



**Installation Manual v1.3:
E-Power Tuner
2001-08 GM Duramax (LB7, LLY, LBZ, LMM Engines)**

Please read all instructions before installation.

VERY IMPORTANT! Do not perform any computer procedures with the E-Power while vehicle is running (except for OBD II diagnostics). The vehicle must be parked and engine must be off before installing the E-Power programming

WARNING! *TURN OFF ALL ACCESSORIES IN THE TRUCK PRIOR TO CONNECTING THE DOWNLOADER (HEADLIGHTS, A/C, HEATER, RADIO, ETC.) THEY MAY ATTEMPT TO COMMUNICATE WITH YOUR PCM DURING THE DOWNLOAD PROCESS & POTENTIALLY CAUSE PERMANENT DAMAGE TO THE TUNER OR YOUR TRUCK'S COMPUTER. ONCE YOU START, DON'T OPEN OR CLOSE DOORS, ACTUATE WINDOWS OR DOOR LOCKS, OR MOVE SEATS! IF THE DOOR IS OPEN WHEN YOU START, LEAVE IT OPEN UNTIL YOU'RE DONE AND VICE-VERSA!*

The E-Power will start programming from 0-100%. **DO NOT** disturb or move the E-Power during this process! Also, **DO NOT** open or close the doors, actuate power windows, or otherwise operate any electrical accessories, as they may interfere with the download process. If you must operate any accessories or open/close the doors, wait until the E-Power's display states that the download is complete.

1. Apply the parking brake and make sure all of the truck's electrical devices are turned off.

2. Remove fuses as follows, per the year of your truck:
 - a. 2001-02 LB7 (fuses under hood).
 - i. SE01
 - ii. SE02
 - iii. RADIO
 - b. 2003-04 LB7 (fuses under hood).
 - i. TBC IGN1
 - ii. TBC BATT
 - iii. RADIO
 - iv. INFO
 - c. 2004.5-07 LLY & LBZ (fuses under hood).
 - i. RADIO
 - ii. INFO
 - d. 2007.5-08 LMM (fuse locations may vary).
 - i. INFO TMNT (May be found by opening driver's door & removing side fuse access panel. If not there, will be under the hood)
 - ii. RDO (Under hood – Do not confuse with RDO AMP fuse!)
3. Locate the OBD II port in the cab on the driver's side below the dash, and plug the E-Power into it. Turn the key to the "On" position, but **DO NOT START THE IGNITION!**
4. The E-Power will first display a diagnostic screen to show your engine type & tuning installed, then it will proceed to the main menu.
5. Press 'Y' with the arrow pointing at the "**Tune Engine**" option to start engine tuning.
6. Carefully read the disclaimer. If you agree with the terms, press 'Y' to continue. If you do not agree, you will not be able to install the performance tuning into your truck.
7. The screen will indicate the E-Power is comparing your VIN to the VIN stored in the programmer's memory. Wait until this process completes. Even if it is your first time programming or you are moving the tuner to a new truck & have made sure to return the original truck to stock, the E-Power is simply verifying proper communication.

8. A new screen will appear giving you the following options:
 - a. **Select Tune**
 - b. **Calibration**
 - c. **Custom Changes**
 - d. **Install Tune**

9. Start with selecting the desired tuning file by pressing 'Y' with the arrow pointing at "**Select Tune**".

10. Choose your power level by using the up and down arrows. When the program you want to load is displayed, press 'Y' to select it. All power levels represent additional horsepower increases possible at the crank:
 - a. Economy Power = +50hp, 97 ft. lbs.
 - b. Heavy Tow Power = +90hp, 160 ft. lbs.
 - c. Light Tow Power = +120HP, 200 ft. lbs.
 - d. Street Power = +160hp (LB7), +180hp (LLY); +265 ft. lbs.
 - e. High Power* = +221hp, 332 ft. lbs.
 - f. Max Power** = +270hp, 349 ft. lbs.
 - g. Race Power 1** = +300hp, 362 ft. lbs.
 - h. Race Power 2** = +315hp, 383 ft. lbs.
 - i. Race Power 3** = +330hp, 503 ft. lbs.
 - j. XTREME POWER** = +350hp, 530 ft. lbs.

**Automatic Transmission must be upgraded for maximum performance and to withstand the increased power, and manual transmissions will require clutch upgrades. Contact ATS for help upgrading your LCT1000 Automatic Transmission or your ZF-6 6-Speed Manual's clutch.*

***Further modifications to the fuel system (such as ATS Injector Nozzles and Twin CP3 Fuel System) and turbo (such as ATS' line of Aurora Turbo kits) must be made in addition to the power train upgrades above to successfully achieve these power levels.*

11. Once you select your desired program, a screen will advise that you should use a pyrometer gauge to monitor critical exhaust gas temperatures. You must acknowledge this by pressing 'Y' before you can proceed.

12. The E-Power will now return to the tune menu. At this point, you can select "**Calibration**" to calibrate your truck for tire size and axle ratio changes.

13. Selecting "**Speed Limiter**" allows you to adjust your truck's top speed limiter (governor) up to a maximum of 150mph by using the up & down arrows on the programmer. Once the desired speed is displayed, press 'Y' to accept and you will return to the previous menu.

