

Pacific Performance Engineering, Inc.
www.ppediesel.com



**2007-2010 Duramax LMM
HOT+2 E.T. RACE**

The Ultimate In Racing Calibrations!

Maximum performance designed for closed course racing applications.

ATTENTION: Please read instructions carefully before installing the programmer into your vehicle; failure to do so may result in damage to your vehicle's PCM!

DISCLAIMER OF LIABILITY

This is a performance product which increases horsepower above factory specifications. Additional horsepower creates more stress on your vehicle's drivetrain components which may result in drivetrain failure. This product is intended for off-road use only. Use at your own risk!

This agreement 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 the terms and conditions.

Pacific Performance Engineering Inc., its distributors, employees, and dealers (the "Seller") shall not be responsible for this product's improper use and service. The Buyer hereby waives all liability claims.

The Buyer hereby acknowledges no reliance 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 obligation 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 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.

The Buyer is solely responsible for all warranty issues from the manufacturer.

LIMITATION OF WARRANTY

The Seller gives Limited Warranty as to description, quality, merchantability, and fitness for a particular purpose, productiveness, or any other matter of Seller's product sold herewith. The Seller shall not be responsible for the products proper use and service and the Buyer hereby waives all rights other than those expressly written herein. This warranty shall not be extended, altered 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 products kit. All products that are in question of Warranty must be returned prepaid to the Seller and must be accompanied by a dated proof of purchase receipt. All Warranty claims are subject to approval by Seller.

Under no circumstances will 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 incurred 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 in its original packaging, with a dated proof of purchase to the place of purchase within ten (10) 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.

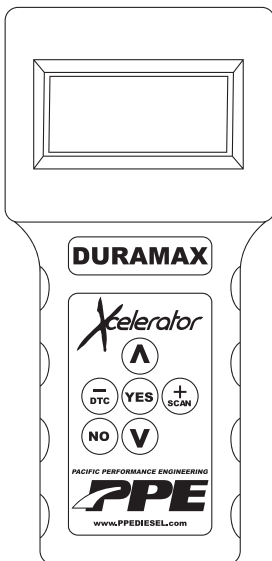
TABLE OF CONTENTS

<i>Parts and Accessories</i>	3
<i>Display and Keypad Description</i>	3
<i>Before Installing PPE Tunes</i>	4
<i>Preparing Your Vehicle for Tune Installation</i>	4
<i>Fuse Removal</i>	5
<i>OBD II Port Location</i>	6
<i>Power Levels</i>	7
<i>Installing Tune Into Vehicle ECM</i>	8-10
<i>Restoring Factory/Stock Tune</i>	11
<i>Calibration</i>	12
<i>Custom Changes</i>	13
<i>Current Vehicle Tuning</i>	14
<i>Data Scanning</i>	15
<i>Get Diagnostic Trouble Codes</i>	16
<i>Transmission Re-learn Procedure</i>	17-18
<i>Other Options</i>	19
<i>Frequently Asked Questions</i>	20
<i>Online Update</i>	22
<i>Optional Parts</i>	23
<i>Notes</i>	24-27

PARTS AND ACCESSORIES



- Xcelerator Tuner (1)
- Xcelerator Carrying Case (1)
- OBD II Cable (1)
- Xcelerator Owners Manual (1)
- Warranty Card (1)
- PPE Power Stickers (2)



Keypad Functions

- Up Button
- Down Button
- Scan/Add Button
- DTC/Subtract Button
- Yes/Enter Button
- Exit/Back Button

BEFORE INSTALLING XCELERATOR TUNES

Please read through the owners manual before installing tune in your vehicle, failure to follow proper instructions can result in a damaged or disabled PCM.

User **MUST** ensure that the factory "stock" tune is in the vehicle's PCM before installing the Xcelerator tune. GM dealer re-flashes are the same as stock factory tune.

Serious engine damage can occur if the Xcelerator tune is installed over a **non-factory / aftermarket performance tune**.

WARNING

Do not perform any operations on Xcelerator (except live data diagnostics) while vehicle is running. The vehicle must be parked and engine OFF.

