



## **Vehicle Programming Instructions**

1997 – 2003

Ford F-Series and Expeditions

4.6 and 5.4 liters



# TABLE OF CONTENTS

<u>SECTION TITLE</u>	<u>PAGE #</u>
Disclaimer.....	2
Warranty.....	3
About the Evolution.....	4
Display and Keypad.....	6
Getting Started.....	7
Power Programming.....	9
Diagnostics.....	18
Setting Gear Ratio.....	20
Setting Tire Size.....	21
Performance Testing.....	22
Trouble Shooting/Tips.....	24
Commonly Used Acronyms.....	26

**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/programmer on your truck, you will need to program your truck back to stock before using the Evolution. You will also need to remove any aftermarket chip you have placed on your truck before using the Evolution. ***Failure to remove the chip may result in PCM failure.***

©2004, Edge Products, LLC  
 All rights reserved.  
 Edge Products, LLC  
 1080 South Depot Dr.  
 Ogden, UT 84404  
 (801) 476-3343  
 www.edgeproducts.com  
 Manual Version 100306

**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**

Edge Products, LLC 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, contact the manufacturer.

**LIMITATION OF WARRANTY**

Edge Products, LLC (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, LLC.

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 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, 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.

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

Legal in California only for racing vehicles which may *never* be used upon a highway.

## **AFTERMARKET PRODUCTS AND 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, we also want to educate our customers (and after-market 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 car and you take it in for warranty repair, the dealer must honor your warranty unless they can prove that whatever modifications you have added to your car actually caused the problem.

While as a consumer you have strong legal protection regarding your vehicle's warranty, there is also a practical reality that different automotive manufacturers and dealers have greatly varying views on aftermarket products, in particular those that produce horsepower, such as performance enhancement chips, modified intake manifolds, or aftermarket exhaust systems. There are dealers and manufacturers out there that will use the presence of a horsepower upgrade to void your vehicle's warranty. They will do this regardless of whose product you are using. Any aftermarket company that does not acknowledge this is misleading you.

The bottom line is that while the law protects the consumer and provides for enforcement of the warranty, it is very difficult for most people to hire an attorney and fight a voided warranty. Edge recommends that you **always disconnect and/or remove any performance device or programmer before you take your vehicle to a dealer for any service**, in order not to interfere with Diagnostic equipment.

## About the Evolution

Congratulations on purchasing the *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 Started* 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 rendered useless. If this happens, call our technical support (1-888-360-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.

### Transmission Only Program

This setting is the lowest level setting. It will provide firmer transmission shifts which helps to increase the transmission life. It will not provide any additional engine performance increases and is designed to run with 85 to 87 octane fuel.

### Tow Performance Program (87+ octane fuel)

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

### High Performance Program (91+ octane fuel)

This is the highest setting for the *Evolution*. 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. You should see a greater increase in horsepower from the Towing Program along with additional fuel economy improvement.

## Diagnostics

The *Evolution* is also a powerful diagnostics tool. You can view trouble codes 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 of the *Evolution* is determining your quarter mile time and how long it takes you to go from 0 to 60 mph. It is very easy to use and is a feature not all tuners have.

## Tire Size and Gear Ratio

This feature is only available to trucks with digital odometers. You can use it to correct your odometer readings that result from changing tire sizes. You can also correct the gear ratios of your truck. The *Evolution* will give you the option to change the tire size and gear ratio during the reprogramming of your truck.

## Fuel Pump Fuse

It will be necessary to remove your fuel pump fuse before you program your truck. This helps prevent a possible leaky injector from leaking unwanted fuel into a cylinder while programming. Check your owner’s manual for the correct fuse number. The lid to the fuse box will help locate the fuse once you have the fuse number. It will be a yellow fuse labeled 20 amps. Place the fuse back into its appropriate slot once the programmer is finished and unplugged from the vehicle.



