



Granatelli Motor Sports, Inc. • 1000 Yarnell Place • Oxnard, CA 93033-2454
 805-486-6644 (Phone) • 805-486-6684 (Fax) • Hours: M-F 8AM-5PM (PST)
www.GranatelliMotorSports.com/techsupport.htm TechSupport@GranatelliMotorSports.com

Fuego Installation Instructions



NOTE: Read through this manual completely before using! Failure to do so can result in damage to your PCM.

General Information:

Tunes are preloaded into each Fuego tuner. Your Fuego Tuner is compatible with the following applications:

- Mustang V-6, GT & Cobra (1996-04), Mustang V-6, GT, Shelby GT/GT 500 2005-07
- F-Series Trucks 2007-2004
- Lightning/ Harley Trucks 1999-2004
- 6.0L Diesel Trucks 2003-2007
- 7.3L Diesel Trucks 1999-2003
- SVT Focus 2003-2004
- ZTEC Focus 1999-2004
- Marauder 2003-2004

Available Gasoline engine tunes 93, 89, 87 octane and gas mileage as applicable. Available diesel power levels are performance, street, towing, economy, and "Jake brake". Program options vary depending year, make and model. Additional product features of your Fuego programmer include: Datalogging, read and clear diagnostic trouble codes, your Fuego also has built in adjustable user options such as: Spark, Fuel, Axle Ratio, Injectors and MAF style.

How to use your Fuego flash tuner:

Locate the OBD-II connector port under the dash of the vehicle you will be programming. Depending on the Year, Make and Model of your vehicle it may be necessary to remove a panel in order to access this port.

Menu Options are as follows:

DTC/Data Menu:

- | | |
|---------------|--------------------------|
| Read DTC's | Display trouble codes |
| Clear DTC's | Clear all DTC's |
| Read Strategy | Display factory PCM mode |

Program Vehicle:

- | | |
|-----------------|--------------------------------------------|
| Custom Tune | Choose custom tune to program into vehicle |
| Return to Stock | Available after vehicle is programmed |

Display Dealer:

- | |
|---------------------------------|
| Displays opening message screen |
|---------------------------------|

LCD Contrast:

- | | |
|-------------|----------------------|
| Sel to Save | Adjusts LCD Contrast |
|-------------|----------------------|

Vehicle Diagnostics:

The Fuego flash tool allows you to check and erase DTC's (Diagnostic Trouble Codes) on the LCD Display. This function will work on any Ford based OBD2 vehicle. The Fuego can also read the Strategy of the vehicle. This is very useful when vehicles have been re-flashed to an updated calibration by the vehicles manufacturer.

Program Vehicle:

Warning: The vehicle must be parked and engine off before proceeding to program your vehicle.

It is a good idea to turn off or disconnect all accessories such as stereo systems, cell phone chargers or any electronic device that may draw voltage while flashing your vehicle. If the vehicles battery is in question, you may connect a battery charger during the flashing process.

Warning: If you are attempting to program any 1996-1997 vehicle it is necessary to remove the fuel pump and fan fuses before proceeding to the next step. The fuel pump and fan fuses are listed in your owners manual and can also be found inside the fuse panel cover. This is required on all 96-97 vehicles but may not be necessary in other years. Removing these fuses will prevent the battery from draining while flashing your vehicle.

We recommend restoring the stock tune whenever the vehicle goes in for service. Locate and plug the OBD II cable to the OBD II port of the vehicle. Please refer to the information above if you need help locating this port. Once you see the main menu screen, use the keypad to scroll down the list of items, the select button (center) may be used to select a choice and the Cancel button to 'back out' of an operation.



