



Owner's Manual

1994 – 2003

Ford Powerstroke 7.3 liter



**with BD X Power
Calibration Inside**



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

WARRANTY AND LIMITATION OF LIABILITY

The following sets forth the terms and conditions for the use of the Evolution with BD X Power Program inside (the "PRODUCT"). The installation of the PRODUCT indicates that BUYER has read, understands and accepts the terms and conditions of this agreement.

Do not use the PRODUCT until you have carefully read the following agreement.

DISCLAIMER OF LIABILITY

Other than as expressly set forth herein, EDGE PRODUCTS, Inc. and BD ENGINE BRAKE, Inc. (hereafter collectively, "SELLER"), together with its distributors, jobbers and dealers shall in no way be responsible for the PRODUCT'S proper use and service. In no event shall SELLER be liable for any special, incidental, indirect or consequential damages of any kind or nature, whether or not BUYER was advised of the possibility of damage, arising or resulting from the use or performance of the PRODUCT, and BUYER hereby waives any and all such claims.

BUYER acknowledges that he/she/it is not relying on SELLER'S skill or judgment to select or furnish goods suitable for any particular purpose and that SELLER has no liability that will extend beyond the scope of the limited warranty contained herein, and BUYER hereby waives all remedies or liabilities, expressed or implied, arising by operation of law or otherwise, (including, without limitation, any obligations of SELLER with respect to fitness for any particular purpose; merchantability; and special, incidental, indirect or consequential damages) or whether or not occasioned by SELLER'S negligence.

SELLER disclaims any warranty and expressly disclaims any liability for personal injury or damages related to BUYER'S use of the PRODUCT. BUYER acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and BUYER agrees to indemnify SELLER and hold SELLER harmless from any claim related to the PRODUCT and its use or performance. Under no circumstances will SELLER be liable for any damages, liabilities, costs or expenses incurred as a result of by reason of the use, performance or sale of the PRODUCT, including, without limitation, any damages, liabilities, costs or expenses incurred by reason of BUYER'S negligence related to those uses of the PRODUCT as a result of the removal of the speed limiter.

SELLER assumes no liability regarding the improper installation or misapplication of the PRODUCT. It is the installer's responsibility to check for proper installation, and, if in doubt, contact the manufacturer.

LIMITATION OF WARRANTY

SELLER hereby provides the following 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 BD ENGINE BRAKE, Inc. and 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.

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 THIRTY (30) 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.

BD Engine Brake Inc

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About Evolution

Congratulations on purchasing Evolution by Edge Products Inc with BD X Power Calibration inside.

The following manual contains information and instructions on the proper use of Evolution. Please read carefully before proceeding to program your vehicle.

Note: Read the product disclaimer before programming your vehicle.

EMISSION Program

50 State Emissions Standards: This setting is the lowest level setting, but still increases your horsepower and torque significantly.

TOW Program

If you plan to tow over 4,000 lbs, use this program, it is strongly recommended that you make appropriate modifications to your exhaust system and install an EGT (exhaust gas temperature) gauge to aid in the prevention of potential damage to your engine. Note: This setting is legal in California only for racing vehicles which may never be used upon a highway. Consult a diesel mechanic with questions.

EXTREME Program

This program is **not** designed for towing. If you plan to tow, program your vehicle to the Tow program. It is strongly recommended that you make appropriate modifications to your exhaust system and install an EGT (exhaust gas temperature) gauge to aid in the prevention of damage to your engine. This setting is legal in California only for racing vehicles which may never be used upon a highway. For more information, consult a diesel mechanic.

Stock Program

Evolution automatically makes a backup of your stock program before proceeding to add a new program. This assures that you will have the stock program if/when you desire to reprogram your vehicle to its original stock program.

