

2010 Automotive Performance Products Update



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Subjects

- ① Dynojet CMD
- ① Master Control Center
- ① WB2 Integration / Auto tune

What is the Dynojet CMD?

- ◉ The Dynojet CMD is a fuel and boost management device designed to optimize the power of your OEM forced induction vehicle, while retaining the factory engine management system.

How does the CMD work?

- ◉ The CMD plugs directly into your OEM wire harness and intercepts signals between various sensors and the ECU. In most cases, the MAF, MAP, TPS, CRANK, and each fuel injector are intercepted and processed by the CMD to enhance each combustion event.

Dynojet CMD Models

⦿ Plug and Play models

-Vehicle specific applications only where Dynojet develops the configuration files, similar to how a Power Commander is supplied

⦿ Tuner models

-CMD-Tuner01 - Universal harness

-CMD-Tuner02 - Universal harnesses with injector type A connectors

-CMD-Tuner03 - Universal harnesses with injector type B connectors

-CMD-Tuner04 - Universal harnesses with injector type C connectors

What is the difference between the CMD Tuner and PNP models?

- PNP Model

Plug-N-Play right out of the box just like the Power Commander with the proper connectors to fit the specific application.

Injector Clamp, Crank teeth, and Boost offset modifier pre set from the factory.



- Tuner Model

Universal cut-n-splice harness that can be used on any 4 cylinder naturally aspirated or forced inducted vehicle.

Tuner harness also available with matching injector connectors for certain applications.

User configurable parameters. Crank, Injector clam, boost offset modifier.



Pics

Plug-N-Play harness



CMD Tuner



Tuner Harness A (Bosch)



Tuner Harness B (US-Car)



Tuner Harness C



What vehicles will use the CMD Tuner?

- Any 4 cylinder automobile with fuel injection, narrow band O2 sensors and high impedance injectors.
- Any 4 cylinder automobile that demands more or less fuel for added or upgraded components.

Determining if a vehicle is CMD Tuner compatible.

- ◉ Injectors

Make sure the fuel injection system is not Direct Injection. The CMD is limited to standard high impedance injectors only. You can verify the injectors are high impedance by checking the resistance between the injectors terminals. Anything above 100ohms is considers high impedance.

- ◉ O2 sensors

Check the O2 sensors, if the selected vehicle has narrow band O2 sensors (usually 4 wires) it most likely is a valid CMD candidate. This is because the PCM will force Open loop above certain thresholds and disregards any O2 sensor feedback allowing the CMD to make fuels changes without the PCM knowing. If the vehicle is using Wideband O2 sensors (sensors that have 5-6 wires) you will not be able to use the CMD. This is because the PCM is receiving full time Wideband feedback in Open loop and any fuel adjustments made in Open loop will be automatically scaled back to stock.

- ◉ Crank Position Sensor

The CMD tuner has the ability to reference RPM from one of two sources, Injectors or Crank. The most common and stable location to pick up RPM from is the crank positions sensor. In some cases we may be able to reference the injectors as an RPM source like the Power Commander.

- ◉ TPS Sensor

The TPS sensor will need to have a 0-5v signal output. We use the TPS sensor for the CMD's boost offset and clamp tables. If the TPS sensor is not connected the CMD will not be able to reference throttle position disabling the ability to set clamp tables or modify boost.

- ◉ Mass Air Meter

The vehicle must have a 0-5v or Karmen Frequency based MAF or MAP sensor. We use these sensors like the Power Commander uses TPS as our primary reference for fuel change. Some vehicles may not have a MAF sensor. Instead it may have two MAP sensors one will be known as a TIP sensor (Throttle Inlet Pressure). You will need to make sure you connect the CMD to the MAP sensor which is usually located behind the throttle body.

Any Questions?

Master Control Center



What is MCC?

Master Control Center is Dynojet's user interface to the CMD. MCC gives you the ability to Log, Tune, and save data captured from the CMD in real time.

Here are a few examples...

Interpolate Smooth Edit Selected: + Percent Do it!