The vehicle used for this reference guide will be a 2004 Ford Mustang GT, running premium fuel, 24lb injectors, a 90MM Lightning MAF sensor, 3.73 Rear axle ratio and an automatic transmission

1) Scroll down to display:

- Program Vehicle
- DTC/Data
- Data Logging
- Information
- Preferences

Choose Program Vehicle and Press Select



2) Please make a choice from the Following:

- Advanced Program
- Standard Program

Choose Std. Program and Press Select



3) You will now be prompted to select Vehicle Type

Choose Gas Car and Press Select



4) Now Select the Model of the vehicle you wish to program. Scroll down the list of vehicles and select from the following choices:

- Mustang
- Marauder
- Lightning/ Harley
- SVT Focus
- ZTEC Focus
- 7.3 Diesel
- 6.0 Diesel
- F-150
- F-250+

Choose Mustang and Press Select



5) Model year:

- 1994-1995 (V6 Mustangs Only)
- 1996-1997
- 1998-2004
- 2005-2006

Choose 1998-2004 and Press Select



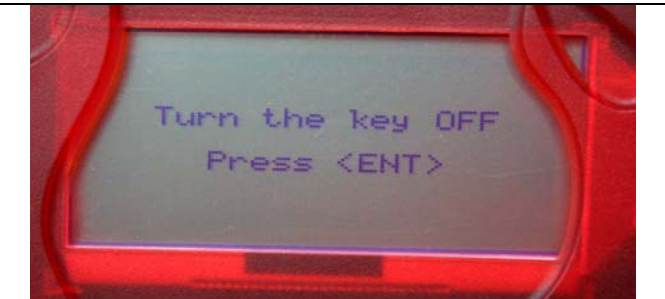
6) Engine Size:

- 3.8
- 4.6 2V (GT)
- 4.6 4V (Cobra)
- 5.4 4V (Cobra R)

Choose 4.6 2V and Press Select



Follow the on screen prompts for turning the key on and off. At this time the Fuego will verify that your cars ECU strategy is acceptable for programming.



7) Choose the options that will customize the tune for your car. Options for this vehicle include:

Fuel Octane

- (a) Premium
- (b) 91 Octane
- (c) 87 Octane

Choose Premium and Press Select

Fuel Economy

- (a) Normal
- (b) Economy

Choose Normal and Press Select

Fuel Injector

- (a) Stock
- (b) 24
- (c) 30

Choose 24 and Press Select

MAF

- (a) Stock
- (b) 90mm Lightning MAF

Choose 90mm Lightning MAF and Press Select

The next step will allow you to adjust basic settings for spark, fuel and other performance parameters. It is suggested that you leave Spark and Fuel values alone until you see how they perform out of the box.

Warning: Your Fuego flash tune allows you to modify fuel and spark parameters. These parameters should only be modified if necessary. Modifying fuel and spark parameters may increase the risk of detonation/pinging which may reduce the life expectancy of your engine. These modifications should only be performed by experienced users with extended knowledge of automotive tuning. In addition, tuning should be performed on a chassis dyno with the aid of air/fuel ratio monitors and exhaust gas temperature gauges. Granatelli Motor Sports will not be held responsible for vehicles with modified parameters since we are not present to monitor the adjusted parameters.

8). Basic Spark, Fuel & Other Performance Parameters:

Spark 0-2000 RPM's

You may make adjustments to this to lower this

Choose your setting and **Press Select**

Spark 2000-4000 RPM's

You may make adjustments to this to lower this

Choose your setting and **Press Select**

Spark 4000-8000 RPM's

You may make adjustment to this to lower this

Choose your setting and **Press Select**

WOT Air/Fuel

Wide Open Throttle fuel may be made richer

Choose your setting and **Press Select**

Axle Ratio

- 2.73
- 3.08
- 3.27
- 3.55
- 3.73
- 4.10
- 4.30
- 4.56

Choose 3.73 and **Press Select**

8) (Continued). Tire Revs/Mile

(Note, this is changed only if you have changed tire sizes from stock, obtain this information from the tire manufacturer)

Choose your setting and **Press Select**

Speed Limit

Remove

Choose your setting and **Press Select**

Rev Limit in Drive

You make adjustments to this to raise or lower this

Choose your setting and **Press Select**

Rev Limit Neutral

Choose your setting and **Press Select**

Idle Speed Drive (valid value range 520-1320)