PREPARING YOUR VEHICLE FOR TUNE INSTALLATION

- Turn headlights off to prevent unnecessary battery drain.
- Always have all the doors closed while installing the Xcelerator tunes, and keep them closed until process is complete. (windows can be down before starting installation if ventilation is needed)
- All vehicle accessories and electronics using auxiliary outputs must be disconnected prior to connecting the programmer into your vehicle's OBD II port. (ipod, satellite radio, cell phone charger, GPS, etc.) These devices can cause interference when running through the installation process.
- Do not turn on stereo, A/C, or heater while installing tune.
- Unless instructed by the Xcelerator, never turn the ignition key OFF while the Xcelerator is plugged in the diagnostic port.
- Do not unplug the Xcelerator while it is installing the performance tune.
- Do not try to install tune on your vehicle if battery voltage is low. Charge your battery if necessary.
- If your vehicle is attached to a trailer, make sure the brake light receptical outlet and plug are disconnected.

FUSE REMOVAL

Remove fuses corresponding to your vehicle year specified below;

Year	Engine	Pull Fuse	Pull Fuse	Pull Fuse	Pull Fuse	LOCATION
2001	LB7	SEO-1	SEO-2			CAB
2002	LB7	SEO-1	SEO-2			CAB
2003	LB7	TBC BATT	TBC IGNITION	INFO	RADIO	HOOD
2004	LB7	TBC BATT	TBC IGNITION	INFO	RADIO	HOOD
2004.5	LLY	TBC BATT	TBC IGNITION	INFO	RADIO	HOOD
2005	LLY	TBC BATT	TBC IGNITION	INFO	RADIO	HOOD
2006	LLY2	**INFO	**RADIO			HOOD
2006.5	LBZ	**INFO	**RADIO			HOOD
2007	LBZ	**INFO	**RADIO			HOOD
2007.5	LMM	INFO (TMNT)	RDO	IPC		CAB/HOOD
2008	LMM	INFO TMNT	RDO	IPC		CAB/HOOD
2009	LMM	INFO TMNT	RDO	IPC		CAB/HOOD
2010	LMM	INFO TMNT	RDO	IPC		CAB/HOOD

*Note:

The INFO TMNT fuse can be found by opening the driver's side door and removing the side panel or will be in the fuse box under the hood.

All other fuses are located in the fuse box under the hood
(Be sure not to confuse the RDO fuse with the RDO AMP fuse!)

IMPORTANT!

****2006-2007 LLY2/LBZ ONLY** pull fuses if you get a "No Communication" error while installing your Xcelerator.

OBD II PORT LOCATION

Driver side underneath dash in the center.



Plug in OBD II cable as show below.



XCELERATOR POWER LEVELS**2007.5-2010 6.6L Duramax Diesel Engines**

Power Level	HP Increase	Torque Increase
6	405	615
5	300	480
4	225	335
3	160	240
2	90	160
1	40	97

Important:

Stock exhaust must be removed while Hot Race LMM Xcelerator is loaded into your vehicle; the diesel particulate filter regeneration procedure is removed and soot will accumulate in the particulate filter and will adversely affect the performance of your vehicle.

Recommended:

For maximum performance, use the Hot Race LMM Xcelerator with ported heads, racing cam shafts and LMM Dual Fueler.

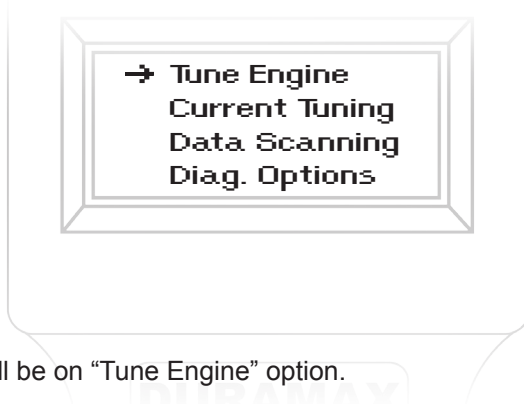
INSTALLING TUNE INTO VEHICLE PCM

STEP 1

Locate the OBD II diagnostic port on your vehicle.
(See page 6 for reference pictures)

