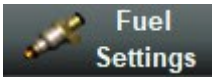
GEN4 PRO XTREME BigComm Pro Fuel Menu User Manual

www.**BigStuffTPM**.com

Revision 3.0 | October 13, 2026

HOW TO USE THE BIGCOMM PRO CONFIGURATION & CALIBRATION TOOL BAR FUEL SETTINGS MENU AND SUBMENUS



The **Fuel Settings** menu is used to configure the GEN4 PRO XTREME ECU functionality for all things fuel related to your project. Everything from base fuel tables, transient fueling, and generic table activation will be covered in this section.

The Base Fuel Table(‘s) are edited as seen in the BigstuffTPM GEN4 ECU full software manual located on our website. Click on this link to navigate and download.

The Fuel Modifiers Selection Settings is where you configure the fuel delivery parameters for your ECU’s configuration. It is a mixture of curves, tables and parameters. When any of these modifiers are selected most will populate under the Fuel Settings Menu unless otherwise directed to go somewhere else in the project.

PRO-TIP: The engine fuel tables are the foundation for all of the fuel additives described in this section.

(1) BCP Fuel Map Selection – What Fuel/Spark/Lambda map (1-3) is selected manually, (i.e. without touch screen dash).
(2) DFCO Correction – Enable or Disable Decel Fuel Cut Off, no fuel is delivered in this mode. When enabled it will populate in the Fuel Settings -> Transient Fuel Folder. The Decel Fuel Cut Off will turn off fuel delivery to the fuel injectors based on the user inputted data.
(3) CLT Correction – Enable or disable the amount of fuel% added based on the engine coolant temperature. When enabled it will populate in the Fuel Settings section.
The coolant correction is the amount of fuel% added based on the coolant temperature and engine volumetric efficiency.
(4) Power Valve Correction – Triggered when engine state is in acceleration (State 5) or deceleration (State 6). When enabled it will populate in the Fuel Settings -> Transient Fuel Folder. The Power Valve Correction curve is the amount of fuel%

used to determine the percent fuel correction, either positive or negative, for a change in manifold pressure (dMAPdt)

(5) ES Power Valve Correction – Triggered when engine state is stable (State 4). When enabled it will populate in the Fuel Settings → Transient Fuel Folder.

(6) Air Temperature Correction – Enable or disable the amount of fuel% added based on the intake air temperature. When enabled it will populate in the Fuel Settings section. The air temperature correction is the amount of fuel% added or subtracted based on the intake air temperature sensor.

(7) Afterstart Correction - Enable or disable the after start fuel% correction fuel tables. When enabled it will populate in the Startup/Idle section.

(8) Baro Correction - Enable or disable the barometric fuel table using the internal barometric pressure sensor. When enabled it will populate in the Fuel Settings section.

(9) E85 Correction - Enable or disable the E85 fuel correction tables. This will only work if the E85 option is enabled on the ECU. The E85 button will populate in the upper right-hand corner of the software when the option Is enabled.

(10) EGT Add Fuel Correction - Enable or disable the EGT additive fuel table which is located in the AFR section

(11) WOT Cyl Lambda Offset Correction - Enable or disable the LAMBDA additive fuel table which is located in the AFR section in the O2 and EGT configuration section.

(12) Fuel Pressure Safety Fuel Correction - Allow the FP DELTA fuel compensation table to be active. The table is located in the Generic section.

(13) 9th injector Fuel Correction - When enabled, the 9th injector PW Table will become active. When enabled it will populate in the Fuel Settings section as a new menu. Need a key On/Off cycle to activate/deactivate this feature.

(14) NOS PWM Fuel Correction - Enable or disable the NOS PWM fuel correction tables located in the NOS section. This will only work if NOS is enabled on the ECU**.**

(15) Generic 1D FuelCurve1 - Enable or disable the generic 1D fuel curve 1. You will choose how the fuel is added (additive or multiplicative) and the X-Axis source. When enabled the new fuel curve will populate in the Generic Section. You must enable this curve in the Generic Port Editor as well to allow this generic curve to function. The Generic Port Editor is located in the System Menu. Choose active conditions for the Generic Port Editor that make sense for your tuneup.

(16) Generic 1D FuelCurve2 - Enable or disable the generic 1D fuel curve 2. You will choose how the fuel is added (additive or multiplicative) and the X-Axis source. When enabled the new fuel curve will populate in the Generic Section. You must enable this curve in the Generic Port Editor as well to allow this generic curve to function. The Generic Port Editor is located in the System Menu. Choose active conditions for the Generic Port Editor that make sense for your tuneup.

(16) Generic 2D FuelTable1 - Enable or disable the generic 1D fuel curve 2. You will choose how the fuel is added (additive or multiplicative) and the X-Axis/Y-Axis source. When enabled the new fuel curve will populate in the Generic Section. You must enable this curve in the Generic Port Editor as well to allow this generic curve to function. The Generic Port Editor is located in the System Menu. Choose active conditions for the Generic Port Editor that make sense for your tuneup.

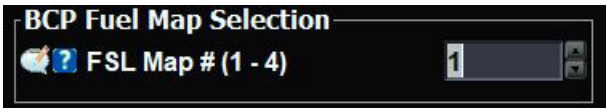
(17) Generic 2D FuelTable2 - Enable or disable the generic 1D fuel curve 2. You will choose how the fuel is added (additive or multiplicative) and the X-Axis/Y-Axis source. When enabled the new fuel curve will populate in the Generic Section. You must enable this curve in the Generic Port Editor as well to allow this generic curve to function. The Generic Port Editor is located in the

System Menu. Choose active conditions for the Generic Port Editor that make sense for your tuneup.

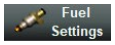
When any changes made in this section are complete left click on to save the changes.

(1) BCP Fuel Map Selection

Here you can choose the Fuel/Spark/Lambda map you want to run. Remember that when you choose a new Map number that ALL of the associated Fuel/Spark/Lambda maps change to the number desired. IE if you went from number 1 to number 2 now the Fuel/Spark/Lambda 2 maps will be loaded and entered as your current maps.



(2) DFCO Correction

The Decel Fuel Cutoff correction tables will be populated under the Fuel Settings  Menu / Transient Fuel Folder / DFCO parameters. DFCO stands for Deceleration Fuel Cut Off and can be used when the engine is running and there is no need for any fuel to be injected in the engine while it is running.

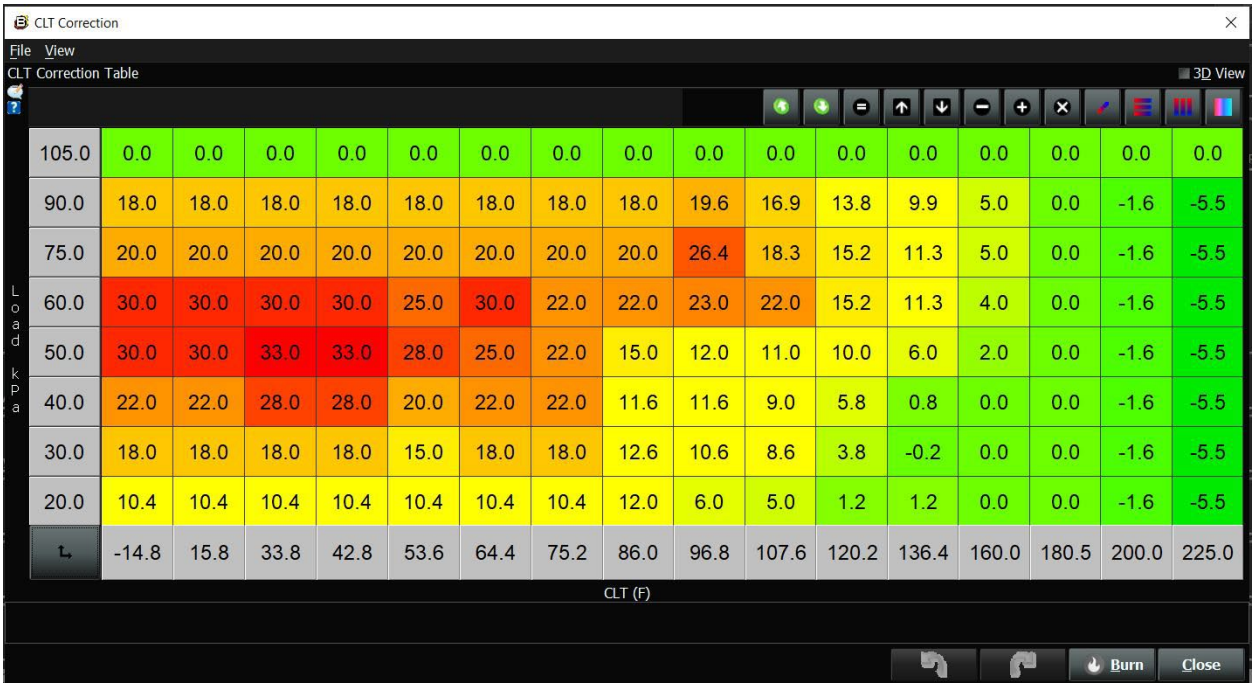
For example, you could be on the freeway cruising and then getting off on an on-ramp coasting. If you're coasting at a high rate of speed, there is obviously no need for the motor to be consuming fuel. Another example would be going down a hill and wanting the engine to assist in slowing you down.

