

2001-2010 Duramax LB7 / LLY / LBZ / LMM
Economy / Standard / Hot



PACIFIC PERFORMANCE ENGINEERING

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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)

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.

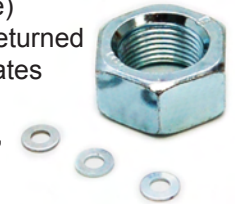
Application: 2004.5-2009 LLY/LBZ/LMM



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 regiment), help maintains fuel pressure during full throttle driving.

Application: 2004.5-2009 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: 2004.5-2009 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.

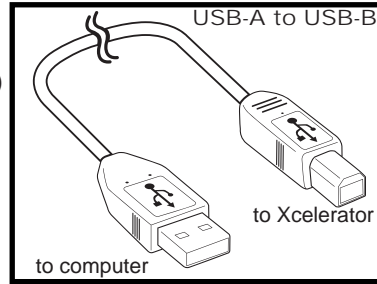
Application: 2001-2009 LB7/LLY/LBZ/LMM

ONLINE UPDATE



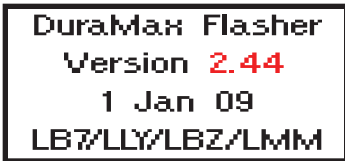
IMPORTANT: Return your vehicle “Back to Stock” (see page 12) prior to updating your Xcelerator with the update.

- 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;

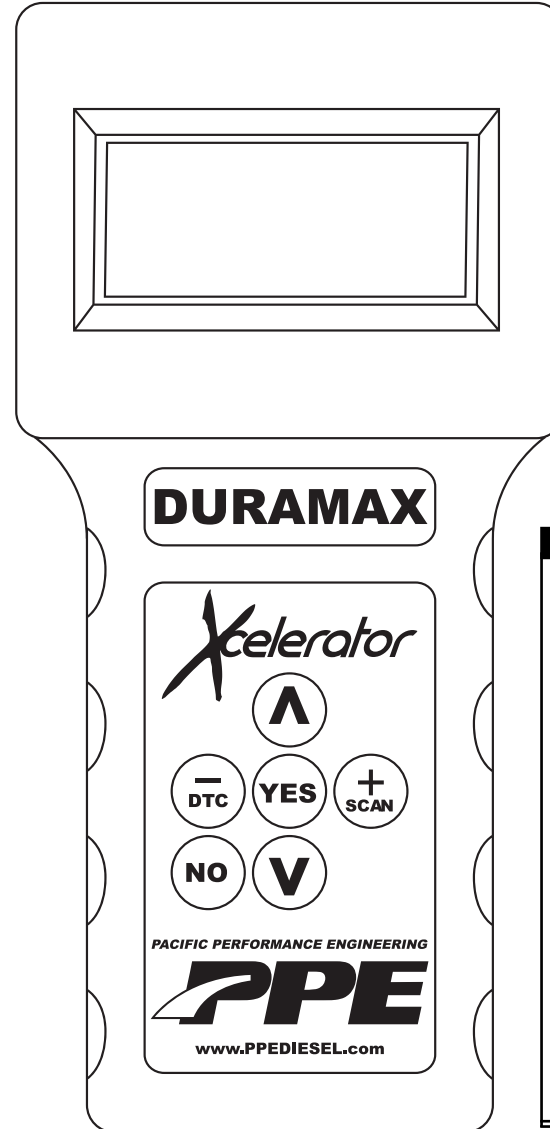


Version number is shown above in red. (note: Date may be different depending on the version you currently have on your Xcelerator.)

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.

DISPLAY AND KEYPAD GUIDE



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.

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 (see page 12) 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: See page 23. Software updates are available for download on our website www.PPEDISEL.com/update

PARTICULATE FILTER REGENERATION

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

Note: You must install a tune into your vehicle before using the forced regeneration service. Do not initiate regeneration service procedure if non-diesel particulate filter faults are present on your vehicle.

Caution: Tailpipe outlet exhaust temperature will be greater than 300°C (572°F) during forced regeneration service.