14. Selecting “**Adj Tire Size**” allows you to calibrate your computer for larger tire sizes, making your speedometer and shift points accurate. ATS strongly recommends you use this option if you’re running any tire size other than stock.
 - a. ATS recommends selecting the tire size by measuring your tire and selecting the size in the E-Power that is closest to your measurements. Using the dimensions listed on the tire itself may not be completely accurate due to differences in tread depths and variations from manufacturer to manufacturer. Measure from front to back as measuring from top to bottom can be inaccurate due to tire bulge from the weight of the truck.

15. Selecting “**Adj Axle Ratio**” allows you to calibrate the computer for changes to your axle gear ratio(s). Normally, it is unnecessary to access this unless you changed your gearing. If you have made changes, setting this has the same benefits as calibrating for tire size changes.

16. Once finished with the “Calibration” changes, you can select “**Custom Changes**”. This is a great option for those stacking the E-Power with an additional module because it allows you to remove items from the E-Power tuning that your other box will be doing. Hence, you don’t end up with too much in one area. This is by no means required, but does make the E-Power one of the best, most versatile choices on the market by allowing you to decide whether or not:
 - a. Additional timing is used in the power programming
 - i. If your other box/module is adding timing, select “No” so as not to advance timing too far. Too much timing results in pre-detonation (rattle), increased cylinder pressure, high EGT’s, and loss of power.
 - b. Additional fuel is added in the programming.
 - i. Many boxes/modules modify how long your injectors are held open, increasing the amount of fuel delivered when they open. If your other box/module does this for you, select “No”.
 - c. Max engine RPM should be increased or left alone.
 - i. Allows higher engine RPM’s for improved racing/pulling performance.

- d. Shift de-fueling will remain enabled (higher levels only).
 - i. Selecting “**Yes**” will leave de-fueling on, protecting your transmission during shifts by reducing your engine’s power slightly, from the time the shift starts until you have completely engaged the gear.
 - ii. Selecting “**No**” will allow full power during shifts, meaning your transmission has no protection when it is most vulnerable.
 1. *DO NOT select “No” unless you have replaced your transmission with a unit built by ATS Diesel Performance, as shift de-fueling protects the transmission. If power is not cut during a shift, the clutches will slip excessively while trying to engage. ATS Diesel Performance is not responsible for damage to any transmission due to the use of this product and/or this safety feature. Our LCT1000 is highly recommended to allow you to use this feature! The ATS CoPilot Transmission Controller is also highly recommended to allow faster shifts and higher apply pressures.*

17. Once finished selecting your desired tune and setting all of the optional calibrations and custom changes, you are ready to install the tuning package! Arrow down to “**Install Tune**” and press ‘Y’. The E-Power will now install the program you chose in step 9, as well as all your calibration and custom settings.

- a. **DO NOT DISTURB OR DISCONNECT THE E-POWER, OR OPERATE ANY ACCESSORIES DURING THIS PROCESS** (including power windows/locks/seats, stereo, lights, etc.)!!!

18. When the E-Power has finished programming, it will display a message notifying you that it is safe to unplug the tuner.

19. Replace the fuses removed in step 2.

Other Features:**Diagnostic Options**

1. Get DTC's
 - a. Displays active Diagnostic Trouble Codes.
 - i. Please note that codes do not necessarily mean components are faulty or need replacement. Professional interpretation of any trouble code is always recommended.
 - b. Codes can be cleared following the on-screen prompt
 - i. Write down all codes before clearing for comparison to identify recurring codes for the best and most accurate diagnosis of problems.
2. Current Tuning
 - a. Displays the programming you currently have installed on your truck.
3. Reset Auto Tran
 - a. Will allow you to clear your transmission control module's history.
 - i. Critical when you replace or rebuild your transmission, as it allows the computer to start fresh rather than trying to control your new transmission as if it were the old one.
 - ii. Useful if you've experienced issues with your transmission.
4. Data Scanning
 - a. Will allow you to view various "real-time" parameters, such as engine temp, RPM, air temp, vehicle speed, etc.

It is recommended that, should the need arise for the truck to be taken to a dealer **FOR ANY REASON**, the truck be returned to stock prior to taking it in. This is done by following steps 1-18 above and choosing "**Stock**" in the "**Select Tune**" menu. Any changes made under "**Calibration**" and "**Custom Changes**" must also be manually reset to fully return the truck to stock. Select "**No**" for all features to disable them and any changes made, with the one exception being the De-Fueling option. This must be set to "**Yes**" to enable shift de-fueling.

Failure to return to stock programming may result in interference with the dealer's equipment or possibly over-writing of the E-Power's programming. This will prevent you from using the E-Power for anything other than checking DTC's, as the tuner will be locked, and is at this point irreversible.

No refunds or credits will be made on any tuner locked out because of this, and a new E-Power will need to be purchased at regular price!

Have Any Questions?

Thank you for purchasing the E-Power Tuner. Please check our website at <http://www.atsdiesel.com> for technical support and other performance products such as our Twin CP3 Fuel System, 5-Star™ Torque Converter, and our High Performance Transmission, along with our full line of other truck enhancers. Please call or e-mail our Technical Service Department, 8:00am to 5:30pm Mountain Standard Time, Monday through Friday.

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We strive to make our instructions as clear and complete as possible. To achieve this, our instructions are under constant construction. We encourage you to visit our Technical Support Website (<http://www.atsdiesel.com/ATSWebsite/Technical.asp>) to check for the most up-to-date manuals and diagrams as well as other information. If you have any suggestions as to how we can improve this installation manual, let us know at <mailto:Suggestions@ATSDiesel.com>.