

POWER HUNGRY PERFORMANCE

GRYPHON PROGRAMMER



2004-2008 FORD F-SERIES 5.4L & 4.6L TRITON V8
MODEL NUMBER GPFG150-0408

Congratulations on your purchase of the Gryphon™ programmer from Power Hungry Performance! The following manual contains information and instructions on the proper use of the Gryphon™. Read the product Disclaimer of Liability and the Limitation of Warranty before programming your vehicle. Be sure to read and understand everything printed in red, as these items are of great importance to the use of your new programmer.

If you have ordered custom calibrations, please call or e-mail PHP with your HEX code, as we need this information to create your custom tunes.

THE INSTALLATION OF THIS PRODUCT INDICATES THAT THE BUYER HAS READ AND UNDERSTANDS THE DISCLAIMER OF LIABILITY AND THE LIMITATION OF WARRANTY AND ACCEPTS ITS TERMS AND CONDITIONS.

If your vehicle is in a programmed state, failure to return your truck back to stock before programming with the Gryphon™ may result in PCM failure or engine damage.

**THIS IS A HIGH PERFORMANCE PRODUCT.
USE AT YOUR OWN RISK.**

It is recommended that the user not program the vehicle in temperatures below 20°F or above 120°F.

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Programming your vehicle may expose existing defects in your vehicle's PCM that could disable your vehicle. It is advised that you do not program your vehicle in remote locations in case of failure.

If you have used another tuner or programmer on your truck, you will need to program your truck back to stock before using the Gryphon™.

Failure to return truck to stock may result in PCM failure or engine damage.

**THIS IS A HIGH PERFORMANCE PRODUCT.
USE AT YOUR OWN RISK.**

Do not use this product until you have carefully read the following agreement. This sets forth the terms and conditions for the use of this product. The installation of this product indicates that the BUYER has read and understands this agreement and accepts its terms and conditions.

DISCLAIMER OF LIABILITY

- Today's Learning Connection, Incorporated d/b/a Power Hungry Performance and its successors, distributors, jobbers, and dealers (hereafter **SELLER**) shall in no way be responsible for the product's proper use and service. THE **BUYER** HEREBY WAIVES ALL LIABILITY CLAIMS.
- The **BUYER** acknowledges that he/she is not relying on the **SELLER's** skill or judgment to select or furnish goods suitable for any particular purpose and that there are no liabilities which extend beyond the description on the face hereof and the **BUYER** hereby waives all remedies or liabilities, expressed or implied, arising by law or otherwise, (including without any obligations of the **SELLER** with respect to fitness, merchantability and consequential damages) or whether or not occasioned by the **SELLER's** negligence.
- The **SELLER** disclaims any warranty and expressly disclaims any liability for personal injury or damages.
- The **BUYER** acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the **BUYER** agrees to indemnify the **SELLER** and to hold the **SELLER** harmless from any claim related to the item of the equipment purchased.
- Under no circumstances will the **SELLER** be liable for any damages or expenses by reason of use or sale of any such equipment.
- The **SELLER** assumes no liability regarding the improper installation or misapplication of its products. It is the installer's responsibility to check for proper installation and if in doubt, to

LIMITATION OF WARRANTY

- Today's Learning Connection, Incorporated d/b/a Power Hungry Performance (hereafter "**SELLER**") gives Limited Warranty as to description, quality, merchantability, fitness for any product's purpose, productiveness, or any other matter of **SELLER's** product sold herewith. The **SELLER** shall be in no way responsible for the product's open use and service and the **BUYER** hereby waives all rights other than those expressly written herein. This Warranty shall not be extended or varied except by a written instrument signed by **SELLER** and **BUYER**.
- The Warranty is Limited to one (1) year from the date of sale and limited solely to the parts contained within the product's kit. All products that are in question of Warranty must be returned shipping prepaid to the **SELLER** and must be accompanied by a dated proof of purchase receipt. All Warranty claims are subject to approval by Power Hungry Performance.
- Under no circumstances shall the **SELLER** be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product, or any other contingent expenses.
- Under no circumstances will the **SELLER** be liable for any damage or expenses insured by reason of the use or sale of any such equipment.

IN THE EVENT THAT THE BUYER DOES NOT AGREE WITH THIS AGREEMENT, THE BUYER MAY PROMPTLY RETURN THIS PRODUCT, SHIPPING PREPAID, IN A NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE WITHIN THIRTY (30) DAYS FROM DATE OF PURCHASE FOR A FULL REFUND. PRODUCTS THAT ARE RETURNED IN A USED CONDITION ARE SUBJECT TO A 15% FEE AT THE DISCRETION OF POWER HUNGRY PERFORMANCE. SHIPPING AND CUSTOM CALIBRATION ARE NOT REFUNDABLE UNDER ANY CIRCUMSTANCES.

THE INSTALLATION OF THIS PRODUCT INDICATES THAT THE BUYER HAS READ AND UNDERSTANDS THIS AGREEMENT AND ACCEPTS ITS TERMS AND CONDITIONS.

Programming your vehicle may expose existing defects in your vehicle's PCM that could disable your vehicle. It is advised that you do not program your vehicle in remote locations in case of vehicle failure.

If you have used another tuner or programmer on your truck, you will need to program your truck back to stock before using the Gryphon™.