Choose your setting and **Press Select**

Idle Speed Neutral (valid value range 520-1320)

Choose your setting and **Press Select**

Lo Speed Fans (Temp)

Choose your setting and **Press Select**

High Speed Fans (Temp)

Choose your setting and **Press Select**

WOT Shift 1-2

(WOT shift point for the 1-2 shift, ignore this if you have a manual transmission)

Choose your setting and **Press Select**

WOT Shift 2-3

(WOT shift point for the 2-3 shift, ignore this if you have a manual transmission)

Choose your setting and **Press Select**

WOT Shift 3-4

(WOT shift point for the 3-4 shift, ignore this if you have a manual transmission)

Choose your setting and **Press Select**

Shift Press 1-2

(WOT shift pressure for the 1-2 shift, ignore this if you have a manual transmission)

Choose your setting and **Press Select**

Shift Press 2-3

(WOT shift pressure for the 2-3 shift, ignore this if you have a manual transmission)

Choose your setting and **Press Select**

Shift Press 3-4

(WOT shift pressure for the 3-4 shift, ignore this if you have a manual transmission)

Choose your setting and **Press Select**

Congratulations! You have now completed programming the changes you wish to make. Press cancel when you are done with the changes.

Your Fuego Screen will now display:

Ready to Program

Cancel = Stop

Select = Start

Press Select to start programming. At this time the tuner will prompt you on your next step. Follow the instructions as they appear on the LCD display.

Note: It is very important to not interrupt the flashing process from this point forward as damage may result to your Fuego tuner or your vehicle's ECU. Once you receive the Programming Complete Screen turn the key off and press select. The vehicle is now flashed with all the options you have chosen. **Note: On 1994-1997 Vehicles that are flashed, it is necessary to remove the battery cable after re-flashing to clear the PCM's adaptive memory.**

In the event that your Fuego Flash Tuner does not successfully flash your vehicles ECM it will display an error message. If this happens, you must recover the factory ECU. Turn the key off and reflash the vehicle with Return To Stock option. You may then try again. You may flash the vehicle back to stock at any time if you choose to do so. It is recommended that the vehicle be returned to stock prior to going in for service. **Note: Some options such as Shift Points and Shift Firmness will show up as a choice for vehicles that have a manual transmission. If your vehicle is equipped with a manual transmission simply move along to the next item without making adjustment to these parameters. Note: The only blower tunes available are for vehicles that originally came equipped with forced induction from the factory, such as Ford Lightning and Harley SC trucks and the 2003-04 Cobra.**

Using the Diagnostic Features:

As previously mentioned your Fuego programmer allows you to read and erase Diagnostic Trouble Codes (DTC's) should the need ever arise. This function will work and Ford OBD2 equipped vehicle. To use this feature simply follow the steps below:

1) Scroll down to display:

Program Vehicle

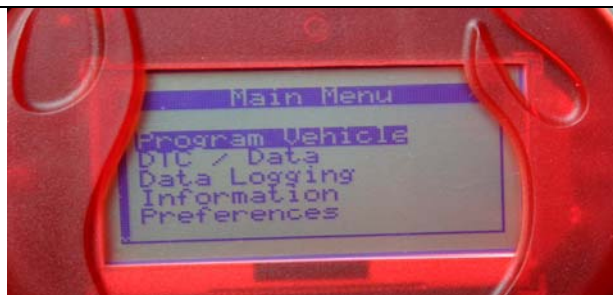
DTC/Data

Data Logging

Information

Preferences

Choose DTC/ Data and Press Select

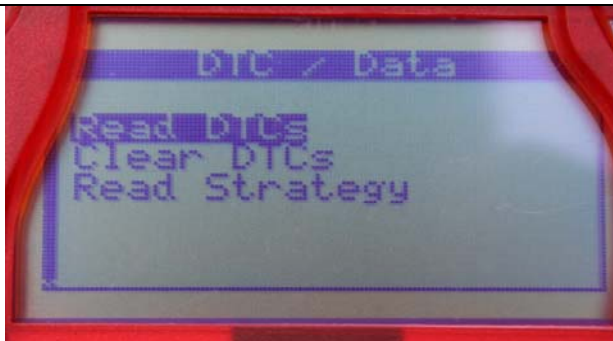


2) Please make a choice from the following:

Read DTC's

Clear DTC's

Read Strategy



At this point you may choose to read or clear the code. It is recommended that you read the code first for reference before clearing. Below you will a list of the most common found DTC Codes.