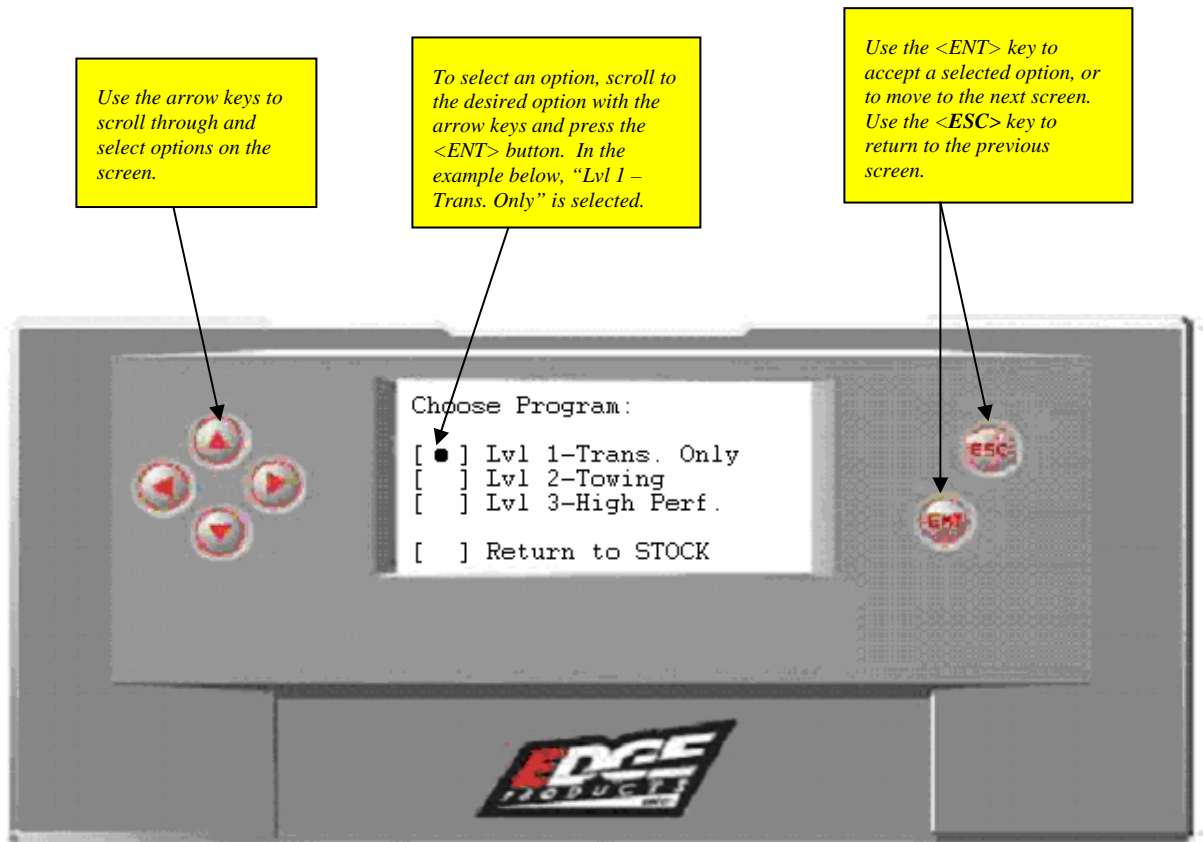
This is the location of the fuse box (under the hood on the right side)



This is a typical arrangement for the fuses inside the fuse box

## 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 arrow keys are used to scroll through options on the screen, and the <ENT> (enter) key is used to select desired options from a menu or move to the next screen. The <ESC> (escape) key is used to return to the previous screen.



## Getting Started

**Tip:** 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.

The following are simple steps to either programming your vehicle or running the diagnostic scan tool that is included with the *Evolution* product. This manual is designed to help you in that process. If you have problems using this product, please contact our technical support line at 1-888-360-EDGE.

If you have used another tuner/programmer on your truck, you will need to program your truck back to stock before using the *Evolution*. You will also need to remove any aftermarket chip you have placed on your truck before using the *Evolution*. ***Failure to remove the chip may result in PCM failure.***

### IMPORTANT Steps (Prior to Programming)

- Make sure your battery is in good condition and fully charged before programming your vehicle.
- Do NOT unplug the *Evolution* while programming is in process. This could disable your vehicle.
- Some types of radio equipment, electrical accessories, and cellular communications devices can interfere with the programming process. Either turn off or remove all related devices from the vehicle.
- Close the doors on your vehicle and keep them closed during the programming process.
- Set the parking brake on your vehicle to deactivate the daytime running lights.

***Remove the fuel pump fuse from the fuse box.*** This helps prevent a possible leaky injector from leaking unwanted fuel into a cylinder while programming. Read page 5 for more instructions.

### Begin Programming

To begin programming your truck, follow the steps as outlined below:

1. Turn the ignition switch to the OFF position, locate the black diagnostic connector under the dash near the steering column or under the glove compartment, and connect the *Evolution* cable to this connector. Sometimes the cover to this connector will be labeled "Data Link".