Failure to return your truck to stock may result in PCM failure or engine damage.

IMPORTANT INFORMATION ABOUT YOUR VEHICLE'S WARRANTY

Many of our customers ask, "Will your product void my vehicle's manufacturer's warranty?" While the answer is straightforward from a legal standpoint, it's important to educate our customers (and all aftermarket consumers) on some industry realities and offer some common sense precautions to minimize your risk.

Consumers of aftermarket products are protected by the Federal Magnusson-Moss Warranty Act. The Act states that if something breaks on your vehicle and you take it in for warranty repair, the dealer must honor your warranty unless whatever modifications you have added to your vehicle actually caused the problem in question. Power Hungry Performance is committed to providing quality products that are safe to use. Our products do not cause damage to a vehicle when used as intended. Please keep in mind that towing in anything higher than level two is not recommended. The reality is that many dealerships have been known to void warranties on vehicles that use aftermarket products as a matter of policy. This applies in particular to those aftermarket products that produce horsepower, such as performance enhancement "chips," modified intake manifolds, or aftermarket exhaust systems, regardless of product brand. Any aftermarket company that does not acknowledge this is misleading you.

Although you have strong legal protection as a consumer with regard to your vehicle's warranty, the practical reality is that taking legal action against a dealer or manufacturer to fight a voided warranty is a costly and time-intensive process. For this reason, Power Hungry Performance strongly recommends that you **always return your truck to stock and remove your module/programmer and monitor when you take your vehicle to a dealer for warranty work**. It is also for this reason that Power Hungry Performance focuses the bulk of its product development efforts on producing modules and digital monitors that can be easily removed. Even if you remove your unit, you should note that dealers can detect the use of ANY programmer — Gryphon™ or otherwise — even if the unit has been removed.

**This warranty is void for any new products purchased through auction websites.
Warranty is valid only for new products purchased through Authorized Dealers
(proof of purchase will be required for all warranty claims).**

All PHP modules and programmers are built to operate with OEM calibrations. When you take your vehicle to a service center, they may, by your request or otherwise, update your vehicle's calibrations. Therefore, it is important that you return your vehicle to stock before taking it in for service. PHP updates its active products to work effectively with updated OEM calibrations. However, this process can take some time as PHP is not always made aware of calibration changes made by the OEM. In the case of discontinued products, PHP cannot ensure that your unit will work effectively if you take your vehicle to a dealership and you are given, by your request or otherwise, a new calibration.

ABOUT THE GRYPHON™ PROGRAMMER

STOCK PROGRAM

The Gryphon™ automatically makes a backup of your stock program from your PCM before writing a new program onto your PCM. This assures that you will have the stock program if or when you desire to reprogram your vehicle back to its original stock program.

It is *strongly* recommended that you return your vehicle's computer back to the stock program before visiting a service center. In the event that the service center reflashes your vehicle's computer and you have NOT returned it to stock, your Gryphon™ programmer will be rendered useless. If this happens, call our technical support at 678-963-9913 and we can help you recover your Gryphon™ for a fee. Steps to return your programmer back to stock are included in this manual.

IF YOUR PCM IS REFLASHED TO A DIFFERENT HEX CODE WITH OR WITHOUT YOUR CONSENT, YOUR CUSTOM FILES WILL HAVE TO BE REWRITTEN; CURRENT CUSTOM CHARGES WILL APPLY.

TRANSMISSION ONLY PROGRAM

This is the lowest level setting. It will provide firmer transmission shifts which help to increase the transmission life. It does not provide any engine performance increases and is designed to run with regular unleaded (85 to 87 octane) fuel.

TOW PROGRAM (87 or 89 OCTANE FUEL)

This setting not only provides improved transmission shifting, but will also modify the ignition timing and fuel injection strategies to improve the performance of your vehicle. This level is designed to run with 87 octane fuel, although you may realize additional benefits by running 89 octane fuel. You should see an improvement in fuel economy, as well as added horsepower and torque. When towing a heavy load such as a boat or camper, we recommend you use this setting.

HIGH PERFORMANCE PROGRAM (91 or 93 OCTANE FUEL)

This is the highest performance setting for the Gryphon™. The fuel injection and ignition timing strategies are aggressively tuned to extract the maximum performance from your vehicle without sacrificing drivability or durability. The transmission strategy is modified to take advantage of the increased engine performance by providing quicker, firmer shifts. Due to the high performance nature of this setting, you will be required to run 91 octane (or better) fuel.

DIAGNOSTICS

The Gryphon™ is also a powerful diagnostics tool. You can view any diagnostic trouble codes (DTCs) your vehicle may have, which in turn allows you to fix them. It will also allow you to turn off that annoying "Check Engine" light when the problem has been addressed (no more expensive trips to the dealer for a diagnostics scan!).

0-60 AND QUARTER MILE TIMES

Another feature of the Gryphon™ is the ability to determine your quarter mile times and your 0-60 times. This is very easy to use and not all tuners have this feature.

ALERTS

If you would like to know when a certain parameter, such as transmission temperature, reaches a certain value, you can set an alert to that value. As the preset value is reached, the Gryphon's™ screen will flash red and display which alert was triggered and the current value for that particular alert parameter.

RECORDS

While the Gryphon™ is displaying parameters of your truck, it will record the highest value the parameters have reached. These records can be viewed and reset at any time.

