

EVOLUTION

2006-2007 GM Duramax 6.6L LLY / LBZ

2007.5-09 GM Duramax 6.6L LMM

**Edge Racing Evolution Programmer
Installation Instructions & Manual**

P/N: 25500



**EDGE
RACING**

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Manual Version 3

EDGE RACING PRODUCTS DISCLAIMER

DISCLAIMER

This Edge Racing-brand product ("this Product") is designed, and intended, only for legal, organized, closed-course, off-street racing/pulling/competition uses involving the motor vehicle in which it is installed (the "Vehicle"), and not for use on public highways, streets, and other roads. The person or entity buying this Product and/or using this Product [even if different from such buyer] (the "User") agrees to use the Vehicle only for otherwise legal, organized, closed-course, off-street racing/pulling/competition purposes in controlled environments under the auspices of a recognized sanctioning body or government permit.

Use of this Product in the Vehicle on public highways, streets, and other roads, and in some cases off-road, may violate applicable federal, state, or local clean air, emission, noise, and other environmental laws, or applicable motor vehicle, vehicle registration, traffic, and other laws. The User must review and comply, and is solely responsible for reviewing and complying, with all applicable clean air, emission, noise, and other environmental laws, as well as all applicable motor vehicle, traffic, safety, and other laws, in connection with User's installation and use of this Product with the Vehicle.

Use of this Product may violate warranties from the manufacturer of the Vehicle or from others. The User must review and comply, and is solely responsible for reviewing and complying, with the terms and conditions of any such warranty.

Use of this Product may make the Vehicle non-compliant with applicable laws, make the Vehicle capable of generating unsafe driving speeds, make the Vehicle capable of exceeding tire speed ratings, make the Vehicle capable of exceeding RPM ratings of the engine, exceed stress limits of the engine, transmission, chassis, body, and other components of the Vehicle, destroy or damage mechanical, electrical, structural, or other components of the Vehicle, may require superior driving skills and techniques to handle the Vehicle, may make the Vehicle unsafe, and may lead to personal injury or property damage. The User must ensure, and is solely responsible for ensuring, the proper installation of this Product in the Vehicle in a manner compatible with other components of the Vehicle, and in accordance with the written instruction manual of Edge Racing Products, in accordance with industry standards and in a good and workmanlike manner, and in accordance with applicable law.

The User must ensure, and is solely responsible for ensuring, the proper, legal, and safe use of the Vehicle. Use of the Product in the Vehicle is at the sole risk and discretion of the User. The User acknowledges that motorsports, racing, and other competitions are dangerous and may cause death, other personal injury, or property damage.

Except as expressly provided in the written Limited Warranty from Edge Products issued for this Product, and to the greatest extent provided by applicable law, **this Product is sold on an AS IS, WHERE AS, and WITH ALL FAULTS basis, and Edge Products disclaims any and all warranties of any kind, whether express or implied, relating to this Product, including without limitation any implied warranty of merchantability, any implied warranty of fitness for a particular purpose, any warranty as to success in races or other competition, or any warranty made by any distributor or other third party.** Any such Limited Warranty is conditioned upon the User's compliance with the terms and conditions of this Disclaimer.

To the greatest extent provided by applicable law, the User, for himself/herself/itself and his/her/its heirs, personal representatives, successors, and assigns, hereby releases, discharges, indemnifies, and holds harmless Edge Products, LLC d/b/a Edge Racing and its agents, employees, officers, managers, members, subsidiaries, parents, successors, and assigns (the "Edge Racing Parties") from any and against any and all claims, causes of action, damages, injuries, losses, expenses, attorneys fees, and harm of any kind, whether or not foreseeable, directly or

indirectly relating in whole or part to the use or installation of this Product in violation of the terms and conditions of this Disclaimer, any Edge Racing manual, directions, or instructions, and applicable law, any use of the Vehicle in violation of the terms and conditions of this Disclaimer and applicable law, and any other use of the Vehicle, regardless of the acts or omissions, whether negligently or otherwise occurring, of any Edge Racing Party. To the greatest extent provided by applicable law, each Edge Racing Party will not be liable for, and the User waives any right to seek against any Edge Racing Party, any consequential, indirect, special, statutory, exemplary, punitive, or incidental damages caused by the installation or use of this Product, and the liability of the Edge Racing Parties in the aggregate will be limited to the standard retail purchase price of this Product. User hereby expressly waives the provisions of California Civil Code Section 1542, to the extent applicable, which provides as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

Installation or other use of this Product constitutes the User's acknowledgement that the User has read and understand the warnings, cautions, terms and conditions in this Disclaimer and that the User agrees and consents to the terms and conditions of this Disclaimer; **OTHERWISE DO NOT INSTALL OR USE THIS PRODUCT.**

You may sign and accept this disclaimer electronically at www.edgeproductsracing.com. If you do not have internet access you can print this form and fill out the section below. All fields are required in order to receive a product activation code. Once complete fax this form to Edge Products at 801-337-2198.

_____ date ____ / ____ / ____
Signature

_____ date ____ / ____ / ____
Signature of parent or guardian (if under 18 years old)

Name: _____ **Date of Birth:** _____

Phone Number: _____

Address Line 1: _____

City: _____ **State:** _____ **Zip:** _____

Country: _____ **E-mail address:** _____

Year: _____ **Make & Model:** _____

VIN Number: _____

Evolution ELECTRONIC Serial Number _____

LIMITATION OF WARRANTY

Edge Products, LLC, MSD Ignition, (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 Edge Products Inc.

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.

If the **BUYER** sends back a failed unit that is out of warranty and chooses to buy a refurbished unit, the refurbished unit will only carry a 60 day warranty. If the **BUYER** purchases a new unit at a predetermined discounted rate, it will have the standard 1 year warranty.

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, IN A NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE WITHIN SIXTY (60) DAYS FROM DATE OF PURCHASE FOR A FULL REFUND. **Note:** *Proof of purchase required for all warranty claims.*

PLEASE NOTE, you will need to obtain an unlock code as described in the following *Unlock Racing Code* section before using the *Evolution*. Also, before installing this **EDGE product, the *Evolution* unit should be updated. The Fusion software required for updating your product on your computer is included in this package as a CD. Follow the instructions located in the *Fusion Section* at the back of this Manual.**

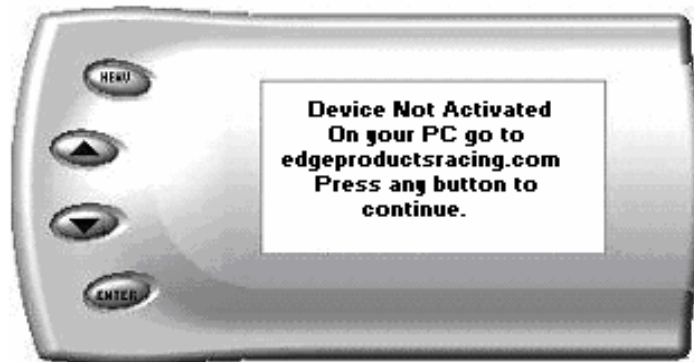
Notice: *Before installing this **EDGE** product, the *Evolution* monitor must be updated. The Fusion software required for updating your product on your computer is included in this package as a CD. (Follow the instructions at the back of the manual) Additionally, you can download the software for free from Edge Products' website at www.edgeproducts.com, or you can request a CD by calling (801-476-3343, If using the website, click on the Product Updates link and follow the Fusion instructions.*

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. Also, If you have used another tuner/Programmer on your truck, you will need to program your truck back to stock before using the Evolution. Failure to return to stock may result in PCM failure or engine damage.

All Edge 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 vehicles calibrations. Therefore it is important that you return your vehicle to stock before taking it in for service. Edge updates its active products (i.e. those currently being manufactured) to work effectively with updated OEM calibrations. However, this process can take some time as Edge is not always made aware of calibration changes made by the OEM. In the case of discontinued products, Edge 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.

Registration and Race Unlock Code

Upon purchase of the *Racing Evolution*, you will need to register to obtain an unlock/disclaimer code to use the programmer. If you install the unit, and turn it on without the code, you will receive the following notice and have to stop and obtain the code before you can proceed with the installation.



To unlock your *Evolution*, visit <http://www.edgeproductsracing.com> and follow the directions at the web location to register the product and receive the code. You will need the Ser# from the label located on the bottom edge of your *Evolution* monitor. The code will immediately be emailed to the email address you have entered, and you will have electronically signed and accepted responsibility for the use of this product.

After you receive the code, record it here for future reference. You will need this code at a later step during the installation.

Serial #		Unlock Code	
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NOTE: If you do not have access to the internet, you may as an option completely fill out the information on P.5 and Fax both P. 4 & 5 to Edge Products at 801-476-3348. You will receive your code by Fax, phone or email.

About the Racing Evolution

Congratulations on purchasing the *Racing Evolution* by Edge Products, LLC, the leader in truck performance and power gain technology. The following manual contains information and instructions on the proper use of the *Evolution*. Please read carefully before proceeding to program your vehicle.

Note: *Read the product disclaimer and the Getting Connected section before programming your vehicle.*

Note: *At the back of this manual, we have included commonly used acronyms. This should help while using the Evolution.*

Stock Program

The *Evolution* 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/when you desire to reprogram your vehicle to its original stock program.

It is ***strongly*** recommended prior to returning your vehicle to a service center or emissions check that you return your vehicle's computer to the stock program. In the event that the service center re-flashes your vehicle's computer (a common practice) and you have NOT returned it to stock, your *Evolution* programmer will be not work properly. If this happens, call our technical support at (888) 360-EDGE and they can help you recover your *Evolution* for a small fee. Follow the steps included in this manual for returning your program to stock.

Race Levels

NOTE: *Due to the high performance nature of these settings, on-highway usage including towing or hauling loads is not legal, and should not be allowed.*

The following power gains are representative of an actual test vehicle. These gains were measured on a Super Flow Dyno at an altitude of 4400 Ft. above sea level, and represent power delivered to the rear wheels of the test truck. The only modification made to the test truck was the addition of the *Evolution*. Power gains may vary somewhat on a different vehicle or in different geographic settings. (**Note:** *Level 0 is stock*)

RACE LEVEL GAINS	LMM HP	LMM TQ	LBZ-LLY HP	LBZ-LLY TQ
RACE LEVEL 1	40	85	30	60
RACE LEVEL 2	55	135	60	135
RACE LEVEL 3	80	185	85	185
*RACE LEVEL 4	105	235	100	220
*RACE LEVEL 5	130	285	125	265
*RACE LEVEL 6	155	335	145	285
*RACE LEVEL 7	180	385	165	325

* Note: Power levels may vary based on performance modifications.

- **LMM only: Manual Regeneration & Forced regeneration.** See following Regeneration Note and Active/Passive regeneration sections.)

NOTE: Most racing is done with modified, free-flowing exhaust systems and Regeneration should be disabled. Only reference the following Regeneration sections if you have not modified the stock exhaust system and associated hardware and sensors from your LMM.

Important Regeneration Information (LMM)

Your vehicle is equipped with a diesel particulate filter (DPF). This filter is used in conjunction with a diesel oxidation catalyst. Together they work to reduce the amount of harmful exhaust emitted from the tailpipe. As soot builds up in the DPF it will begin restricting the filter. The soot that gathers is automatically purged in one of two ways: Passive Regeneration & Active Regeneration. Both methods occur automatically and require no action on your part. During either of these regeneration methods, you may notice an increase or change in the exhaust noise & increased EGT.

(Exhaust gas temperature). While this process is happening you will notice a fluctuation in EGT, even while maintaining a constant load. This process will occur as often as needed and is necessary for the proper operation of your vehicle's emission reduction system.

Passive Regeneration (LMM)

Passive Regeneration occurs when the exhaust temperature (EGT) reaches an appropriate level in order to oxidize or burn soot to clean the DPF. This method happens as a result of normal engine operating conditions, typically when the engine reaches an EGT high enough to burn off the soot. If EGT's do not get hot enough to cause Passive Regeneration, then your truck's engine-control system automatically initiates an active regeneration.