2. Connect the other end of the cable to the Evolution programmer.

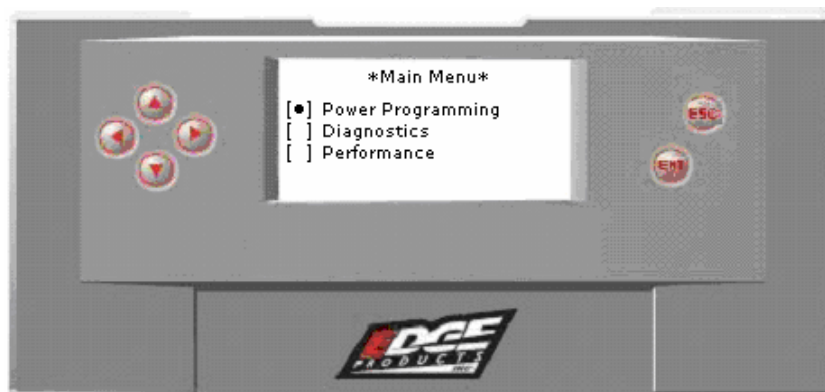
After making the connection, the screen will display the Edge Products logo and eventually the screen will display the following:



The numbers in the upper left portion of the screen represent the version number of the *Evolution* programmer. If you have already used the *Evolution*, the following numbers and letters are displayed: the specific stock code of the PCM (under the *Evolution* version number) and the current programmed state of your vehicle (in the upper right corner of the screen). The following letters may appear for the current programmed state:

- I – Programming was interrupted. Will return to stock after pressing <ENT>.
- 1 – Vehicle has been programmed to Level 1.
- 2 – Vehicle has been programmed to Level 2.
- 3 – Vehicle has been programmed to Level 3.

After pressing <ENT>, the following screen appears:



3. Select your desired option by pressing the up or down keys on the left side of the programmer and press <ENT>. Continue to the next section.

## Power Programming

If you selected *Diagnostics* in the previous step, turn to that section in this instruction manual and follow the steps. If you selected *Power Programming*, the screen displays the following message:



1. After turning the key ON (do not start the engine) and pressing <ENT>, the screen displays the following message:



2. After turning the key OFF and pressing <ENT>, the screen displays the following message:



3. After turning the key ON, the screen displays the following message:

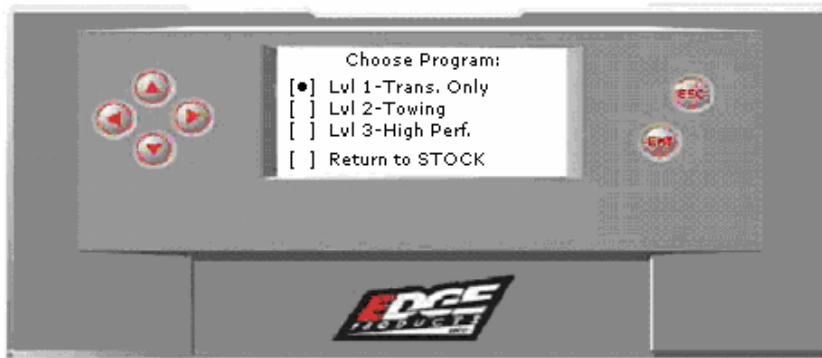


If the *Evolution* stays in a loop of turning the key on and off, then the *Evolution* is having a hard time communicating with the PCM. Turn back to the *Getting Started* section of this manual (page 7). Make sure you read and follow each item listed.

4. After the stock PCM file is saved, the following screen appears:



When the stock program is saved, the following screen appears:



5. Select the desired program and press <ENT>.

Depending on which program you selected, one of the following screens appears:

**Level 1**



**Level 2**



### Level 3



### STOCK



6. Press <ENT> to continue or <ESC> to exit.

After pressing <ENT> from the program screen you have selected, one of two screens may appear (the screen shown below will appear if you selected Level 1 and the screen on the following page would appear with either Level 2 or Level 3):





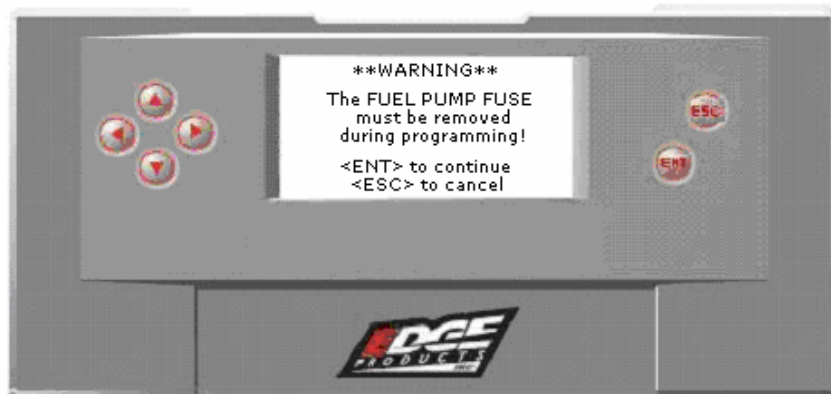
### **SPEED LIMITER WARNING:**

Installing Level 2 and Level 3 removes the vehicle's **speed limiter**. The speed limiter is designed to govern the vehicle's speed based on the manufacturer's recommended speed

### **TOWING WARNING**

The *Evolution* programmer is designed to increase your vehicle's power output. It does not alter the engine, drive train, or suspension components

7. The following message will appear to remind you to remove the fuel pump fuse:



The bottom of page 5 will help you on removing the fuel pump fuse.