STEP 2

Connect the Xcelerator into vehicles diagnostic port. When prompted turn the ignition key to the RUN position (**DO NOT start engine**); the Xcelerator will load through a series screens and stop. The main menu will load as shown:

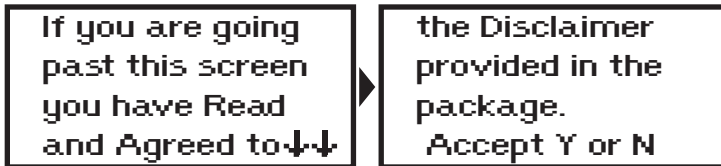


STEP 3

Selection arrow will be on "Tune Engine" option.

Select **(YES)** on the keypad.

Thoroughly read message with the **(V)** on the keypad.



Accept by pressing **(YES)** on the keypad.

STEP 4

The programmer will check your VIN #, unlock your PCM and save the vehicle's stock information. Do not disturb the Xcelerator or start the engine during this download and testing process! (approx 5-10 mins.)

Any interference during the programming process (ie. opening or closing of your vehicle's doors) may cause a communication error with your vehicle's PCM and will result in your vehicle not starting!

STEP 5

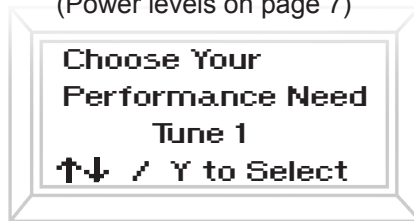
The next menu will show the "Select Tune" option, press **YES** on the keypad.



STEP 6

Use **▲** or **▼** to browse through power levels.

(Power levels on page 7)



Accept power level by pressing **YES** on the keypad.

Note: Text may look slightly different depending on the vehicle year/model.

STEP 7

The next menu will show the "Select Tune" screen, press **▼** until the arrow is next to the "Install Tune" option.



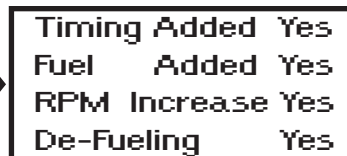
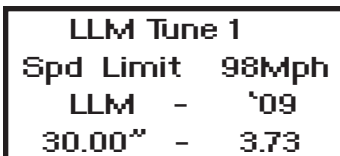
Calibration page 12

Custom Changes page 13

Press **YES** to install tune.

STEP 8

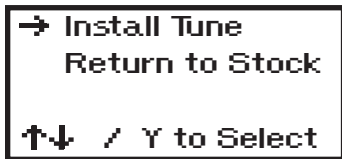
The Xcelerator screen will show you the tune you selected and the settings it will be changing. Press **YES** on the keypad to continue to the next screen.



Note: Text may look slightly different depending on the vehicle year/model.

STEP 8 (continued)

The Xcelerator will display the following screen to confirm your installation. You can press **(A)** or **(V)** to select "Install Tune" or "Return to Stock".



Install Performance tune by pressing **(YES)** on the "Install Tune" option.

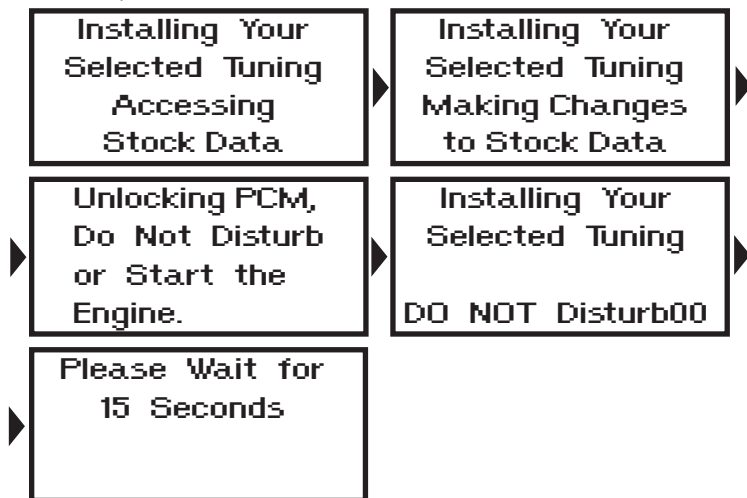
Note: Select "Return to Stock" option if you do not wish to continue with installation and factory settings will be restored.