CUSTOM OPTIONS

While programming your vehicle, you have the option to make minor modifications to the preloaded calibrations. For example, you can change your tire size value to correct odometer readings that result from changing tire sizes. You can also correct the gear ratio, WOT shifting, standard shifting, shift firmness, rev. limiter, and speed limiter.

Your Gryphon™ programmer has the ability to remove/adjust your vehicle's factory speed limiter. Removal/adjustment of the factory speed limiter is intended for use at a closed circuit, legally sanctioned racing environment.

Even if racing in a legally sanctioned racing environment, it is your responsibility to ensure your tires and other vehicle components are rated to travel at increased speeds with the speed limiter removed/adjusted. If you remove/adjust the speed limiter during highway driving, it is your responsibility to obey all driving laws, including adhering to posted speed limits. Removing/adjusting the speed limiter for purposes inconsistent with the product's intended function, as stated herein, is a violation of the product's intended use and invalidates the product's warranty. Power Hungry Performance is not responsible for, or liable for, the consequences of improper product use.

PARAMETER IDENTIFICATIONS

The Gryphon™ allows the user to view up to 4 Parameter IDs at one time. Below is a list and description of each PID that you can choose to display. Metric units of measurement are supported according to user preference.

PID	DESCRIPTION
AFRP Actual Fuel Rail Pressure	Used to control the flow of fuel while an injector has been opened
AECOM Average Economy (MPG or L/100Km)	This is an average of your fuel usage rate over a long period of time.
APP Accelerator Pedal Position	Percent pedal displacement
BAT Battery Voltage	With engine running, shows charging system voltage
COM GEAR Visual gear indicator	Current transmission gear and torque converter lockup state
CHT Cylinder Head Temperature	Degrees Fahrenheit / Celsius
ECT Engine Coolant Temperature	Degrees Fahrenheit / Celsius
EOT Engine Oil Temperature	Degrees Fahrenheit / Celsius (Note: Some vehicles do not display EOT)
IAT Intake Air Temperature	Degrees Fahrenheit / Celsius
IECON Instant Economy (MPG or L/100Km)	Fuel usage rate of your vehicle at that instant without averaging that value with past usage
LOAD Engine Load %	Percentage of total power available being used by the engine
LPD Line Pressure Desired	Transmission main line pressure
MAF Mass Air Flow	Measures the volume of air going into the engine
MAFV Mass Air Flow Voltage	A voltage representation of MAF (from sensor)
MPH / KPH Miles Per Hour / Kilometers Per Hour	Dash display may be up to 3% higher than the digital display due to mechanical differences in the spring, etc. used to control the gauge
OSS Output Shaft Speed	Used with TSS to determine if transmission slip is occurring. If OSS=TSS, no slip is occurring
RPM Revolutions Per Minute	Engine Speed
SPARK Spark Advance	Current timing advance/retard in degrees for the spark plugs
TFT Transmission Fluid Temperature	Degrees Fahrenheit / Celsius
TQC Torque Control	Amount of torque reduction to control traction
TSS Turbine Shaft Speed	Used with OSS to determine if transmission slip is occurring. If TSS = OSS, no slip is occurring
VCAM Variable Cam Timing	Number of degrees the cam is advanced/retarded in regard to crankshaft angle

DISPLAY AND KEYPAD

A sample Gryphon™ screen is below. Great effort has gone into making the Gryphon™ programmer very simple to use. The [UP] and [DOWN] arrow keys are used to scroll through options on the screen. The [ENTER] key is used to select desired options from a menu or move to the next screen. The [MENU] key is used to enter the Main Menu from the parameter display or to return to the previous screen.



GETTING CONNECTED

The Gryphon™ programmer connects to the diagnostic port of your vehicle. Follow these steps to install the Gryphon™:

Turn your ignition key to the OFF position. Locate the black diagnostic (OBDII) connector under the dash near the steering column. As you sit in your vehicle, it is usually located above your right knee. Sometimes there will be a cover to this connector that will be labeled *Data Link*. Feed the cable up towards the top of the dashboard, but do not plug into the OBDII connector yet.



With the driver's side door open, remove the access panel on the left side of the dashboard.



Pull the end of the OBDII cable outwards. Snake it up to the A-pillar of the vehicle and replace the access panel. The cable should be protruding from the dashboard up along the A-pillar and be able to move freely when pulled.



Feed roughly 8 to 10 inches of cable through the dashboard with one end of the cable protruding through the front of the Pod. With the Pod secure, attach the Gryphon™ to the cable.



Insert the Gryphon™ into the Pod. Any excess cable may be stuffed behind the Gryphon™ or may be pulled back through the dash to eliminate slack. Be sure to use the supplied cable ties to secure any excess cable underneath the dash to prevent the cable from interfering with proper pedal operation. With the Pod and Gryphon™ securely in place, leave the OBDII cable disconnected and turn the ignition key ON. With the ignition key ON and the engine not running, plug the cable into the OBDII connector.



The Gryphon™ logo will display followed by a disclaimer. After you agree to the disclaimer by pressing [ENTER], the following screen will be displayed. This is the HEX code of the truck to which the Gryphon™ is currently connected.*

If you have ordered custom calibrations, please call or e-mail PHP with your HEX code, as we need this information to create your custom tunes.



