

**PLEASE READ CAREFULLY AND COMPLETELY
BEFORE BEGINNING THIS INSTALLATION,**
you will find many helpful hints in the instructions.

IF YOU ARE UNCOMFORTABLE WITH ANY ASPECT OF THIS INSTALLATION PLEASE REFER THIS TO AN EXPERIENCED SERVICE TECHNICIAN.

Tools needed:

- 1 flat head screwdriver
- 1 10mm wrench or socket
- 1 small soft towel (its going to get dirty)
- 1 Box knife or cutting tool ex.. Pliers, shears etc..(Avalanche)

Step one



Removing the factory intake system.
Remove factory engine cover by lifting up and pull towards the front of the vehicle, you will re-install this later.
Remove the PVC line as shown



Remove the factory air box by unscrewing the hose clamp directly on the box. Pull directly up on the box, it will release with a pop! Remove the factory air tube by popping it loose from the black plastic grommets located at the middle of the radiator hose, loosen hose clamp from throttle the body, the hose and intake will lift out.
Mass airflow harness-- You will need some slack in the wiring loom for later relocation, to get the added length needed. Pull on it and find the plastic grommets on your fender, pop these loose, one or two should be fine, just enough to reach the mouth of your throttle body.

Step two



Next to your Radiator on the left and right side are some flexible factory block offs; these will need to be removed.

ALL GM's---- including Avalanche and Escalade owners, simply reach into the cavity and remove these, you can just pull on them, they are held in with the same black plastic grommets as the wiring loom. There will be one up high and one down low and one on the outside most edge, three totals per side. This factory block off material is fairly soft and can be removed in seconds, compared to popping the grommets one at a time, with cutters or a screwdriver.

Tech Note

(Read this through, the Avalanche and standard trucks use different components here, this covers Escalade and GMC as well.)



Note: removal of plastic cover is not necessary for Avalanche trucks.

Removing inner radiator flaps (look or feel for these on the left and right of your radiator) Determine which flaps you have, hard plastic or soft flexible fabric. Most Chevy trucks have hard plastic- requires the removal of the upper plastic support. You will replace this once the scoops are installed. This simply allows you easier access for removal.



Left side is soft
(Avalanche, Escalade & Denali)



Right side hard plastic
(Full size truck and Tahoe)



Using your cutters remove flaps as shown, they are connected by plastic push clips in 3 locations

SUV's usually have the soft fabric ex Avalanche, Escalade, Denali etc... Simply reach in and pull on the fabric, pop these loose, they are connected at the top in two locations and one location on the bottom. Wear gloves or pad the area so you don't hurt your hands here, lots of sharp corners. (You may also use cutters to cut these out)



Once step one is completed feel underneath the radiator core support as shown. You will find a 10mm bolt on each side. Loosen this about 1/8 - 1/4 of an inch. (this will be used for slotted bracket placement for mounting the front scoops)



Remove VR kit from shipping box, the filter is already loaded and oiled, ready for use. We even pre crushed the hoses for you. Tech note – there is a left and right duct, drivers side has perm nut hole on the right side as shown



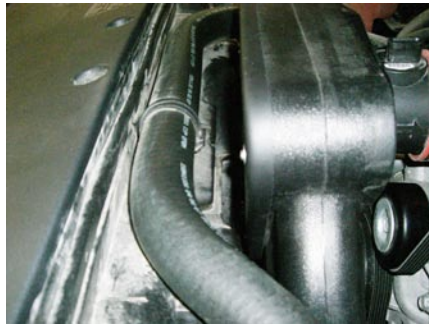
Install supplied brackets as shown, they are slotted, so simply slide them in place and tighten the 10mm bolt that is under the core support on both sides. Install supplied screws and washers and tighten completely.



With kit off of vehicle install mass airflow meter as shown and tighten hose clamp, air meter should be vertical. Using supplied red hose fit the 1inch long piece over the air meter 1st; this is used to size up the outside diameter. Tech note, lube the inside of the hose as shown with some WD-40 for an easy slip over fit. Fit longer angle of hose to the top side of the throttle body and tighten in place, lube the inside of hose with WD-40 for slip fit.
Tech note 2. Make sure there are no gaps around the outside of the hose to throttle body fit as shown.



Tech note 3- Pad the backside of the radiator fans by using a towel, simply drape it over, this way you won't scratch your kit or yourself! With the air meter attached and both red hoses in place you can now lower the kit in place.
Pay close attention here!!!!
You will lower the kit in squeezing and overlapping the red hoses. Simply work the top of the hose in with your finger as shown. Follow the pictures and be patient here. Once in place install all clamps on the red hoses as shown.



Pull Away Towel.



Install main hoses as shown in figures. Squeeze the end of the hose on the air box to verify that you are on the edge of the box; this is where you will want to install and tighten the hose clamp. This will avoid any bowing along the outer edge which would cause an air dam effect. You may trim any excess off once you have completed final fitting

PVC



Here simply remove the rubber grommet on the end of the factory hose and slide our supplied hose in place. Install on the passenger side as shown, the factory hose has a self sealing plastic grommet, so all that is needed is to push it in place.

Helpful hints and F&Q's (READ THESE)

1. Clean your filter every 2,500-3K miles for optimum performance other wise every 6K is fine.
(See website for instructions for cleaning filter.)
2. Do not attempt to place the scoops anywhere but where we have them, this spot was measured several times (we even put them directly behind the grill during testing, we tried several styles) where we have them is where they work best. They use the radiused edge of the radiator that is smooth to increase their overall area and it offers a safe package for deep water as well.
3. This kit can be used with any programmer or custom tune. Feel free to contact us direct for optimum tuning as we have used them all and even custom tuned as well using EFI- live.
4. Some will not need to reset the ECU by disconnecting the Negative end of the battery. Your vehicle will learn the new airflow over time, usually 100-200 miles, some may require the ECU to be reset, we had 6 test trucks and 4 out of 6 did not, they learned within 100 miles or so. If you have any type of programmer you will not need to reset the ECU simply fine tune your programmer- call us direct at 713-477-8100 ask for our tech department because some programmers were more aggressive than others and we can help you fine tune the system.

Tech Note - Important for custom tuning

Tuning using any aftermarket programmers- call us direct 713-477-8100 for info on this. During static dyno testing we witnessed "EVERY TRUCK" range from a 15.2-14.1 airfuel at idle to a part throttle 12.5-13.2 to a wide open reading of an amazingly rich 10.0-10.7 airfuel ratio in stock OEM form. This included all 4.8, 5.3 and 6.0 trucks. All of these trucks and SUV's have a huge amount of torque management, some of this is removed by the programmers, but for those of you who do dyno, watch your airfuel ratio when the converter really comes in. We like to see static WOT airfuel ratios of 13.2-13.5 for better mileage the ECU will fine tune the rest.

What to expect and how to use it best on the road

Throttle response and low end power is the 1st thing you will notice. You will also notice that you won't need more than 1/4-1/2 throttle to move the vehicle at any decent pace, **going to full throttle immediately will not do much because of Torque management** -(its job is to avoid you shocking the driveline by putting to much Torque to quickly to the tires) it will suck gas like crazy when you do this unless the truck has been tuned by use of a programmer or a full custom tune.

½ second drops off of 0-60mph time and .3 and +3mph in the ¼ mile times are the norm.

**Call us with any type of questions you may have.
713-477-8100 or email our tech department
ledford@tmail.com**