- To prevent personal injury or property damage from fire or burns:
1. Park outdoors and keep people, other vehicles and combustible material away from your vehicle
 2. Do not leave your vehicle unattended
 3. Do not connect any shop exhaust to your vehicle's tailpipe

Notice: Due to elevated engine temperatures, it is imperative to open your vehicle's front hood and to keep the front of your vehicle in an open environment in order to allow proper airflow across the radiator.

Check coolant and oil levels before and after the regeneration service procedure.

Engine and exhaust system damage can occur due to improper use of the regeneration service procedure.

An oil change may be necessary after running the regeneration service procedure.

In case of an emergency, the regeneration service procedure can be interrupted by switching off the ignition. Depressing the break returns the vehicle to idle speed.

- The diesel particulate filter regeneration service procedure is as follows:
1. Start vehicle and plug Xcelerator into OBD-II port
 2. Select **Diagnostic Options -> Other Options -> DPF Regeneration**
 3. Read disclaimer and press **YES** ; regeneration procedure will begin

The regeneration service procedure is complete once "Soot Mass" displays 0 grams and engine RPM returns to idle.

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

***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!)

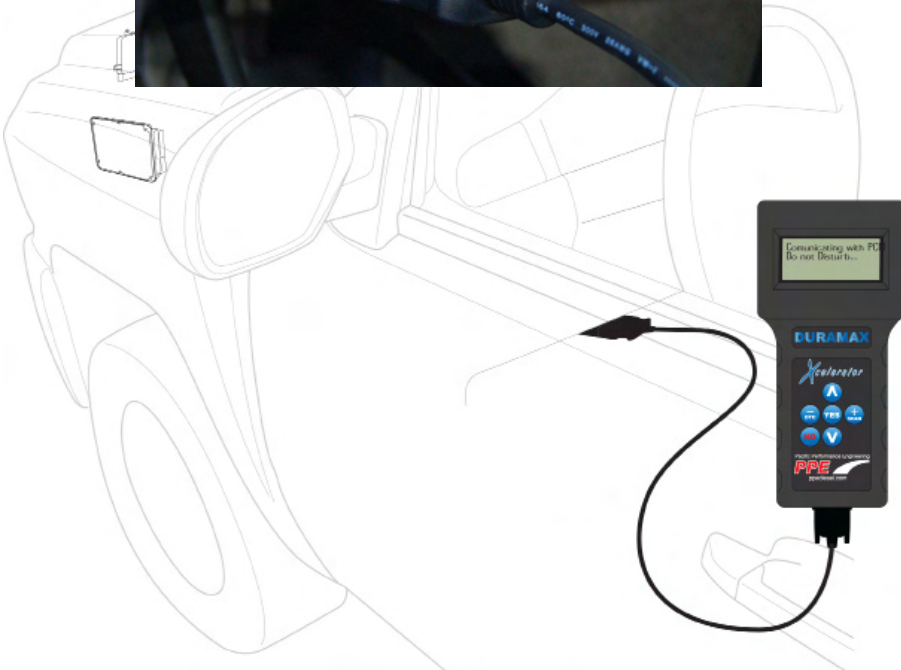
IMPORTANT!
****2006-2007 LLY2/LBZ ONLY pull fuses if you get a "No Communication" error while installing your Xcelerator.**

OBD II PORT LOCATION

Driver side underneath dash in the center.

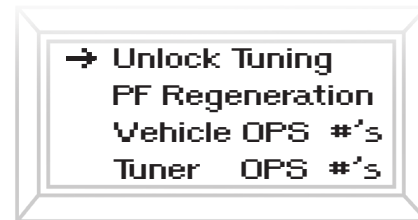
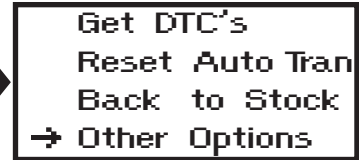


Plug in OBD II cable as show below.



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)

The diesel particulate filter regeneration service is used to clear accumulated soot mass in the particulate filter by burning it at high temperatures. (See page 22 for procedure instructions)

VEHICLE OPS NUMBERS

View your vehicle OPS numbers.

TUNER OPS NUMBERS

View your tuner OPS numbers

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.