Without any fuel be injected, the compression of the engine will assist in slowing the vehicle down. You simply program where in the fuel map under vacuum, minimum on/off times and the speed to enter DFCO to allow this to function.

PRO-TIP: When running any kind of Auto Tune software to assist in the fuel programming make sure to disable DFCO during this time. The Auto Tune will add a large percentage of fuel in the cells when DFCO kicks on as no fuel will be injected in the engine showing extremely lean on the oxygen sensor.

(3) CLT Correction

The Coolant Correction table is used to provide additional fuel or to reduce the amount of fuel the engine needs based on a coolant sensor. Most engines typically require much more fuel when the engine is cold versus warm. The table can be adjusted in any way to fit the needs of your combination.



Load kPa	-14.8	15.8	33.8	42.8	53.6	64.4	75.2	86.0	96.8	107.6	120.2	136.4	160.0	180.5	200.0	225.0
105.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	19.6	16.9	13.8	9.9	5.0	0.0	-1.6	-5.5
75.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	26.4	18.3	15.2	11.3	5.0	0.0	-1.6	-5.5
60.0	30.0	30.0	30.0	30.0	25.0	30.0	22.0	22.0	23.0	22.0	15.2	11.3	4.0	0.0	-1.6	-5.5
50.0	30.0	30.0	33.0	33.0	28.0	25.0	22.0	15.0	12.0	11.0	10.0	6.0	2.0	0.0	-1.6	-5.5
40.0	22.0	22.0	28.0	28.0	20.0	22.0	22.0	11.6	11.6	9.0	5.8	0.8	0.0	0.0	-1.6	-5.5
30.0	18.0	18.0	18.0	18.0	15.0	18.0	18.0	12.6	10.6	8.6	3.8	-0.2	0.0	0.0	-1.6	-5.5
20.0	10.4	10.4	10.4	10.4	10.4	10.4	10.4	12.0	6.0	5.0	1.2	1.2	0.0	0.0	-1.6	-5.5

PRO-TIP: When running a racecar it's best to run the ECU in PROMOD Mode located in the System section under the hardware configuration. This will force the ECU to always run a calculated water and air temperature of 100°F. This is extremely useful as the VE calculation is always using these values to ultimately calculate the fuel pulse width the injectors are firing at EVEN if you zero out the coolant and air temp tables. You can still expose those sensor values and use them on your ECU.

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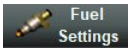
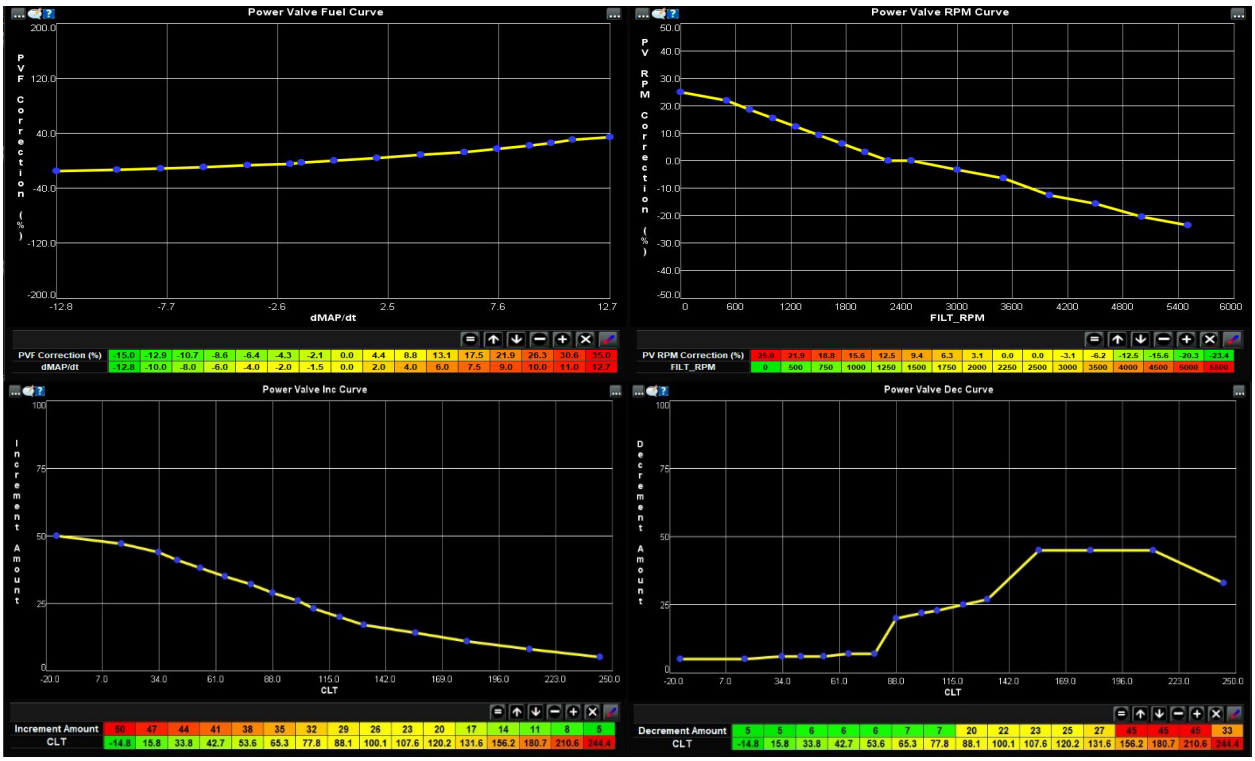
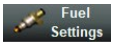
(4) Power Valve Correction