Active Regeneration (LMM)

During active regeneration, the DPF is cleaned by raising the exhaust temperature to a point where the soot is burned away. This is accomplished through various engine actions which raise the EGT's in the oxidation catalyst/DPF system to an appropriate high level where the soot is burned off. After the soot is burned off, the EGT's and back-pressure (restriction) fall back to normal levels.

HOW DOES THE EVOLUTION AFFECT THE DPF?

The Evolution utilizes aggressive fueling strategies in order to achieve horsepower gains. The added fueling may cause more instances of Passive Regeneration. Additionally, depending on your settings/driving style, you may also see Active Regeneration occur more often than you would with a stock vehicle.

In order to minimize the number of times that your vehicle will initiate Active regeneration;

- Avoid aggressive driving
- Avoid short aggressive bursts of acceleration, this may cause a large build up off soot, and the short sprints may not allow a regeneration cycle to initiate.

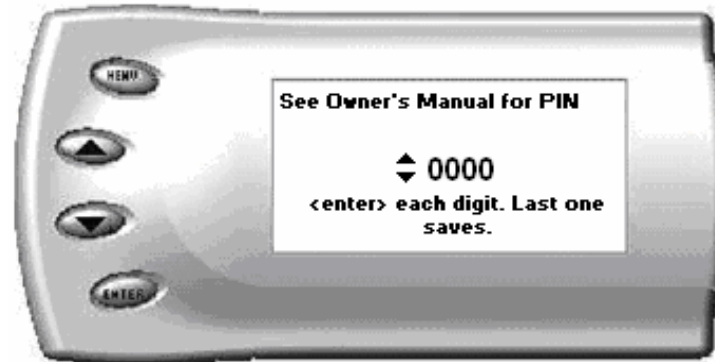
Forced Regeneration (LMM)

The forced regeneration requires you enter a PIN to set the truck into a regeneration cycle to clean the DPF filter. Your truck will go into a regen cycle on its own periodically, however should you need to clean out the filter for any reason, the forced regen is always an option. This option should be used with caution as well as used sparingly due to the elevated idle, and the large amount of fuel that will be used. In order for the forced regen to start, the truck must be up to operating temperature (160°+).

Once the regeneration period starts, the trucks idle will slowly elevate to 2500 RPMs. The idle will hold steady at 2500 RPMS for the duration of the regeneration, during which time the exhaust vapors will be extremely hot. So use extreme caution during this period. Once the Forced regeneration period is completing, the idle will then fall back to idle speed.

1. The Evolution will display several PIDs as the truck is manually regenerating.
 - a. (ECT)- Engine Coolant Temp- F°
 - b. (Stat)-DPF Status- On/Off
 - c. (INH)-DPF Inhibit Reason- Represented with a number
 - d. (DPFP)-DPF pressure- PSI
 - e. (Soot)-Soot Mass -Grams
 - f. (EGT-1)-Stock Exhaust Gas Temp Sensor.-F°
 - g. (EGT2)-Stock Exhaust Gas Temp Sensor-F°
 - h. (Fuel)-Fuel Remaining % of fuel left in the tank (readings may vary from that of the fuel gauge.

2. The **PIN** to activate the manual regeneration is: **3343**. Each time you would like to activate the manual regeneration period you must enter this code. Enter PIN by going to *Main Menu*, and selecting *DPF Regen*. (Alternately press up/down arrows and [Enter] button.)



**** CAUTION **** Entering the PIN will display the following:

Exhaust temperature(EGT) will be greater than 300 C/572 F during service regeneration. To prevent injury or property damage do the following:

- 1) Park the vehicle outdoors away from people, other vehicles, and combustible materials.
- 2) Do not leave the vehicle unattended.
- 3) Do not connect any shop exhaust hoses to the vehicle's tailpipe.

Due to the elevated engine temperatures during this procedure, it is best to open the hood and keep the front of the vehicle clear of anything that would impede air flow through the radiator.

This procedure can be interrupted at any time in an emergency by switching off the ignition or pressing the brake.

***** Before proceeding *****

- 1) Check coolant and oil level before and after the procedure.
- 2) Engine and exhaust system damage can occur if used improperly.
- 3) Do not initiate service mode if non-DPF faults are present.
- 4) Oil changes may be necessary after running this service mode.
- 5) Do not leave the vehicle unattended.

***** STEPS *****

- 1) Apply the parking brake.
- 2) Start the engine.
- 3) Transmission in park/neutral.
- 4) This procedure can take up to 30 minutes.
- 5) Test completed when engine idle returns to normal.

Important Note: *It is the customer's responsibility to watch for and ensure complete regeneration cycles. Edge Products' devices do not adversely affect the regeneration cycle of your vehicle. Any vehicle exhaust- and emission-system issues are the sole responsibility of the vehicle owner and the OEM. No DPF warranties are expressed or implied.*

Features

PIDs

The *Evolution* allows the user to view up to 4 PIDs at one time. PIDs identify an address in memory which contains vehicle operating information a driver may wish to monitor. (See the *Set Up* section)

Scrolling PIDs

Once in the PID display screen you can press the ENTER button to enter scrolling PIDs mode. When you are in this mode an asterisk will be displayed in the upper right corner. You can then scroll through the PIDs by using the UP and DOWN arrow keys. You can always scroll back to your customized screen or once you have scrolled through all of the PIDs you will return to your customized screen. Press the ENTER again to exit the Scrolling PID mode.

Diagnostics

The *Evolution* 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 time

Another feature often only found on the Edge Product monitors, is the ability to determine your quarter mile times as well as your 0-60 times, and has a unique Christmas tree starting sequence.

Alerts

If you would like to know when a certain parameter, such as transmission temperature, reaches a desired value you can set an alert to that value. When the preset value is reached, the *Evolution's* screen will flash red and display the triggered alert and the current value for that particular alert parameter. Please note that Alerts may flash only if that parameter is being actively displayed on the *Evolution* monitor.

Records

While driving, the *Evolution* will automatically record the highest values of some parameters. These records can be viewed and reset at any time. Please note that some parameters may record only if that parameter is actively displayed on the *Evolution* monitor.

NOTE: For both **Alerts** and **Records**, some truck types and years may flash alert and record peak parameter values even when not displayed on the *Evolution* monitor.

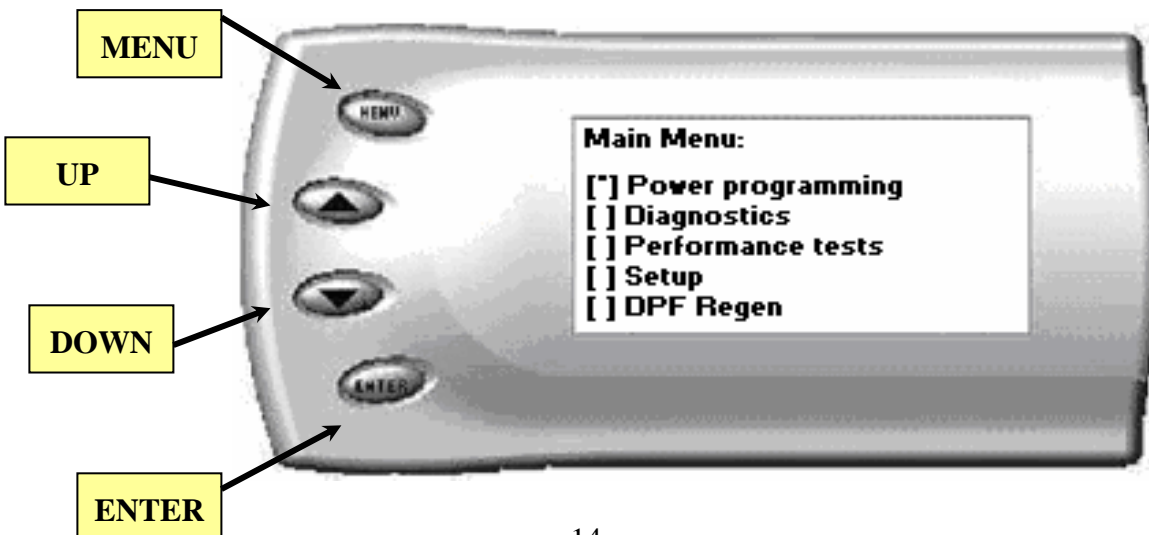
Custom Options

While programming your vehicle, you have the option to customize our tuning. For example, you can change your tire size value which can correct your odometer readings that result from changing tire sizes.

Refer to the *Custom Options* section for a complete list and description of options that are available. These can be changed while programming your vehicle.

Display and Keypad

The following picture is a sample *Evolution* screen. Great effort has gone into making the *Evolution* 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 return to the previous screen. This version of the *Evolution* also has the option to change the backlighting color of the display to a wide range of colors.



NOTE: *The evolution uses a LCD display which has inherent limitations in operating temperature. If your screen is black, blank, or distorted and the temperature is above 158 degrees F (70 degrees C), please allow the device to cool and then it should work correctly. At extremely low temperatures the display will update very slowly. Again wait for the device to warm to normal operating temperatures for the screen to function properly.*

Getting Connected

Installing the EGT Thermocouple

TIP: *One effective way to avoid metal fragment contamination in your engine manifold is to apply grease in the tip of the drill bit and threads of your tap tool when drilling/tapping the hole in your manifold. Reduce pressure on the drill when the drill breaks through the manifold wall to reduce risk of pushing metal chips into the manifold.*

TIP: *See figure B and C for access and finished installation pictures.*

CAUTION: *Wear eye protection and protective clothing when performing this operation, to protect from getting metal chips in your eyes. Also, since exhaust manifolds can be very hot, allow the engine to cool before drilling. Make sure the park brake is set when working under the vehicle.*

1. Obtain a 1/8" National Pipe Tap (NPT) available from your hardware store. Drill a 21/64" (5/16" optional) hole through the manifold wall, and then use the pipe tap to cut the threads. Follow the instructions provided with the tap. The pipe tap is tapered, so you will only want to turn the tap until the bottom threads of the tap are slightly deeper than flush with the inside of the exhaust manifold wall. Use caution not to tap too deep since this would cause the thermocouple fitting and probe to seat too deep. (See Figure A and A-1.)
2. Now that the manifold has been drilled and tapped, remove the fitting from the Thermocouple and install by tightening the tapered thread end into the manifold with a 9/16" end wrench. (Ideally the tip of the fitting would be less than or flush with the inside of the exhaust flow path.) Tighten the fitting so that it is securely seated. Then install the probe into the fitting, and tighten the top nut of the fitting just tight enough to keep the probe firmly mounted. (see figure A-1)

Make sure that the probe cable is positioned to allow best path and minimal bending, for cable routing to the top of the engine compartment. (final installation is shown in Figure C)