XCELERATOR POWER LEVELS

2001-2010 Duramax LB7/LLY/LBZ/LMM Economy

Power Level	HP Increase	Torque Increase
1	40	97
2	90	160
3	120	200

2001-2010 Duramax LB7/LLY/LBZ/LMM Standard

Power Level	HP Increase	Torque Increase
1	40	97
2	90	160
3	120	200
4	160	240
5	225	335

2001-2005.5 Duramax LB7/LLY Hot

Power Level	HP Increase	Torque Increase
1	40	97
2	90	160
3	120	200
4	160	240
5	220	335
6	300	460

2006-2010 Duramax LLY/LBZ/LMM Hot

Power Level	HP Increase	Torque Increase
1	40	97
2	90	160
3	160	240
4	225	335
5	300	460

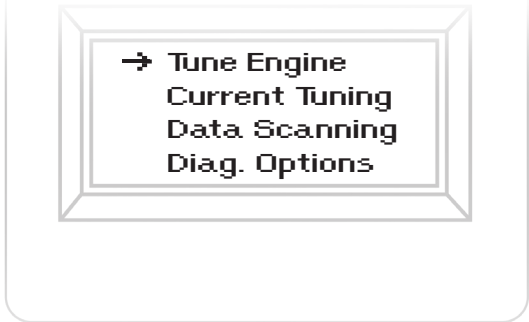
INSTALLING TUNE INTO VEHICLE PCM

STEP 1

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

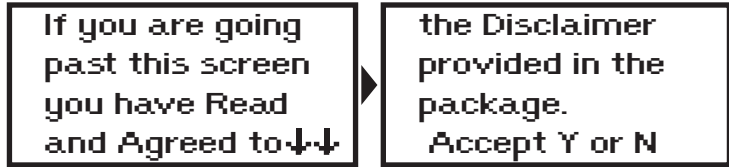
STEP 2

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!

TRANSMISSION RE-LEARN PROCEDURE

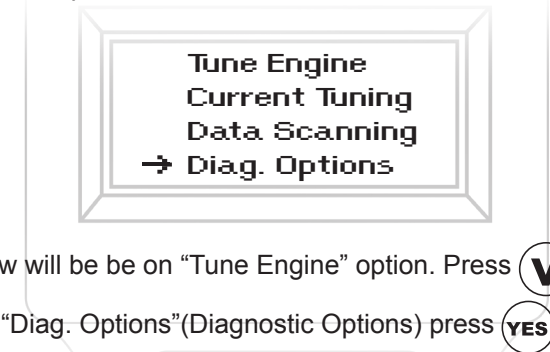
- Allows vehicle to reset transmission and rapidly adjust to new power levels
- Recommended after installing a new power level
- Recommended after installing any transmission upgrades (ie. Clutches, Torque Converter, and Shift Kit)
- Transmission feels like it is not shifting properly

STEP 1

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

STEP 2

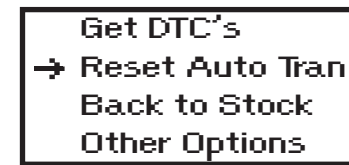
Connect the Xcelerator into vehicles diagnostic port and turn the ignition key to the RUN position (**DO NOT start engine**); the Xcelerator will load through a few screens and stop the at the main menu shown:



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)**.



GET DIAGNOSTIC TROUBLE CODES

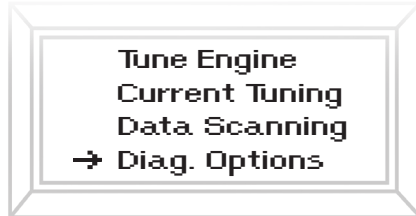
- View and clear vehicle's Diagnostic Trouble Codes from vehicle's OBD II port

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:



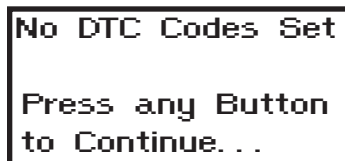
Selection arrow will be on "Tune Engine" option. Press **V** on the keypad to go down to "Diag. Options"(Diagnostic Options) press **YES**.

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.

