

Source: <http://www.eclipseforums.org/ftopicp-3110619.html#3110619>

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Posted: Mon Dec 03, 2007 3:35 pm Post subject: Custom Exhaust Builds - Do's and Dont's

Custom exhaust systems scare most people away. Mostly because it takes work. The common car guy is willing to pay more for a name brand exhaust system and just bolt it up rather than build their own.

However with a pre-built exhaust system there comes risk... You can never tell how the exhaust will fit, sound or perform on your specific car. This being because every car is different and supporting mods will also change everything.

With a custom exhaust system you can control the outcome to get the sound you want and of course the most possible horsepower.

### **What size piping is right for me?**

This is a very disputed issue. Mostly because people don't know the facts. Larger isn't better, and backpressure isn't necessary. To get the most out of your exhaust you want both low backpressure and high velocity exhaust flow. This is because when you have both a vacuum effect is created that sucks the exhaust gases out of the cylinders. Without this effect the engine must use some of its kinetic energy to push the gases out, instead of using it to put power to the wheels.

If your piping is too big, you'll have low backpressure but low velocity, eliminating this effect. The same for if you have undersized piping, which leaves you with too much backpressure.

Some basic exhaust pipe diameter guidelines for non-turbo cars are as follows:

1,500cc-2,000cc engines : 2-inch

2,100cc-2,500cc engines : 2.25-inch

2,600cc-3,000cc engines : 2.5-inch

### **What type of piping should i use?**

There are three acceptable types mild aluminized steel, 409 stainless and 304 stainless. Mandrel tubing is a must.

Mild steel: Cheaper but isn't as strong and is prone to rust, especially under a car unless you paint it with a high temp rust inhibitor.

409: Stronger and corrosion resistant. But more expensive.

304: Stronger and probably will never rust. Can be polished to an amazing mirror finish.

### **What type of muffler should i get?**

For best performance a straight through muffler/resonator is best. These allow for maximum flow unlike common reverse flow mufflers.

A perforated muffler is best. High end brands like magnaflow, borla and megan use these mufflers/resonators. The perforated holes inside the muffler allow for the sound db's to be lowered without disrupting the exhaust flow. Cheaper mufflers/resonators and older style glass packs use louvers that disrupt exhaust flow causing turbulence and slowing exhaust flow.

### **How do i get the sound i want?**

As a general rule for straight through perforated style mufflers the larger the diameter of the muffler or resonator (minus piping size) and the longer it is the quieter the sound output will be.

If you choose to go with only a muffler generally the exhaust will sound louder and you will have that pesky rasp we all hate.

If you choose to go with only a resonator generally the exhaust will also be louder but there will be less rasp.

If you want the best of both worlds, use both. For a louder, more aggressive tone. Use a smaller muffler and resonator. For a quiet, more muscular tone use a larger muffler and resonator. Either way it will sound much better than one or the other.

### **High flow cat, no cat, gutted cat or stock cat?**

A common misconception is that gutting your stock cat will increase your car's performance. This actually disrupts the exhaust flow by creating a difference in pressure. This difference leads to excess backpressure which hampers performance.

No cat is obviously best, but obviously this isn't street legal. For those of us who want to stay legal a high flow cat is the answer. This will give better horsepower than the stock cat and will keep your car street legal.

Hopefully this helped clear up the common questions with building your own system. Building your own exhaust simply is better because you can get the most out of your system and find the sound you're looking for on the first try. It's cheaper, but more work is involved including paying someone to mock and weld the system for you. But in the end it's worth it.