



Black Bear Performance
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Please Note: This equipment is in high demand and the viability of our business depends on its expeditious use and return. If you are unable to promptly follow these directions and complete your tune, please inform me at sales@blackbearperformance.com so that we can discuss the possibility of rescheduling for a time that will be better suited.

Effective 4/15/2010: Any equipment that is held beyond a reasonable period of time will result in the partial or full forfeiture of your security deposit. This time period is defined as 2 weeks after the completion of the process or 45 days from the date the equipment is shipped from our facility, whichever comes first. Exceptions can be made for extenuating circumstances, however prior approval is necessary.

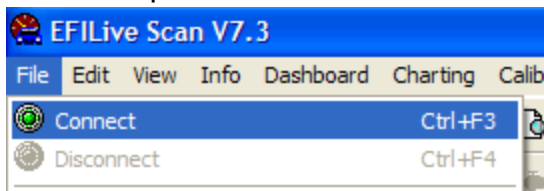
For more details, please see our [Terms and Conditions](#).

EFILive Scan and Tune Tool Instructions

To begin, download and install version 7.5.x from <https://www.efilive.com/additional-downloads>.

Connect the supplied OBD-II to Serial cable to the Flashscan unit, and the USB cable to your laptop. Plug the OBD-II cable into your vehicle's OBD-II port, just above the parking brake pedal and turn the key to the run position.

Open up the EFILive Scan tool. If prompted for VIN and vehicle information, leave blank and press "Ok". Select File and then Connect.



If you receive an error stating that no interface cable has been found, please see the driver installation instructions below.

When prompted to select a controller, select GEN-III 99-08 LS1 (or similar). After a few seconds, you will be connected, and it may prompt you to enter your details, go ahead and enter your name and an approximate weight of the vehicle with you in it. If you

have problems connecting, please check your cigarette lighter fuse under the hood to ensure that the OBD-II port is receiving power.

Next, you'll need to validate available parameters now by hitting Shift+F2. The process will take about 30 seconds to complete and may initiate automatically.

Once complete, press the F8 key to pull up your PIDs list and make sure that only the following items are selected. To select or deselect a PID, simply double click on it. When selected, it will show the black gauge icon in the "Description" column.

Please ensure that both the description and parameter field match. If you are unable to locate some of the parameters that begin with CALC.* in the parameter column, do not worry about them, they will be available after the log has been created and saved.

PID file:

☐ Supported

System:

(All)

Description	Caption	U.	Default	System	C...	Parameter
Absolute Throttle Position	TP	%	-	Throttle	1	SAE.TP
Air Flow Rate From Mass Air Flow Sensor	MAF	G.	Imperial	Air	2	SAE.MAF
Air Mass Per Cylinder	CYLAIR	G.	-	Air	0	CALC.CYLAIR
Delivered Engine Torque	TRQENG	N.	Imperial	Performance	2	GM.TRQENG
Engine Coolant Temperature	ECT	*..	Imperial	Temperature	1	SAE.ECT
Engine RPM	RPM	R.	-	Conditions	2	SAE.RPM
Equivalence Ratio	EQUIVRATIO	:1	-	Fuel	2	GM.EQUIVRATIO
Heated O2 Sensor Voltage Bank 1 - Sensor 1	HO2S11	m.	-	O2	1	GM.HO2S11
Heated O2 Sensor Voltage Bank 2 - Sensor 1	HO2S21	m.	-	O2	1	GM.HO2S21
Ignition Timing Advance for #1 Cylinder	SPARKADV	D.	-	Spark	1	SAE.SPARKADV
Injector Base Pulse Width Bank 1	IBPW1	m.	-	Fuel	2	GM.IBPW1
Intake Air Temperature	IAT	*..	Imperial	Temperature	1	SAE.IAT
Intake Manifold Absolute Pressure	MAP	k.	Metric	Air	1	SAE.MAP
Long Term Fuel Trim - Bank 1	LONGFT1	%	-	Fuel	1	SAE.LONGFT1
Long Term Fuel Trim - Bank 2	LONGFT2	%	-	Fuel	1	SAE.LONGFT2
Mass Air Flow Raw Frequency	MAFFREQ	H.	-	Air	2	GM.MAFFREQ
Predicted Grams of Air per Cylinder	DYNCYLAIR	G.	-	Air	2	GM.DYNCYLAIR
Retard Due to Knock	KR	D.	-	Spark	1	GM.KR
Short Term Fuel Trim - Bank 1	SHRTFT1	%	-	Fuel	1	SAE.SHRTFT1
Short Term Fuel Trim - Bank 2	SHRTFT2	%	-	Fuel	1	SAE.SHRTFT2
Vehicle Speed Sensor	VSS	K.	Imperial	Conditions	1	SAE.VSS

You're now ready to make some logs. Press the red record button at the bottom of the screen and then start your vehicle. It will now record pertinent data as you drive around. I'd like to see at least 15-20 minutes worth of data including part throttle cruising, idle and a couple of heavy throttle pulls.