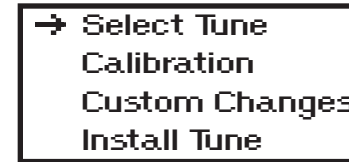


Getting a code and you dont know what it means? DTC codes can be referenced online at www.PPEDIESEL.com/dtc

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

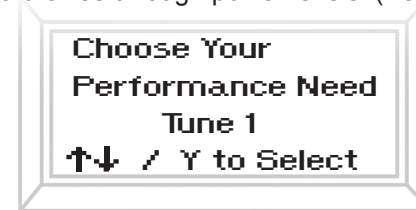
STEP 5

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



STEP 6

Use **^** or **V** to browse through power levels. (Power levels on page 8)

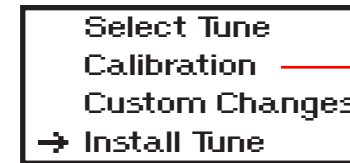


Accept power level by pressing **YES** on the keypad.

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

STEP 7

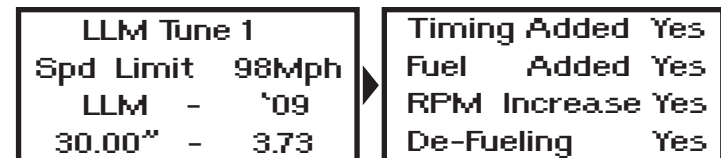
The next menu will show the "Select Tune" screen, press **V** until the arrow is next to the "Install Tune" option.



Press **YES** to install tune.

STEP 8

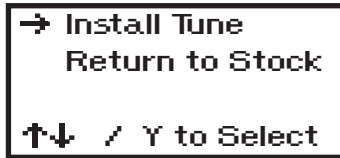
The Xcelerator screen will show you the tune you selected and the settings it will be changing. Press **YES** on the keypad to continue to the next screen.



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 **▲** or **▼** to select "Install Tune" or "Return to Stock".



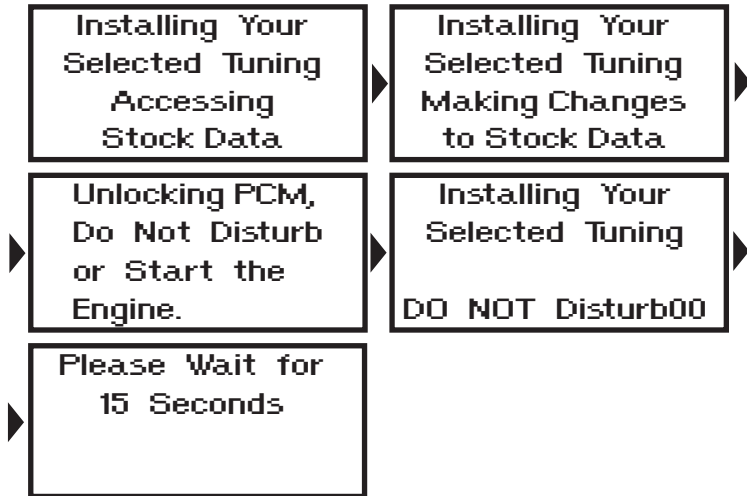
Install Performance tune by pressing **YES** on the "Install Tune" option.

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

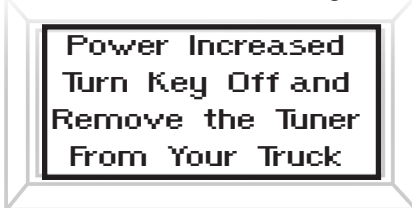
STEP 9

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.

DATA SCANNING

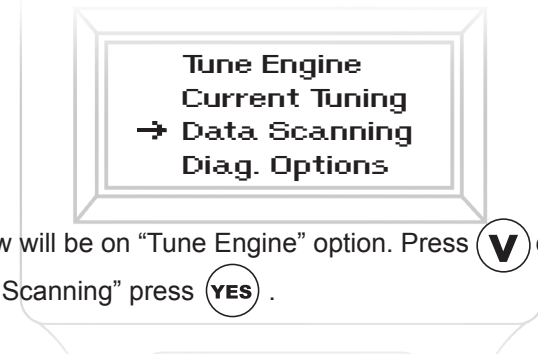
- View real-time engine data while vehicle is running.