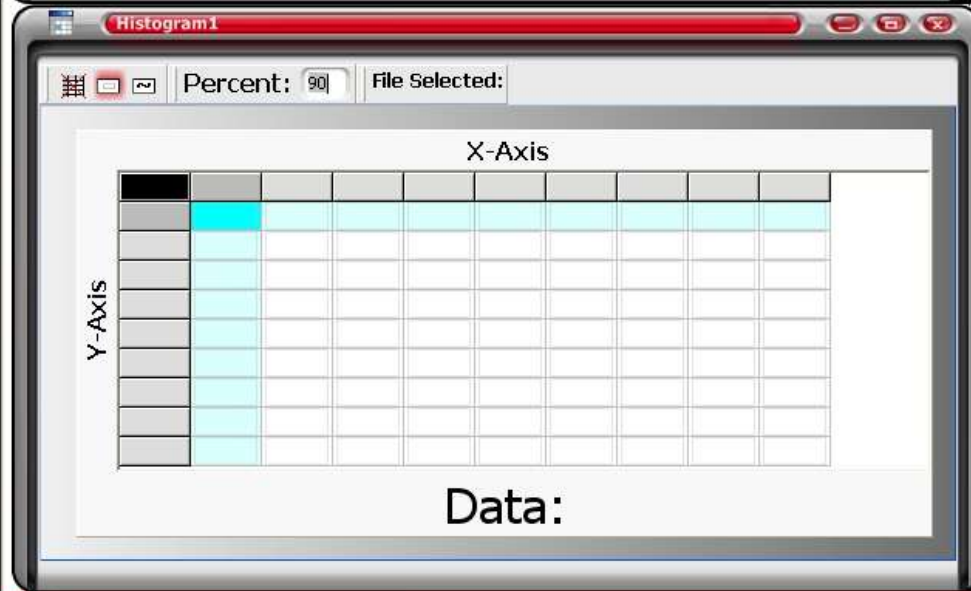
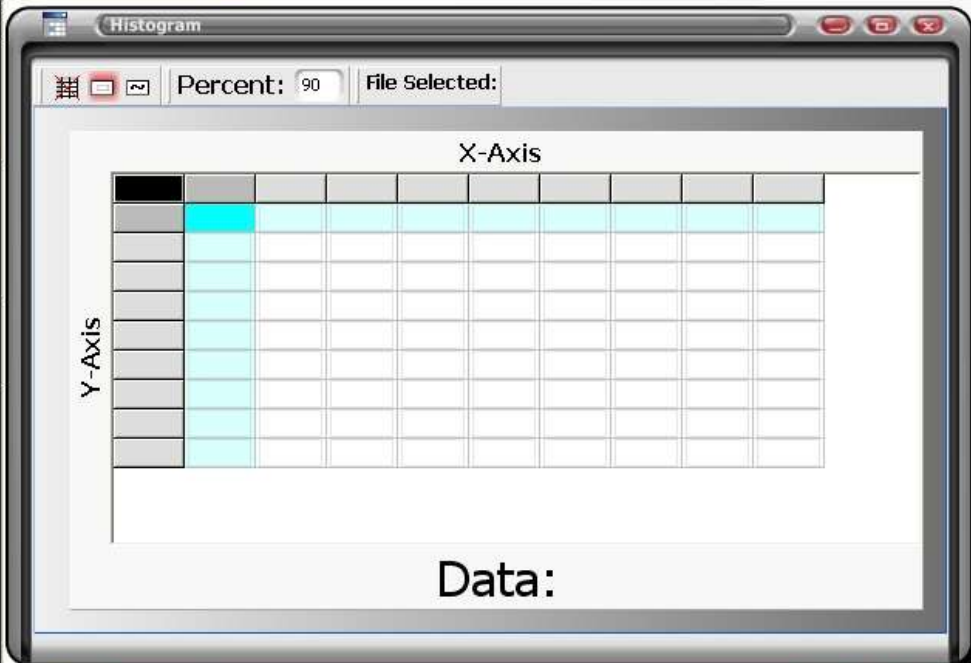
- [-] DW 550cc Injectors Base map
 - [-] Fuel
 - MAP In 1 vs RPM
 - [-] Boost
 - Boost Offset
 - [-] Clamp
 - MAP In 1 Clamp
 - MAP In 2 Clamp

Fuel - MAP In 1 vs RPM Engine Speed

	0	250	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750
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0.6	8	8	8	8	8	8	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
0.7	8	8	8	8	8	8	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
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3.1	8	8	8	8	8	8	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3