Once finished with your drive, hit the square stop button at the bottom, save the file and

select "Disconnect" from the file menu. At that point, you will need to attach the data collected to an email and send it on over to us at tuning@blackbearperformance.com to be analyzed. Please do not send the scan cable back to us until the entire process is completed.

If you'd like to make another log, just connect to the vehicle, select the same PIDs as above and start recording, you will no longer need to validate your parameters.

If you have any questions or run into any hiccups, please shoot an email to tuning@blackbearperformance.com.

Driver Installation Instructions

Most software installations will automatically install drivers. If yours does not, please connect the USB cable from the Flashscan device to your laptop.

To install the drivers, Go to your start menu, then control panel. For Windows 8, type "Control Panel" from the home screen. Click the "switch to classic view" link in the left pane or change the "View By:" option from "Category" to "Large Icons", then click System. If you're using Vista, click the device manager link in the left window. If XP, go to the hardware tab, then click device manager. Look for the EFILive cable entry. Right click on it and select "Update Driver". When prompted, do not have windows search Windows update for a driver. Take the advanced option when offered and browse a specific location. Browse to C:\program files\EFILive\Drivers\EFILive\win-2k-xp-vista (or C:\program files (x86)\EFILive\Drivers\EFILive\win-2k-xp-vista on some computers) and click continue. If prompted regarding windows logo testing, click to continue anyway.

Once complete, you are ready to begin the data-logging process.

After you receive your new PCM

Your PCM is located just beneath and to the inside of the battery and has a plastic enclosure surrounding it. Before starting, be sure to disconnect the negative battery cable.

There are two tabs holding the cover in place. One is at the top, pointing towards the engine, the other tab is on the front, behind the headlight. Once you pull the cover off, there will be a metal clip holding the PCM in place. It's easiest to remove this by gripping it with a pair of pliers.

Now the PCM should be movable. Turn it so that the two wiring harnesses are facing up and you can see the 7mm bolts on top. A 7mm or 9/32" socket will be needed to remove the bolts. They will not come out of the harness, so just loosen them to the point that the harness can be pulled free of the PCM.

To install the new PCM, simply reverse the removal instructions.

Once you receive and install, you may run into an issue where the vehicle will not start. If this is the case, then the security relearn procedure must be performed. This process will take approximately 40-45 minutes to complete

Security Relearn

Step 1: Attempt to start vehicle. If it starts up, then no relearn is needed. If it does not start or if it starts and immediately dies, then the relearn procedure is needed.

Step 2: Leave the key in the run position for 10-12 minutes (until the security light shuts off). Make sure that no accessories are on and that your headlights are switched to the off position.

Step 3: Remove the key from the ignition for 45 seconds.

Step 4: Repeat steps 1-3 three times. On the fourth start attempt, the vehicle should start and the relearn is complete.

Performing a Crank Re-learn

With a PCM that has never been run in your vehicle, you will need to perform a crank re-learn procedure. This is a very simple procedure that should only take a couple of minutes to complete.

First off, bring your vehicle up to operating temperature.

Open the scan tool and connect to the vehicle, making sure to select Gen-III LS1 99-08 as the controller type. Go to the DVT tab (F12) and select the Gen-III LS1 99-08 controller from the drop down list and press activate. Switch to the Learning tab within that window and you'll see the Learn crank angle sensor error button.

Engage the parking brake and place your left foot on the brake pedal. Press the C.A.S.E. button in the software and the word "OK" will appear just beneath the de-activate button above. Proceed to slowly rev the engine up to 4k rpm over the course of about 2-3 seconds. Once it hits 4k, fuel will be cut off for approximately 1/2 second and the engine light should go out. If fuel does not cut, let off the gas and repeat the process. Once complete, shut the engine off for about 30 seconds and the procedure is complete.

Final Steps

Before sending back the Flashscan cable, I'd like to see a log of the new PCM to be sure that everything is running as expected. Follow the log creation procedure at the beginning of this document and send me the resulting file. If all is well, I'll give you the go ahead to send back the cable and you can safely enjoy your newly tuned PCM.

Once logging has been completed, please contact us for the correct return address. Failure to do so could result in the equipment being mis-delivered and a delay in your refund.

When packaging the scan cable for shipment, please unplug both the USB and OBD2 plug from the Flashscan cable. Failure to do so can result in damage to the equipment and a forfeiture of your deposit.

When shipping computers, package them in a way that protects them from damage. Broken or damaged connectors will result in a forfeiture of deposit.