*If no hex code is shown, disconnect from the OBDII plug and reconnect it after 5 seconds. When you come to the screen again, the code should be available.

After pressing [ENTER], the main display will come up. (Parameters and values may vary.) There are five boxes that display information about your vehicle. The black box in the top right corner tells which level is currently programmed on your vehicle. The other four boxes can show up to 4 PIDs of your vehicle. The Gryphon™ will default to RPM, MPH, TFT, and ECT. Optional parameters and display formats may be selected. **Please see the *SETUP* section of this manual.**



From this display, press [MENU] to select and use other features of the Gryphon™. The display backlight can also be controlled from this display using the [UP] and [DOWN] arrow keys.

Pressing [ENTER] while viewing these 4 PIDs will bring up a message asking you if you would like to reset the average economy. If you press [ENTER] again, the Gryphon™ will erase all fuel economy stored data which was in the Gryphon™ and restart the averaging function.

LEVEL	DESCRIPTION
0	Vehicle is currently at Stock
1	Vehicle has been programmed to Transmission Only
2	Vehicle has been programmed to 87 Octane Towing
3	Vehicle has been programmed to 91 Octane Performance

POWER PROGRAMMING

Vehicle manufacturers do not recommend vehicle programming in extreme temperatures. Please see the service manual of your vehicle to ensure that programming is being done in accordance to the original equipment manufacturer's specifications.

From the main screen, press [MENU] to enter the **Main Menu**. Then select **Power Programming**. A screen asking you to **Choose a Program** will appear. Select the level that best meets your needs. Confirm your selection by pressing [ENTER].



After confirming, the screen to the right will appear and will default to NO. If this is your first programming session, we recommend that you bypass the Custom Program Option to ensure that custom files are built from valid data in the PCM. In later programming sessions, you have the option to change certain parameters of the level you choose.



The Gryphon™ will prompt you to turn the key OFF and then ON.

CRANKING THE ENGINE MAY RESULT IN PROGRAMMING FAILURE!

During its first use, the Gryphon™ will read the original calibration from your PCM which will allow it to build all the necessary programs. This will take approximately 60 seconds; this step is skipped during further programming operations.

The Gryphon™ will erase your PCM and write the selected calibration (level) onto the PCM. This process takes approximately 15 seconds to complete.

If at any time you receive an error message, refer to the **Troubleshooting** section at the back of this manual for further instructions.

When the Gryphon™ is done programming, a screen will appear to let you know that the programming has been completed. This will appear for about 2 seconds and then your Gryphon™ will return to the **Main Menu**. At this point, you can press [Menu] to return to the driving display or select another menu choice. Your truck is now programmed, and the engine can be started.



CUSTOM OPTIONS

When preparing to program your vehicle, you will have the option to change certain parameters. Choosing YES when prompted to “Create a custom program?” will load the **Custom Options** menu.



Custom options are provided to allow for flexibility based on driver preferences. Any option customization done by the user IS NOT WARRANTED BY POWER HUNGRY PERFORMANCE. Use at your own discretion.

GEAR RATIO

The Custom Options menu always loads “placeholder” values for Gear Ratio and Tire Size. One or both of the values is usually incorrect, which will result in incorrect shift points and will give you incorrect speed and mileage readings. You MUST check and correct Gear Ratio and Tire Size any time you use the Custom Options menu by following the procedures outlined next. You can also replace these meaningless values by using the *Load Previous Settings* option (to be discussed later) if you have already created a customized tune.

The Gryphon™ has the ability to correct for modified gear ratios. Do not change the value displayed on the Gryphon™ unless the value displayed is incorrect. For 4WD vehicles, both the front and rear differential gears should be the same. Some reasons you might change gear ratios are:

- To maintain the optimum ratio between the engine RPM and tire RPM. Changing tire sizes affects this ratio; changing the differential gear helps to restore the proper ratio.
- When drag racing, changing to a higher gear will provide more torque off the starting line. There are formulas that show the best gears to use based on HP, vehicle weight, and other factors. Be aware that when running higher gears, your engine will run at higher RPMs and your fuel economy may suffer.

The default value the Gryphon™ displays is a “placeholder” value retrieved from the Calibration section of the PCM which may or may not be correct

If incorrect, adjust the value by pressing the [UP] or [DOWN] arrow keys. You can change the gear ratio from 2.73 to 5.13 in 0.01 increments. Changing this value will allow your PCM to accurately calculate vehicle speed and odometer readings. These changes will also affect your shift points.



TIRE SIZE

The Gryphon™ can also correct for changes in tire size. If you have changed your tires to a different size, the PCM will miscalculate the vehicle speed, which can affect your vehicle's shifting and speedometer reading. Correcting the tire size will allow the PCM to accurately calculate vehicle speed and odometer readings. You will find a "placeholder" value for tire size here, retrieved from the Calibration section of the PCM that may not be correct.

After choosing to set your tire size, the screen to the right will appear. The numbers on this screen should be adjusted to your tires' circumference by pressing the [UP] or [DOWN] arrow keys.



Your tire circumference can be determined in different ways:

You can measure your tire's circumference by marking the tire, rolling it one complete revolution, and measuring the distance in inches or millimeters. To convert inches to millimeters, simply multiply by 25.4.