The Power Valve fuel correction tables will be populated under the Fuel Settings 

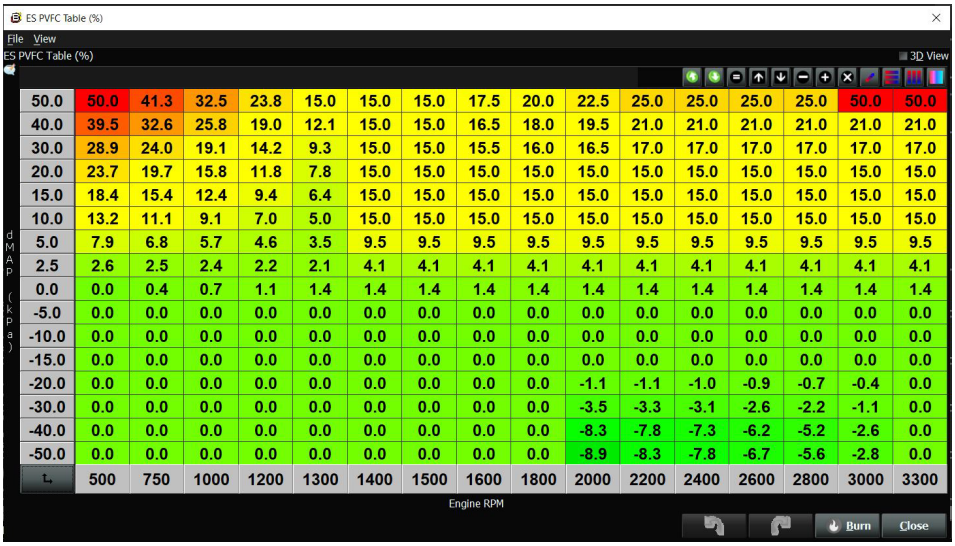
Menu / Transient Fuel Folder / Power Valve (Fuel/RPM/Inc/Dec) The Power Valve fuel correction tables are used to increase or decrease the fuel percentage based on a change in intake manifold pressure (dMAPdt),



(5) ES Power Valve Correction

The ES Power Valve Correction table will be populated under the Fuel Settings 

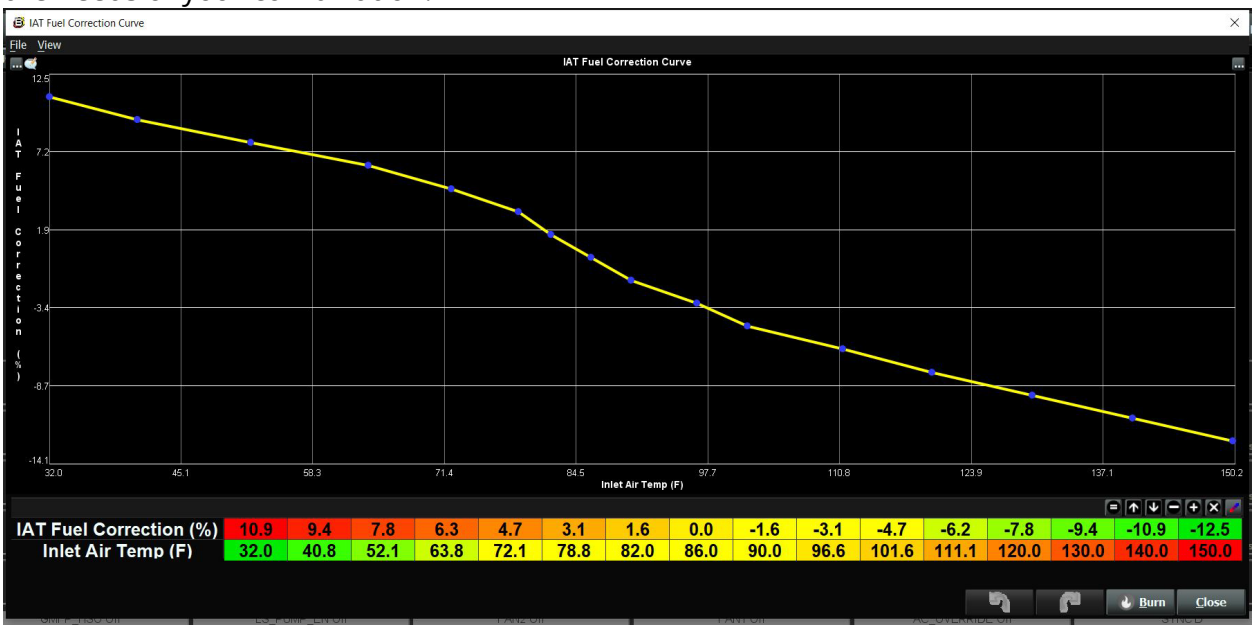
Menu / Transient Fuel Folder / ES Power Valve Fuel Table. The ES Power Valve Correction Table is used when the engine is stable in state 4. On an increase or decrease of dMap pressure the fuel percentage will be added as a function of RPM as seen in the table below. You will see the table RPM max is 3300 so the table is only used for transient fueling.



dMAP (kPa)	500	750	1000	1200	1300	1400	1500	1600	1800	2000	2200	2400	2600	2800	3000	3300
50.0	50.0	41.3	32.5	23.8	15.0	15.0	15.0	17.5	20.0	22.5	25.0	25.0	25.0	25.0	50.0	50.0
40.0	39.5	32.6	25.8	19.0	12.1	15.0	15.0	16.5	18.0	19.5	21.0	21.0	21.0	21.0	21.0	21.0
30.0	28.9	24.0	19.1	14.2	9.3	15.0	15.0	15.5	16.0	16.5	17.0	17.0	17.0	17.0	17.0	17.0
20.0	23.7	19.7	15.8	11.8	7.8	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
15.0	18.4	15.4	12.4	9.4	6.4	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10.0	13.2	11.1	9.1	7.0	5.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
5.0	7.9	6.8	5.7	4.6	3.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
2.5	2.6	2.5	2.4	2.2	2.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
0.0	0.0	0.4	0.7	1.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
-5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.1	-1.0	-0.9	-0.7	-0.4	0.0
-30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.5	-3.3	-3.1	-2.6	-2.2	-1.1	0.0
-40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-8.3	-7.8	-7.3	-6.2	-5.2	-2.6	0.0
-50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-8.9	-8.3	-7.8	-6.7	-5.6	-2.8	0.0

(6) Air Temperature Correction

The Air Temperature Correction table is used to provide additional fuel or to reduce the amount of fuel the engine needs based on a air temperature sensor. Most engines typically require more fuel when the air temperature is cold versus warm. The table can be adjusted in any way to fit the needs of your combination.



IAT Fuel Correction (%)	10.9	9.4	7.8	6.3	4.7	3.1	1.6	0.0	-1.6	-3.1	-4.7	-6.2	-7.8	-9.4	-10.9	-12.5
Inlet Air Temp (F)	32.0	40.8	52.1	63.8	72.1	78.8	82.0	86.0	90.0	96.6	101.6	111.1	120.0	130.0	140.0	150.0

PRO-TIP: When running an engine on methanol it's best to run the ECU in PROMOD Mode located in the

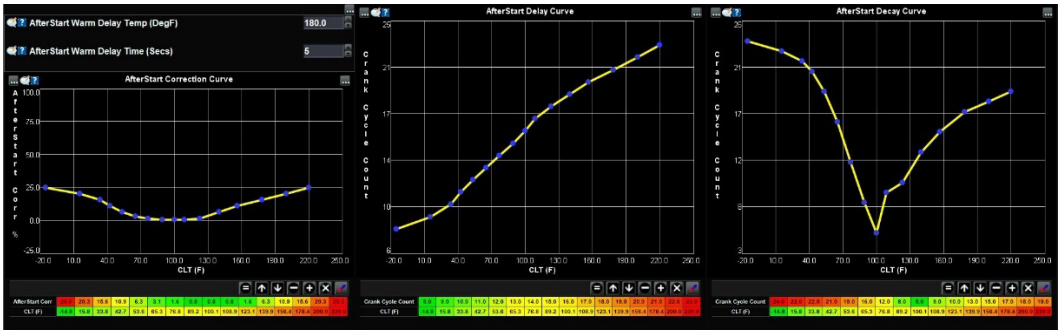
section under the hardware configuration. This will force the ECU to always run a calculated water and air temperature of 100°F. This is extremely useful as the VE calculation is always using these values to ultimately calculate the fuel pulse width the injectors are firing at EVEN if you zero out the coolant and air temp tables. You can still expose those sensor values and use them on your ECU.