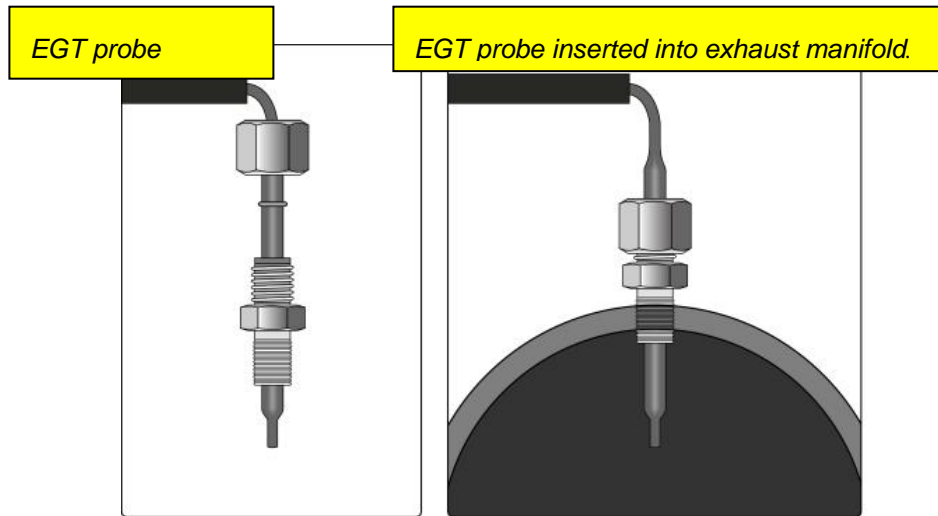


Figure A

Figure A-1

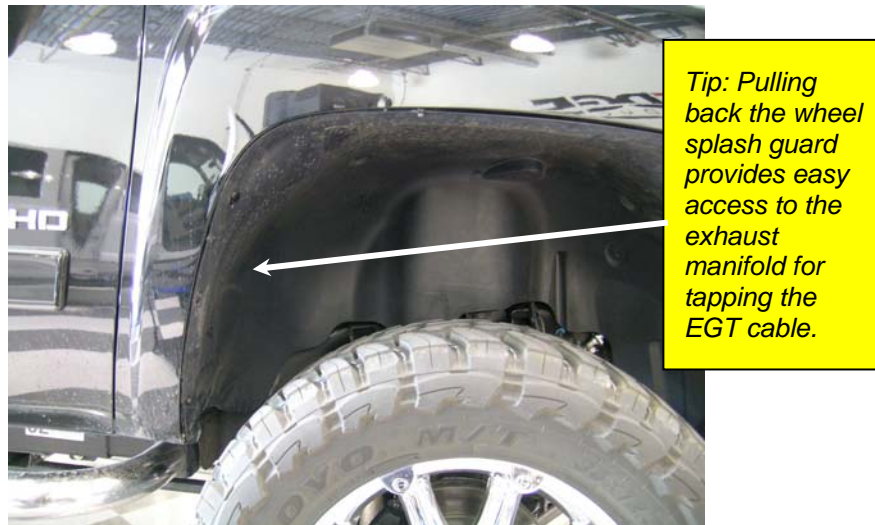


Figure B

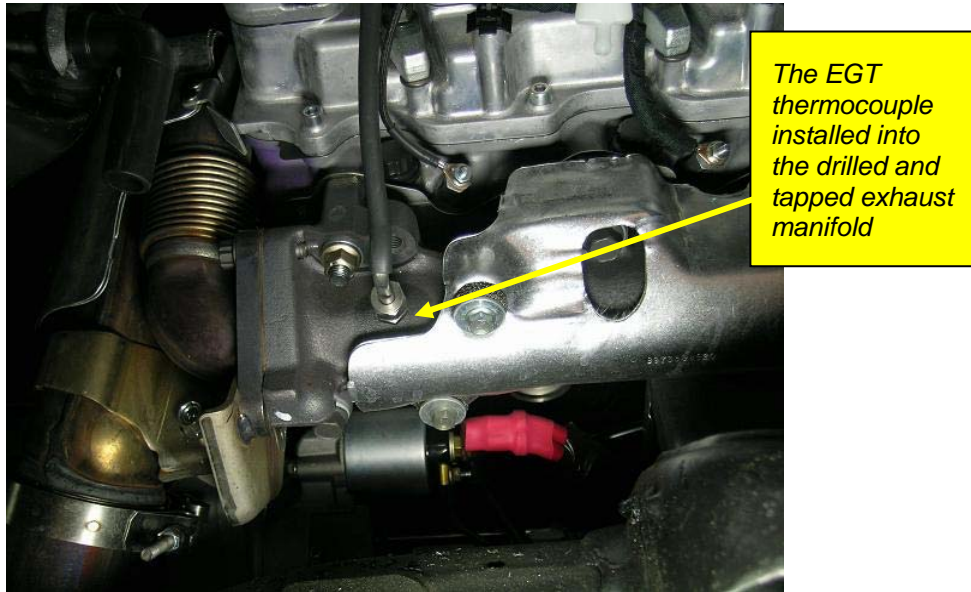


Figure C (LMM)

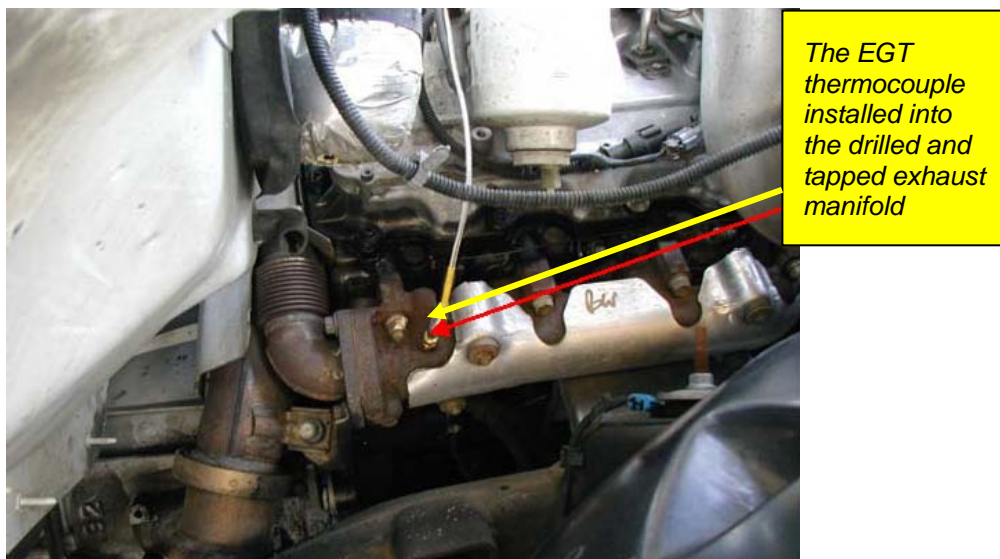


Figure C (LLY-LBZ)

3. Run the thermocouple wire along the top of the fire wall. There are three small black clips on the top of the fire wall, slide a zip tie behind each clip and secure the Thermocouple cable with the zip ties, this will hold the cable up and out of the way of moving engine parts. (See Figure D)



Figure D

4. You will need to run the connector side of the thermocouple through the fire wall and connect it to the OBDII connector. Use the main grommet on the firewall (as shown in figure E).

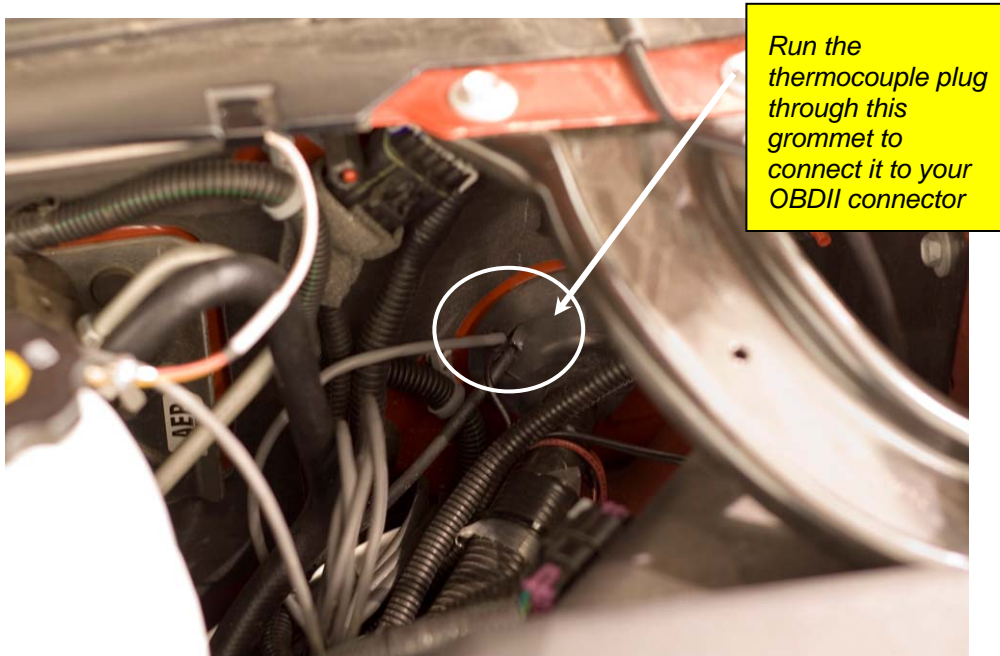


Figure E

- Run the cable up under the dash and secure it with the supplied Zip ties. After the supplied OBDII connector cable is installed, connect the end of the thermocouple cable to the port on the right side of the OBDII connector (as shown in Figure F).

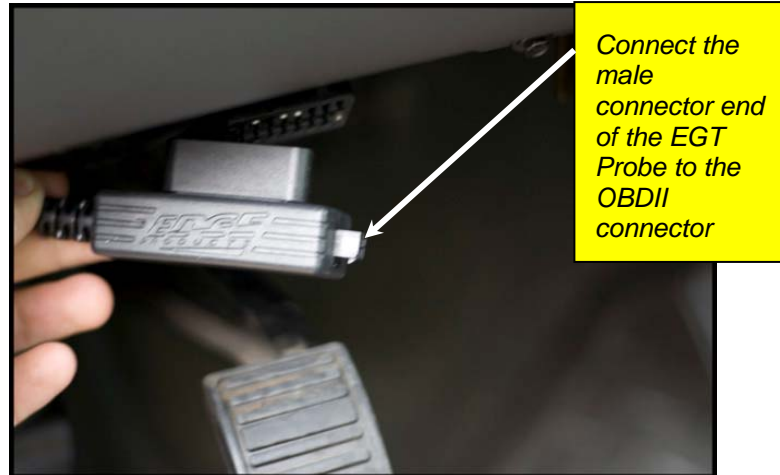


Figure F

Installing the Racing Evolution

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

- Begin by turning your ignition key to the OFF position. Locate the black diagnostic (OBDII or cover may say Data Link) connector. (Figure #1) It is located directly to the left of the E-brake release handle. (As you sit in your vehicle, located under the dash above the brake pedal)



Figure #1

2. Open the driver's side door, and remove the access panel on the left side of the dashboard (*Figure #2*). Pull the end of the ODBII cable outwards (*shown in Figure #3*). Remove two Torx screws using a #15 torx bit, and snake the cable behind the panel with the vent, up to the A-pillar. Replace the screws, and access panel. The cable will protrude from the dashboard up along the A-pillar and be able to move freely when pulled (*Figure #4*).



