

Proper Tuning F.A.Q.

This is the first time I have purchased an aftermarket exhaust. Do I need to do or get anything else?

Yes, you need to properly tune your motor.

Why should I properly tune?

When you put an aftermarket higher-flowing exhaust on a vehicle, it throws off the current air/fuel mixture that the vehicle is setup from the factory with.

Why does the air/fuel mixture change?

The aftermarket exhaust is designed to allow more airflow to pass by significantly less restricted than the stock muffler does. Also, generally the mid pipe and head pipes of most aftermarket systems are larger diameters than stock which allow for added airflow to pass through quicker. This changes the air/fuel mixture that is set up for the stock exhaust system.

What are the implications of this air/fuel mixture change?

When the air/fuel mixture is changed, your motor will have a tendency to run lean. Running lean generally means that your motor is not getting enough fuel to balance out the added airflow and equates to your motor and exhaust system running at higher-than-normal temperatures.

Why is running lean a bad thing?

When a motor is running lean, it is not getting the ample amount of fuel that it needs to function at its best. This leads to increased overall exhaust and motor temperatures and also decreased overall performance. It is never a good idea to run a motor or our exhaust at higher-than-normal temperatures since it can lead to failures down the road.

What are the signs that my motor is running lean?

Generally the tell-tale signs while riding are popping and backfiring, especially on deceleration. Hotter motor temperatures and a whitish firing end of your spark plug are also good indicators.

What does proper tuning entail then?

When we refer to proper tuning, we are referring to adding enough fuel to compensate for the added airflow. In doing so, this will allow you to eliminate the lean issue and bring your motor back up to having a proper air/fuel mixture.

Do I have to remap/tune even if I'm just buying a slip on exhaust and not a full system?

Yes. The biggest increase of airflow will come from the less-restrictive aftermarket muffler(s) and not the head pipe(s). Given that, your motor will still run lean and requires proper tuning.

I heard I don't need to tune because I have an O2 sensor which self-adjusts, right?

This is an incorrect assumption. Just because your stock exhaust system has an O2 sensor in it does not mean it is self tuning. The stock O2 sensor is an emissions compliant component that keeps the vehicle running at 14.7 AFR (which is lean) only during light engine load conditions. The O2 sensor makes the vehicle run lean during idle, low RPM and steady cruise. The O2 sensor does not function under engine load (acceleration & full throttle). By eliminating the O2 sensor, we are able to richen up the low end with our TFI Power Box and then fine tune the fueling for acceleration and full throttle now that the

performance mods (exhaust) have been added. By eliminating the O2 sensor and correcting the fueling, the vehicle should run cooler, have improved low end torque and overall smoother drive-ability.

I have a fuel injected vehicle, what do I need to do?

You need to properly remap your fuel system in order to add fuel to compensate for the added airflow of the new exhaust.

How do I properly remap?

By using a fuel controller (aka programmer), you can remap and tune your motor.

Who sells controllers/programmers?

We sell fuel controllers known as TFI Power Boxes for many of the fuel injected models that we offer exhaust systems for.

Do I have to buy your Power Box?

You do not have to buy our controller and can opt for a competitor's module instead, but do still need to properly tune.

How involved is the tuning process using the Power Box?

Our TFI Power Boxes come pre-set with a middle of the road setting already compensating for the aftermarket exhaust. Generally, about 80% of customers that we speak with don't feel the need to adjust any further after installing it. That's not to say you can't fine tune and try to change adjustments even further if you feel comfortable.

Is the Power Box difficult to install?

Our boxes are designed as plug-and-play units that plug directly in line with your stock injector harness. The plastic clips on the ends of our Power Box wiring harnesses make it easy to unplug your stock harness and plug our clips directly in line. The only other thing aside from routing the module to your desired location would be hooking up the ground wire; usually the best place being the battery.

What if I don't feel comfortable installing the controller myself?

We recommend taking it to a certified mechanic or someone that you feel comfortable with working on your vehicle. Don't let not knowing how or not feeling comfortable installing a controller be an excuse to not properly tuning your vehicle.

I have a carbureted vehicle, what do I need to do?

You need to re-jet your carburetor in order to add fuel to compensate for the added airflow of the new exhaust.

Does every model get re-jetted the same?

Every model is different and will require different jetting specs according to various factors like altitude, the exhaust system that you have, air box modifications and the use of aftermarket air filters.

How do I know exactly what jets to put in my particular bike / ATV / side x side model?

Since it is nearly impossible to have exact jetting specs for every model while taking into account the various different potential setups, we have made a great effort to have jetting specs for as many models as possible. Please call us to find out what specs we have determined for your particular model.

Why don't you have jetting specs on your website?

Given the vast amount of potential setups, we feel it is best to give specs directly to each customer after hearing the exact setup that you have / are going to have on your vehicle. This way, we can work to give you the best recommendation for jetting on your vehicle.

What if I don't feel comfortable re-jetting my carburetor myself?

We recommend taking it to a certified mechanic or someone that you feel comfortable with working on your vehicle. Don't let not knowing how or not feeling comfortable re-jetting be an excuse to not properly tuning your vehicle.