(7) Afterstart Correction Tables

The Afterstart Correction Tables are used to help transition the engine from a cranking state to a running state. All 3 tables are populated in the Fuel section when enabled. These tables are used to add a fuel percentage based on coolant temperatures and crankshaft interrupts. Depending

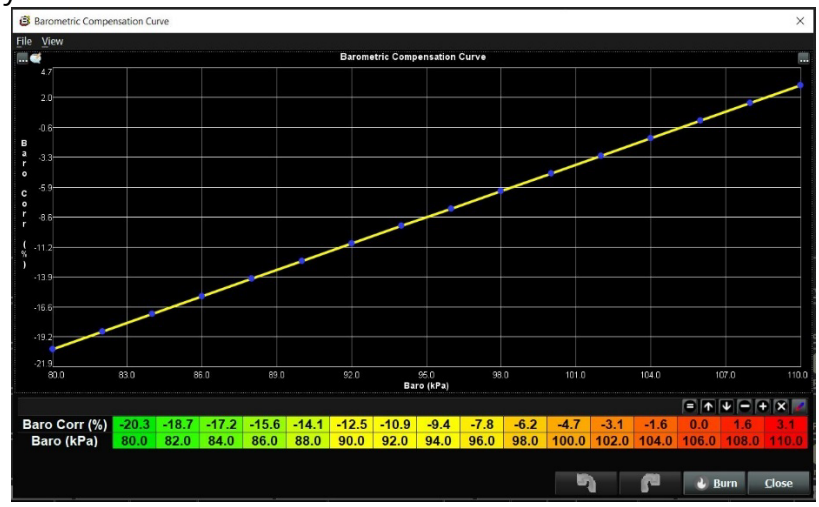
on the size of your fuel injectors, fuel type, and overall fuel consumption these curves may need to be modified.

The Afterstart Correction Tables can be programmed to not be enabled based on a time delay and coolant temperature. This can be helpful during multiple starts of the engine when the engine is warm and has been running already. An example would be: you're at the racetrack and you need to keep starting your car to move up in line as more cars go down the track.
The Afterstart Parameters can be found in the Fuel section under Afterstart Parameters.



(8) Baro Correction

The Barometric Correction Curve is used to add/subtract a fuel percentage based on the internal Barometric pressure sensor mounted inside the ECU. This feature is extremely helpful if you drive through various elevations where the motor will require less fuel the higher in elevation you travel.



PRO-TIP: 100 kPA is typically atmospheric pressure around sea level. When you first start the curve, the ellipse will who show you your current kPa reading. If this where the engine will be used mainly consider that measurement your starting pressure and adjust the fuel% add/subtract from there.

(9) E85 Correction

The E85 tables are found when your ECU has the option enabled for running a Flex Fuel Sensor. A new E85 Menu will be populated on the Menu Bar showing the option is enabled on the ECU you are running. In the System System Menu section under Hardware Configuration the Fuel Type chosen MUST be FFS E85 in order to use the flex fuel tables. If you are running straight E85 without a flex fuel senor you will choose Ethanol/E85 as the fuel type and program the

stoichiometric air fuel ratio of the fuel you are running.

In the E85 Menu you will find tables that are used to add additional fuel to your engine based on the E85 percentage in your fuel system. The Flex Fuel Sensor can be purchased from BigStuff3 or a standard GM Flex Sensor can be used as well. The E85 input signal to the GEN4 plugs into Header 2 W2.
The GEN4 ECU works differently than most ECUs on the market as we recommend you leave all the E85 curves at 0% fuel adder to start with. This is because internally the GEN4 will look at your Ethanol content and provide built in fuel compensations depending on the size of your engine, fuel injector size and lambda targets. This will only work if the Flex Fuel sensor is enabled and working properly. From there you can start making small fuel adjustments if need to tweak your E85 tuneup.

PRO-TIP: In the E85% Boost and Spark Offset Curves you can add timing and/or boost based on your Ethanol content you are running! This is extremely useful as this can be used a safety factor for your engine so that you are preventing detonation when not running enough E85.

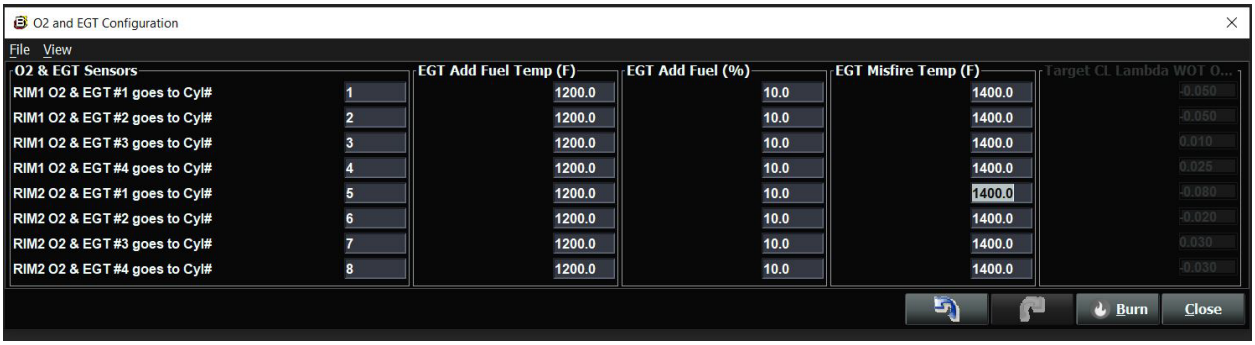
(10) EGT Add Fuel Correction
The EGT add fuel correction is used when you have EGT's on the GEN4 ECU. When enabled the table will be located in the AFR

Menu in the O2 and Configuration Section. The EGT safetys will function with RIM modules, Racepak EGT's or PCS based EGT sensors.

The EGT add fuel correction is a safety that will add fuel based on an EGT going passed the EGT fuel add setpoint. A second safety will then turn off the fuel injector('s) associated with that cylinder. The ECU must be running in true sequential for this safety to work properly. This safety is designed so that if the tuneup is getting to lean based on a number of factors such as a fuel injector plugging up, closed loop correction isn't adding enough fuel, or something in the engine is simply burning up this safety will hopefully assist in keeping the cylinder temperature cool. Follow the programming sequence below:

1. Enter the firing order of your engine to correspond with your RIM EGT sensor
2. Enter an EGT Add Fuel Temp (%) value based on your fuel combination. For example, 1200°F for an alcohol combination or 1800°F for a Gas/E85 combination.
3. Enter an EGT Add Fuel% value. Start with 10% and see how that value works to reduce the EGT for that cylinder.
4. Enter an EGT Misfire Temp(F) value. This will turn off the injector('s) based on the EGT reading for that cylinder. For example, 1300°F for an alcohol combination or 1900°F for a Gas/E85 combination. The injector('s) will remain off until the ECU is power cycled on the switched 12V.

The below example is for a methanol powered engine. The EGT safety will start adding 10% of fuel to the appropriate cylinder at 1200°F and will shut off the cylinder at 1400°F

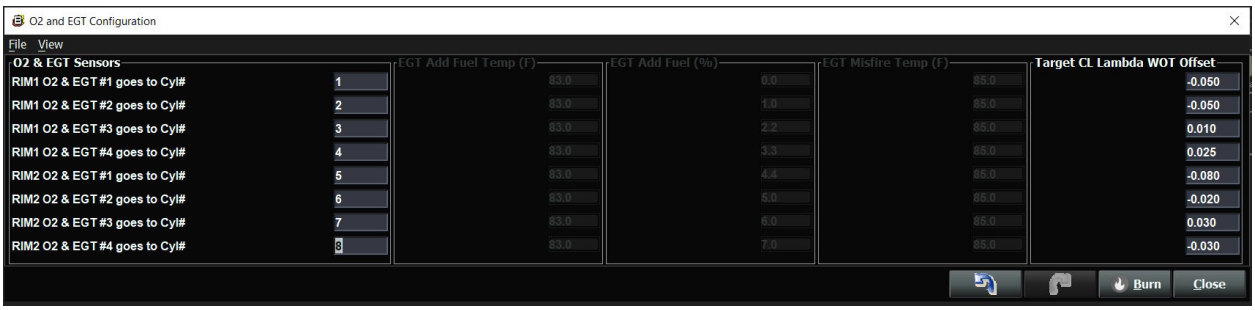


PRO-TIP: If the EGTs become unplugged from the RIM modules, become damaged or short out the default temperature reading in the ECU is 2,000°F. If the EGT safeties are enabled and the engine is running it will turn the fuel off to those injector('s) depending on if the EGT safety is set low enough.