Figure #2 (LLM)



Figure #2 (LLY-LBZ)



Figure #3 (LLM)



Figure #3 (LLY-LBZ)

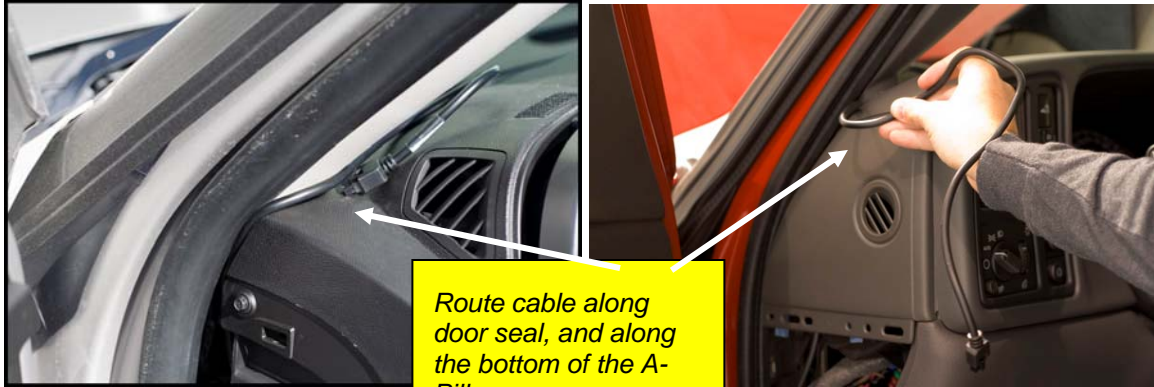


Figure #4 (LLM)

Figure #4 (LLY-LBZ)

3. With roughly 8-10 inches of cable fed through the dashboard, place the Evolution bracket and *Evolution* on the dashboard. Remove the dash Bezel by sliding your fingers behind it and pulling firmly toward the steering wheel (shown in Figure #6). Slide the bracket tab under the bezel and snap the bezel back into place. (see Figure #5A). (**Note:** You may also attach the bracket using the supplied Velcro. Attach the *Evolution* to the bracket with the two sided adhesive strips. (see Figure 5B & C)

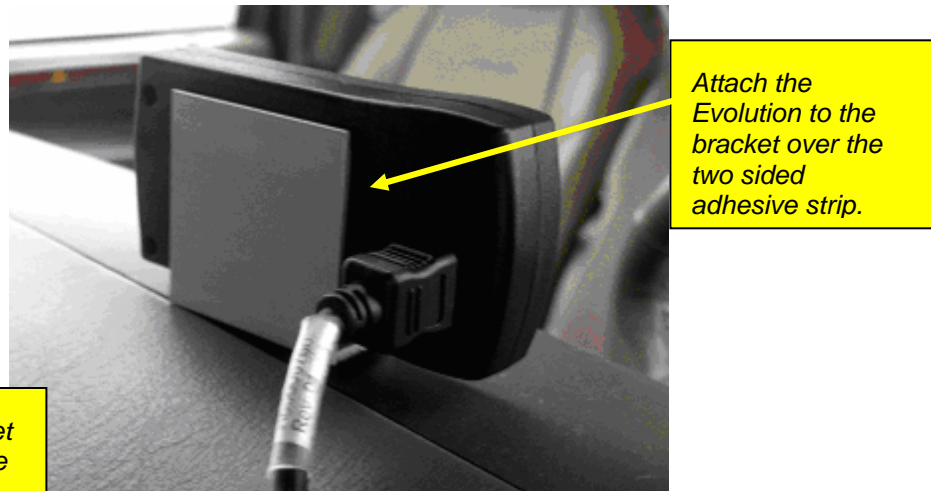


Figure #5A

Install the bracket with Velcro to the dash and apply two sided adhesive strip to bracket as shown.

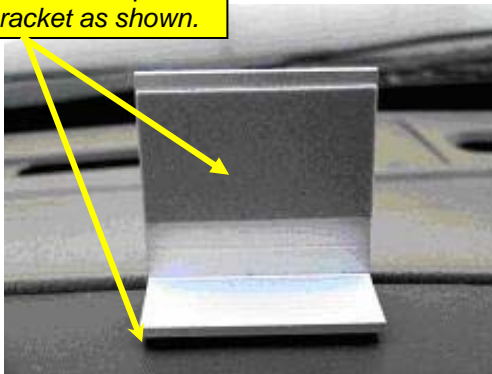


Figure #5B



Figure #5C

4. If you have not purchased the optional Pod, proceed to step 9 (after the following *Optional Pod Installation* instructions).

NOTE: You may optionally purchase an Edge pod to custom mount your Evolution to the dashboard. Go to <http://www.edgeproducts.com>, Mounting Devices, GM and Dash Pods to order this accessory. The following steps 5-8 show optional installation using the Mounting Pod accessory.

Optional Pod Installation:

5. With roughly 8 to 10 inches of cable fed through the dashboard, set the Pod onto the dashboard (*shown in Figure #6*) with the end of the cable protruding through the front of the Pod. Remove the Dash Bezel by sliding your fingers behind it and pulling firmly toward the steering wheel. Slide the tab on the bottom of the pod behind the bezel, and snap the bezel back into place.



Figure #6 (LMM)



Figure #6 (LLY-LBZ)

6. To secure the pod: Remove bracket kit and pod from the *Evolution* box. Note that the brackets are numbered and will be placed in the appropriate numbered locations inside the pod. The double sided tape on the bracket is attached to the inside pod surface over matching numbers.

NOTE: Be sure to check the position of the brackets while the Pod is resting in its desired location on the dash prior to attaching them to the Pod with the double sided tape over the matching numbers.

Clean the pod location on the dash with hot soapy water and rinse, or use 70% Isopropyl alcohol. Make sure dash is completely dry. Attach the supplied Velcro to the bottom of the mounting brackets in the pod. Leave the protective backing on the bottom piece of Velcro, and test fit the pod so you have an idea of where you want it. Once you have determined the appropriate positioning, remove the backing paper from the Velcro, place the pod in it's desired location, and firmly press down on the brackets (through the front of the pod) to secure the Velcro in place.

7. Insert the rubber gasket into the Pod opening, and connect the *Evolution* to the cable protruding from the Pod (*Figure #7*).



Figure #7

8. Any excess cable may be stuffed behind the *Evolution* or may be pulled back through the dash to eliminate slack. Insert the *Evolution* into the Pod. (*Final installation is shown in Figure #8*) Be sure to use the supplied cable ties to secure any excess cable underneath the dash to prevent the cable interfering with proper pedal operation.



Figure #8 (LMM)



Figure #8 (LLY-LBZ)

9. With the *Evolution* securely in place, plug the cable connector into the OBDII connector (*Figure #9*).

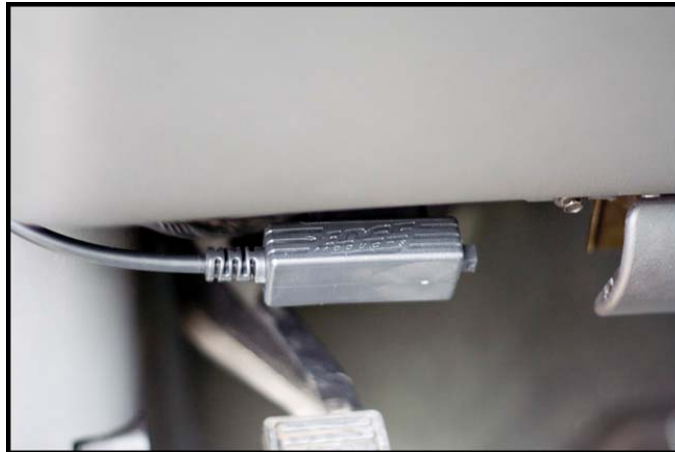
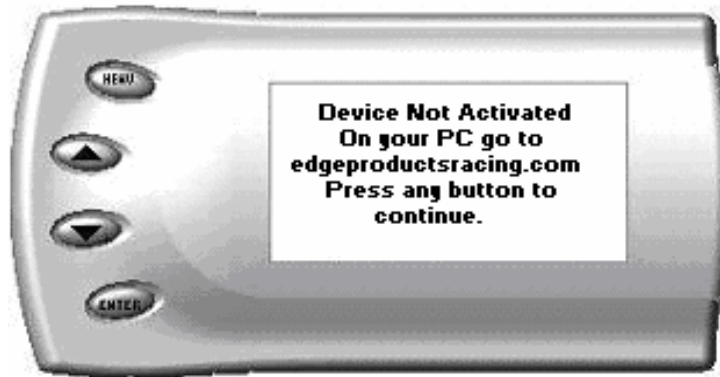


Figure #9

Note: *Unplug the OBDII connector if the truck will be sitting for a long period of time. This will eliminate unnecessary power draw.*

10. After pressing [ENTER], a *Device Not Activated* screen will be displayed. If you have received your Unlock Code, you may press [ENTER] and continue. Otherwise follow the directions or go to the *Registration and Race Unlock Code* section and obtain the code as instructed.



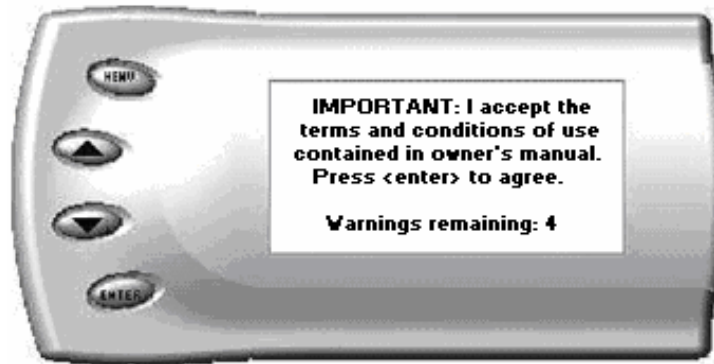
11. After pressing [ENTER], the following screen will appear. Enter the code by using the up and down arrow buttons and [ENTER] button alternately until the last digit is entered. (**Note:** *The up arrow displays numerals.*)



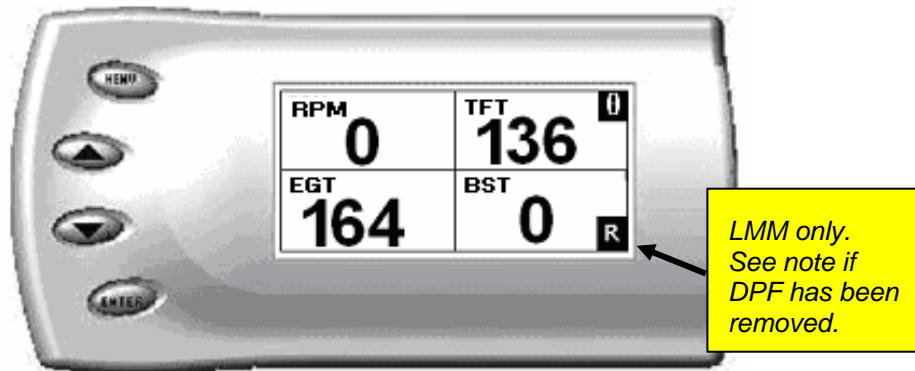
12. After pressing [ENTER], a screen will appear asking you to write down the Unlock code for future reference. Press [ENTER] to continue.
13. After pressing [ENTER], you will read (4) screens with the following note concerning the use of the Racing Evolution. Press [ENTER] after each screen. (**Note:** *This note may appear more than once, during the set-up.*)
- IMPORTANT: This product is neither intended nor sold for use on pollution-controlled, diesel-powered vehicles operated on roads or highways. As such, it is not certified under the anti-tampering provisions of CA Vehicle Codes 27156 or 38391 and can only be legally used during organized motorsports events.
- This product is specifically designed and intended for vehicles engaged in legal off-road racing/pulling activities only.
- Press <ENTER> to accept that you understand the intended use of this product and accept all liability associated with the improper use of this product.
14. After pressing [ENTER], the following screen will appear. Follow the directions. (**Note:** *If the screen does not change after one minute, turn the key off and repeat the instruction up to (3) times, then call Tech Support.*)



15. A disclaimer screen will be displayed. Read this disclaimer carefully and press [ENTER]. This screen will repeat (4) times.



16. After pressing [ENTER], the main display will come up. **Note:** *Parameters and values might vary.*



There are six boxes that will display information about your vehicle. (For the LMM only, the black box in the lower right hand corner displays an “R” to indicate when the truck is in a regeneration cycle. When the cycle is complete, this black box will disappear. If DPF has been removed, regeneration should not be used) The black box in the top right corner displays which power level is currently programmed onto your vehicle.

0 – Vehicle is currently at stock.

1 – 7 If vehicle has been programmed to increasingly higher racing levels with 1 being the lowest and 7 being the highest.

The other four boxes can show up to 4 PIDs (Parameter IDs) of your vehicle. By default, they are your vehicle’s RPM, TFT (transmission fluid temperature), EGT (exhaust gas temperature), and BST (boost). Optional parameters and display formats may be selected in the *Changing Display* section of this manual.

17. The display backlight brightness can also be controlled from the main display by using the [UP] and [DOWN] arrow keys.
18. From the main display, press [MENU] to display and select other features of the *Evolution*. The *Main Menu* is shown on the following screen.



Power Programming

"Caution: Vehicle manufacturers do not recommend vehicle programming in extreme temperature. Please see the service manual of your vehicle to ensure that programming is being done in accordance to the original equipment manufacturers specifications."

1. From the main screen, press [MENU] to enter the *Main Menu*. Then select *Power Programming*. The following screen will appear. Read the Warning and press [ENTER].