STEP 9

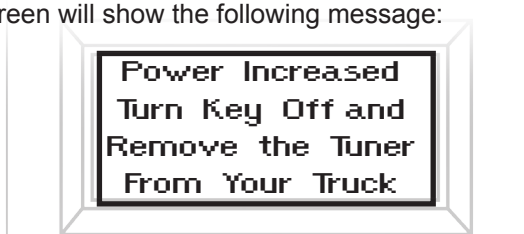
The Xcelerator will now run through a series of screens.

Any interference during the programming process (ie. opening or closing of your vehicle's doors) may cause a communication error with your vehicle's PCM and will result in your vehicle not starting!

(approx 5-10 mins.)



Final installation screen will show the following message:



Re-install fuses, installation complete.

RESTORING FACTORY/STOCK TUNE

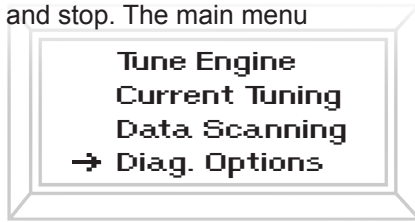
- We recommend restoring the stock tune whenever the vehicle goes in for service.
- The stock tune can be installed at any time using the “Back to Stock” feature. This feature will take PPE tune out and reset the vehicle ECM (Engine Control Module) to factory/stock.
- It is recommended to return Xcelerator back to stock when doing a software update.

STEP 1

Locate the OBD II diagnostic port on your vehicle.

STEP 2

Connect the Xcelerator into vehicles diagnostic port. When prompted turn the ignition key to the RUN position (**DO NOT start engine**); the Xcelerator will load through a series screens and stop. The main menu will load as shown:



STEP 3

Selection arrow will be on “Tune Engine” option.

Press **V** on the keypad to go down to “Diag.

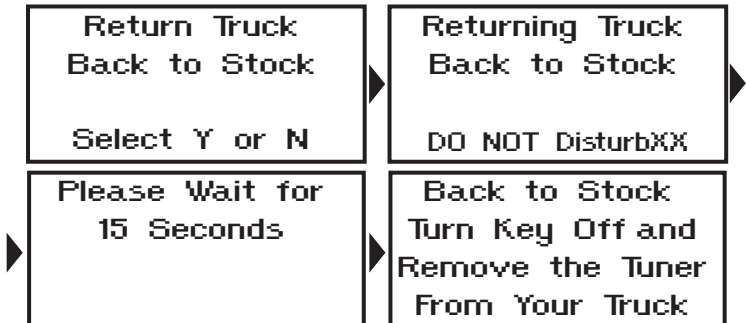
Options”(Diagnostic Options) press **YES** .

STEP 4

From the “Diagnostic Options” menu press **V** on the keypad to go down to “Back to Stock” and press **YES** .

STEP 5

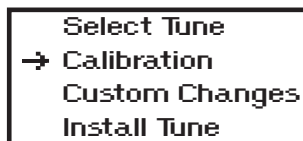
The Xcelerator will now display “Return truck Back to Stock” press **YES** on the keypad. Xcelerator will display a series of screens, please wait.



CALIBRATION

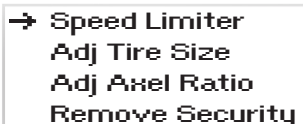
Calibrations can be modified after selecting power level when installing a tune. Modify speed limiter, adjust tire size, adjust axle ratio, and remove security.