(11) WOT Cyl Lambda Offset Correction

The WOT Cylinder Lambda Correction is used when you have oxygen sensors located on your RIM modules connected to your ECU. When enabled the table will be located in the AFR Menu in the O2 and Configuration Section.

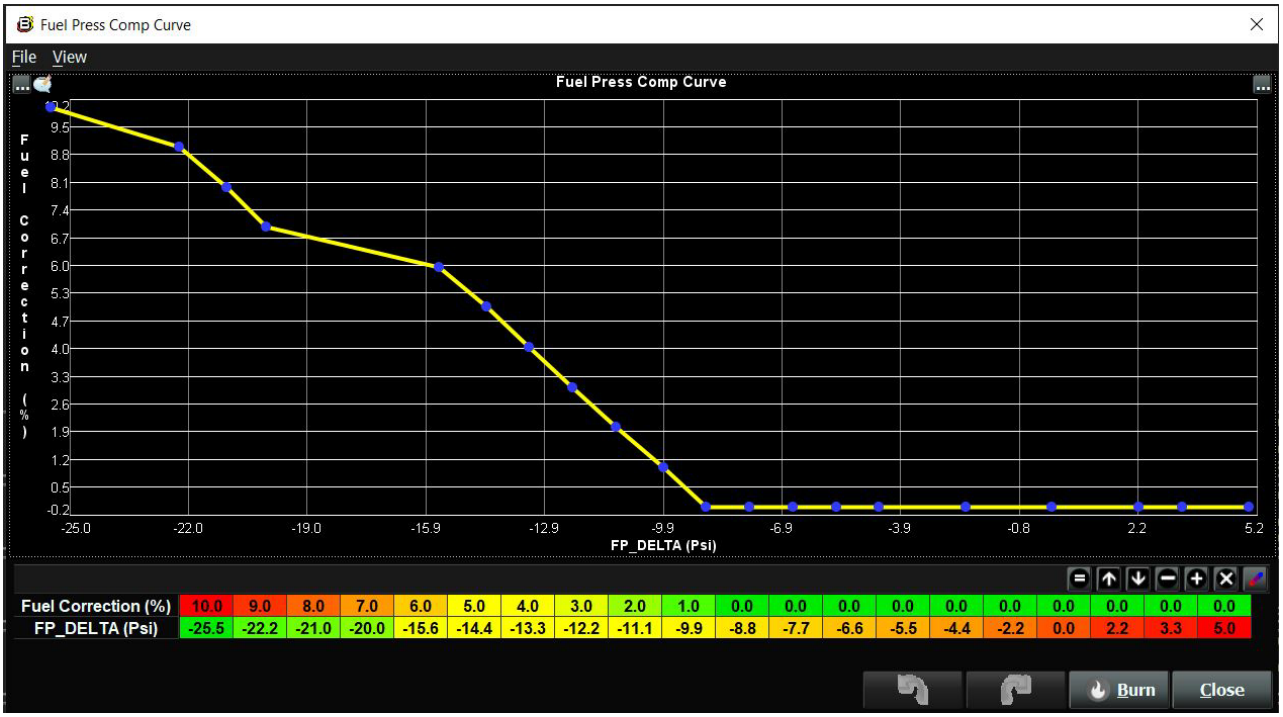
When the menu is opened to the far right will be your target Closed Loop Lambda WOT offset values. You will enter a positive or negative value based on your Lambda WOT value in your base Lambda tables. For example, if your target Lambda value is .850 in your Lambda Table and you have an offset of 0.010 for cylinder #3 your new target value will be .860 for that cylinder. This only applies when running AFR sensors on your RIM modules AND running closed loop enabled in the AFR section.



(12) Fuel Pressure Safety Fuel Correction

The fuel pressure safety offset is started when you first start the engine the delta fuel pressure snapshot is recorded to the ECU. From there the ECU will calculate the fuel differential pressure at all times and based on the pressure delta setting in the table the ECU will start adding a percentage of fuel. This table will populate in the Generic

Menu when enabled. In the below example when the Fuel Pressure Delta starts approaching -10% the ECU will start adding 1% of fuel and keep rising as the Fuel Pressure Delta keeps dropping.



FREQUENTLY ASKED QUESTIONS

- **What does working "On line" vs. "Off line" mean?**

-Working "Off-line" = The BigStuffTPM ECU is not powered up (PC Only). Working "On-line" = The BigStuffTPM ECU is powered on, the communication is connected between the GEN4 ECU and a PC, and the two are communicating with each other

- **Should I use the camshaft position input (cam sync) with my distributor based GEN4 system?**

-Without the camshaft position input (cam input connector in the main wire harness) hooked up, the GEN4 system still provides sequential fuel injection and individual fuel control per cylinder, but injector phasing (where the fuel is injected) and individual spark control will not function.

- **How can the GEN4 system provide sequential fuel injection and individual fuel control per cylinder without the cam camshaft position input hooked up?**

-When the engine starts cranking over, the GEN4 ECU begins firing the injector drivers, assigned to each injector, in the firing order inputted into the software. What the GEN3 system cannot do without the cam camshaft position input hooked up is to determine where to inject fuel (the

position in crankshaft degrees, relative to TDC, for each cylinder).

• At what injector duty cycle % are my injectors considered out of control, or static?
-Loss of injector control does not occur at 100% duty cycle, but at approximately 85% duty cycle. At 85% duty cycle the injectors are most likely not opening and closing in a controlled fashion.

-This condition is termed "static" (vs. dynamic) control. An example why this condition is undesirable is if the GEN4 ECU demands more fuel (demanding a larger pulse width) and the injector is already static. The only way to move more fuel through the injector would be to increase the fuel pressure. Increasing the fuel pressure at the 1/8th mile marker is not possible, so things go bad quickly.

-Also, teetering on and off at the static point is also undesirable. Lastly, running the injectors drivers static for long periods of time can damage them.

• How do I set up my ignition system with the GEN4 system?
-For more information on ignition system setups, beyond what is available in this manual, go to the How To/Help section on the BigStuffTPM website, and then Ignition System Setup Tutorial. The link is: http://bigstufftpm.com/pdf/Ignition%20Guide%20rev%201.2.pdf. There are nine (9) ignition system setups outlined. There is also information on the setting up the Ford TFI, GM HEI, GM Opti-spark & MSD8 ignition systems in the How To/Help section of the website.

• Where can I find wiring harness information on the BS3 power-train system and optional systems?
-Information on most of our wiring harnesses is available on our website at www.bigstufftpm.com.
-Go to the GEN4 section on the website and under the GEN4 PRO XTREME menu will be more information. The link is: http://bigstufftpm.com/gen4/

• My engine will not start. What should I check?
-Make sure the harness side header connectors, interfacing with the GEN4 ECU, are attached and tightened to no more than 15 – 20 inch lbs.
-Make sure the battery voltage is at, or above, 12V during cranking. Low battery voltage conditions must be fixed before trying to start the engine. Battery voltage (especially during cranking) is even more important with coil-on-plug applications.

-Make sure you can see an RPM signal in the software or dash. While turning the engine over, you should see at least 100 – 150 RPM. If no RPM signal is present, check that the crank input (crank trigger or distributor) signal wire is connected to the red wire in the BS3 "Crank" connector. Swap the 2 wires and try again.