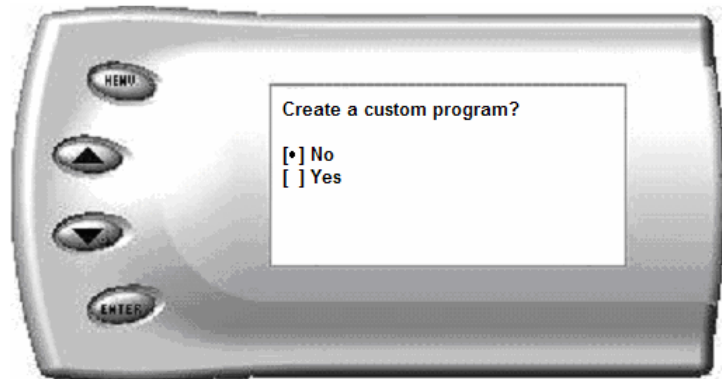
2. After pressing [ENTER], select the level that best meets your needs from this screen. Use the up and down arrows to scroll through the levels. For more information about race levels, read the *About the Evolution* section in this manual.



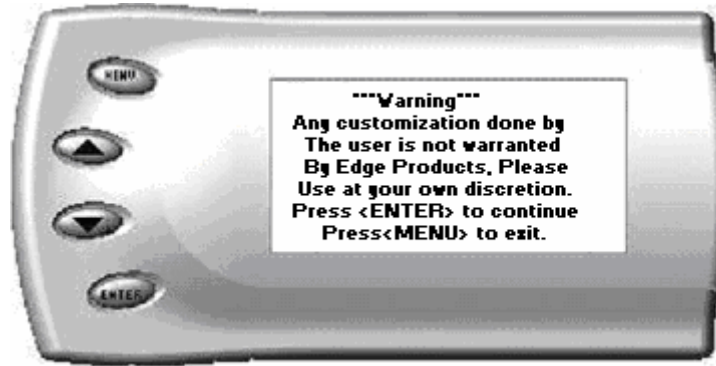
3. Confirm your selection by pressing [ENTER] on the *Programming Level* screen that will follow. You will then be asked if you have removed the DPF (Particulate Filter) from your vehicle. Press Menu or Enter in answer to the question.



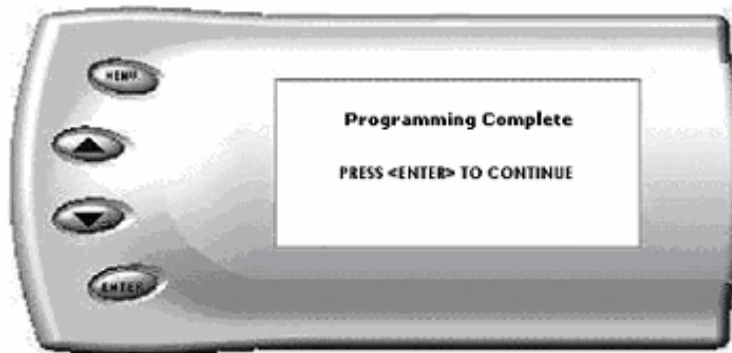
4. The *Evolution* will prepare and save the stock files. When the Done Saving Stock" appears press [ENTER]. Programming will continue and then the screen below will appear:



5. After your initial tune you have the option to change certain parameters of the level you chose. Refer to the Custom Options section in the manual for available options. To use the standard program without customizing options, simply press [ENTER] (choose NO). If you choose to use a custom option you will see the following warning:



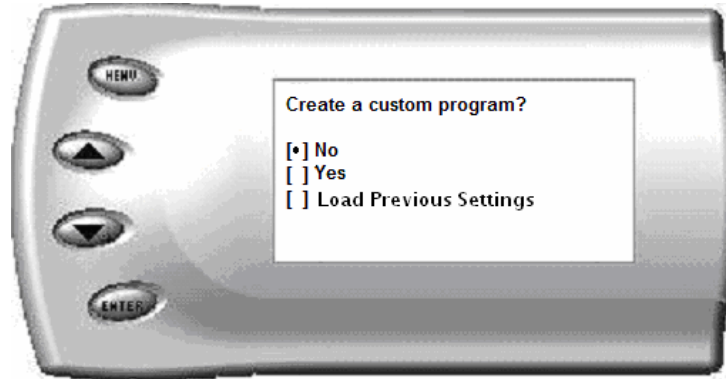
6. During the first use, the *Evolution* will read the original calibration from your PCM and then build all the necessary programs. This will take several minutes. This step is skipped during all further programming operations.
7. The *Evolution* will erase your PCM and then write the selected calibration (level) onto the PCM. This will also take several minutes. If at any time you receive an error message, refer to the *Troubleshooting* section at the back of this manual for further instructions.
8. When the *Evolution* is done programming, continue to follow the directions on the screen. The following screen will appear and you can press [ENTER] or [MENU] to return to the Main Menu:



9. If at any time you wish to return to stock, return to *Choose a Program* menu and select *Return to Stock*, press [ENTER] and follow the directions.

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. (after original custom options loaded, future changes will allow you to *Load Previous Settings* options.)



Custom Options are provided to allow for flexibility based on driver preferences. Any option customization done by the user is not warranted by Edge Products. Please use at your own discretion.

The following customizable options are available:

Tire Size

The *Evolution* has the ability to correct for changes in tire size. If you have changed your tires to a different size the PCM will miscalculate vehicle speed which can affect shifting as well as the speedometer. Correcting the tire size will allow the PCM to accurately calculate vehicle speed and odometer readings. You will not need to change the value displayed if you are running factory size tires. If you choose to change your tire size, four formats are available for you to use. You only need to choose one format.

P-METRIC – This is one of the most common formats used. The tire size will be printed on the tire.

Example: 275 / 75 R16

ENGLISH – This looks much like the P_METRIC format. The first number will represent the height of the tire in inches

Example: 35 x 20 R17

HEIGHT – Some tires only have the height of the tire in inches.

Example: 35.5”

CIRCUMFERENCE – The most accurate way of entering in your tire size will be to measure the circumference of your tire. You may also measure your tire’s circumference by marking your tire and rolling it one complete revolution and measuring the distance in millimeters.

After choosing to set your tire size, the follow screen appears:



The numbers on this screen represent the circumference (in mm) of your tire size. The default value the *Evolution* displays is the current value stored in the PCM. Adjust the tire size by pressing the [UP] and [DOWN] arrow keys.

The following table will help you determine your tire circumference by matching your tire size with the common sizes listed. For example, if your tire size is 285/ 65-18, the value (circumference) you enter into the *Evolution* is 2600. You may also use the formula provided to determine your approximate tire circumference. Finally, you may also measure your tire’s circumference by marking your tire and rolling it one complete revolution and measuring the distance in inches or millimeters. If you measure in inches, multiply the distance by 25.4 to convert to mm. (ex. 91.3 inches x 25.4 = 2319 mm). The Evolution supports tire sizes ranging from 2000mm to 3500mm in increments of 1mm.

Width	Ratio	Rim	Circumference	Tire Size	
265	70	16	2441mm	33	2632mm
275	70	16	2485mm	35	2792mm
305	70	16	2617mm	37	2951mm
215	75	16	2289mm	38	3031mm
245	75	16	2430mm		
265	75	16	2524mm		
285	75	16	2618mm		
295	75	16	2666mm		
305	75	16	2713mm		
315	75	16	2760mm		
325	75	16	2807mm		
265	70	17	2521mm		
285	75	17	2698mm		
315	75	17	2840mm		
275	65	18	2559mm		
285	65	18	2600mm		
285	60	18	2510mm		
325	60	18	2660mm		

Circumference Equation:

$$[(\text{width} * \text{ratio} * 0.02) + (\text{rim} * 25.4)] * 3.1415$$

Steps:

1. Multiply **Width**, **Ratio** and **0.02**
2. Multiply **Rim** and **25.4**
3. Add Step #1 with Step #2
4. Multiply Step #3 with **3.1416**
5. The result will be the circumference of your tire in mm.

Note: if your tire size is not listed use the above formula

Note: Setting the tire size larger than 2900 mm may result in an ABS Warning light and the disabling of your ABS System.

Speed Limiter (LLY-LBZ)

The evolution will allow you to raise your speed-limiter in increments of 5 mph starting at 40 mph, and ending at 200 mph.

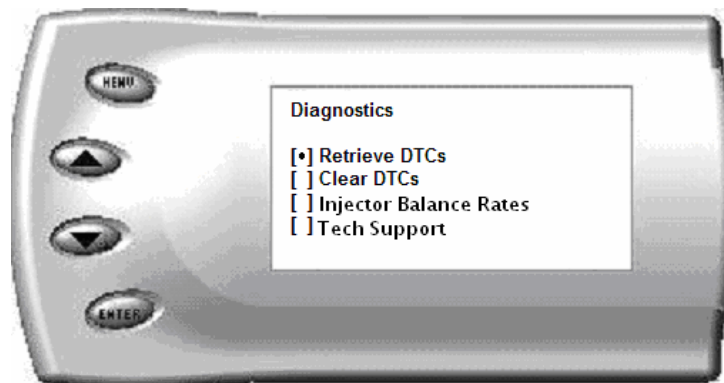
CAUTION! Your Evolution programmer has the ability to remove/adjust your vehicle's factory speed limiter. Removal/adjustment of the factory speed limiter is intended for use at a closed circuit, legally sanctioned racing environment. Even if racing in a legally sanctioned racing environment, it is your 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. Edge Products is not responsible for, or liable for the consequences of improper product use.

(*NOTE: Edge Racing products are only intended for legal race/competition use only.)

Diagnostics

The diagnostics scanner included with your *Evolution* is a powerful tool that allows you to view and clear diagnostic trouble codes (DTCs) on your vehicle. DTCs are the messages your vehicle's computer stores when it detects a problem with your vehicle. The "Check Engine" light on your dash is activated by the presence of most DTCs.

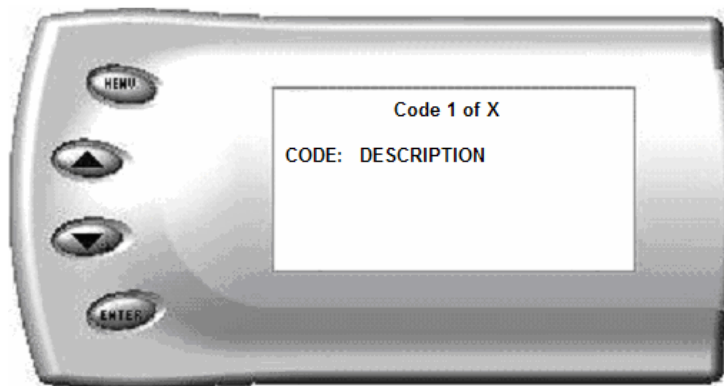
If you selected *Diagnostics* from the main menu of the *Evolution*, the screen displays the following message:



Retrieving Codes

If you want to retrieve and view the DTCs on your vehicle, select the *Retrieve* option. Make sure your ignition is in the ON position.

After selecting the *Retrieve* option, any stored DTCs will appear on the screen like the following example:



Press [MENU] to exit the DTC list and return to the previous menu.

If you have no trouble codes, the following screen will appear:



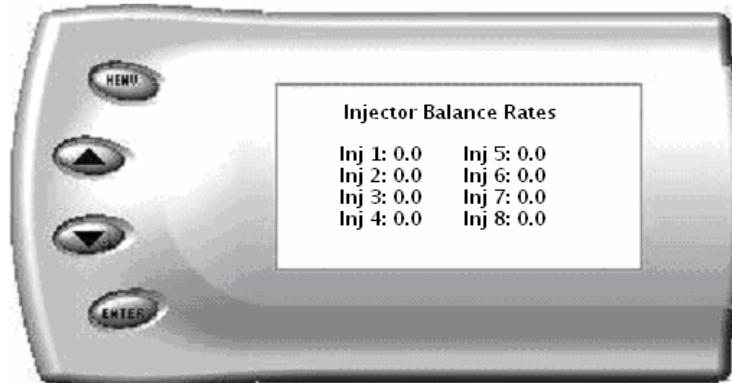
Clearing Codes

If you want to clear the DTCs on your vehicle, select the *Clear DTCs* option.

