

# Vacuum Leak Tech Page

## All about Vacuum Leaks Carb and F.I. Systems

This is the biggest problem we encounter with Carb installations and Fuel Injection systems is vacuum leaks

### What is a Vacuum Leak?

A vacuum leak is any leak caused when sucking in Air either after the throttle plate of a carburetor or after the Air Metering device on a Fuel Injected car caused by a bad gasket, torn boot, improperly installed adapter plate or manifold gasket, etc. It is called a vacuum leak because the area below a throttle plate or metering device (Mass Air Sensor, Air Flow Meter, Etc.) is under vacuum when the car is at idle and part throttle. When there is a leak in this area you are not "Leaking Vacuum" but rather are sucking in un-metered air...The term Vacuum leak has just been used for so long it is an accepted term

### What problems does it cause?

The major symptom of a vacuum leak is very poor idle quality, stalling, Spitting back through the Intake, and a very lean condition at part throttle. This is the most common problem when doing carb conversions where either adapter plates are used or new intake manifolds are fitted. On a Fuel Injected car with a Mass Air Sensor or Air Flow Meter this is allowing Un-Metered air into the engine. This is a huge problem as the computer is basing the fuel mixture on the amount of incoming air through the flow meter and the extra air sneaking in through the leak can cause a dangerous lean condition. This is especially true of Turbo trucks like the 22RTE where the Rubber Boot between the turbo and MAF can be cracked underneath where it is hard to see...

### How Do I find if I have one?

The best method is to go to the Auto Parts store and get a can of Starting Fluid or carb cleaner. Starting fluid is basically Ether. This is a very volatile substance that is easily sucked into a leak and causes a dramatic change in engine running condition. As always use caution.

With the car at idle spray carefully around the base of the carb or throttle body, at the area where the manifold meets the head, around vacuum hoses and any connections either below the carb base or after the Mass Air or Air Flow Meters...Any noticeable change in idle speed or quality will indicate a vacuum leak

### How Do I get rid of it when I find it?

That is the easy part. Just replace the gasket, hose, boot, or clamp that is causing the offending condition and all will be well again.

### Tips for not getting vacuum leaks.

This is easy...When doing a carb or manifold installation just make sure that you have the mounting surfaces VERY CLEAN and make sure you put fresh gaskets on all surfaces. Make sure the hardware is all in good condition and that you tighten the Manifold or Adapter properly. That means that you tighten it evenly and a little bit at a time to insure a proper even crush on the gaskets. If you are using an adapter plate you MUST use Red Loctite to secure the hardware holding the adapter plate to the Inlet manifold and plate to plate in those applications. Also use Blue Loctite to secure the carb mounting nuts. This will insure it does not vibrate loose causing a leak. DO NOT USE SILICONE SEALER on intake manifold gaskets or adapter plates. The Only sealer we recommend for these Surfaces is Gasket cinch which you can buy from any auto parts store or LCEngineering.

Check all Vacuum hose connections and hose to make sure they are secured and not cracked. Any suspicious looking hoses should be replaced. When doing a Weber Conversion very often you have a lot of Vacuum ports that need to be plugged when installing the Non-Smog carb. Make very sure that you plug all unused vacuum ports on the manifold. Even a very small port will cause a leak big enough to make the car not idle. Basically just be very careful and meticulous about the installation....After you get the vehicle running it is always a good idea to check for leaks before trying to tune the carb. You CANNOT TUNE a carb or F.I. system that has a Vacuum leak.