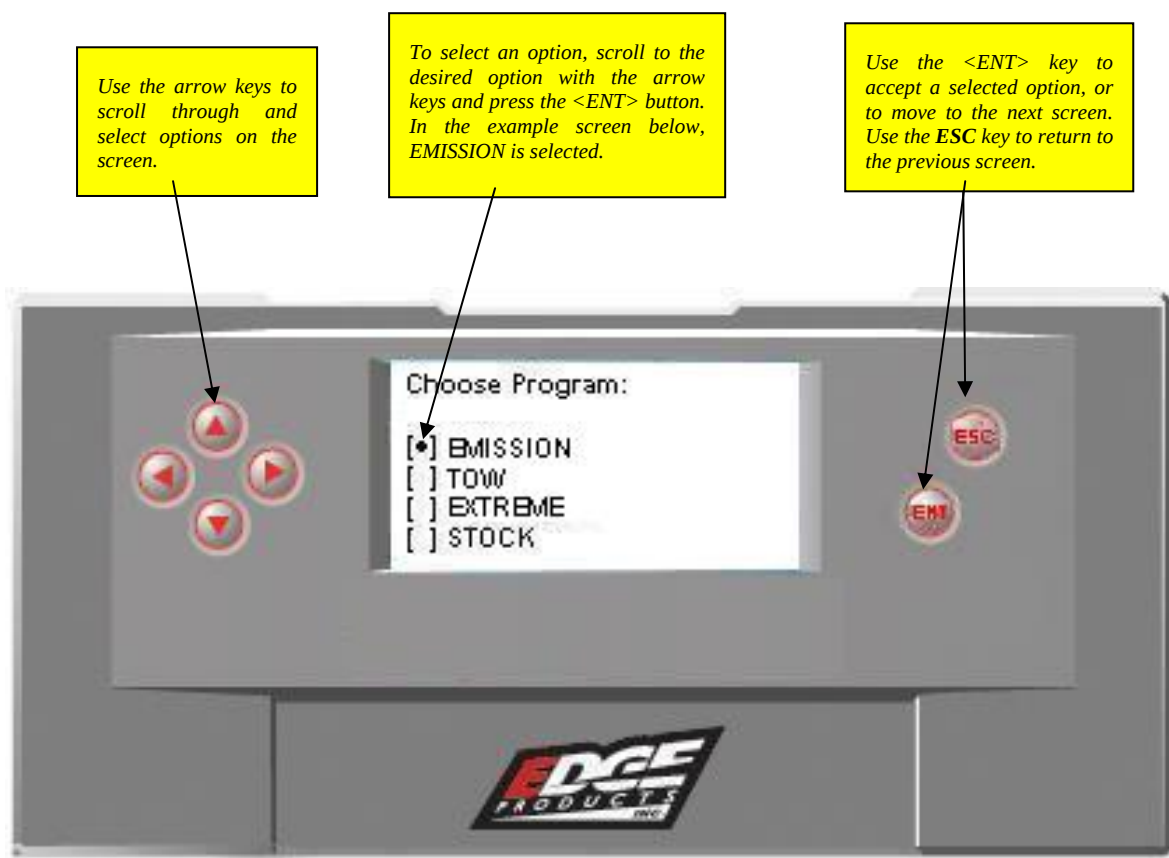
It is recommended prior to returning your vehicle to a service center that you return your vehicle's computer to the stock program. Follow the steps included in this manual for returning your program to stock.

Diagnostics

Evolution is also a powerful diagnostics tool. Not only can you view trouble codes your vehicle may be displaying—which in turn allows you to fix them, but you can turn off that annoying "Check Engine" light when the problem has been addressed. No more trips to the dealer for a diagnostics scan.

Display and Keypad

The following screen 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.



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Getting Started

The following are simple steps to either programming your vehicle or running the diagnostic scan tool that is included with the Evolution product. This booklet is designed to help you in that process. If you have problems using this product, please contact BD technical support line at (800) 887-5030.

To begin programming your truck, following the steps as outlined below.

1. Turn the ignition switch to the OFF position and locate the diagnostic connector under the dash near the steering column or under the glove compartment and connect the *Evolution* cable to this connector.

