



Painless "TARP" Program

The federal bailout plan to get our economy going is well above the trillion dollar mark and, to many, it doesn't seem like much is happening. You have to give credit to Painless for taking the bull by the horns (that's what they do in Texas) and starting their own TARP program. In this case, TARP stands for Totally Awesome Rewards Program.

They're not planning on spending a trillion dollars but, if you purchase a qualifying product from Painless, they'll send you a \$50 stimulus rebate check. Or, you have the option of receiving free Painless products instead.

So, if you've been thinking about doing an engine swap or fuel injection conversion and you're planning on using a Painless fuel injection or chassis harness to make the wiring simple (a great plan, by the way!), now is an excellent time to buy your harness! This program is scheduled to run through June 30th of this year. Plan ahead and save yourself \$50. When you buy from Arizona TPI, we'll supply you with the necessary paperwork to make getting that rebate Painless!

Computer Reprogramming

As many of you know, it's often necessary to reprogram the ECM when you're transplanting a modern EFI engine from one vehicle to another. Also, this can be necessary when retrofitting a fuel injection system such as the GM TPI or TBI to an older carbureted engine.

As a minimum, the Vehicle Anti-Theft System (VATS) typically needs to be turned off. In addition the ECM will often be expecting things from its original home that are not available in the new vehicle such as indicator lights. And, of course, if the engine is modified the ECM will need to reflect the modifications.

At Arizona TPI we can reprogram most GM ECM's. Feel free to call the shop for details!

What's the Biggest Cam I Can Run?

One of the questions we get all the time is "how big of a camshaft can I run in my engine?" We like it best when we get this question before you've installed the biggest cam you can find and then discovered that your engine barely runs.

One of the guys here like to say that "the only reason that a guy didn't buy a bigger cam is that he bought the one at the bottom of the page in the catalog but didn't realize that there were more on the next page." Buying the cam from the bottom of the page is not always the best plan unless you're building an all out drag racing engine. It's also not a good idea with fuel injected engines.

For most situations, the biggest cam in the catalog will create a variety of problems. First, the engine isn't going to idle well. This results in low engine vacuum which can cause power brakes to not function correctly. This low vacuum, in many cases, appears to the ECM as though the engine is under load which causes the ECM to request more fuel from the injectors, causing the engine to run very rich. Older ECM's such as those in TBI systems and early Tuned Port systems had processors that were so slow that they became confused by the rapid changes in vacuum from the choppy idle of a big cam.

Of course, the main problem that most people encounter with a big cam is that it's not a lot of fun to drive on the street because the engine barely runs at typical street RPM's. And an automatic transmission only compounds the situation.

So, you'd like to make good power with your engine but you'd also like to avoid the problems mentioned here. The first thing to think about is how the vehicle you're working on is going to be used. Will it be a daily driver? Is it a race only vehicle that will be trailered to the track? Maybe a rock crawler? Street cruiser? How the vehicle is used is probably the single most important

factor in selecting a cam. Be honest with yourself about this. It's easy to envision yourself racing guys out of the stoplight but if this vehicle gets you to work and back each day, it's a daily driver and not a full drag race car!

Fuel injected engine need to keep the engine vacuum as high as possible at idle. A cam with a lobe separation angle of at least 110° and preferably 112° or more helps with this and will result in a fairly smooth idle.

Duration is the biggest factor to consider when choosing a cam. The older (read that slower) the ECM you're using, the less duration you'll be able to run. In other words, the older TBI engines are far less tolerant of a big duration camshaft than the new LS engines. With the TBI engines you probably don't want to go past about 215° measured at .050" where the LS engines can tolerate, and benefit from, a duration of 230° or more and still be reasonable street drivers.

Arizona TPI is a dealer for Comp Cams so feel free to contact us to help you with your cam selection needs!

How Clean Are Your Injectors?

If you're swapping an engine that's been sitting for a while into your vehicle or maybe getting a vehicle going that's been in storage for a long time, you may find that it doesn't run well, if at all. The cause may be that some or all of the injectors are clogged or stuck shut. We see this often in our shop.

The solution is to have the injectors professionally cleaned. We have the equipment and the knowledge to do this for you! Bring or send us your injectors and we'll put them through a thorough testing procedure. We then use ultrasonic cleaning along with a solvent back-flush and solvent cleaning to restore them to like-new condition. The injectors are given a final test to ascertain that they are working as designed. They then receive new O-rings and seals, are packaged and returned to you. The cost is \$15 each for top-feed injectors and \$20 each for side-feed injectors.