After selecting the *Clear DTCs* option, any current stored DTCs will be cleared from your vehicle and the “Check Engine” light will go out.

However, if you do not address the issue that originally caused the DTC, the DTC will set again and the “Check Engine” light will come back on. Once the DTCs have been cleared, press [ENTER] to return to the previous menu.

Injector Balance Rates



Injector balance rates can give you vital information to indicate a bad batch of fuel or possibly excessive injector wear. Balance rates should be between +4mm and -6.9mm in park or neutral.

Tech Support

Information found in this section is normally only accessed when instructed by an Edge support person. For example, *Version Info* displays the current Bootloader, Firmware, and Calibration versions or codes installed on your *Evolution*. Using the Fusion® software, you will be able to access online updates to ensure your *Evolution* is always up to date.

Note: *Make sure you return your vehicle to stock before attempting an update, or the PC software will not allow you to continue.*

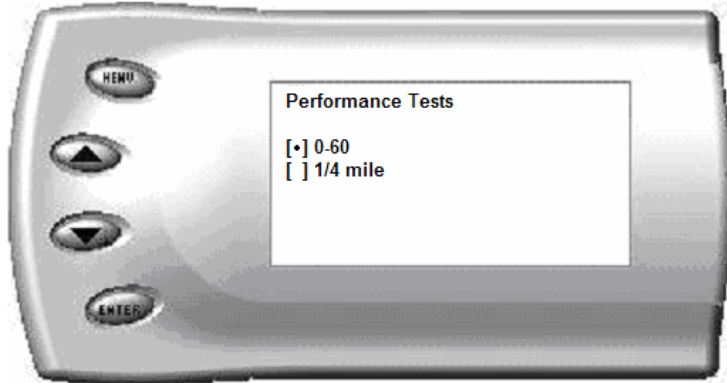
Performance Testing

The *Evolution* 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:

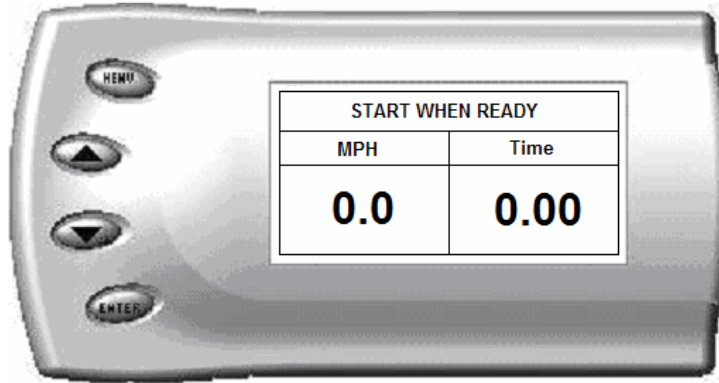
1. Press [MENU] and the *Main Menu* screen should appear:



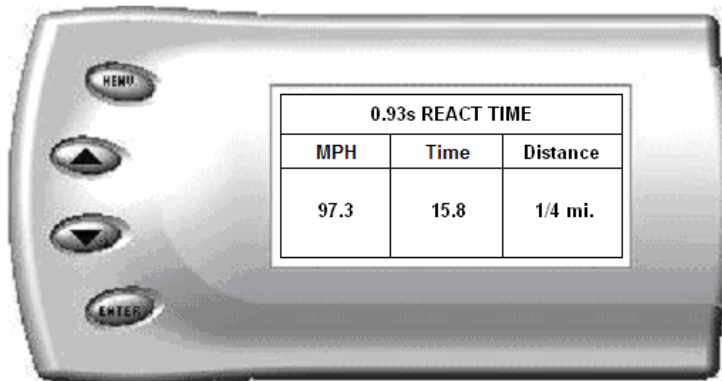
2. Select the *Performance Tests* option. The following screen appears:



3. Select the desired performance test (0-60 screen is shown below). If your vehicle is moving at this time, the *Evolution* will ask you to come to a stop.



4. For the 0-60 MPH run, press the accelerator pedal and the test automatically begins. For the ¼ mile test, you will be asked to press a key when ready. It will then cycle through a starting light sequence (Christmas tree) and tells you when to go. As you drive, the screen should be displaying your current speed. When the test is complete (the desired distance or speed is reached), the test will automatically stop and your time will be displayed on the screen as follows (quarter mile result example):



This will show how long it took you to cover 60 feet, 1/8 mile, and ¼ mile. In addition, your MPH at ¼ mile will also be shown (see the example above). The best run is stored for later viewing. You may also use the back of this manual to write down your times.

At the end of a ¼ mile run, you will see a reaction time at the top of the screen. This time begins when the final yellow light is displayed. The time between the final yellow and the green is a ½ second, so a perfect reaction time is a ½ second. The average person will see a response time of around 1 second. You'll get an "Illegal Start" message if you start before the green and your screen will turn red. You can still finish the run, but the screen will let you know that you started before the green light.

Note: *Best speed and time is recorded for viewing in the Records section, and is updated when you beat your last best performance.*

5. After the test is complete, press [MENU] to return to the Performance Menu.

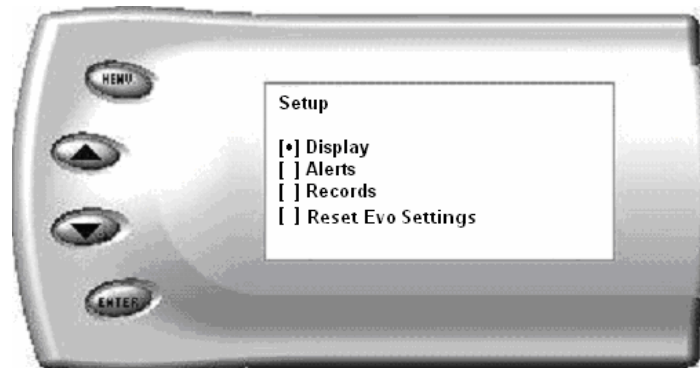
Setup

The *Evolution* gives you even more additional features. You can choose from several different parameters to monitor, how these parameters are displayed, set parameter alerts, and view the highest value that certain parameters have reached.

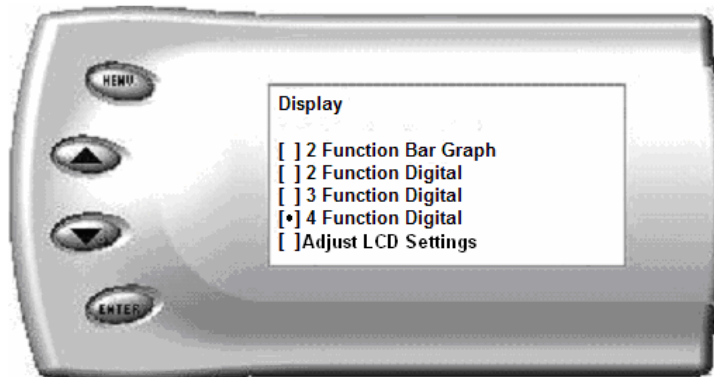
Changing the Display View

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

1. From the *Main Menu* select the *Setup* option. The *Setup* screen appears as follows:

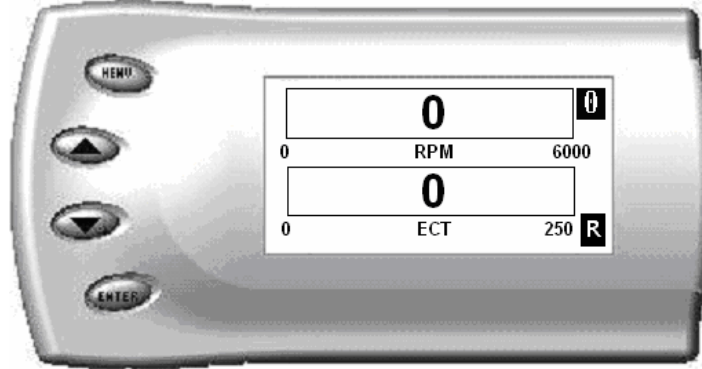


2. Select the *Display* option. The following screen appears:



3. Select the desired viewing option by using the [UP] and [DOWN] arrows and pressing the [ENTER] key on the desired display type. Below are examples of the display options:

Two Function Bar Graph Display Sample



Two Function Digital Display Sample



Three Function Digital Display Sample



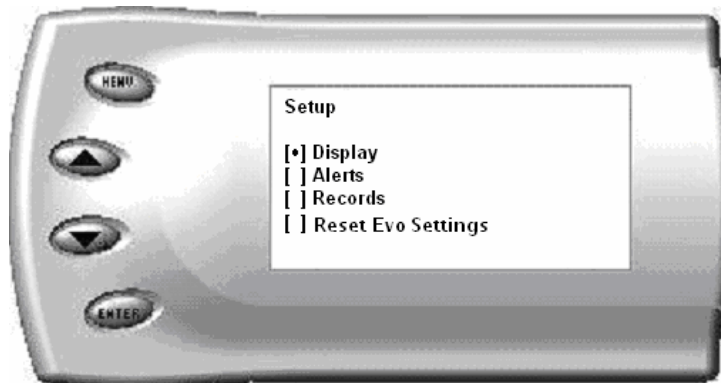
Four Function Digital Display Sample



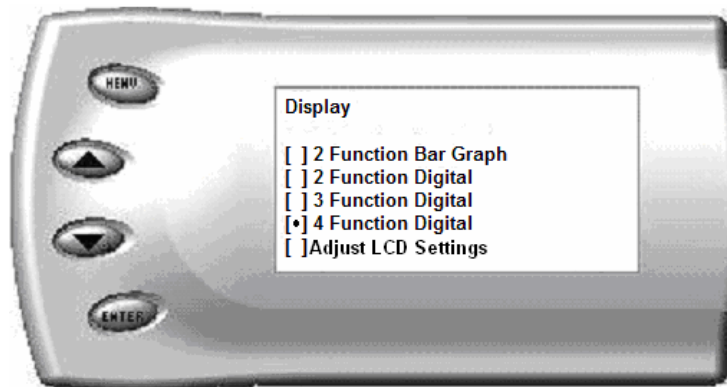
Changing the Variables on the Screen

To change the variables on the screen, perform the following steps:

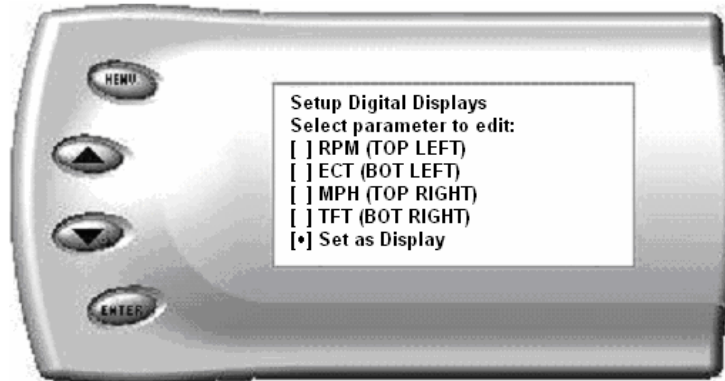
1. From the *Main Menu* select the *Setup* option. The *Setup* screen appears as follows:



2. Select the *Display* option. The following screen appears:



3. Select the style which you would like the parameters to be displayed on your screen and press [ENTER]. Depending on which display you select, a screen similar to the following appears:



4. This screen lists the current parameters being displayed and their respective positions on the screen (i.e., TOP LEFT, etc.). Select the position you would like to change and press [ENTER]. A list of available parameters will be displayed. Select the parameter you would like to view and press [ENTER]. (A list of commonly used acronyms is located in the back of this manual and an in depth list of the PIDs supported follows). 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.