After making the connection, the *Evolution* screen will display the following message:



The numbers in the upper left portion of the screen represent the version number of the Evolution programmer. Also, for your convenience, the letter in the upper right portion of the screen represents the current programmed state of your vehicle. The following letters may appear:

- I** – programming was interrupted. Will return to stock after pressing <ENT>.
- T** – vehicle has been programmed to EMISSION.
- R** – vehicle has been programmed to TOW.
- E** – vehicle has been programmed to EXTREME.

After pressing <ENT>, the following screen appears:



2. 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.

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Power Programming

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



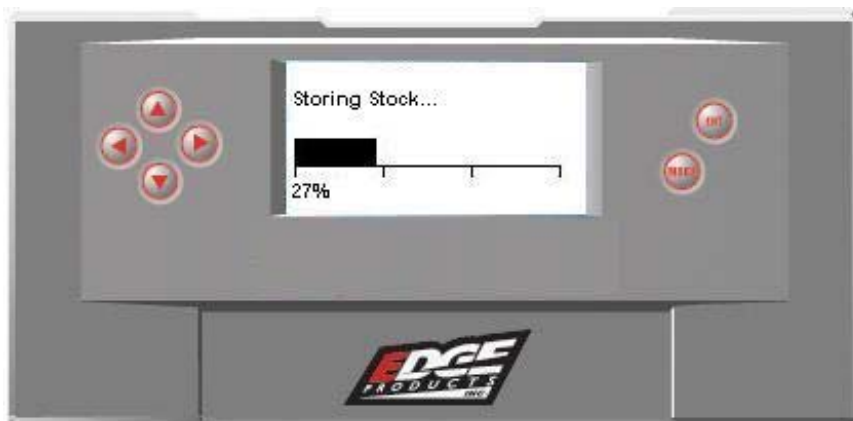
1. After turning the key ON (do not start the engine) and pressing <ENT>, the screen displays the following message:



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:



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



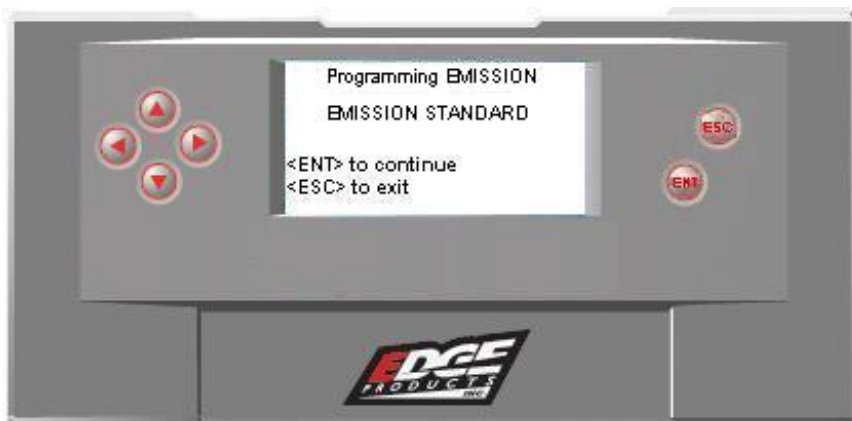
When the stock program is saved, the following screen appears:



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

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

EMISSION



TOW**EXTREME****STOCK**

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

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After pressing <ENT> from the program screen you have selected, the following screen appears:



SPEED LIMITER WARNING:

Installing the TOW and EXTREME power levels removes the vehicle's **speed limiter**. The speed limiter is designed to govern the vehicle's speed based on the manufacturer's recommended speed and power outputs as they relate to the power train, tires, and engine's ability to sustain high speeds. The owner of the vehicle (not manufacturer) is responsible for making the proper modifications to the vehicle to accommodate the additional power output in a safe manner.

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 that limit the maximum towing capacity. Towing trailers that exceed the manufacturer's limitations and recommendations may cause damage to your vehicle's engine, transmission and produce excessive gas temperatures (EGT) in diesel vehicles.

