



*Happy
Holidays!*

From Arizona TPI

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What Size Fuel Injectors Should I Use?

One of the questions that we hear all the time is: "what size fuel injectors should I use in my engine?" Another question that is asked almost as frequently is: "if I put bigger injectors in my car will I get more power?"

We'll address the second question first by saying: "it depends." For most of the folks asking this question, the answer is no. We get this question a lot from people who want to treat a larger fuel injector as a bolt-on power enhancer and, in almost all cases, it won't work.

The injector's only function is to meter fuel to the engine and, generally, a stock engine is factory-equipped with the correct injectors. The size of the injectors is "correct" because the factory selected an injector that delivers an adequate supply of fuel for the current configuration of the engine under any load conditions that it may encounter. Increasing the size of the injectors will just make the engine run rich and get poor gas mileage.

An exception to the rule that a larger injector will only give you bad gas mileage would be a case where, in addition to increasing the size of the injectors, the engine computer is also re-programmed to compensate for the larger injectors. In this case, the engine would run just like it did with the smaller injectors but have a much larger reserve capacity that would never be utilized, even under the highest loads.

A better question would be: "if I change injectors and then have all this extra capacity to deliver fuel, how can I make use of the extra fuel to gain extra horsepower?" The answer to that question is that the engine needs to be able to flow enough additional air through the cylinders so that it can mix with the extra fuel to create the correct air-to-fuel ratio. In other words if we can cause the engine to flow the right amount of additional air, we can use the extra fuel to make horsepower.

So that brings up yet another question: "how do I make the engine flow more air?" The question has been asked

since the first internal combustion engine was developed, put into a car and someone said, "how can I make this thing go faster?"

A variety of ways exist to make an engine flow more air. There are simple and relatively inexpensive things such as a less restrictive air cleaner and air intake system. There are also larger throttle bodies available that allow more airflow. And there are more extensive things such as changing camshafts, cylinder heads or adding headers and a free-flowing exhaust. All of these things allow the engine to breathe better so it can make use of more fuel and therefore make more power.

So back to the original question. If you've modified your engine so that it will flow more air you can probably benefit from larger injectors. It requires custom programming of the engine computer to make it run properly but a modified engine with stock-sized injectors will often starve for fuel under heavy loads.



A set of stock LT-1 Injectors.

Determining the correct injector size involves a complex formula involving the anticipated horsepower of the engine and other factors. We can help with this if you're not sure what injector to use.

To make things easier, Arizona TPI will begin offering packages of items that, in our experience, work well together. For example we might offer a set of increased ratio rocker arms and a throttle body. Or perhaps a cam and throttle body. Each of these packages will include appropriately sized injectors and the necessary programming to make the whole thing work. Look for these packages to start showing up on our website by late January!

AZ TPI has the best Customers!

We often think to ourselves that Arizona TPI has some of the best customers in the world but we don't express that thought often enough. With the holidays approaching it's a good time to thank all of you for your business and your friendship. We wouldn't have a business without you!

In the coming year we have plans to add to our inventory and make more of our inventory available through our online catalog. We look forward to providing you with the best possible service in the coming year and beyond!

Gift Certificates Available

If you're like us, you're busy with your normal day-to-day routine and you really don't have time for all the extra holiday activities that happen this time of year. Especially the shopping! That's why I'm getting my wife an Arizona TPI gift certificate. I think she'll be really surprised (I hope she doesn't see this newsletter!) and I know she'll have so much fun coming down to the shop to pick out something really nice for herself!

If there's someone on your shopping list that would be interested in some performance parts for their vehicle, get them an Arizona TPI gift certificate. It's simple, it's easy and you can buy them in any denomination you like.

Goodguys Recap

The Goodguys Rod and Custom show in Scottsdale last month was great fun for all of us! The weather was exactly what the Scottsdale Chamber of Commerce ordered and there was a huge turnout of beautiful cars. I heard estimates of over 2,500 entries on Saturday, which was the biggest day. Walking around the grounds, we noticed a number of cars that had been through our shop at one time or another.

The best part was getting a chance to chat with all of you who stopped by our booth to say hello. We also met a lot of new friends too. All in all, it was a great way to spend the weekend!