Follosing is a list of the 30 PIDs (LLM) or 23 PIDs (LLY-LBZ) you can display and description of each:

- RPM (Revolutions Per Minute) – *Displays current engine speed in RPM.*
- MPH (Miles Per Hour) – **Note:** *Dash display may be +/-3 MPH off from the digital display due to mechanical differences in the spring, etc. used to control the gauge.*
- ECT (Engine Temperature; Coolant) – Degrees F.
- LOAD (Engine Load) – Calculated engine Load
- GEAR (Current Gear) – Current gear. A ‘lock’ symbol will appear next to the gear number once the torque converter locks.
- TFT (Trans Fluid Temperature) – Degrees F.
- BST (Boost Press) – PSI
- MAF (Mass Air Flow) – Grams Per Second

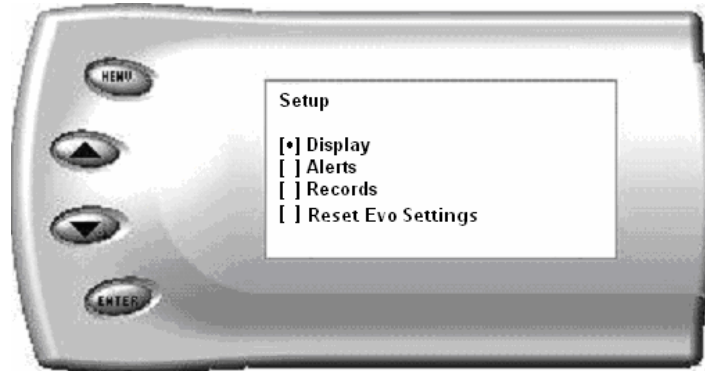
- IAT (Intake Air Temperature; Manifold) – Degrees F.
- DFRP (Desired Fuel Rail Pressure) – PSI – This is what pressure the PCM would like the fuel rail pressure to be at.
- AFRP (Actual Fuel Rail Pressure) – PSI – This is the actual pressure in the fuel rail.
- MAP (Manifold absolute Pressure) – kPa
- MIT (Main Injection Timing) – Degrees
- BAT (Battery voltage) – Volts
- CFR (Calculated Fuel Rate) – mm³
- VPOS (Turbo Vane Position) - %
- APP (Accelerator Pedal Position) or Throttle Percent - %
- IATT (Intake Air Temperature; Intake Tube) – Degrees F
- BARO (Barometric Pressure) – kPa
- FTMP (Fuel Temperature) - Degrees F
- DIDL (Desired Idle) – RPM
- EGT (Exhaust Gas Temperature) – Degrees F
- OSS (Output Shaft Speed) – RPM
- (LMM) AAT (Ambient Air Temp) – Degrees F
- (LMM) EOP (Engine Oil Pressure) – PSI
- (LMM) FUEL (Fuel Remaining; Tank) - %
- (LMM) DPF STAT (Diesel Particulate Filter Regeneration Status)- Cycle: On/Off
- (LMM) SOOT (Soot Mass) – Grams
- (LMM) EGT1 (Exhaust Gas Temp) – Degrees F
- (LMM) EGT2 (Exhaust Gas Temp) - Degrees F

Changing the Backlighting

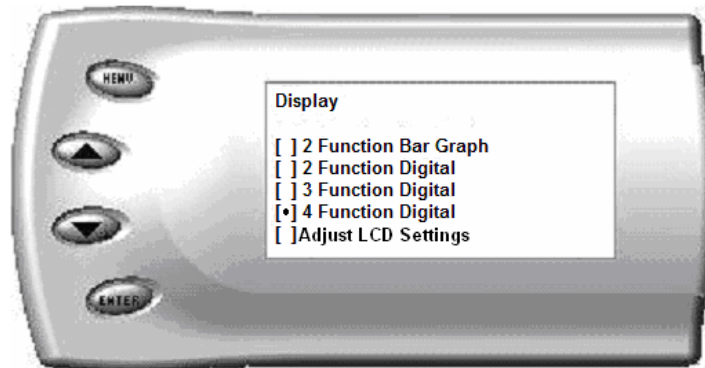
Adjusting the Backlight Color

To change the backlighting color, perform the following steps:

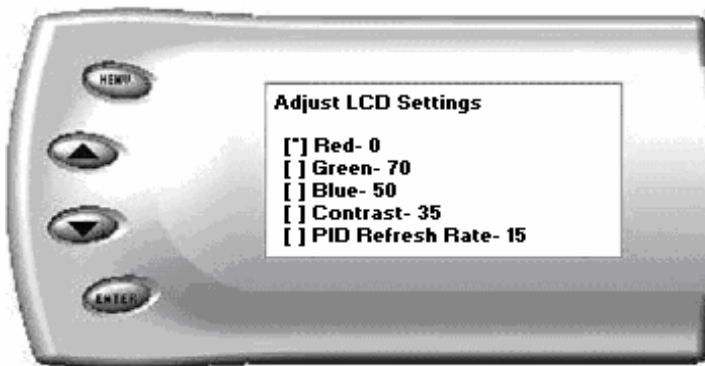
1. From the *Main Menu* select the *Setup* option. The *Setup* screen appears as follows:



2. Select the *Display* option. The following screen appears:

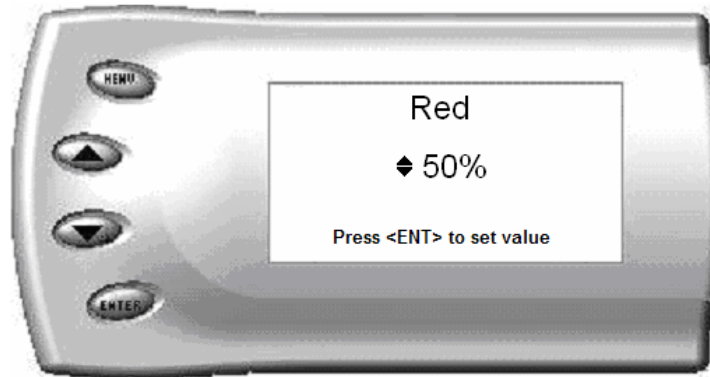


3. Select the *Adjust LCD Settings* option. The following screen appears:



4. Select the color you would like to change.

- Depending on the color you select, a screen similar to the following appears (example of Red):



- As you adjust the percentage shown on the screen, you should notice a change in the color of the screen. Once the desired color value has been reached, press [ENTER]. If you would like to return to the previous screen and abort the current color change, press [MENU].
- PID Refresh Rate- Adjusting the refresh rate will change how fast the information is updated on the monitor.

Adjusting the Backlight Brightness

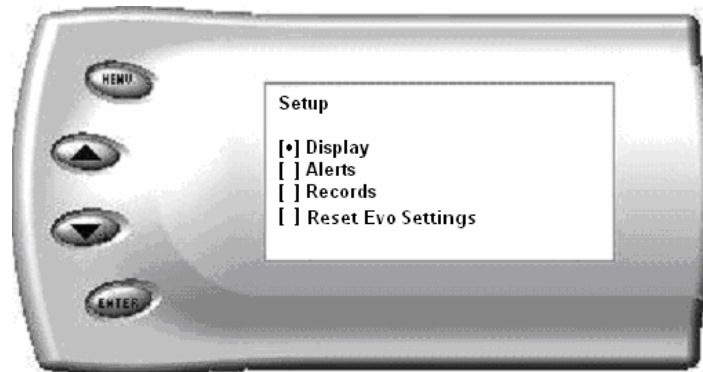
When viewing engine parameters (like the sample below) press the [UP] and [DOWN] arrow keys to adjust the brightness of the display. Each time the button is pressed the backlight will either brighten or dim by 10% of the total brightness. The default setting is 100% brightness.



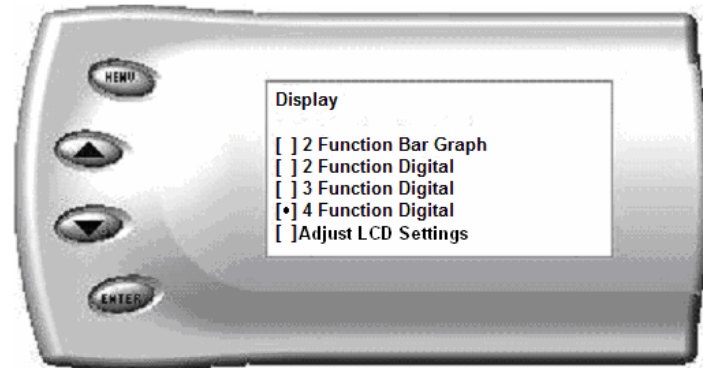
Adjusting the Contrast

To change the contrast, perform the following steps:

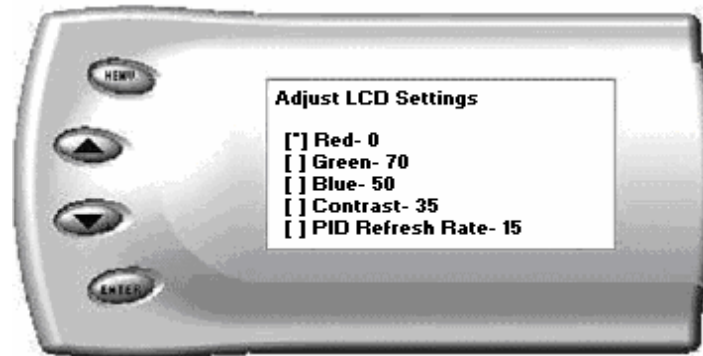
1. From the *Main Menu* select the *Setup* option. The *Setup* screen appears as follows:



2. Select the *Display* option. The following screen appears:



3. Select the *Adjust LCD Settings* option. The following screen appears:



4. Select *Contrast*, and use the up and down arrows to adjust the contrast to where you'd like. Press [ENTER] and {MENU} to return to Main Menu.

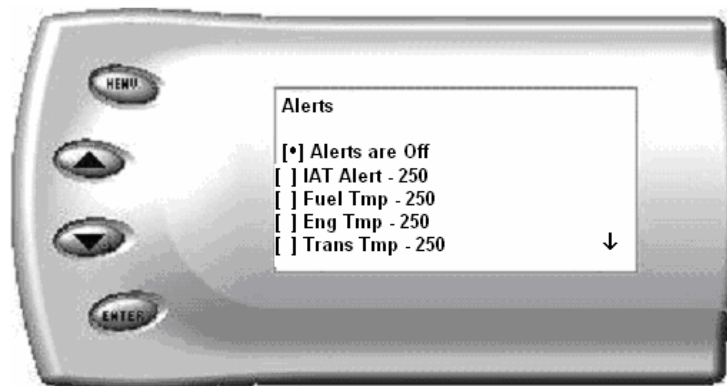
Alerts

If you would like to know when a certain parameter reaches a certain value, you can set an alert for that parameter by following these steps:

Following is a list of Alerts you may set and adjust.

- EGT Alert
- EngTmp Alert
- Boost Alert
- Speed Alert
- InjTime Alert (Injection Timing)
- RPM Alert
- FuelTmp Alert
- FRP Alert (Fuel Rail Pressure)
- TransTmp Alert
- (LMM) Soot Mass Alert

1. From the *Main Menu* select the *Setup* option. Then from the *Setup* menu, select the *Alerts* option. The following screen appears:



2. By default, the alerts are off. To turn them on, select the *Alerts are Off* option and press [ENTER]. The text line will now read *Alerts are On*. To change the value of a certain alert, select the parameter you want to change and press [ENTER]. The screen similar to the following will appear:



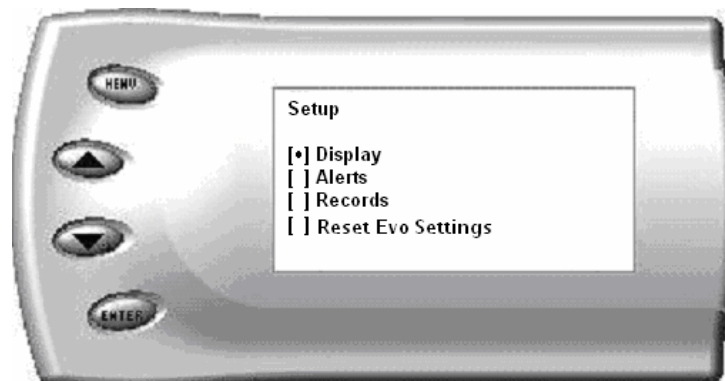
3. Press the [UP] and [DOWN] arrow keys until you have reached the desired value. Pressing [ENTER] will save the current alert value. If you would like to return to the previous screen and abort the current value change, press [MENU].