Press **(V)** go to "Calibration". Press **(YES)** to see calibration menu options.



```
Select Tune
→ Calibration
Custom Changes
Install Tune
```

Use **(A)** or **(V)** to browse through calibration options.



```
→ Speed Limiter
Adj Tire Size
Adj Axel Ratio
Remove Security
```

Choose option and press **(YES)** to change.

SPEED LIMITER

Adjust your vehicle's speed limiter from 40mph to 200mph in 1mph increments.

Use **(A)** or **(V)** to increase/decrease speed limiter.

Press **(YES)** once desired limit is set.

(Note: Pressing **YES** will take you back to calibration menu)

ADJUST TIRE SIZE

This option lets you adjust for tires ranging from 25" to 44.75". If a tire size is selected over 35" an ABS / break light will be triggered, requiring a custom ABS calibration via GM TECH2 scanner for: 2001 - 2007 LB7, LLY, LBZ only. The LMM is not compatible with tire size of 35" to 44.75". Call PPE for details.

Use **(A)** or **(V)** to increase/decrease tire size.

Press **(YES)** once desired size is set.

(Note: Pressing **YES** will take you back to calibration menu)

ADJUST AXEL RATIO

Adjust your vehicle's gear ratio from 2.73 to 5.13 (ie. 2500 HD gear ratio is 3.73)

Use **(A)** or **(V)** to increase/decrease tire size.

Press **(YES)** once desired size is set.

(Note: Pressing **YES** will take you back to calibration menu)

REMOVE SECURITY

Remove security is used for applications where OEM steering column and key security system is not used. (ie. engine swaps into custom vehicles/marine)

After all calibrations are set press **(NO)** to go back to "Select Tune" menu.

CUSTOM CHANGES

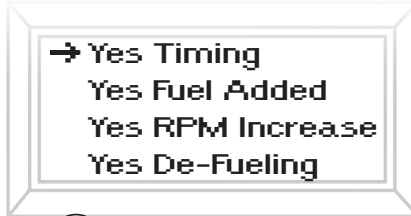
Custom changes can be modified after selecting power level when installing a tune. Modify timing, Fuel, RPM increase, and De-Fueling.

Press **(V)** go to "Custom Changes".

Press **(YES)** to see custom changes menu options.



Use **(A)** or **(V)** to browse through custom changes options.



Choose option and press **(YES)** to change.

Note: We recommend not modifying these settings if you want maximum performance and fuel economy. (Exception when stacking the PPE Xcelerator)

TIMING

Increase your vehicle's timing.

Use **(YES)** or **(NO)** to toggle On or Off (Yes/On No/Off).

(Note: Pressing **YES** or **NO** will take you back to custom changes menu)

FUEL

Increase your vehicle's fuel.

Use **(YES)** or **(NO)** to toggle On or Off (Yes/On No/Off).

(Note: Pressing **YES** or **NO** will take you back to custom changes menu)

RPM Increase

Increase your vehicle's RPM.

Use **(YES)** or **(NO)** to toggle On or Off (Yes/On No/Off).

(Note: Pressing **YES** or **NO** will take you back to custom changes menu)

DE-FUELING **(Hot+2 ET only)**

Toggle De-Fueling On/OFF.

Use **(YES)** or **(NO)** to toggle On or Off (Yes/On No/Off).

(Note: Pressing **YES** or **NO** will take you back to custom changes menu)

CURRENT VEHICLE TUNING

- Current tuning option will show the current tune installed into your vehicle.

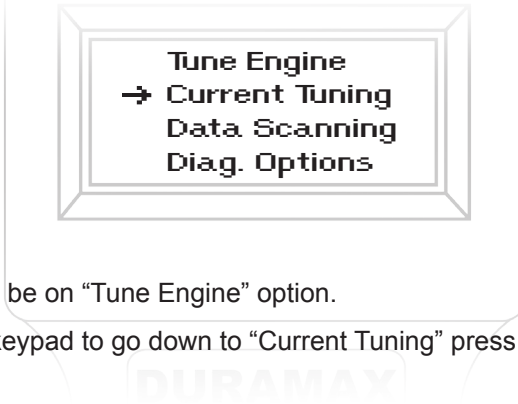
STEP 1

Locate the OBD II diagnostic port on your vehicle.