You can also use the following equation to approximate your tire's loaded circumference:

$$[(\text{width} \times \text{ratio} \times 0.02) + (\text{rim} \times 25.4)] \times 3.1416 \times 0.97 = \text{tire circumference}$$

Example: Your tire size is 285 / 75 - 17.

Step 1	Multiply Width, Ratio, and 0.02	(285 X 75 X 0.02)
Step 2	Multiply Rim and 25.4	(17 X 25.4)
Step 3	Add Step #1 and Step #2	27.5 + 431.8
Step 4	Multiply Step #3 by 3.1416	859.3 X 3.1416
Step 5	Multiply Step #4 by 0.97 (correction for tire "squish")	2599.6 X 0.97
Step 5	Your tire's circumference in millimeters	2619

The value obtained using either method is a starting point. To obtain accurate speed and odometer readings, you will have to refine it using a GPS, mile markers, "pacing" with another vehicle having an accurate speedometer, etc.

LOAD PREVIOUS SETTINGS

Once you have created and programmed your PCM with an initial custom program, you will be able to quickly apply these custom values to any future program by first selecting the **Load Previous Settings** option immediately after opening the **Custom Options** menu. This will replace all placeholder and default values with the ones you entered previously. From there, you can modify these and other values even more if desired. Any modification to custom settings will result in a new "previous settings" file, which will be used the next time you **Load Previous Settings**.

WOT SHIFTING

On automatic transmissions, these are the RPM points at which the vehicle will shift when you are at Wide Open Throttle. Raising these values helps to keep the engine in the peak power curve after a shift. Raising these values may help improve 0-60 and quarter mile times.

STD SHIFT POINTS

On automotive transmissions, these are the MPH points at which the vehicle will want to shift during normal acceleration. Positive values will cause later shifts while negative values will cause shifts to occur sooner. Negative values may help improve fuel economy while positive values will improve performance.

CONVERTER LOCK POINTS

Positive values will delay normal torque converter lockup until reaching higher speeds and will cause the torque converter to unlock under load at higher speeds. Negative values do the opposite. Negative values may help improve fuel economy while positive values may increase performance.

SHIFT FIRMNESS

On automatic transmissions, these values represent a percentage change in shift firmness, i.e. how "hard" your transmission shifts. A positive number will cause the shift to be firmer; a negative number will cause it to be softer. Firming up the shifts may help improve 0-60 and quarter mile times.

REV. LIMITER

The rev. limiter prevents the engine from over-revving and causing engine damage. For example, if you set this value to 4500, you would not be able to rev the engine beyond that even with the accelerator to the floor. Setting this value higher can help take advantage of the power generated at higher RPMs.

Setting this value too high can cause damage to your engine or transmission. Torque Converter ballooning will start to occur near 5400 RPM. The highest WOT shift point should be no more than 400 RPM below the Rev Limit to prevent erratic shifting.

SPEED LIMITER

The Speed Limiter restricts the top speed of the vehicle. Factory speed limit values are generally based on the tolerances of the driveline components. This value may be lowered in fleet situations or when young drivers are behind the wheel.

Your Gryphon™ programmer has the ability to remove/adjust your vehicle's factory speed limiter. Removal/adjustment of the factory speed limiter is intended for use at a closed circuit, legally sanctioned racing environment. Even if racing in a legally sanctioned racing environment, it is your responsibility to ensure your tires and other vehicle components are rated to travel at increased speeds with the speed limiter removed/adjusted. If you remove/adjust the speed limiter during highway driving, it is your responsibility to obey all driving laws, including adhering to posted speed limits. Removing/adjusting the speed limiter for purposes inconsistent with the product's intended function, as stated herein, is a violation of the product's intended use and invalidates the product's warranty. Power Hungry Performance is not responsible for, or liable for, the consequences of improper product use.

TIMING

This timing option helps determine the final ignition timing based on intended fuel octane rating. Modifying your timing may help improve fuel economy as well as overall performance.

However, choosing timing advance that is too high might cause detonation (pinging), which may damage your engine.

Lowering this value will not harm the engine but may reduce performance and economy. A good general rule is to increase timing 0.5 degrees for every octane count you go up. For example, if you are running 93 octane fuel in level three, you could safely increase the timing 1.0 degrees.

IDLE RPM

Positive values increase idle RPM above the stock setting. Negative values decrease it. This adjustment is often used to increase idle RPM when using underdrive pulleys to maintain correct battery charging voltage.

WOT FUEL

The WOT Fuel option adjusts the amount of additional fuel during Wide Open (full) Throttle. A value of 1.5 increases the fuel by 50%, a value of 1.8 increases the fuel by 80%, etc. Using a higher value may improve performance during hard acceleration. This value only affects WOT fueling and has no effect on normal driving conditions. Raising this value may help improve 0-60 and quarter mile times.

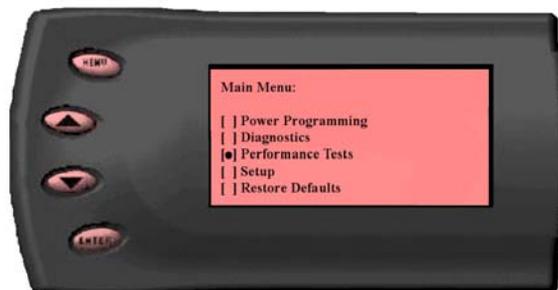
DONE

After you have entered and checked all options, scroll to this choice and press [Enter]. You will be prompted to turn the key OFF, then ON. Do not crank the engine! At this point, the Gryphon™ will prepare and write your new file to the PCM with the options you've chosen. The process will take much longer than it did before, when you bypassed the Custom Options step. Expect it to take at least three minutes; you will be able to observe the progress on-screen.