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 screens and stop. The main menu will load as shown:



STEP 3

Selection arrow will be on "Tune Engine" option. Press **▼** 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.

CURRENT VEHICLE TUNING

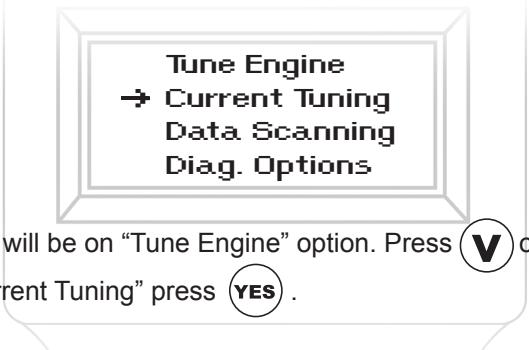
- Current tuning option will show the current tune installed into your vehicle.

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.

RESTORING FACTORY/STOCK TUNE

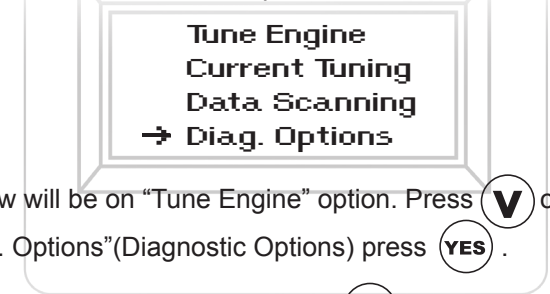
- We recommend restoring the stock tune whenever the vehicle goes in for service.
- The stock tune can be installed at any time using the "Back to Stock" feature. This feature will take PPE tune out and reset the vehicle ECM (Engine Control Module) to factory/stock.
- It is recommended to return Xcelerator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

STEP 1

Locate the OBD II diagnostic port on your vehicle.
(See page 7 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

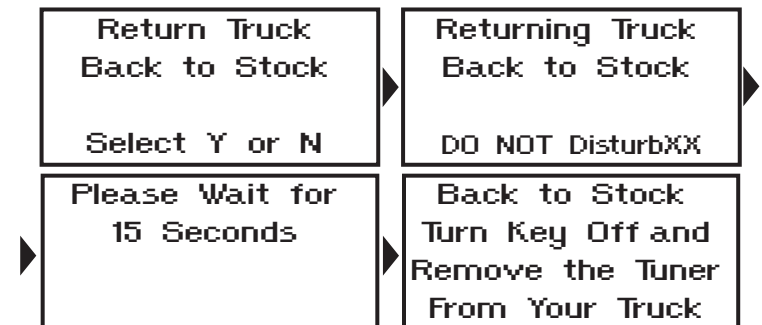
Selection arrow will be on "Tune Engine" option. Press **V** on the keypad to go down to "Diag. Options"(Diagnostic Options) press **YES**.

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.



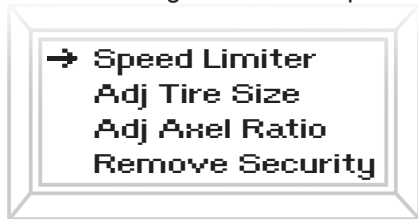
CALIBRATION

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.



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



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

Adjust your vehicle's tire size from 25" to 44.75" in .25" increments.

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

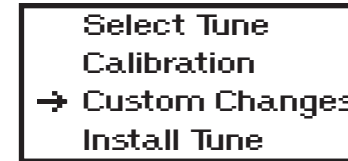
Remove security is used for applications where OEM steering column and key security system is not used. (ie. engine swaps into custom vehicles/marine)

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

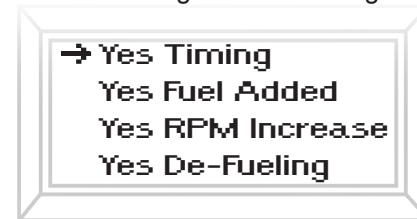
CUSTOM CHANGES (Only Available for Hot+2ET Xcelerator)

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

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)