-For distributor ignition based applications, make sure the BS3 points wire is connected to the ignition system points input terminal/wire. Applying 12V directly to the BS3 points wire will

immediately damage the GEN4 ECU!!
-For COP engines (LSx and other standalone COP engine) the cam input cannot occur at the same time as the crank input!!! If this is the case, the engine will not start. The cam synch pulse must occur before a crank pulse. Ideally, 10* before the crank pulse.
-For more information on ignition system setups, go to the How To/Help section on the BS3 website, then to Ignition System Setup Tutorial.
-With all coil-on-plug engines, make sure the coil ground eyelet is securely fastened to the cylinder head or engine block. No other grounds locations should be used.
-The ECU may be in Clear flood Mode. Make sure the TPS sensor reads near 1-2% when the throttle is closed and near 100% when fully opened. If it reads near 100% when closed, the ECU is in clear flood mode and is not injecting fuel. Swap TPS pins A & C in the TPS connector.
Make sure the crank sensor is connected.
-The LS1 Cam sensor connections are: **• A – Signal • B – Ground • C – 12V •**
The LS2 cam sensor connections must be (terminals A & C are swapped): **• A – 12V • B – Ground • C – Signal**

• My engine timing does seem right, what should I check.
-Make sure the firing order is correct.
-Both the BS3 GEN4 main wiring harness and the MSD ignition system must be connected directly to the battery!! If not, ground loop issues are likely to occur.
-Make sure your pulses per rev in the Operating Configuration table is correct for your application. For example, a four (4) magnet MSD crank trigger setup should have a value of 4.

• I can't get my LSx engine started.
-I'm using an LS2 sensor in the front of the engine.
-Swap pins A & C in the cam input connector around. My TPS sensor reads 100% when the throttle is closed and 0% when the throttle is fully opened. Swap the wires A & C in the TPS connector. The engine may not start since the ECU senses that the Clear flood Mode has been invoked

• If I am tuning in Alpha/N mode (Hardware Configuration, then Control Algorithm) can I use my 1 Bar MAP sensor for barometric compensation?
-Yes, the automatic barometric compensation is hard-coded in the ECU. Leave the MAP sensor vacuum port exposed to the atmosphere. Do not plug the MAP vacuum port to the intake manifold.

• What do I need to do to make sure my 3 step works correctly?
-A clean 12VDC must be applied to Header 2 W1 meaning a relay with only 12vdc. Do not use the same 12VDC feeding the transbrake solenoid as flyback voltage from the transbrake releasing can damage the ECU!
-Confirm the 3 Step settings in the System Menu / RevLimiters are configured correctly. The TPS% On threshold must be higher than the Off threshold.

• I do not think my injectors are pulsing. What can I check?
-Make sure the BS3 and MSD systems are grounded directly to the battery.
-Plug a "noid" light into each injector position in the injector wire harness. Turn the engine over and see if the light pulses for each injector location.

• I do not think my COP coils are firing. What can I check?
-Make sure the BS3 main wire harness ground is wired directly to the battery.
-Make sure the coil ground wire is grounded to the engine block or cylinder head. No other ground location will work!

• Can I use a 5 Bar MAP sensor?
-Yes, choose 5 Bar MAP sensor in the System Menu / Pressure and Sensor Configuration section.
-Be sure to cycle the 12VDC ignition on the ECU and you will need to recalibrate the fuel/afr/spark tables on this or any MAP sensor change.
- Note: The 4 BAR MAP sensor sold by BigStuff3 is good to 52 PSI.

• How do I know if my Bosch LSU4.9 WBO2 sensor is bad?
-First make sure the sensor to main wire harness connection is good.

• How can I check if my NTK WBO2 Methanol sensor is working?
-First check the control circuitry by disconnecting the sensor from the harness. Turn the ignition to the BS3 ECU on. With the engine off its best to move the O2 sensor out of the exhaust and have it hang in the air. Go online with the ECU and navigate to the Gauge Cluster tab and go to the NTKWBO2 tab on the bottom the screen. In the upper right hand corner of the page will be LB%O2 and RB%O2 readings. Go to the AFR Menu and click on the O2 and EGT Parameters section. In the lower right hand corner turn the "Perform NTKO2 WBO2 Air Cal" to "Yes". **WARNING**! Do not hold the O2 sensor as it will start to heat up and you can get severely burned. You will see the O2% readings start to update and after about 5 minutes you should be reading about 18%-22% on either sensor. If you do not read that more than likely the sensor is defective and needs to be replaced. Contact Bigstuff3 for more details at this point. If the sensor reads fine turn the Air Cal to "Off" and turn the ignition off. Wait for the sensor to cool down and reinstall in the exhaust and you are ready to go.

• What caused my O2 sensor to fail?
-Being dropped
-Running leaded fuel
-Running rich at idle

• Does the GEN4 ECU offer an auto-shift feature?
Yes, BigStuff3 offers an optional transmission auto-shift feature. The system will shift up to five (5) speeds with independent shift RPM and Hysteresis points. Once the system is configured for the auto-shift feature, a wire from ECU Header 2 location, P2 must be run to the ground side of the relay.

• **What dwell times should be used with the LS1 coils sold with my system?**
With a 12V charging system from idle to approximately 4,000 RPM use about 3.0 milliseconds near idle and no more than about 4.0 milliseconds at approximately 4,000 RPM. From approximately 4,100 - Max RPM use no more than about 6 milliseconds of total dwell time at max RPM. With a 16V charging system from idle to approximately 4,000 RPM use about 2.0 milliseconds near idle and no more than about 3.0 milliseconds at approximately 4,000 RPM. From approximately 4,100 - Max RPM use no more than about 4.5 milliseconds of total dwell time at max RPM.

DATALOGGER ACRONYMS

Point Definitions are displayed in alphabetical order and are the same for either laptop based datalogging or pulling the data from the on board SD card.

A

AC_BUMP_ON – Air Conditioning Engine RPM increase active condition
ACCEL_X – Accelerometer X Axis
ACCEL_Y – Accelerometer Y Axis
ACCEL_Z – Accelerometer Z Axis
ACCEL_ENG – Acceleration Engine value
ACT_IAC_POS – Current Idle Air Control Motor Position
AFR_TARGET – Air Fuel Ratio Target
AFR_L_BANK – Air Fuel Ratio Left Bank
AFR_R_BANK – Air Fuel Ratio Right Bank
AFR_CYL_1 – Air Fuel Ratio Cylinder 1
AFR_CYL_2 – Air Fuel Ratio Cylinder 2
AFR_CYL_3 – Air Fuel Ratio Cylinder 3
AFR_CYL_4 – Air Fuel Ratio Cylinder 4
AFR_CYL_5 – Air Fuel Ratio Cylinder 5
AFR_CYL_6 – Air Fuel Ratio Cylinder 6
AFR_CYL_7 – Air Fuel Ratio Cylinder 7
AFR_CYL_8 – Air Fuel Ratio Cylinder 8

B

BARO – Outside Barometric Pressure
BATTERY_VOLTAGE – Battery voltage
BC_SENSOR_ERROR – Boost Controller Sensor Input Error
BOOST_PSI – Intake Manifold Pressure
BOOST_CL_DC – GN Boost Controller Duty Cycle Output %
Boost_Inc PIDTerm – GN Boost Controller PID Increase %

C

CLT – Coolant Temperature
CORR_AIR – Fuel Percentage Air Temperature Correction
CORR_AFTST – Afterstart Fuel Percentage Correction
CORR_BARO – Barometric Fuel Percentage Correction
CORR_CLT – Coolant Warm Up Temperature Fuel Percentage Correction
CORR_E85 – E85 Fuel Percentage Correction
CORR_ES_PVFC – Extended Source Power Valve Fuel Correction Percentage
CORR_FP_COMP – Fuel Pressure Correction
CORR_PVF – Power Valve Fuel Correction
CORR_SLT – Start Line Fuel Percentage Correction