PERFORMANCE TESTING

The Gryphon™ allows you to test the performance of your vehicle by timing the 0-60 and the quarter mile times. It is helpful to remember these might not be results you would receive from actual races. Incorrect speedometer reading and tire slippage can cause slight miscalculations in the displayed results. To run these tests, perform the following steps:

On the **Main Menu** screen, use the [DOWN] key to highlight **Performance Tests**. Press the [ENTER] key.



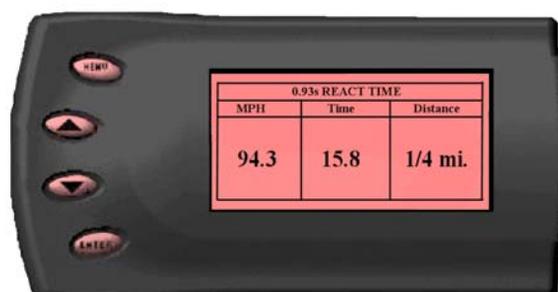
Select the desired performance test (0-60 screen is shown to the left). If your vehicle is moving, the Gryphon™ will instruct you to come to a full stop.



For the 0-60 MPH run, press the accelerator pedal and the test will automatically begin. As you drive, the screen will display your current speed. The test will stop automatically and your time will be displayed on the screen.



For the 1/4 mile test, you will be asked to press a key when ready. The main display will cycle through a starting light sequence. When the test is complete, the screen will update and show you how long it took you to cover 60 feet, 1/8 mile, and 1/4 mile and your MPH at these times. The best run is stored for later viewing. At the end of a 1/4 mile run, you will see a reaction time at the top of the screen. The time begins with the final yellow light. The time between the final yellow and the green is 1/2 second. The average person will see a response time of about 1 second. You'll get an "Illegal Start" message and your screen will turn red if you start before the green, but you can still finish the run.



SETUP

The Gryphon™ offers you many choices. For example, you can:

- Choose from several different parameters to monitor
- Choose how these parameters are displayed
- Choose between English or metric display units
- Set parameter alerts
- View the highest value that certain parameters have reached

CHANGING THE DISPLAY VIEW

The Gryphon™ allows you to view multiple engine parameters on the same screen. To select a desired view, simply perform the following steps:

From the **Main Menu**, select the **Setup** option. Select the **Display** option.



Select the desired viewing option by using the [UP] and [DOWN] arrow keys. Press [ENTER] when the desired display is highlighted.



You can choose from the following display options:



Two Function Bar Graph



Two Function Digital Display



Three Function Digital Display



Four Function Digital Display

CHANGING VARIABLES ON THE SCREEN

To change the variables on the screen, simply follow these easy steps:

From the **Main Menu** select the **Setup** option. Press [ENTER] when **Display** is highlighted.

On the **Display** menu, use the [UP] and [DOWN] arrow keys to select the style in which you would like PIDs displayed on your screen. Press [ENTER].

Depending on which display you select, a screen similar to the photo to the right will appear. This screen lists the current parameters being displayed and their respective positions (TOP LEFT, etc.). Using the arrow keys, select the position you would like to change, and press [ENTER]. A list of available PIDs will be displayed. Select the PID you would like to view and press [ENTER]. Once you have selected your desired parameters, select the **Set as Display** option and press [ENTER]. You will return to the **Setup** menu with your new settings saved.

If you choose to display Average Economy, you may need to reset it from time to time. From the main screen press the [ENTER] button twice in rapid succession; this will reset the AECON.



ENGLISH / METRIC DISPLAY



From the **Main Menu** select the **Setup** option. Press [ENTER] when **Display** is highlighted.



Use the arrow keys to scroll down and highlight the **English/Metric Display** option. Press [ENTER].



Select the display units you would like to change. Here, **Pressure** has been selected and was changed to kilo/Pascals (Kpa) by pressing [ENTER]. Each time you press [ENTER] on a selection, the display toggles between English and metric units.

Once you have set the display units to your preference, press [MENU] repeatedly to return to the display screen.

BACKLIGHTING - Adjusting the Backlight Color

From the **Main Menu**, select the **Setup** option. Press [ENTER] to select the **Display** function.



Use the arrow keys to highlight **Change LED Color** option. Press [ENTER]



Select the color you would like to change.



Depending on the color you select, a screen similar to the photo to the right will appear. Use the arrow keys to adjust the percentage shown on the screen. Once the desired color value has been reached, press [ENTER]. To return to the previous screen and abort the current change, press [MENU].



ADJUSTING THE BACKLIGHT BRIGHTNESS

When viewing PIDs (like the sample to the right), use the [UP] and [DOWN] arrow keys to adjust the brightness of the display. Each time the button is pressed, the backlight will either brighten or dim by 10%. The default setting is 100% brightness.



ALERTS

The Alerts Function is handy when you would like to know if your vehicle has reached a certain parameter value.