8. The programmer will prepare the calibration files to be put onto your truck and the following screen appears:



9. After the programmer has finished creating the truck's custom program, there are two things that might happen. If you have a digital odometer, the following screen appears:



This will give you the option of changing your Gear Ratio and then the Tire Size. Please read the appropriate section of this manual for instructions on correct changes (pages 20-21).

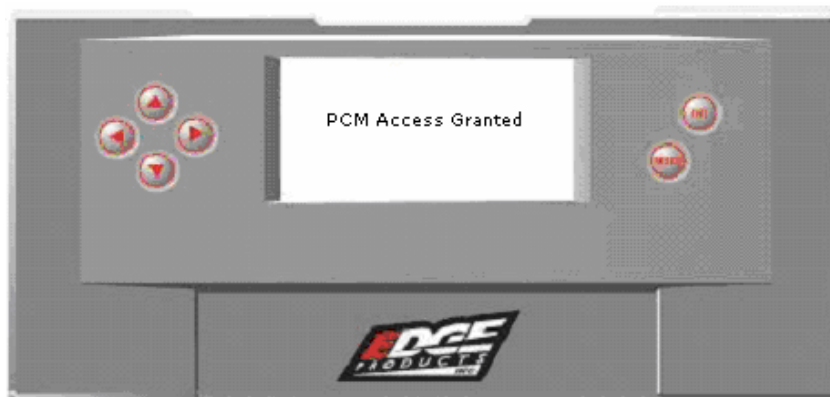
After the Tire Size option, or if the Tire Size option did not appear, the following screen appears:



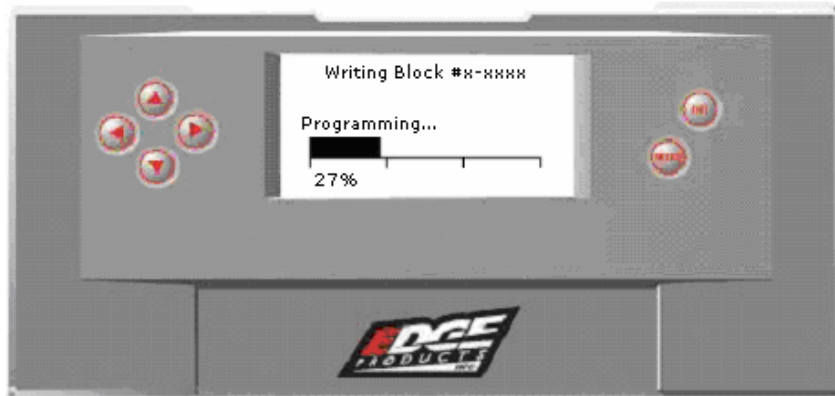
10. After turning the key OFF and pressing <ENT>, the following screen appears:



11. Turn the key ON and the following screens appear:







The programming takes approximately 3 minutes to complete.  
When the program is finished, you will see the following screen:



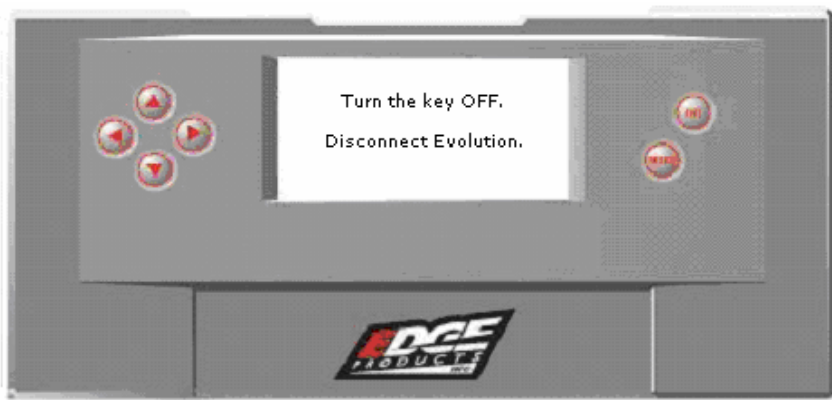
After turning the key OFF, the following screen appears:



After pressing <ENT>, the FINISHED screen appears:



Press <ENT> and the following screen appears:

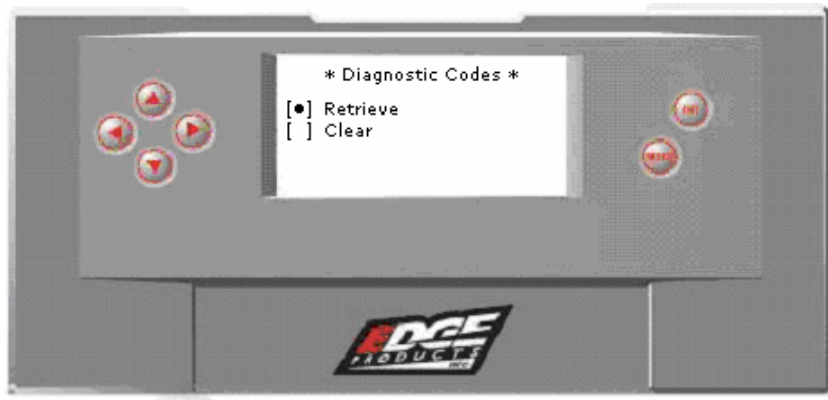


Programming is complete.

## Diagnostics

The diagnostics scanner included with your *Evolution* is a powerful tool that allows you to view and clear trouble codes on your vehicle. Trouble codes are the messages your vehicle's computer logs to let you know there may be something wrong with your vehicle. These messages being logged come from various sensors in your truck. The "Check Engine" light on your dash is activated by the presence of some trouble codes.

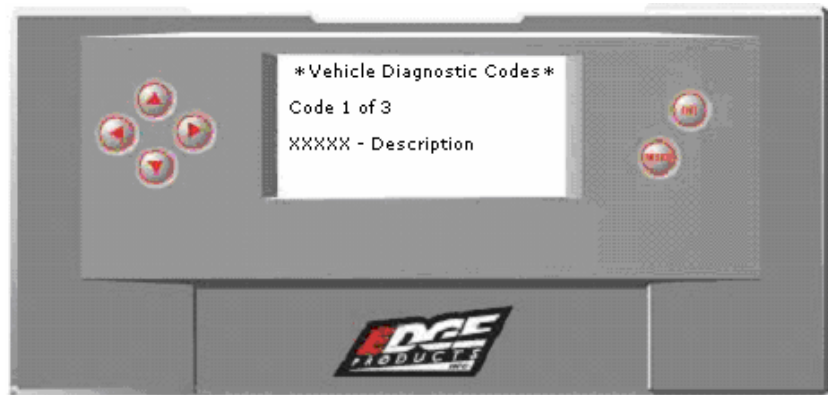
If you selected *Diagnostics* from the initial option screen after plugging in the *Evolution*, the screen displays the following message:



### Retrieving Codes

If you want to retrieve and view the trouble codes on your vehicle, select the *Retrieve* option. Make sure your ignition is in the ON position, but the vehicle is not started.

After selecting the *Retrieve* option, if you have trouble codes, they will appear on the screen like the following example:



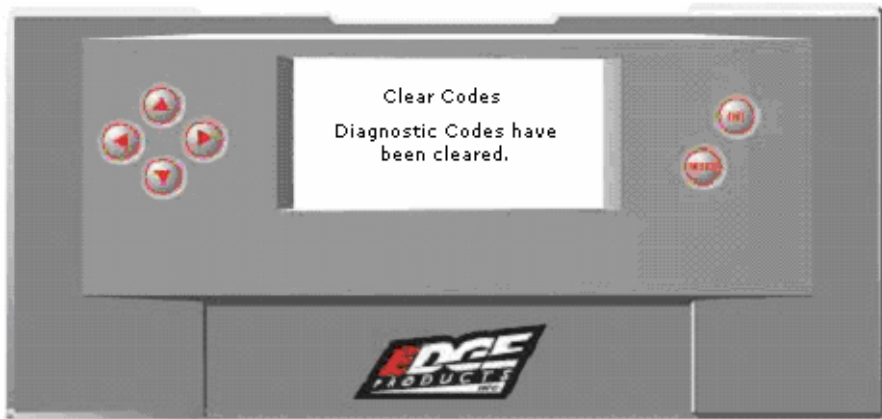
If you have no trouble codes, the following screen will appear:



### **Clearing Codes**

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

After selecting the *Clear* option, if you have trouble codes, they will be cleared from your vehicle and the “check engine” light will go out. However, if you do not address the issue that caused the trouble code in the first place, the light will eventually come back on. The screen will look like the following after clearing the codes:



## Setting Gear Ratio

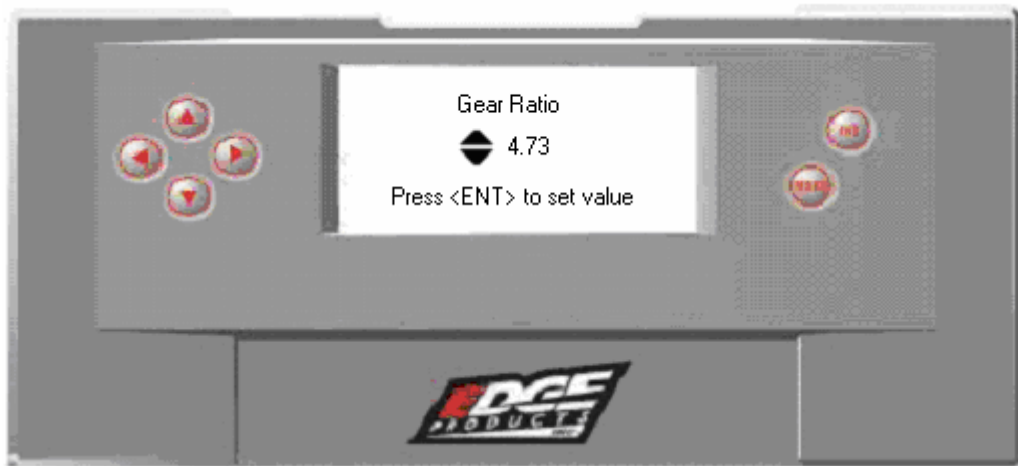
The *Evolution* has the ability to change the value for the gear ratio stored on your truck's PCM. In order for this option to be used on your vehicle, you must have a digital odometer. Do not change the value displayed on the *Evolution* unless you have changed the gear ratio in the truck's rear differential. For 4WD vehicles, the front and rear axle gears should be the same.

Reasons people use for changing gears ratios in their truck's axles:

1. There is an optimum ratio between the engine RPM and tire RPM. As people change their tire size, they tend to change the gears in the differential to keep this ratio the same. This will keep the desired torque.
2. Often in drag racing, changing the gears to a higher gear will give more torque off the starting line. There are equations that show you the best gear to use at certain applications. You can easily find these equations on the Internet. Recognize that when running higher gears, you do tend to run your engine at higher RPMs and your fuel economy will decrease.

The first value the *Evolution* will display is the current value stored in the PCM. This option is allowing you to match the gear in the differential to the value stored in the PCM (so, you do not need to change the value displayed unless you have changed the gears in the differential).

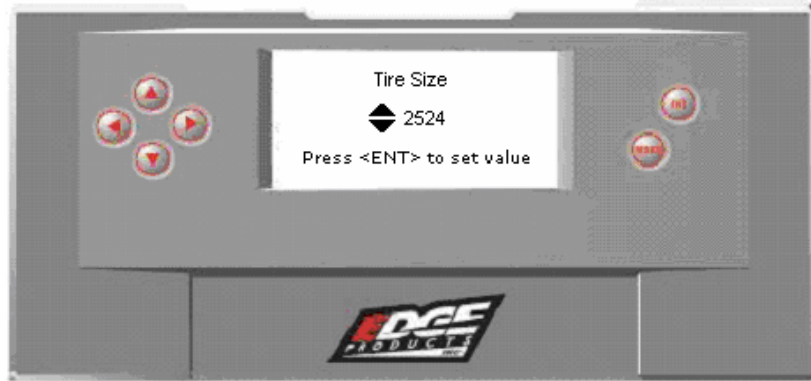
This option is brought up while you reprogram your truck to a new level. As you are programming your truck, the *Evolution* will ask if you would like to "adjust the axle gear ratio". If you choose yes, the following screen appears:



Adjust the value displayed by pressing the up/down arrow keys. You can change the gear ratio from 2.73 to 5.13 in increments of 0.01. Changing this value will allow your PCM to accurately calculate vehicle speed and odometer readings. These changes will also affect your shift points.

## Setting Tire Size

The Evolution has the ability to change the tire size on your truck's PCM. If you have changed your tires to a different size, the PCM will miscalculate certain readings. Giving the PCM the correct tire size will allow your truck to accurately calculate engine speed and odometer readings. In order for this option to be used on your vehicle, you must have a digital odometer. You will not need to change the value displayed if you have never changed the sizes of your tires. This option is brought up while you reprogram your truck to a new level. After you choose to set your tire size, the follow screen appears:



The numbers on this screen represent the circumference of your tire size. The default tire size for your specific truck will be displayed. Adjust the tire size by pressing the up/down arrow keys. The table below will help you determine your wheel circumference by matching your tire size with the sizes listed. Or you can figure the circumference by using the equation given under the Tires Size Table. For example, if your tire size is 285/ 65-18, the value (circumference) you enter into the *Evolution* is 2600. Another alternative is to measure your tire's circumference by marking your tire and rolling it one complete revolution and measuring the distance in inches or millimeters. If measured in inches, you will need to multiply the inches by 25.4 (i.e., 91.3 inches x 25.4 = 2319 mm). The range of change is from 2000mm to 3500mm in increments of 1mm.