D

DAE_INPUT – DAE 12vdc Input true or false
DSRD_BOOST_MAP – Desired Boost Map
DSRD_SR2_MAP – Desired SR2 Map
DUTY_CYCLE_BOOST_INC – Boost Controller Duty Cycle Output Increase %
DUTY_CYCLE_BOOST_DEC – Boost Controller Duty Cycle Output Decrease %
DUTY_CYCLE_PWM07 – Duty Cycle Output Pulse Width Modulation 07
DUTY_CYCLE_PWM08 – Duty Cycle Output Pulse Width Modulation 08
DUTY_CYCLE_PWM09 – Duty Cycle Output Pulse Width Modulation 09
DUTY_CYCLE_NOS_PRG – Progressive Nitrous Duty Cycle Control Output Percentage
DUTY_CYCLE_CYL1 – Fuel Injector Duty Cycle Percentage Cylinder 1
DUTY_CYCLE_CYL2 – Fuel Injector Duty Cycle Percentage Cylinder 2
DUTY_CYCLE_CYL3 – Fuel Injector Duty Cycle Percentage Cylinder 3
DUTY_CYCLE_CYL4 – Fuel Injector Duty Cycle Percentage Cylinder 4
DUTY_CYCLE_CYL5 – Fuel Injector Duty Cycle Percentage Cylinder 5
DUTY_CYCLE_CYL6 – Fuel Injector Duty Cycle Percentage Cylinder 6
DUTY_CYCLE_CYL7 – Fuel Injector Duty Cycle Percentage Cylinder 7
DUTY_CYCLE_CYL8 – Fuel Injector Duty Cycle Percentage Cylinder 8
DUTY_CYCLE_FRCMTR – Duty Cycle Force Motor Output Percentage (Used with 4L60E/80E)
DUTY_CYCLE_TCC – Duty Cycle Torque Converter Clutch Output (Used with 4L60E/80E)
DWELL_TIME – Ignition Coil Dwell Time

E

E85_SPARK_OFFSET – E85 Spark Offset
ECM_RB_EC – NTK O2 Sensor Right Bank Error Code
ECU_SYNC – Current ECU Synchronization Status
EGT_CYL1 – Exhaust Gas Temperature Cylinder 1
EGT_CYL2 – Exhaust Gas Temperature Cylinder 2

EGT_CYL3 – Exhaust Gas Temperature Cylinder 3
EGT_CYL4 – Exhaust Gas Temperature Cylinder 4
EGT_CYL5 – Exhaust Gas Temperature Cylinder 5
EGT_CYL6 – Exhaust Gas Temperature Cylinder 6
EGT_CYL7 – Exhaust Gas Temperature Cylinder 7
EGT_CYL8 – Exhaust Gas Temperature Cylinder 8
ENG_STATE – Engine State (1-Engine Cranking, 4-Engine Running Steady, 5-Engine Accelerating, 6-Engine Decelerating, 7-Deceleration Fuel Cutoff)
EGT_SHUTDOWN_ACTIVE – Exhaust Gas Temperature Shutdown Active Condition
ETM_TORQ_STG – Engine Torque Management Torque Stage Current Value
ETM_DS_ENG_ERROR – ETM Driveshaft or Engine RPM Error
ETM_DS_ENG_DSRD – ETM Driveshaft or Engine RPM Desired

F

FP_SENSOR_ERROR – Fuel Pressure Sensor Input Error
FP_WARNING_ACTIVE – Fuel Pressure Warning Active Condition
FSL_TBL_INDEX – Fuel Spark Lambda current map enabled
FUEL_FLOW_CYL1 – Calculated Fuel flow in lbs/hr for Cylinder 1
FUEL_FLOW_CYL2 – Calculated Fuel flow in lbs/hr for Cylinder 2
FUEL_FLOW_CYL3 – Calculated Fuel flow in lbs/hr for Cylinder 3
FUEL_FLOW_CYL4 – Calculated Fuel flow in lbs/hr for Cylinder 4
FUEL_FLOW_CYL5 – Calculated Fuel flow in lbs/hr for Cylinder 5
FUEL_FLOW_CYL6 – Calculated Fuel flow in lbs/hr for Cylinder 6
FUEL_FLOW_CYL7 – Calculated Fuel flow in lbs/hr for Cylinder 7
FUEL_FLOW_CYL8 – Calculated Fuel flow in lbs/hr for Cylinder 8
FUEL_FLOW_TOTAL – Total Calculated Fuel Flow of cylinders 1-8 in lbs/hr

G

GEAR – Current Gear position calculated by engine rpm drop
GEN_BOOST_ADD – Generic Boost Tables Additional Boost Pressure
GEN_FUEL_LBSHR_ADD – Generic Fuel Lbs/hr adder
GEN_FUEL_MULT – Generic Fuel Multiplier Percentage Adder
GEN_LAMBDA_ADD – Generic Lambda Fuel Adder
GEN_LAMBDA_MULT – Generic Lambda Fuel Multiplier
GEN_SPK_ADV_ADD – Generic Spark Advance Adder
GS_ACCEL – Gear Speed Acceleration
GYRO_X – Gyrometer X Axis
GYRO_Y – Gyrometer Y Axis
GYRO_Z – Gyrometer Z Axis

H

HEAD_TEMP_RB – Head Temperature Right Bank. When in Pro Mod Mode located in the System->Hardware Configuration section this sensor is enabled for use. Pro Mod Mode sets the water and air sensors to 100* in the software so that they have no bearing on the overall VE fuel calculation. This is the GM Water Temperature Sensor.
HEAD_TEMP_LB – Head Temperature Left Bank. When in Pro Mod Mode located in the System->Hardware Configuration section this sensor is enabled for use. Pro Mod Mode sets the water and air sensors to 100* in the software so that they have no bearing on the overall VE fuel calculation. This is the GM Air Temperature Sensor.

I

IAT – Intake Air Temperature
ICF_CORR_CYL1 – Individual Cylinder Fuel Percentage Correction Cylinder 1
ICF_CORR_CYL2 – Individual Cylinder Fuel Percentage Correction Cylinder 2
ICF_CORR_CYL3 – Individual Cylinder Fuel Percentage Correction Cylinder 3
ICF_CORR_CYL4 – Individual Cylinder Fuel Percentage Correction Cylinder 4
ICF_CORR_CYL5 – Individual Cylinder Fuel Percentage Correction Cylinder 5
ICF_CORR_CYL6 – Individual Cylinder Fuel Percentage Correction Cylinder 6
ICF_CORR_CYL7 – Individual Cylinder Fuel Percentage Correction Cylinder 7
ICF_CORR_CYL8 – Individual Cylinder Fuel Percentage Correction Cylinder 8
ICS_CORR_CYL1 – Individual Cylinder Spark Correction Cylinder 1
ICS_CORR_CYL2 – Individual Cylinder Spark Correction Cylinder 2
ICS_CORR_CYL3 – Individual Cylinder Spark Correction Cylinder 3
ICS_CORR_CYL4 – Individual Cylinder Spark Correction Cylinder 4
ICS_CORR_CYL5 – Individual Cylinder Spark Correction Cylinder 5
ICS_CORR_CYL6 – Individual Cylinder Spark Correction Cylinder 6
ICS_CORR_CYL7 – Individual Cylinder Spark Correction Cylinder 7
ICS_CORR_CYL8 – Individual Cylinder Spark Correction Cylinder 8
INJ_GPW_AVE – Fuel Injector Gross Pulse Width Average
INJ_PHASE_ANGLE – Fuel Injector Injection Event Phase Angle
IOT – Fuel Injector Opening Tim

L

LAMBDA_CYL1 – Lambda Value Cylinder 1
LAMBDA_CYL2 – Lambda Value Cylinder 2
LAMBDA_CYL3 – Lambda Value Cylinder 3
LAMBDA_CYL4 – Lambda Value Cylinder 4
LAMBDA_CYL5 – Lambda Value Cylinder 5
LAMBDA_CYL6 – Lambda Value Cylinder 6
LAMBDA_CYL7 – Lambda Value Cylinder 7

