensors around 6" from the cylinder head. The 07-09 touring models came equipped with the stock O2 sensors located in this area.

Note: *Verify you have adequate clearance for the sensor and wiring harness. Make sure the O2 sensor harness is as straight as possible. If you must secure the harness to keep away from danger make sure you do not squeeze the sheathing of the harness.*

- The Autotune kit when used in conjunction with the PCV allows the bike to be automatically tuned to a target air/fuel ratio. To use this feature you must first enable Auto Tune in the PCV.

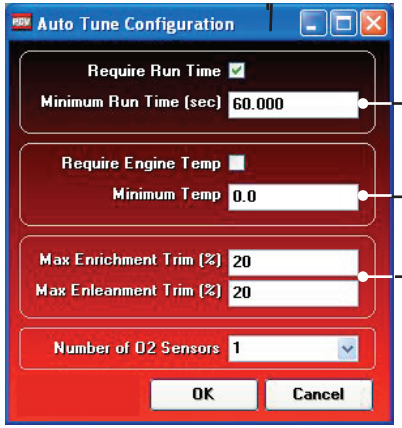


- Go to PowerCommander Tools - Configure - Features Enables and Input Selections (CTRL-F).

- Check the box next to Auto tune to enable this feature.

- If you are using a switch to turn Auto tune ON/OFF check the box next to Auto Tune Switch

- Click on CONFIGURE to adjust Auto tune settings.



How much time after starting the engine the software waits until it starts sampling

What temperature the engine needs to reach before the software starts sampling. (optional wiring needed to function)

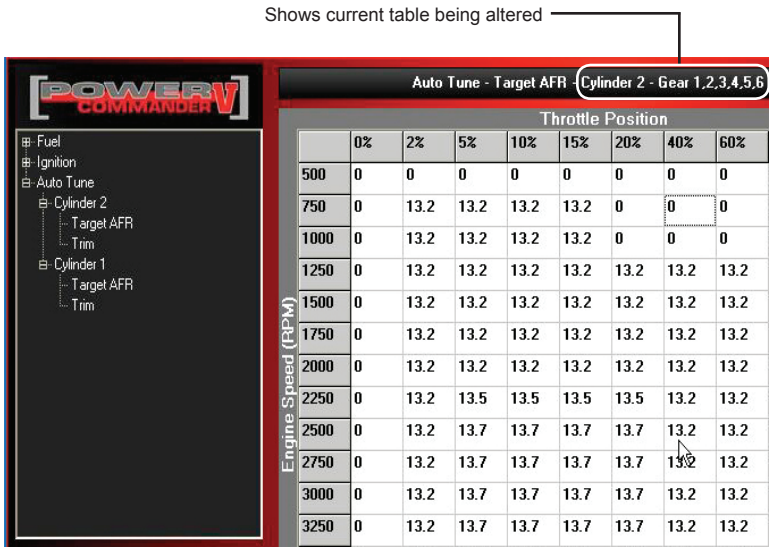
The maximum the software will trim per session

- Some models are shipped with the Autotune setup for basic mode (one Target AFR table for both cylinders). If desired you can set different air/fuel targets for each cylinder and each gear. Go to Device Tools - Advance/Demote map.

Make sure that Fuel tables and Target AFR tables are set to the same mode.

- Each Harley Davidson base map includes a base Target AFR table. These settings are intended to deliver optimal performance while still maintaining decent fuel mileage in the cruise area.

  To alter the AFR target click on Target AFR in the tree view. Expand each cylinder and/or gear if necessary to view the corresponding table. If necessary type in different values in the cells. Multiple cells can be highlighted by using click/drag with the mouse.



	0%	2%	5%	10%	15%	20%	40%	60%
500	0	0	0	0	0	0	0	0
750	0	13.2	13.2	13.2	13.2	0	0	0
1000	0	13.2	13.2	13.2	13.2	0	0	0
1250	0	13.2	13.2	13.2	13.2	13.2	13.2	13.2
1500	0	13.2	13.2	13.2	13.2	13.2	13.2	13.2
1750	0	13.2	13.2	13.2	13.2	13.2	13.2	13.2
2000	0	13.2	13.2	13.2	13.2	13.2	13.2	13.2
2250	0	13.2	13.5	13.5	13.5	13.5	13.2	13.2
2500	0	13.2	13.7	13.7	13.7	13.7	13.2	13.2
2750	0	13.2	13.7	13.7	13.7	13.7	13.2	13.2
3000	0	13.2	13.7	13.7	13.7	13.7	13.2	13.2
3250	0	13.2	13.7	13.7	13.7	13.7	13.2	13.2

- It is recommended to load a base map into the PCV that best corresponds to your bikes current configuration. This will decrease the time in which it takes for the Autotune module to achieve its target air/fuel.