<u>Width</u>	<u>Ratio</u>	<u>Rim</u>	<u>Circumference</u>
265	70	16	2441mm
275	70	16	2485mm
305	70	16	2617mm
215	75	16	2289mm
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
285	65	18	2600mm
285	60	18	2510mm
325	60	18	2660mm

<u>Tire Size</u>	
33	2632mm
35	2792mm
37	2951mm
38	3031mm

**Circumference Equation:**

$$[(width * ratio * 0.02) + (rim * 25.4)] * 3.1415$$

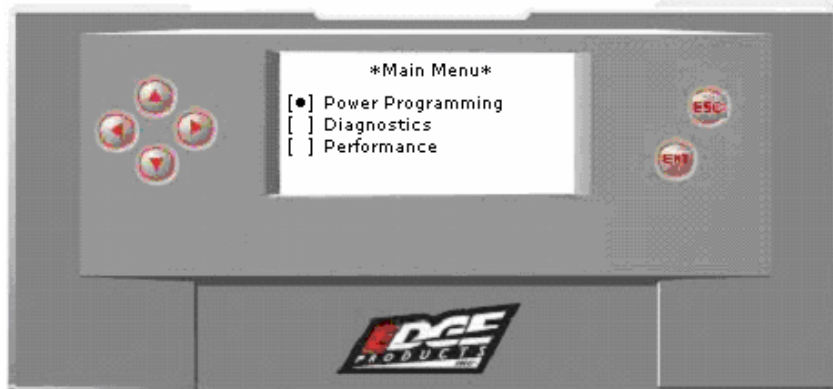
**Steps:**

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 **3.1415**
5. The result will be the circumference of your tire in mm.

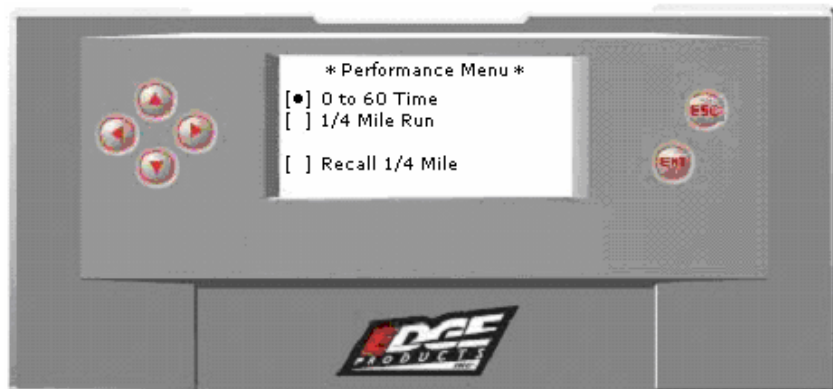
## Performance Testing

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. You can also recall one of your saved runs. To run these tests, perform the following steps:

1. Press <ENT> and the *Main Menu* screen should appear:



2. Select the *Performance* option and press <ENT>. The following screen appears:



3. Select the desired performance test and press <ENT>. If your vehicle is moving at this time, the following screen appears:



4. When your vehicle is at a complete stop, the following screen automatically appears:



5. When you press the accelerator pedal, the test automatically begins. 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 like the following (quarter mile result example):



The 0 to 60 time will only display the time it took to reach 60 MPH. The quarter mile time, unlike the 0 to 60 time, has the option to save one run. You can recall this run at anytime and save over it with a better run if desired. Not only does the *Evolution* display the time it took to drive a quarter of a mile, it will also show how long it took you to cover 60 feet, 1/8 mile, and 1/4 mile; in addition, your MPH at 1/4 mile will also be shown (see the example above).

6. After the test is complete, press <ESC> to return to the Performance Menu. You may use the back of this manual to write down your times.



## Troubleshooting/Tips

*Tip:* 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.

*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. 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.

- **NO RESPONSE** If you do not get a response from the *Evolution* when you plug it into the OBD-II port, check all of your fuses and make sure your battery is fully charged. A blown fuse can prevent the truck from communicating with the *Evolution*.
- **THEFT LIGHT** If the theft light flashes rapidly after programming and the vehicle won't start, the Evolution Programmer has experienced a conflict with the Passive Anti-Theft System (PATS). To recover from this, perform the following steps:
  1. Turn the key on, but do not attempt to start the vehicle.
  2. Wait for the theft light to quit flashing rapidly. (This should take about 1 minute, after which the theft light will flash multiple times about every 3 seconds.)
  3. Turn the key off and remove the key from the ignition for 30 seconds.
  4. Insert the key and turn the ignition to the ON position and wait for the normal engine checking procedure to take place; then start the vehicle. The theft light should quit flashing.

If your vehicle still won't start and the theft light is blinking rapidly, remove the ground (-) battery cable (from both batteries if your vehicle is equipped with two) for a period of ONE HOUR to allow the theft codes to clear. Then re-attach the cable and start the vehicle.