(See page 6 for reference pictures)

STEP 2

Connect the Xcelerator into vehicles diagnostic port. When prompted turn the ignition key to the RUN position (**DO NOT start engine**); the Xcelerator will load through a series screens and stop. The main menu will load as shown:



STEP 3

Selection arrow will be on “Tune Engine” option.

Press **V** on the keypad to go down to “Current Tuning” press **YES** .

Screen will load showing your vehicles current tune, calibrations, and custom changes.

Press **NO** on the keypad to go back to main menu.

DATA SCANNING

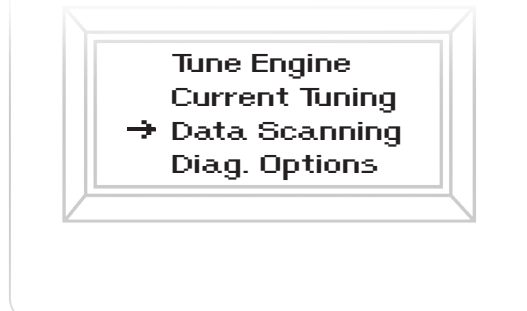
- View real-time engine data while vehicle is running.

STEP 1

Locate the OBD II diagnostic port on your vehicle.
(See page 6 for reference pictures)

STEP 2

Connect the Xcelerator into vehicles diagnostic port. When prompted turn the ignition key to the RUN position (**DO NOT start engine**); the Xcelerator will load through a series of screens and stop. The main menu will load as shown:



STEP 3

Selection arrow will be on "Tune Engine" option.

Press **(V)** on the keypad to go down to "Data Scanning" press **(YES)** .

View real-time engine data for speed mph, engine temperature, engine rpm, air filter intake temperature, intake manifold air temperature, throttle percent, mass air flow, barometric pressure, manifold turbo boost pressure plus more.

Press **(NO)** on the keypad to go back to main menu.

GET DIAGNOSTIC TROUBLE CODES

- View and clear vehicle's Diagnostic Trouble Codes from vehicle's OBD II port

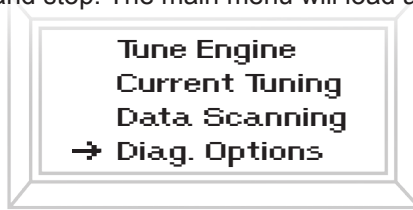
STEP 1

Locate the OBD II diagnostic port on your vehicle.

(See page 6 for reference pictures)

STEP 2

Connect the Xcelerator into vehicles diagnostic port. When prompted turn the ignition key to the RUN position (**DO NOT start engine**); the Xcelerator will load through a series screens and stop. The main menu will load as shown:



Selection arrow will be on "Tune Engine" option.

Press **V** on the keypad to go down to "Diag.

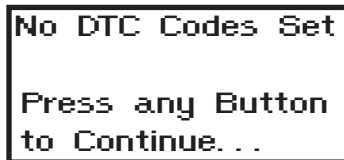
Options"(Diagnostic Options) press **YES** .

STEP 3

Selection arrow will be on "Get DTC's" option. Press **YES** on the keypad to get your vehicles Diagnostic Trouble Codes.



If there is no DTC codes, you will see the following screen press **YES** to go back.



Getting a code and you don't know what it means? DTC codes can be referenced online at www.PPEDIesel.com/dtc

(Note: Pressing **YES** will clear DTC's and take you back to "Diag. Options" menu)

TRANSMISSION RE-LEARN PROCEDURE

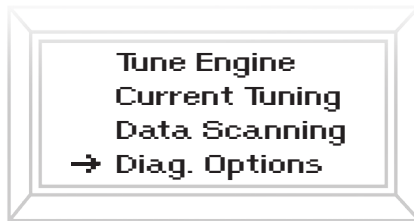
- Allows vehicle to reset transmission and rapidly adjust to new power levels
- Recommended after installing a new power level
- Recommended after installing any transmission upgrades (ie. Clutches, Torque Converter, and Shift Kit)
- Transmission feels like it is not shifting properly

STEP 1

Locate the OBD II diagnostic port on your vehicle.
(See page 6 for reference pictures)

STEP 2

Connect the Xcelerator into vehicles diagnostic port and turn the ignition key to the RUN position (**DO NOT start engine**); the Xcelerator will load through a few screens and stop the at the main menu shown:



Selection arrow will be on “Tune Engine” option.