From the **Main Menu**, select the **Setup** option. Use the arrow keys to highlight **Alerts**. Press [ENTER].



By default, the alerts are off; to turn them on, use the arrow keys to select **Alerts are ON**.



To change the value of a specific alert, select the PID you would like to change and press [ENTER]. A screen similar to the photo to the left will appear. Use the arrow keys to reach the desired value. Press [ENTER] to save the current alert. Press [MENU] to return to the previous screen.



RECORDS

The Gryphon™ automatically records the highest value of some of the PIDs. To view these records or to reset them, follow these easy steps:

From the **Main Menu**, select the **Setup** option. Use the arrow keys to highlight **Records**. Press [ENTER].

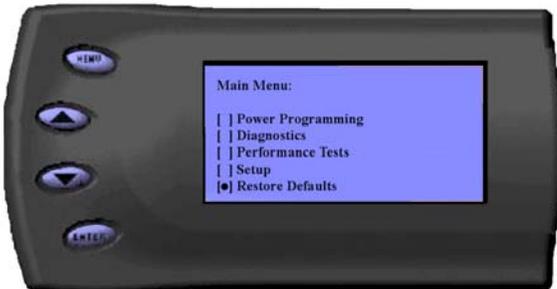


From this screen, you can view all of the current high values that have been recorded. The arrow on the bottom right corner indicates that there are more parameters than the display can show. Use the arrow keys to scroll through the list. To reset all of the records, highlight **Clear All** and press [ENTER]. To reset a single record, highlight the desired parameter and press [ENTER]. Press [MENU] to exit out of this list.



RESTORE DEFAULTS

If you would like revert back to the original factory display settings, follow these steps:



From the **Main Menu**, highlight **Restore Defaults**. Press [ENTER].



The screen to the left will appear. To return to the **Main Menu**, press [ENTER]. Most settings (LED colors, contrast, alerts, etc.) will be set back to the default settings. Important programming settings, however, will remain.

RECOMMENDED DYNO PROCEDURES

Using a dynamometer (dyno) to measure the power output of a vehicle is a popular and very accurate method to check the performance gains achieved when making modifications to a vehicle. Traditionally, you would select a gear that would provide a 1:1 ratio through the transmission. This is usually 4th gear on a manual transmission or 3rd gear on a 4 speed automatic transmission. Using these gears provides the most accurate power rating because the results are not affected by the torque multiplication which can occur when using lower gears.

The F150, however, will not be able to run a full dyno run in 3rd gear. The wheel speeds generated are higher than most dynos will allow. The simple solution is to perform all dyno runs in 2nd gear, although this method can present problems due to the F150's torque management control system.

Torque management is nothing new. Manufacturers have been using it to control rev. limiters, speed limiters and traction control for many years. The F-150 also uses torque management to control the actual rate of acceleration of the vehicle. There is also torque management present when the transmission is placed in 1st and 2nd gears. Torque management can cause erratic and inaccurate dyno results, and because of torque management, it is moderately difficult to achieve accurate results from dyno runs.

Currently, the most consistent and accurate method of performing dyno runs is as follows:

- Obtain a scan tool that allows for "Active Command" modes. The Hickok NGS™ is the one we recommend. (Note: Diagnostic modes may vary between tool manufacturers and some options may not be available, including "Active Command" modes.)
- With the vehicle in "Drive" and using the scan tool in "Active Command" mode, select 2nd gear and lock the torque converter. This will prevent the transmission from shifting into 3rd, giving you a clean run over the full RPM range.
- Accelerate the vehicle to between 1750 and 2000 RPM. Maintain a steady RPM before beginning your run. To achieve consistent and accurate results, all subsequent runs should be made from the same RPM starting point.
- Complete your dyno run as normal.

This method should provide accurate performance results.

Performance calculations may vary from dyno to dyno, even among dynos of the same model. Calculated performance values will also vary based on many factors including vehicle condition, ambient weather conditions, geographic location (altitude), fuel quality, and other factors. The gains you achieve may be higher or lower than the average advertised gains achieved during testing. This is normal and does not necessarily indicate a problem with the product.

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TROUBLESHOOTING

Programming your vehicle may expose existing defects in your vehicle's PCM that could disable your vehicle.

**It is advised that you
DO NOT PROGRAM YOUR VEHICLE IN REMOTE LOCATIONS
in case of failure.**

Keep in mind that the Gryphon™ is a high performance product and that not all vehicles deliver the exact same power output when programmed with the Gryphon™. It is recommended that you select a program that will best fit your needs. Whether towing, or traveling long distances at high speeds, choose your power level wisely and keep in mind the condition and tolerances of your vehicle when selecting a suitable power level.