- **LOW IDLE** If your truck seems to idle very low and has a tendency to die from lack of fuel, you might have to re-teach your truck how to idle again. This seems to occur with earlier trucks (1997-1998). The PCM has a special location for storing certain parameters of the truck. This storage area will become erased when re-flashed with a new program or when it loses power for awhile (unplugging the battery for a period of time). One of the parameters it stores is how the engine returns to idle (how much fuel to cut back, etc.) from certain situations. These

earlier trucks sometimes take longer learning how to return to idle. Following these steps should help solve this problem:

**PROCEDURE:** Follow these steps:

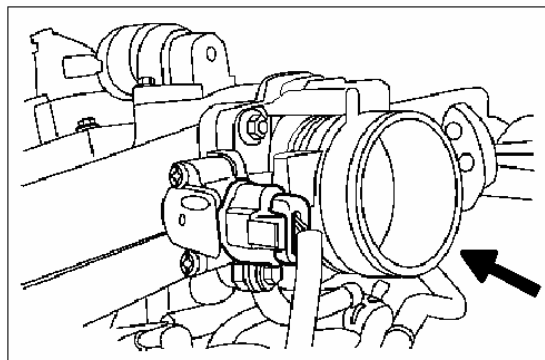
1. Start the engine
2. Let it idle for awhile
  - Let the engine establish where it wants to idle at (about 700-800 RPMs)
3. Put the truck into Drive while applying the brake
  - Each of these steps require you to wait a bit for the engine to return to idle
  - You are allowing it relearn how to approach idle from the new situation you give it
  - You should see a rapid increase/decrease in RPM and a slow recovery to idle
4. Turn the A/C on (Air Conditioning)
5. Turn the A/C off
6. Put the truck into neutral
7. Turn the A/C on
8. Turn the A/C off
9. Rev up the RPMs and let it come to idle

You might need to repeat these steps a couple of times

If not all the symptoms have gone away:

- You might have to clean the throttle body
  1. Remove the snorkel (air intake) from the throttle body
  2. Spray some Throttle Body Cleaner onto the throttle body (see below picture) and clean it with a dry rag.

This will allow the right amount of air to enter into the engine through the throttle body. There is a set gap measurement appointed from the manufacturer which is programmed into the PCM. This gap allows air to travel through the throttle body while the throttle valve is closed. If the air entering the engine is the wrong amount (because the gap is dirty), then all of the calculations in the PCM are incorrect and the PCM has to compensate a lot to correct it. Cleaning the dirt from this gap returns the gap to its original setting.



**Technical Support: 1-888-360-EDGE**

To expedite your support call, please have part number (i.e., EAF2100A), version number, and Date of Manufacture ready prior to calling support.



## Commonly Used Acronyms

ACT = Air Charge Temp	ITS = Idle Tracking Switch
ACV = ThermaCTOR Air Control Sensor	IVS = Idle Validation Switch (Diesel)
AOD = Automatic Overdrive Transmission	KAM = Keep Alive Memory
APP = Accelerator Pedal Position (Diesel)	KOEO = Key On Engine Off
AXOD = Automatic Overdrive Transmission	KOER = Key On Engine Running
BCM = Body Control Module	KS = Knock Sensor
BOO = Brake On/Off Switch	LOS = Limited Operation Strategy
BP = Barometric Pressure Sensor	LUS = Lock-up Solenoid
CCD = Computer Controlled Dwell	MAF = Mass Airflow Sensor
CCO = Converter Clutch Override	MAP = Manifold Absolute Pressure
CDR = Crankcase Depression Regulator	MAT = Manifold Air Temp
CEL = Check Engine Light	MCU = Microprocessor Control Unit
CFI = Central Fuel Injection	MIL = Malfunction Indicator Light
CID = Cylinder Identification Sensor	OHC = Over Head Camshaft
CKP = Crank Position Sensor	OSS = Output Shaft Speed Sensor
CMP = Cam Position Sensor	PCM = Powertrain Control Module
CPS = Crankshaft Position Sensor	PFE = Pressure Feedback EGR Sensor
DTC = Diagnostic Trouble Codes	PIP = Profile Ignition Pickup
ECA = Electronic Control Assembly	PSPS = Power Steering Pressure Switch
ECM = Electronic Control Module	SES = Service Engine Soon
ECT = Engine Coolant Temp	SIL = Shift Indicator Light
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
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	TTS = Transmission Temperature Switch
HEGO = Heated Exhaust Gas Sensor	VAF = Vane Air Flow Sensor
IAT = Intake Air Temp	VAT = Vane Air Temperature
ICM = Integrated Controller Module	VSS = Vehicle Speed Sensor
IDM = Ignition Driver Module	WAC = WOT A/C Cut-off Switch
ISC = Idle Speed Control	WOT = Wide Open Throttle