Notes

Tree View Device Manager



Dynojet

Speed MPH: 0

RPM x1000: 0.0

Boost: 0.0

HP: 0

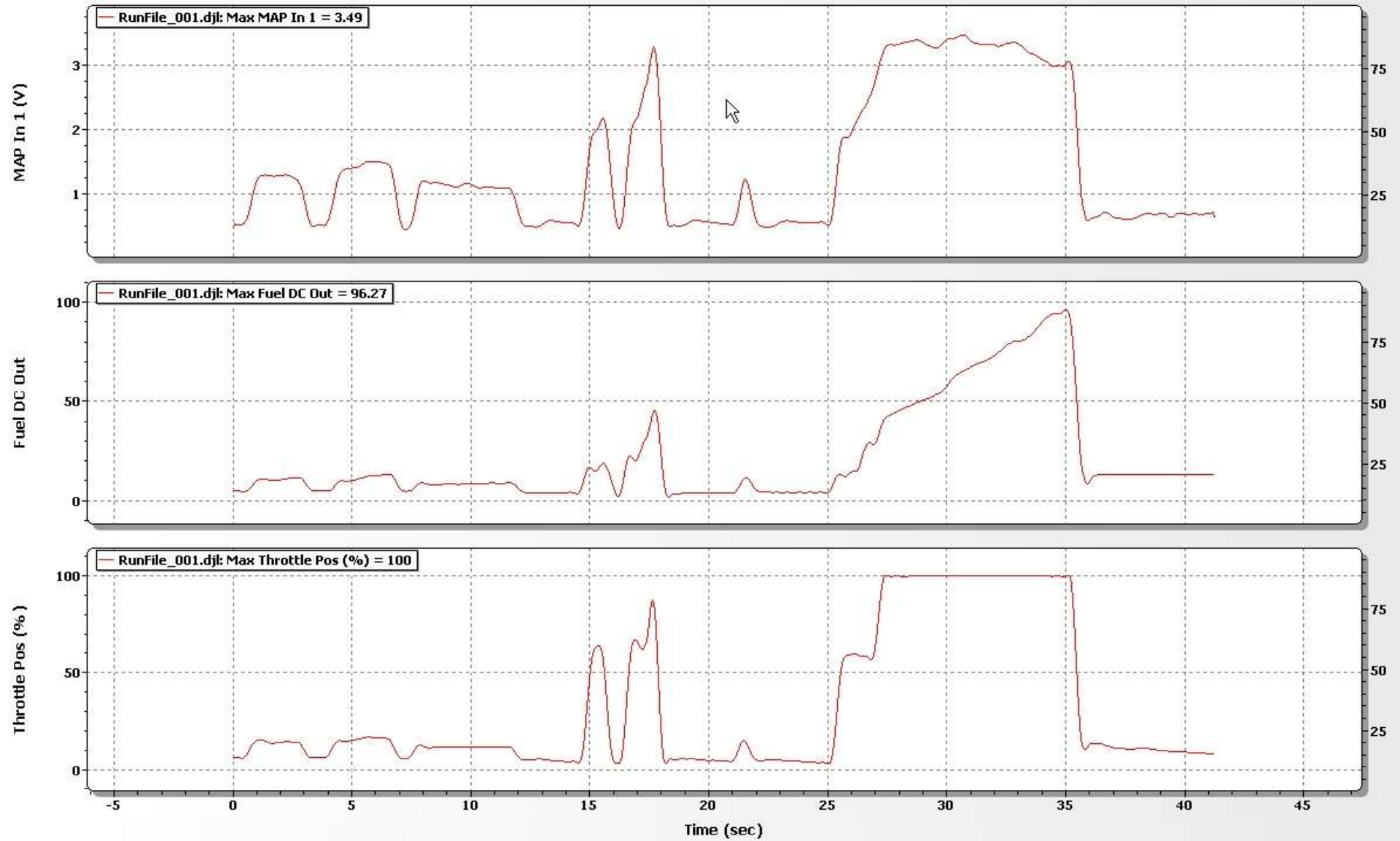
Spark: 0.0

AFR: 0.0

Fuel Pressure: 0.0

Dynojet Research

CF: SAE, Smooth



Control Center

Interpolate Smooth Edit Selected: + Perc

DW 550cc Injectors Base map

- Fuel
 - MAP In 1 vs RPM
- Boost
 - Boost Offset
- Clamp
 - MAP In 1 Clamp
 - MAP In 2 Clamp

Fuel - MAP In 1 vs RPM Engine Speed

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1	8	8	8	8	8	8	-3	-3
1.1	8	8	8	8	8	8	-3	-3
1.2	8	8	8	8	8	8	-3	-3
1.3	8	8	8	8	8	8	-3	-3
1.4	8	8	8	8	8	8	-3	-3
1.5	8	8	8	8	8	8	-3	-3
1.6	8	8	8	8	8	8	-3	-3
1.7	8	8	8	8	8	8	-3	-3
1.8	8	8	8	8	8	8	-3	-3
1.9	8	8	8	8	8	8	-3	-3
2	8	8	8	8	8	8	-3	-3
2.1	8	8	8	8	8	8	-3	-3
2.2	8	8	8	8	8	8	-3	-3
2.3	8	8	8	8	8	8	-3	-3
2.4	8	8	8	8	8	8	-3	-3
2.5	8	8	8	8	8	8	-3	-3
2.6	8	8	8	8	8	8	-3	-3
2.7	8	8	8	8	8	8	-3	-3
2.8	8	8	8	8	8	8	-3	-3
2.9	8	8	8	8	8	8	-3	-3
3	8	8	8	8	8	8	-3	-3

Notes

Dynojet

Channel Mode: Live Ready 0:0.0

Any Questions?