Listed below are some common errors that may occur when operating your Gryphon™. If you receive an error code that is not listed, we recommend that you first check on our forum (<http://forums.phptune.com>) for a solution. If you cannot find the answer, please contact us at 678-963-9913 or by e-mail at sales@phptune.com

- **NO DISPLAY WITH KEY ON** – If you should get no display when turning the key on, check all of your fuses -- the fuse that powers the OBDII port also powers the cigarette lighter! -- and make sure your battery is fully charged. Disconnect and reconnect the OBDII cable to ensure the Gryphon™ restarts properly. If the unit restarts but fails to stay on, or fails to turn on when the key is on, there is most likely a communications issue. Contact Power Hungry Performance for further assistance.
- **NO START** – If you experience a “No-Start” condition after programming your PCM, return to the **Power Programming** menu and select **Return to Stock**. This will allow the Gryphon™ to reprogram the PCM with the factory calibration and recover the PCM. If, after reprogramming, you still have a “No-Start” condition, contact Power Hungry Performance so we can instruct you on possible recovery procedures.
- **ERROR CODE 0xF1 (IN CUSTOM MENU)** – If you are receiving this error code while trying to configure your custom options, disconnect from the OBDII connector, turn the key to the ON position, and plug the Gryphon™ back in. After getting to the main screen (past Intro and Disclaimer), wait 15 seconds. This will give your unit time to load parameters it needs to perform the custom changes. You should now be able to perform your custom changes.
- **DISPLAY REMAINS ON WITH KEY OFF** - This is probably caused by a weak battery and the current draw caused by a lit screen will rapidly drain remaining battery power. If this condition continues after charging your battery, have your battery and charging system check for malfunction.
- **CHECKSUM FAILURE** - When programming a new vehicle, the Gryphon™ can detect if the PCM is at a stock setting or not. If not, the screen will display CHECKSUM FAILURE. Contact us for assistance in returning your PCM back to stock.
- **SCREEN DISPLAY FREEZES** - Interference from cell phones, high power stereo systems, alarm systems, nearby high powered CB radios and similar devices can interfere with the communications bus which can cause the screen to freeze. In most cases, unplugging and reconnecting the unit will resolve this problem. If this issue happens frequently, contact us for further assistance.
- **SOME OR ALL OF THE DISPLAY READS ZERO** - This can occur after adjusting the brightness of the display. It is normally self-correcting, but if not, turning the ignition key OFF then ON again or disconnecting and reconnecting the OBDII cable should correct the problem.

COMMONLY USED ACRONYMS

OSS	Output Shaft Speed
PCM	Powertrain Control Module
PFE	Pressure Feedback EGR Sensor
PID	Parameter Identification
PIP	Profile Ignition Pickup
PSPS	Power Steering Pressure Switch
RPM	Revolutions Per Minute
SES	Service Engine Soon
SIL	Shift Indicator Light
SPARK	Spark Advance/Retard
SPOUT	Spark Output Signal (from ECA)
STAR	Self Test Automatic Readout
TAPS	Throttle Angle Position Sensor
TCM	Transmission Control Module
TFI	Thick Film Ignition
TFT	Transmission Fluid Temperature
TGS	Top Gear Switch
TPS	Throttle Position Sensor
TQC	Torque Control
TSS	Turbine Shaft Speed
TTS	Transmission Temperature Switch
VAF	Vane Air Flow Sensor
VAT	Vane Air Temperature
VCT	Variable Cam Timing
VSS	Vehicle Speed Sensor
WAC	WOT A/C Cut-off Switch
WOT	Wide Open Throttle
WDS	Worldwide Diagnostic System

EVP	EGR Position Sensor
EVR	EGR Valve Regulator
FDM	Fuel Delivery Module
FICM	Fuel Injection Control Module
FPM	Fuel Pump Monitor
FRP	Fuel Rail Pressure
HEGO	Heated Exhaust Gas Sensor
IAT	Intake Air Temperature
ICM	Integrated Controller Module
IDM	Injection Driver Module
IDS	Integrated Diagnostic System
ISC	Idle Speed Control
ITS	Idle Tracking Switch
IVS	Idle Validation Switch (Diesel)
KAM	Keep Alive Memory
KOEO	Key On Engine Off
KOER	Key On Engine Running
KS	Knock Sensor
LOAD	Engine Load
LOS	Limited Operation Strategy
LPD	Line Pressure Desired
LUS	Lock-up Solenoid
MAF	Mass Airflow
MAFV	Mass Airflow Sensor Voltage
MAP	Manifold Absolute Pressure
MAT	Manifold Air Temp
MCU	Microprocessor Control Unit
MIL	Malfuction Indicator Light
MPH	Miles Per Hour
OHC	Over Head Camshaft

ACT	Air Charge Temp
ACV	Thermactor Air Control Sensor
AOD	Automatic Overdrive Transmission
APP	Accelerator Pedal Position
AXOD	Automatic Overdrive Transmission
BAT	Battery Voltage
BCM	Body Control Module
BOO	Brake On/Off Switch
BP	Barometric Pressure Sensor
CCD	Computer Controlled Dwell
CCO	Converter Clutch Override
CDR	Crankcase Depression Regulator
CEL	Check Engine Light
CFI	Central Fuel Injection
CHT	Cylinder Head Temperature
CID	Cylinder Identification Sensor
CKP	Crank Position Sensor
CMP	Cam Position Sensor
CPS	Crankshaft/camshaft Position Sensor
DTC	Diagnostic Trouble Codes
DYNO	Dynamometer
ECA	Electronic Control Assembly
ECM	Electronic Control Module
ECT	Engine Coolant Temp
EDF	Electric Drive Fan Relay
EDIS	Electronic Distributor
EGO	Exhaust Gas Oxygen Sensor
EGR	Exhaust Gas Recirculation
EGRC	EGR Control Solenoid
EOT	Engine Oil Temperature