When alerts are On, and multiple alerts are detected, the *Evolution* will only display one. For example: if you exceed the set point for both MPH and RPM, the first alert the *Evolution* detects will be the one displayed. Pressing any button will temporarily disable the alert until the vehicle falls below the set point and then will automatically re-enable.

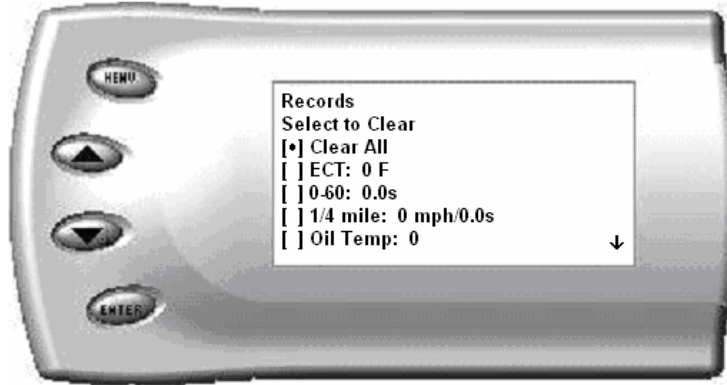
Records

The *Evolution* automatically records the highest value of some of the parameters. To view these records and to reset them, do the following:

1. From the *Main Menu* select the *Setup* option. The *Setup* screen appears as follows:



2. Select the *Records* option. The following screen appears:



3. This is where you can view all of the current recorded high values. The arrow located at the bottom right corner of the screen indicates there are more parameters than the display can show. Use the [UP] and [DOWN] arrow keys to scroll through the list of records. If you would like to reset a single parameter, select the desired parameter and press [ENTER]. If you would like to reset all of the records, select the *Clear All* option and press [ENTER]. To exit out of this list press [MENU].

Reset Evo Settings

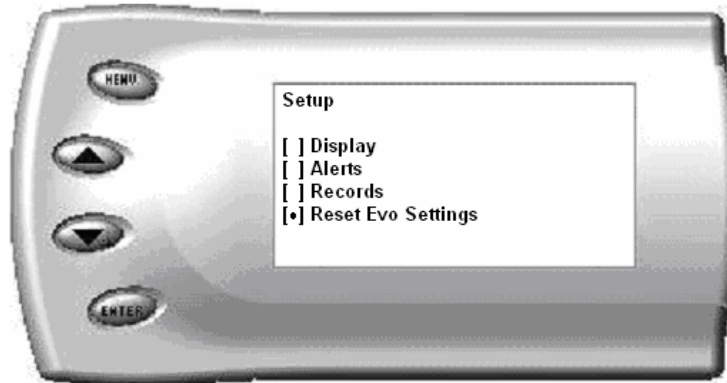
If you would like to restore the *Evolution* back to its original factory settings, follow these steps.

Note: *This will not program the vehicle back to stock power; it will only reset the Evolution display options, alerts and records back to the preset defaults from Edge Products. To reset power level, return to “Power Programming”, and select “Return to Stock”.*

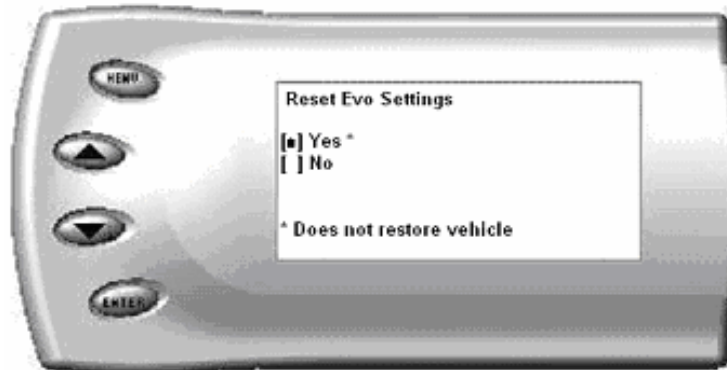
1. Enter into the *Main Menu*. The *Main Menu* screen appears as follows:



2. Select *Setup* and press *Enter*. The following screen will be shown:



3. Select *Reset Evo Settings* and press *Enter*. The following screen will be shown.



4. Select *Yes* and press *Enter*. The following screen will be shown.



5. The *Evolution* settings have now been reset to match the settings as originally purchased and supplied from Edge Products. Press [MENU] to return to the *Main Menu*.

Fusion® PC Software

Fusion® software allows the user to update their *Evolution* to the latest version of firmware and calibration files. The software can be downloaded for free from Edge Products website at www.edgeproducts.com , or the CD can be requested by calling (801) 476-3343.

Note: *Make sure you install both the SOFTWARE and the DRIVERS before hooking up the Evolution to your PC. During the installation you will be given the chance to install the drivers. Just hit the “Install” button when it asks. If you do not do this step and want to install the drivers at a later time the Driver installation can be found in the folder where Fusion was installed. This location is:*

C:\EdgeProducts\FusionClient\Evolution_Driver\CP210xVCPInstaller.exe.

Failing to do so will cause the software to not work properly with the device.

Connecting the *Evolution* to a PC is as easy as finding an open USB port, installing the supplied USB cable, attaching the *Evolution* to the cable, and running the Fusion® software. (**NOTE:** *The Evolution needs to be returned to stock on the truck before removing and performing any updates. If this is not done, the software will not allow you to continue.*)

NOTE: *If Lightning Software had previously been installed on your computer, do not use. If you have previously installed Fusion®, you do not need to reinstall. Instead, go to START on your computer tool bar, open all programs, open EDGE PRODUCTS and select Fusion. At this point you will be prompted to connect your device (Evolution monitor) to the computer. You will need to attach the supplied USB cable to an active USB port on your computer and plug into the side of the Evolution monitor*

Checking for Updates

The Fusion software will check for updates automatically each time it is started. Install the updates when prompted to keep your Fusion current.

In order to update your *Evolution* it must first be connected to your PC via a USB port. You will notice when you first connect it that it will try to connect to the Internet to make sure your stock files are all up to date on your evolution. If your computer is not connected to the Internet then you will not have this valuable function.

If your *Evolution* is not able to program your vehicle because it needs an update or a stock file does not pass the checksum test, then you must connect your computer to the Internet and then connect your Evolution to your computer. This will allow our server to update your unit and allow you to program your vehicle.

If we have not been able to verify the stock files on your vehicle, you will be asked if you want to upload those files to our server. This will allow us to make sure the *Evolution* has properly read the files and can program your vehicle with confidence that it will be done correctly.

If the files read by the *Evolution* do not match the ones that we expect we can also download the correct stock files to your *Evolution* in order to recover your vehicle if something went wrong.

Note: *If you did not return the truck to the “STOCK” programming level, the software will not allow you to update the Evolution.*

At the end of successful updates, you may exit the Fusion Software; disconnect the Evolution and cable from your computer.

Troubleshooting/Tips

Tip: Keep in mind that the *Evolution* is a high performance product and that not all vehicles deliver the exact same power output when programmed with the *Evolution*. It is recommended that you select a program that will best fit your needs. Choose your power level wisely and keep in mind the condition and tolerances of your vehicle when selecting a suitable power level.

- **NO DISPLAY WITH KEY ON** – If you should get no display when turning the key on, check all of your fuses and make sure your battery is fully charged. Disconnect and reconnect the OBD-II cable to ensure the *Evolution* 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 Edge Products Technical Support 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 *Evolution* to reprogram the PCM with the factory calibration and recover the PCM. If, after reprogramming, you still have a “No-Start” condition, contact Edge Products Technical Support. A member of our support team can further instruct you on possible recovery procedures.
- **MISSING FILE** – If you have a missing file error during power programming, press [ENTER], turn off the key and follow the manual instructions to update your *Evolution* using the Fusion Software.
- **ERROR 86 or 87** – Connect the *Evolution* to the Fusion Software. Choose ‘Yes’ to the screens that the Fusion Software immediately displays. Make sure the Fusion Software can connect to the internet.
- **ERROR 40 or 39** – Connect the *Evolution* to the Fusion Software. Choose ‘Yes’ to the screens that the Fusion Software immediately displays. Make sure the Fusion Software can connect to the internet.

Commonly Used Acronyms

ACT = Air Charge Temp	KOEO = Key On Engine Off
ACV = Thermactor Air Control Sensor	KOER = Key On Engine Running
AOD = Automatic Overdrive Transmission	KS = Knock Sensor
APP = Accelerator Pedal Position	LOAD = Engine Load
AXOD = Automatic Overdrive Transmission	LOS = Limited Operation Strategy
BAT = Battery Voltage	LPD = Line Pressure Desired
BCM = Body Control Module	LUS = Lock-up Solenoid
BOO = Brake On/Off Switch	MAF = Mass Airflow
BP = Barometric Pressure Sensor	MAFV = Mass Airflow Sensor Voltage
CCD = Computer Controlled Dwell	MAP = Manifold Absolute Pressure
CCO = Converter Clutch Override	MAT = Manifold Air Temp
CDR = Crankcase Depression Regulator	MCU = Microprocessor Control Unit
CEL = Check Engine Light	MIL = Malfunction Indicator Light
CFI = Central Fuel Injection	MPH = Miles Per Hour
CHT = Cylinder Head Temperature	OHC = Over Head Camshaft
CID = Cylinder Identification Sensor	OSS = Output Shaft Speed
CKP = Crank Position Sensor	PCM = Powertrain Control Module
CMP = Cam Position Sensor	PFE = Pressure Feedback EGR Sensor
CPS = Crankshaft Position Sensor	PIP = Profile Ignition Pickup
DPF = Diesel Particulate Filter	PSPS = Power Steering Pressure Switch
DTC = Diagnostic Trouble Codes	RPM = Revolutions Per Minute
ECA = Electronic Control Assembly	SES = Service Engine Soon
ECM = Electronic Control Module	SIL = Shift Indicator Light
ECT = Engine Coolant Temp	SPARK = Spark Advance/Retard
EDF = Electric Drive Fan Relay	SPOUT = Spark Output Signal (from ECA)
EDIS = Electronic Distributor	STAR = Self Test Automatic Readout
EGO = Exhaust Gas Oxygen Sensor	TAPS = Throttle Angle Position Sensor
EGR = Exhaust Gas Recirculation	TCM = Transmission Control Module
EGRC = EGR Control Solenoid	TFI = Thick Film Ignition System
EOT = Engine Oil Temperature	TFT = Transmission Fluid Temperature
EVP = EGR Position Sensor	TGS = Top Gear Switch
EVR = EGR Valve Regulator	THS = Transmission Temperature Switch
FDM = Fuel Delivery Module	TPS = Throttle Position Sensor
FPM = Fuel Pump Monitor	TQC = Torque Control
FRP = Fuel Rail Pressure	TSS = Turbine Shaft Speed
HEGO = Heated Exhaust Gas Sensor	TTS = Transmission Temperature Switch
IAT = Intake Air Temperature	VAF = Vane Air Flow Sensor
ICM = Integrated Controller Module	VAT = Vane Air Temperature
IDM = Ignition Driver Module	VCT = Variable Cam Timing
ISC = Idle Speed Control	VSS = Vehicle Speed Sensor
ITS = Idle Tracking Switch	WAC = WOT A/C Cut-off Switch
IVS = Idle Validation Switch (Diesel)	WOT = Wide Open Throttle
KAM = Keep Alive Memory	

Edge Products Technical Support

(888) 360-EDGE

Please have the Part Number, the Version Number and Manufacture Date prior to calling Tech Support. This will help ensure quick and accurate support.