

IMPORTANT – Please Read

The following information will be important for you to understand before the installation of your 24x system.



24x PCM Tuning Tips

PCM Selection

EFI Connection's 24x system makes possible the use of any Gen 3 LS type PCM. What makes the Gen 3 system unique is that it requires a 24x crankshaft signal and a 1x camshaft signal. Gen 3 LS PCMs are found in many 1997-2006 GM vehicles. The newer Gen 4 ECMs require a 58x crankshaft signal and 4x camshaft signal. These Gen 4 ECMs are not compatible with EFI Connection's 24x system. EFI Connection recommends the 2001-2002 PCM with GM part number 12200411 due to its popularity, performance, availability, and price.

PCM Tuning Software

It is **strongly** recommended that the PCM is tuned with a popular laptop software/hardware package like Efilive (<http://www.efilive.com>) or HP Tuners (<http://www.hptuners.com>) because of the wide range of calibration data that can be changed. Hand held programmers may not be sufficient.

Initial Calibration Changes

EFI Connection's 24x system requires a true LS type calibration be loaded in the PCM. These calibrations are intended for coil per cylinder ignition and are found in the Corvette, Camaro/Firebird, and Full Size Trucks. Initial calibration changes are rather easy...

- Load your preferred LS1 calibration file into your tuning software.
- Make any necessary fuel injector flow rate changes. Pay attention to the injector flow rate of the LS1 injectors. The 98-newer LS engines do not use a vacuum operated fuel pressure regulator, so the injector flow rate is a sloping value. If your engine is equipped with a vacuum controlled fuel pressure regulator (TPI and LT1 engines), then the injector flow rate should be set as a constant.
- If the engine is intended to run in closed loop, be sure to change the Injector to Bank Assignment table to assign injectors to their appropriate banks.
- Tuning that follows is like tuning an LS type engine.

About the Firing Order

The LS1 engine has a different firing order than the early small-block Chevy and LT1 engines. Specifically, cylinders 2&3 and 7&4 have been swapped. If you are building your own engine harness, be sure that you swap injectors and coils 2&3 and 7&4 at the PCM. If you have ordered a new engine harness from EFI Connection, the harness has been built in this way. GM also did this for the 2001-2002 Express Van. The Express Van used an early (Vortec) small-block engine, but was operated with the 12200411 (LS1) PCM.

For proper Closed Loop operation, bank-to-bank fueling can be corrected through the PCM calibration by assigning the appropriate injector to each bank. The easiest solution is to load a calibration from a 2001-2002 Express Van and then copy/paste the injector to bank assignment table values into your LS-based calibration.

Questions?

Please contact us at troubleshooting@eficonnection.com with any questions.