Damage caused by towing weights greater than the maximum recommended by your vehicle's manufacturer or by allowing the EGT to exceed 1200 degrees F is the responsibility of the vehicle owner, not that of the manufacturer.

After the programming has finished preparing files, the following screen appears:



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



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

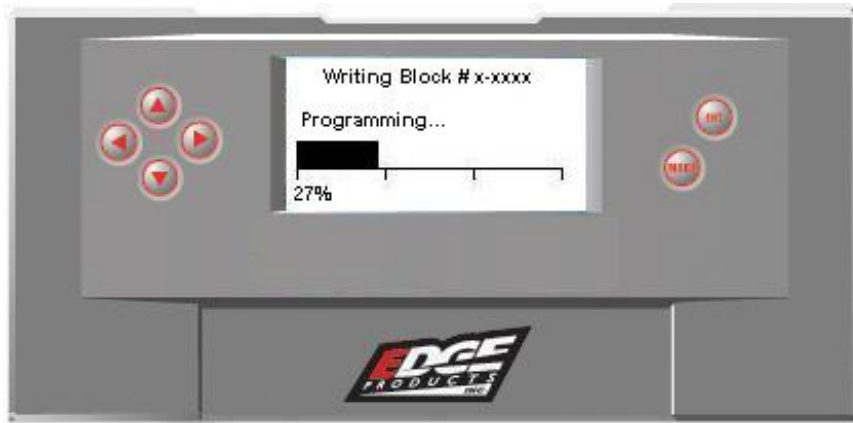


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The programming takes approximately 3 minutes to complete.

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.

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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. 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 *Evolution*, the screen displays the following message:



Retrieving Codes

If you want to retrieve and view the trouble codes on your vehicle (trouble codes are what makes your "check engine" light come on) 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 (trouble codes are what makes your “check engine” light come on) 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:



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



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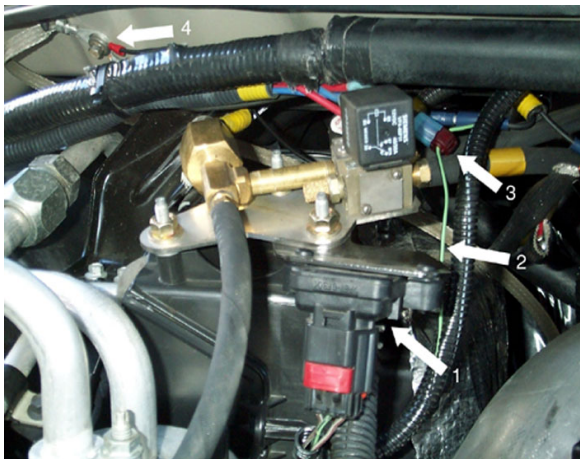
Boost Tube / Boost Fooler

BOOST TUBE: The BD Turbo Boost Tube bleeds off the turbo boost signal pressure directed to the waste gate control which allows higher boost levels resulting in a cooler running engine.

For installation of the boost tube, locate the red air line connected to the waste gate of the turbo. Place the boost tube in between of the waste gate and the air line, and reattach to waste gate.



BOOST FOOLER: To prevent the ECM from sensing a turbo over-boost condition and producing a SES fault code the Electronic Boost Cut Off must be installed.



Find the MAP sensor located on the passenger side of the engine compartment near the rear.

Install a T-tap connector on to the center wire of the MAP sensor as far away from the sensor as possible. Pull the wire out of the protective loom near the firewall and install the T-tap with pliers.

Attach the male blade connector into the T-tap and connect the other end to the ground strap lug on the firewall.

- 1 – MAP Sensor
- 2 – Center Wire
- 3 - T-tap and Male connector
- 4 – Ground lug

NOTE: Unless this product has been identified with a CARB # it is only legal in California for racing vehicles which may never be used upon a highway

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.

- **NO RESPONSE** If you do not get a response from *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 *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 no longer flash and you can start the vehicle.

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



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