<p>P0100 Mass or Volume Air Flow Circuit Malfunction P0109 Intake Air Temperature Circuit Malfunction P0114 Intake Air Temperature Circuit Intermittent P0115 Engine Coolant Temperature Circuit Malfunction P0120 Throttle/Pedal Position Sensor/Switch A Circuit Malfunction P0125 Insufficient Coolant Temperature for Closed Loop Fuel Control P0170 Fuel Trim Malfunction (Bank 1) P0171 System too Lean (Bank 1) P0172 System too Rich (Bank 1) P0173 Fuel Trim Malfunction (Bank 2) P0174 System too Lean (Bank 2) P0175 System too Rich (Bank 2) P0190 Fuel Rail Pressure Sensor Circuit Malfunction P0195 Engine Oil Temperature Sensor Malfunction P0200 Injector Circuit Malfunction P0213 Cold Start Injector 1 Malfunction P0214 Cold Start Injector 2 Malfunction P0217 Engine Overtemp Condition P0218 Transmission Over Temperature Condition P0219 Engine Overspeed Condition P0230 Fuel Pump Primary Circuit Malfunction P0300 Random/Multiple Cylinder Misfire Detected P0320 Ignition/Distributor Engine Speed Input Circuit Malfunction P0325 Knock Sensor 1 Circuit Malfunction (Bank I or Single Sensor) P0335 Crankshaft Position Sensor A Circuit Malfunction P0340 Camshaft Position Sensor Circuit Malfunction P0350 Ignition Coil Primary/Secondary Circuit Malfunction P0382 Exhaust Gas Recirculation Flow Malfunction P0410 Secondary Air Injection System Malfunction P0420 Catalyst System Efficiency Below Threshold (Bank 1) P0440 Evaporative Emission Control System Malfunction P0480 Cooling Fan I Control Circuit Malfunction P0484 Cooling Fan Circuit Over Current P0485 Cooling Fan Power/Ground Circuit Malfunction</p>	<p>P0500 Vehicle Speed Sensor Malfunction P0501 Vehicle Speed Sensor Range/Performance P0505 Idle Control System Malfunction P0506 Idle Control System RPM Lower Than Expected P0507 Idle Control System RPM Higher Than Expected P0510 Closed Throttle Position Switch Malfunction P0550 Power Steering Pressure Sensor Circuit Malfunction P0560 System Voltage Malfunction P0561 System Voltage Unstable P0562 System Voltage Low P0563 System Voltage High P0606 PCM Processor Fault P0700 Transmission Control System Malfunction P0701 Transmission Control System Range/Performance P0702 Transmission Control System Electrical P0705 Transmission Range Sensor Circuit malfunction (PRNDL Input) P0710 Transmission Fluid Temperature Sensor Circuit Malfunction P0712 Transmission Fluid Temperature Sensor Circuit Low Input P0713 Transmission Fluid Temperature Sensor Circuit High Input P0720 Output Speed Sensor Circuit Malfunction P0723 Output Speed Sensor Intermittent P0730 Incorrect Gear Ratio P0731 Gear I Incorrect ratio P0732 Gear 2 Incorrect ratio P0733 Gear 3 Incorrect ratio P0734 Gear 4 Incorrect ratio P0735 Gear 5 Incorrect ratio P0736 Reverse incorrect gear ratio P0740 Torque Converter Clutch Circuit Malfunction P0745 Pressure Control Solenoid Malfunction P0750 Shift Solenoid A Malfunction P0755 Shift Solenoid B Malfunction P0760 Shift Solenoid C Malfunction P0765 Shift Solenoid D Malfunction</p>
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LIMITED WARRANTY:

Granatelli Motor Sports warrants that all products shall be free from defects in materials and/or workmanship for ninety days from the date of purchase (except in-tank and in-line fuel pumps purchased at dealer or wd prices as these items have no warranty and roller rocker arms which have a 12-month limited warranty). The following requirements and exclusions apply: (1) You must be the original purchaser and must complete the warranty registration form (located at www.GranatelliMotorSports.com/warranty.asp) and return the defective product within 10 days after the expiration of the product warranty. Failure to do so voids all warranty, either express or implied set forth herein. (2) You must reside in the United States or Canada and use the product as described in the warranty registration. (3) The product must not have been altered, disassembled, modified, or converted for any other use than intended by Granatelli Motor Sports. (4) The product, or any part thereof, is not used in accordance with the operating parameters specified by Granatelli Motor Sports (5) The product or any part thereof is damaged or rendered unserviceable due to negligence, vandalism, theft, fire, debris, flood, Act of God, or other peril, malfunction of equipment, or by any cause within the Customer's control. (6) The serial number (if applicable) must not have been altered or removed. The extent of Granatelli Motor Sports' liability under this warranty shall be limited to the prompt correction or replacement, at Granatelli Motor Sports' option and at no cost to the customer other than return shipment, of any defective part of the product determined to be necessary by Granatelli Motor Sports. This only applies if written Granatelli Motor Sports received notice of the claimed defect prior to expiration of the warranty period. All warranties of merchantability and fitness for a particular purpose are expressly excluded. The duration of any and all implied warranties is limited to the duration of this express warranty. All incidental and consequential damages including but not limited to loss profits even if it has been advised of the possibility of such damages are hereby excluded. Regardless of the form of the claim, Granatelli Motor Sports liability for any damages to the customer for such product is limited to the guidelines herein. This stated, expressed warranty is in lieu of all liabilities or obligations of Granatelli Motor Sports for damages arising out of or in connection with delivery, use or performance of the product. This warranty cannot be amended or changed by any Granatelli Motor Sports representative, employee, or agent and any promises inconsistent with this warranty are void and unenforceable against Granatelli Motor Sports. Some states do not allow limitations of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may have other rights that vary from state to state. Your sole remedy for the above warranties is the repair or replacement of the defective product only, at Granatelli Motor Sports' sole discretion.

RETURN POLICY:

Before you return a product for a warranty claim, contact our service department M-F 8AM-5PM (PST) at 805-486-6644 or techsupport@GranatelliMotorSports.com for an RGA number. No returns are accepted without a pre-approved RGA (return goods authorization). No returns on special orders, electrical items or after 90 days from date of original shipment. All returns must be safety packaged in original packaging (if available) and clearly marked with your RGA number on the top and two sides of the box. Please insure your shipment for full replacement value as lost, stolen or items damaged in shipment are not covered by our limited warranty. We recommend using FedEx (www.FedEx.com) or UPS (www.UPS.com) for shipping. Lost, stolen or damaged items claims must be made by the customer and resolved by the freight company and not Granatelli Motor Sports. All returns may be subject to a restocking fee of up to 25%. The balance will be returned in the form of a company check or may be applied as credit towards another purchase.

PERFORMANCE CONSUMER'S BILL OF RIGHTS:

Legally, a vehicle manufacturer cannot void the warranty on a vehicle due to an aftermarket part unless they can prove that the aftermarket part caused or contributed to the failure in the vehicle (per the Magnuson Moss Warranty Act, www.GranatelliMotorSports.com/magnusonmoss.htm (15 U.S.C. 2302(C))). For best results, consider working with performance-oriented dealerships with a proven history of working with customers. If your vehicle manufacturer fails to honor emission/warranty claims, contact EPA at (202) 260-2080 or www.epa.gov. If federal warranty protection is denied, contact the FTC at (202) 326-3128 or www.ftc.gov. For additional information, check out www.GranatelliMotorSports.com/TechSupport.htm.

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