LAMBDA_CYL8 – Lambda Value Cylinder 8
LAMBDA_L_BANK – Lambda Reading Left Bank
LAMBDA_R_BANK – Lambda Reading Right Bank
LAMBDA_TARGET – Lambda Reading Left Bank
LAMBDA_RB_UA – Lambda Right Bank NTK O2 Error Code
LASER_HEIGHT__AD5 – Laser Height Sensor Reading

M

MAP – Engine Intake Manifold Pressure
MPH – Miles Per Hour

N

NERNST_CYL1 – Resistance value of the Cylinder 1 Bosch O2 sensor. Normal value is around 300. **NERNST_CYL2** – Resistance value of the Cylinder 2 Bosch O2 sensor. Normal value is around 300.
NERNST_CYL3 – Resistance value of the Cylinder 3 Bosch O2 sensor. Normal value is around 300.
NERNST_CYL4 – Resistance value of the Cylinder 4 Bosch O2 sensor. Normal value is around 300.
NERNST_CYL5 – Resistance value of the Cylinder 5 Bosch O2 sensor. Normal value is around 300.
NERNST_CYL6 – Resistance value of the Cylinder 6 Bosch O2 sensor. Normal value is around 300.
NERNST_CYL7 – Resistance value of the Cylinder 7 Bosch O2 sensor. Normal value is around 300.
NERNST_CYL8 – Resistance value of the Cylinder 8 Bosch O2 sensor. Normal value is around 300.
NOS_STAGE – Current NOS Stage
NOS_BOOST_ENABLE – Nitrous or Boost Enable Arm Switch
NOS_TIMER – When activated is the Nitrous Run Time
NOS_ICS_CORR_CYL1 – Nitrous Individual Cylinder Spark Correction Cylinder 1
NOS_ICS_CORR_CYL2 – Nitrous Individual Cylinder Spark Correction Cylinder 2
NOS_ICS_CORR_CYL3 – Nitrous Individual Cylinder Spark Correction Cylinder 3
NOS_ICS_CORR_CYL4 – Nitrous Individual Cylinder Spark Correction Cylinder 4
NOS_ICS_CORR_CYL5 – Nitrous Individual Cylinder Spark Correction Cylinder 5
NOS_ICS_CORR_CYL6 – Nitrous Individual Cylinder Spark Correction Cylinder 6
NOS_ICS_CORR_CYL7 – Nitrous Individual Cylinder Spark Correction Cylinder 7
NOS_ICS_CORR_CYL8 – Nitrous Individual Cylinder Spark Correction Cylinder 8

O

O2_CORR_CYL1 – Closed Loop O2 AFR Fuel Correction Cylinder 1
O2_CORR_CYL2 – Closed Loop O2 AFR Fuel Correction Cylinder 2
O2_CORR_CYL3 – Closed Loop O2 AFR Fuel Correction Cylinder 3
O2_CORR_CYL4 – Closed Loop O2 AFR Fuel Correction Cylinder 4
O2_CORR_CYL5 – Closed Loop O2 AFR Fuel Correction Cylinder 5
O2_CORR_CYL6 – Closed Loop O2 AFR Fuel Correction Cylinder 6
O2_CORR_CYL7 – Closed Loop O2 AFR Fuel Correction Cylinder 7
O2_CORR_CYL8 – Closed Loop O2 AFR Fuel Correction Cylinder 8
O2_CORR_L_BANK – Closed Loop O2 AFR Fuel Correction Left Bank
O2_CORR_R_BANK – Closed Loop O2 AFR Fuel Correction Right Bank

P

PCT_ETHANOL – Percentage of Ethanol in fuel (Need sensor to read properly)
PEDAL_BIT_MODE – Pedal Bit Mode Current Condition
PCT_TCC_SLIP – Percentage of Torque Converter Clutch Slippage (Used with 4L60E/80E)
PRESS_FUEL – Fuel Pressure Reading
PRESS_OIL – Oil Pressure Reading
PRESS_TURBO – Turbocharger Pressure Reading
PRESS_WG – Wastegate Pressure Reading
PRESS_NOS – Nitrous Pressure Reading
PRESS_PV – Pan Vacuum Reading
PRESS_TL – Transmission Line Pressure Reading
PRESS_DSRD_WG – CO2 Desired Wastegate
PRNDL – Park / Reverse / Neutral / Drive / Low (Used with 4L60E/80E)

R

RACE_FUEL_LBS_HR – NOS Mode Race Fuel Lbs/hr fuel adder
REV_LIMITER – Current condition of any active rev limiters
RPM_ENGINE – Engine RPM
RPM_TSS1_LB – Turbocharger Shaft Speed RPM Left Bank
RPM_TSS2_RB – Turbocharger Shaft Speed RPM Right Bank
RPM_ABS_FW – RPM Front Wheel Speed Sensor
RPM_ABS_RW – RPM Rear Wheel Speed Sensor
RPM_TOSS – RPM Transmission Output Speed Sensor or Driveshaft Sensor
RPM_TISS – RPM Transmission Input Speed Sensor

S

SLT_MODE – Start Line Timing Mode Current Condition

SHOCK_RF__AD7 – Right Front Shock Reading
SHOCK_LF__AD8 – Left Front Shock Reading
SHOCK_RR__AD9 – Right Rear Shock Reading
SHOCK_LR__AD10 – Left Rear Shock Reading
SPK_ADV_BCP – Base Spark Advance
SPK_ADV_CYL1 – Spark Advance Cylinder 1
SPK_ADV_CYL2 – Spark Advance Cylinder 2
SPK_ADV_CYL3 – Spark Advance Cylinder 3
SPK_ADV_CYL4 – Spark Advance Cylinder 4
SPK_ADV_CYL5 – Spark Advance Cylinder 5
SPK_ADV_CYL6 – Spark Advance Cylinder 6
SPK_ADV_CYL7 – Spark Advance Cylinder 7
SPK_ADV_CYL8 – Spark Advance Cylinder 8
SR2_TIMER – Current Race time after the release of the three step
SR2_GEAR1_SPK_OFFSET – SR2 Gear 1 Spark Offset
SR2_DS_SPK_OFFSET – SR2 Driveshaft or Engine Spark Offset
SR2_DS_ERROR – SR2 Driveshaft or Engine RPM Error
SR2_DS_DSRD – SR2 Driveshaft or Engine RPM Desired
SS_SPK_NOS_RTD – Street Strip Nitrous Spark Retard
SS_NOS_FUEL_ADD – Street Strip Nitrous Fuel Adder
SS_NOS_LAMBDA_OFFSET – Street Strip Nitrous Lambda Target Offset

T

TPS – Throttle Position Sensor Percentage
TOT – Transmission Oil Temperature Reading
THREE_STEP_INPUT – Three Step Input 12vdc true or false
THREE_STEP_MODE – Three Step Active Condition
TRANS_GEAR_RATIO – Current Transmission Gear Ratio (Used with 4L60E/80E)
TSD_GEAR1_OFFSET – Touch Screen Dash Gear 1 Offset
TSD_SR2_DS_OFFSET – Touchscreen Dash SR2 Driveshaft or Engine RPM Offset
TSD_ETM_DS_OFFSET – Touchscreen Dash ETM Driveshaft or Engine RPM Offset
TWO_STEP_INPUT – Two Step Input 12vdc true or false
TWO_STEP_ACTIVE – Two Step Active Condition
TWO_STEP_MODE – Two Step Active Condition

V

VE -Volumetric Efficiency number calculated from the base fuel map

W

WHEEL SPIN – Calculated wheel speed based off differential from either the rear wheel speed sensor or driveshaft sensor compared to the front wheel speed sensor.

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