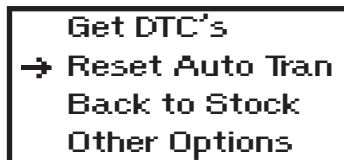
Press **(V)** on the keypad to go down to “Diag.

Options”(Diagnostic Options) press **(YES)**.

STEP 3

Selection arrow will be on “Get DTC’s” option.

Press **(V)** on the keypad to go down to “Reset Auto Tran” press **(YES)**.



STEP 4

Read message and press **YES**.

Trans Relearn
Recommended
after tune change
Select Y or N

STEP 5

Please wait while trans re-learn initializes.

Trans Relearn
Initializing
Please Wait ...

STEP 6

Press **YES** to complete.

Transmission has
Been Reset for
Retraining.
Press any to ...

STEP 7

You will now be back at the diagnostic options menu.

→ Get DTC's
Reset Auto Tran
Back to Stock
Other Options

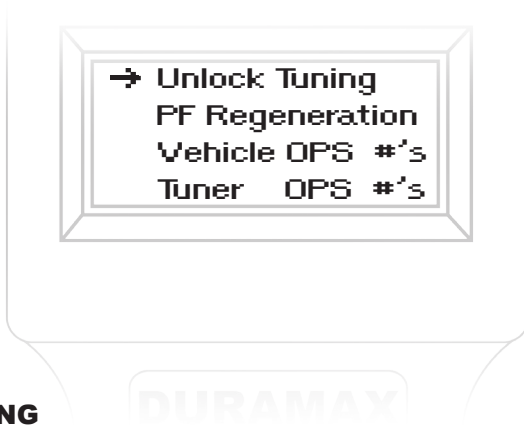
Turn key off and remove Xcelerator from your vehicle.

Trans Re-learn Complete.

OTHER OPTIONS

From the main menu, go to "Diag.

Options" press **YES**. At the next menu go to "Other Options" press **YES**.



UNLOCK TUNING

Unlock tuning option for users who would like to Upgrade Xcelerator. This menu will show a series of numbers, which we will use in order to build you a Upgrade file. Press **NO** to exit this menu.

PF REGENERATION

(only for 2007.5-2009 LMM, not applicable for Hot+2 E.T. Race)

The diesel particulate filter regeneration service is used to clear accumulated soot mass in the particulate filter by burning it at high temperatures.

VEHICLE OPS NUMBERS

View your vehicle OPS numbers.

TUNER OPS NUMBERS

View your tuner OPS numbers

FREQUENTLY ASKED QUESTIONS

Q: Do I have to have my vehicle parked everytime I change my tune?

A: Yes, your vehicle must be turned OFF before connecting the tuner.

Q: Do I have to re-install the fuses I removed once my tune is completed?

A: Yes, fuses were temporarily removed and MUST be returned to their original position.

Q: My programmer doesn't turn on once I plug it in?

A: Cigarette lighter fuse may be blown, check fuse. If blown, replace the fuse and try again.

Q: I completed the tune and my truck doesn't start?

A: (Don't Panic) Files on the tuner have not installed correctly on the ECM.

Return tune back to STOCK and install tune once again.

Q: I'm taking my vehicle in to the GM dealership for a oil change, could I leave the tune in?

A: The GM dealership will typically re-flash your ECM and if your tuner is not turned back to stock your tune will be lost and tuner will lock.

Q: My Xcelerator programmer is stuck on "Checking stored Vin#"?