Autotune

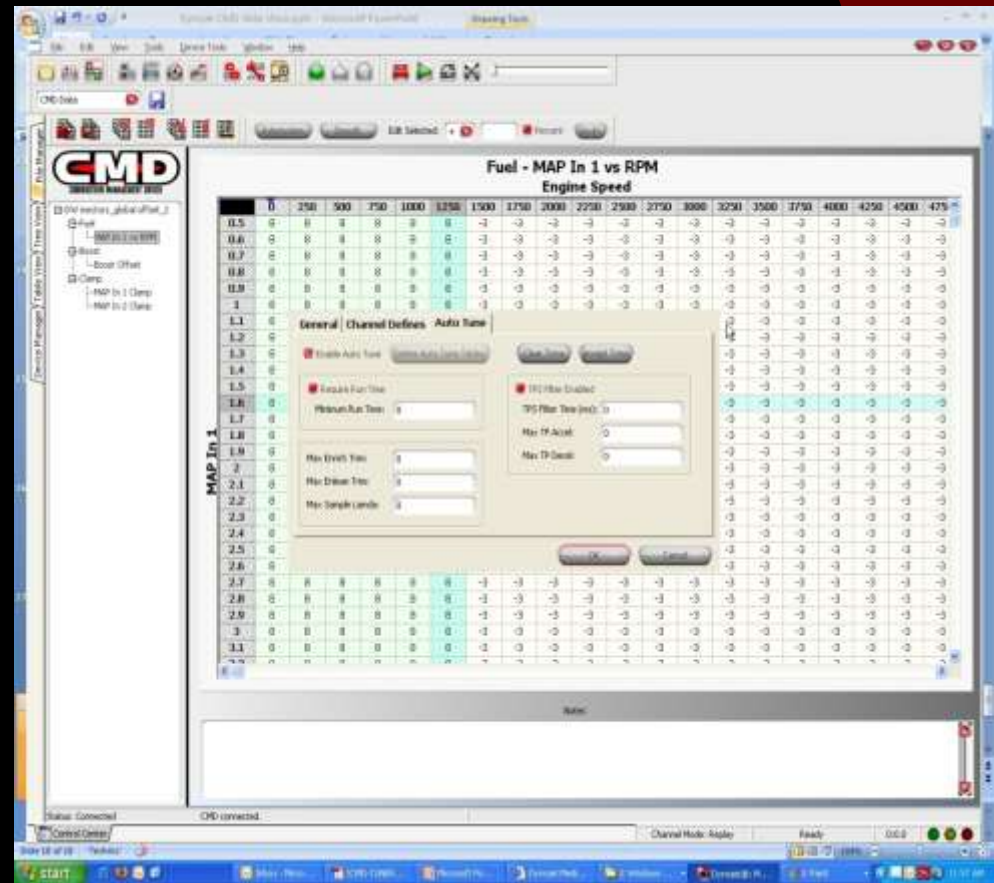


How does it work?

- When the WB2 module is connected to the CMD through the CAN port the CMD will recognize the added module and give the user the option to activate Auto tune and set up specific auto tune parameters.
- Once auto tune is enabled and the parameters are set the customer can now set a desired lambda target. This target should be determined by what type of modifications the vehicle has.
- The customer can now drive the vehicle then review the fuel trims and either accept or discard the changes.

What parameters need to be set?

- The Auto tune feature has 7 different parameters that can be set.
- Max runtime, Max Enrich trim, Max Enlean trim, Max sample lambda, TPS filter time, Max TP Accel, and Min TP Decel.
- These parameters are very important to the auto tune feature and need to be set for auto tune to work properly.



Description of parameters

- ◉ Minimum run time - This defines how much time must pass before the CMD will start autotuning. The flag for engine run time must be set in order to use this.
- ◉ Max Enrich trim - This sets the maximum fuel addition that will be done by the CMD during Autotune.
- ◉ Max Enlean trim - This sets the maximum fuel subtraction that will be done by the CMD during Autotune.
- ◉ Max sample lambda - This sets the maximum Lambda that the CMD will try to Autotune.
- ◉ TPS filter time - When this is checked the CMD will not Autotune while the TPS filter conditions are seen.
- ◉ Max TP Accel - This sets the maximum change in throttle position that is allowed during Autotune. If this is exceeded the CMD will halt Autotune until the throttle change stabilizes
- ◉ Max TP Decal - This sets the minimum change in throttle that is allowed during Autotune. If this is exceeded the CMD will halt Autotune until the throttle change stabilizes.

Any Questions?