- A switch can be wired into the PCV (see PCV install guide for wire location into the module). The switch can be used to toggle between your base map and learning mode. Any SPST (open/close) type switch can be used. When the switch is OPEN the PCV will be running on the base map. When the switch is CLOSED the PCV will go into learn mode and Autotune will start making fuel trim adjustments. You can toggle between these modes at any time. The values learned for the fuel trims will be saved if you toggle back to the base map.

- After a riding session you can view the Trim table by clicking on GET MAP and then clicking on the respective cylinder in the tree view. To accept these trims and transfer them into the Fuel map click on Auto Tune - accept trims. This will zero out the trim table(s) and add the trim values to the base map(s).

  The PCV is configured to only allow the software to trim +/- 20 until you manually accept the trims which will zero out the trim table and allow the software to go +/- 20 during the next session. You can alter these limits in the Auto Tune configuration if desired. The more the PCV learns the lower you can make this value. By lowering this value it will work as a safety net so if something should go wrong in the unit or bike it will not cause the bike to run poorly.

- To verify that Auto tune is working you should see a real time AFR reading in the lower right hand corner of the software.

  A value of 9.99 could indicate a faulty sensor or the sensor is wired incorrectly to the module.

  A value of 0.00 could indicate that Autotune has not been enabled in the software.

Tech tips

- If you should see abnormally high values in the trim tables then check the following:

  - Intake leaks

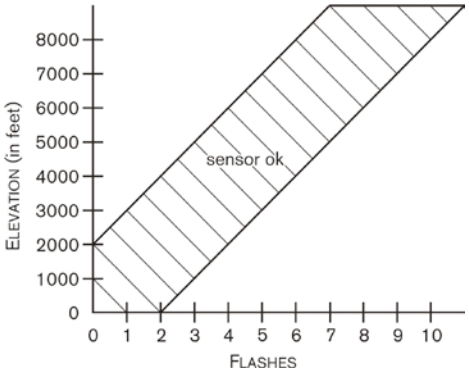
  - Exhaust leaks - check at all exhaust junctions

  - Reversion - If using the stock headers with aftermarket slip-ons the rear cylinder O2 sensor may see inaccurate readings. In these cases you may have to zero out the Target AFR table for the rear cylinder below 20% throttle. You can copy the values from the front cylinder fuel table into the rear cylinder fuel table for below 20% throttle if needed. Reversion can also be an issue on both cylinders if using extremely short exhausts.

  - Sensor condition - (see sensor test)

- Dynojet does not recommend inputting values in the 0% column of the Target AFR tables. If you shoud need to tune the 0% column to combat popping on deceleration input values directly in the Fuel tables.

- If fuel mileage is a concern then you can alter the Target AFR values in the cruise range. Dynojet considers the cruise range to be 2500-3500rpm and 5-20% throttle (excluding Vrod). Stock AFR values for this range is 14.7:1 so you can lean out the base settings up to this value if desired. Dynojet does not recommend making the bike any leaner than 14.7 in the Target AFR cells.
    - Another option is to use the map switch function. You can have your base map or "power map" in position 1 and then you can set the Target AFR table to have leaner air/fuel values so that when switched into Auto tune mode it will lean our your mixture delivering better fuel mileage. You can also take this one step further by setting up the gear position tables to only deliver the leaner settings when in the upper gears retaining better power for the lower gears.
    - Dynojet has found that for the best compromise of fuel mileage and throttle response to set the cruise range to 13.7-14.0.
    - For all other ranges 12.8-13.4 seems to work best. For the best results it is recommended to bring the bike to an Authorized Tuning Center to have them verify the AFR values.
- Make sure the sensor is not dropped or subjected to wet conditions. The O2 sensors used in this kit are a Bosch unit and do not come with any warranty.

O2 sensor test

- The Autotune kit has a built in circuit which allows you to test the sensor accuracy and condition.
    - Remove the sensor from the exhaust system and hold in ambient air.
    - Verify the Autotune kit has been powered up for at least 1 minute.
    - Press and hold the function button on the front of the corresponding Auto tune kit for 3 seconds and release the button.
    - The LED light will blink rapidly, pause for a moment, and then begin to flash.
    - Count the number of flashes and refer to the chart.
    - Retest the sensor if there is any question as to the purity of the air during the test.