A: Check for after market stereo, trailer brake controller, alarm system, remote starter, radar detector, GPS, cv radio. Power must be disabled for all aftermarket accessories.

Q: Is my Xcelerator up-to-date?

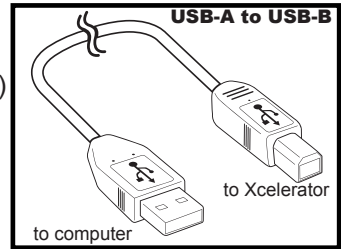
A: Software updates are available for download on our website: www.PPEDIESEL.com/update

ONLINE UPDATE



IMPORTANT: Return your vehicle “Back to Stock” prior to updating your Xcelerator with the update.

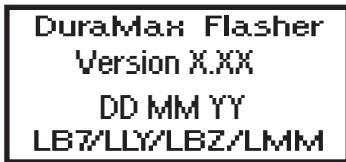
- Your Xcelerator must have a side plug.
- You will need a USB cable (USB-A to USB-B) to connect Xcelerator to your computer.



STEP 1

Find out your tuner's software version by connecting your Xcelerator to your vehicle.

The first screen will display the following;



Version number (**Version X.XX**) is shown above. (Note: Date may be different depending on the version you currently have on your Xcelerator.)

STEP 2

Go online and check out our Updates page to see if your Xcelerator is up-to-date.

www.PPEDIESEL.com/update

STEP 3

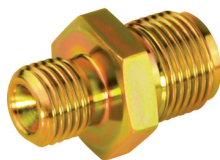
The “Xcelerator Updates” page will display the latest software version. If your Xcelerator needs to be updated, follow the instructions on the page to download the latest software.

OPTIONAL PARTS

PORTED FUEL RAIL FITTING (FGPRTLFT)

Increase fuel flow volume from the fuel pump to the fuel rail by replacing your vehicle's stock restrictive fuel rail fitting, reducing pressure drop and increasing performance.

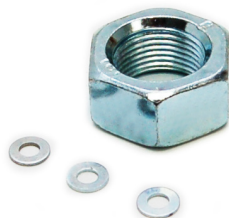
Application: 2004.5-2010 LLY/LBZ/LMM



SHIM KIT (FGSHIMKIT)

The shim kit effectively shim's the PRV (pressure relief valve) increasing its "pop off" pressure, thus reducing fuel being returned to the tank by the PRV. The Release Valve Shim Kit eliminates low fuel pressure rail diagnostic trouble codes (DTC) such as DTC P01093 (low fuel pressure during power regime), help maintains fuel pressure during full throttle driving.

Application: 2004.5-2010 LLY/LBZ/LMM



RACE FUEL VALVE (FGRACEVLV)

The Race Fuel Valve has the following features: prevents fuel from being returned from the pressure relief valve; eliminates low fuel pressure rail diagnostic trouble codes (DTC P1093 low fuel pressure during enrichment); and maintains available fuel pressure during full throttle driving.

Application: 2004.5-2010 LLY/LBZ/LMM



ELECTRIC FUEL PUMP (FLIFTPUMP)

The electric lift pump is a key component in high performance fuel systems and includes the following features: provides up to 160 gallons per hour (Gph) fuel flow; fuel pressure is adjustable from 3 to 15 PSI; internal regulator is factory preset to 12 PSI; high flow 1/2 inch NPT inlet and outlet; helps increase longevity of the stock CP3 pump; compatible with bio, low and ultra low sulfur diesel fuels. Rather than the CP3 inefficiently pulling fuel, the electric fuel pump pushes fuel through the fuel filter, eliminating the possibility of air being drawn into the system.

This pump is highly recommended when using Xcelerator Hot / Hot+2 E.T. or Dual Fueler CP3 kit.

Application: 2001-2010 LB7/LLY/LBZ/LMM





PACIFIC PERFORMANCE ENGINEERING

Pacific Performance Engineering, Inc.
303 N. Placentia Avenue
Fullerton, CA 92831

www.ppediesel.com
sales@ppediesel.com
Phone: (714) 985-4825
Fax: (714) 985-9907