GENUINE STROMBERG 97

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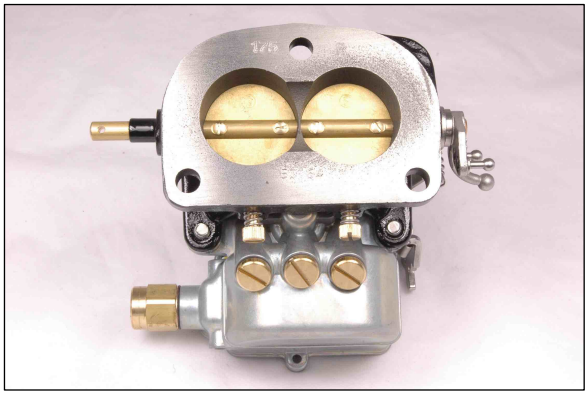
How To: Maximize intake flow for the BIG97 Tri-Power.

The Stromberg BIG97 base casting (throttle body) may have the same external dimensions as a regular 97, but on the inside you'll find bigger, offset throttle bores with flared exit cones to increase airflow capability and improve air pressure recovery. They also help slow the mixture to reduce turbulence in the transition from carburetor to manifold plenum (the 90 degree turn).

Early plenum effect

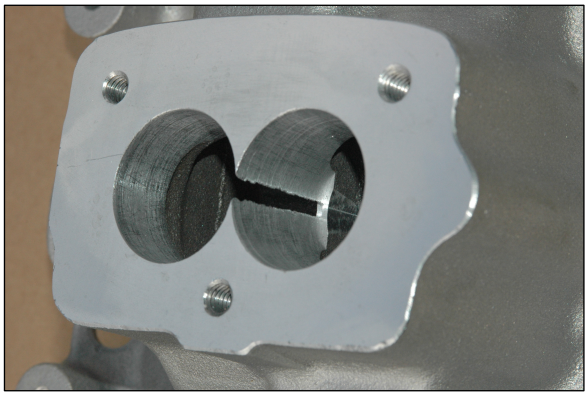


BIG97s also feature a new oval shape, carved out just under the throttle plates, which brings the two separate barrels of air together before they hit the intake plenum. This 'early plenum effect' allows any cylinder to draw from all six barrels combining the strong torque/easy drivability characteristics of a dual plane intake with the kind of power curve improvements more usually associated with a single plane. The intake manifold modifications recommended here enhance that effect, adding even more potential to your BIG97 Tri-power.

There are two steps: Match the ports and lower the dividers between each pair.

If it's drilled for regular 97s, your intake will have two separate holes (around 1.19inch dia) with a heavy web between them. So let's start with the carb gasket (supplied with every BIG 97). Stick one on the three intake studs and it will soon show you where you need to be. Though please remember that the gasket is meant to be slightly bigger than the port...

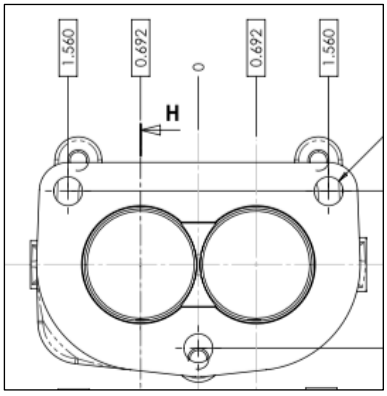
Match the ports



Your first task is to open out the carb intake ports to avoid a step under the carburetor. The BIG97 throttle barrels flare out to 1.4inch at the bottom of the base casting so that's what you're aiming for in the manifold.

Research shows that most of the flow is down the center of the port, with very little activity near the walls, so there is very little to be gained by perfect matching or polishing.

On this Edelbrock intake, we machined deep into the throat of each carb inlet port, then refinished the webs with a die grinder, but you can achieve the same results without a milling machine. Your BIG97s will still work great however well you port out the intake.

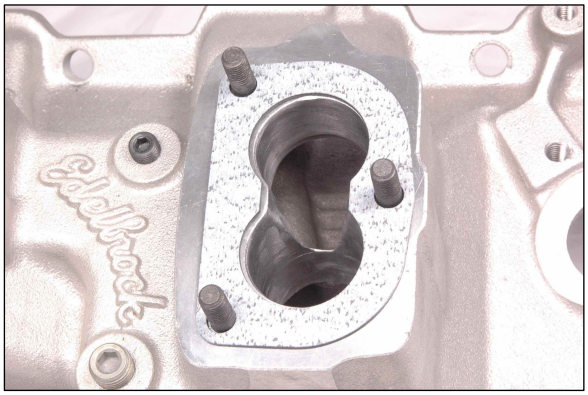


BIG97 throttle bores are on 0.692inch centers – 0.020inch further out than regular 97s. If you're porting by hand, this is not something you'll need to worry about, but if you're setting it up on a milling machine, it's handy to know.

If your intake was drilled for most Rochester 2-bbl carburetors, by the way, you've already got big bores – bigger than 1.4in – so this part is already taken care of. You will need to redrill for the intake studs, however, as Rochesters have four studs.

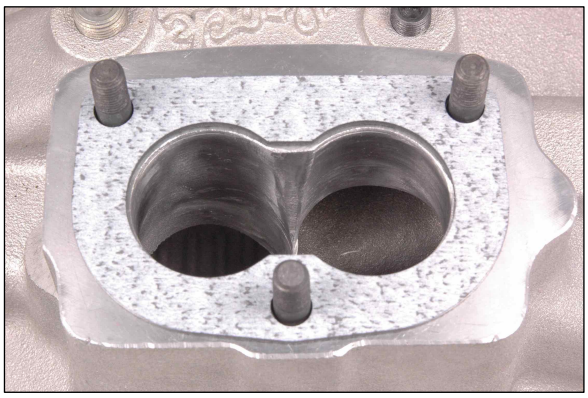
Lower the dividers

This is the part that extends that 'early plenum' affect as explained above.



Extend the early plenum effect by cutting away that central web between the two barrels and smoothing the transition down into the plenum. The machining operation had already created a slot so we just used the die grinder to smooth around the edges and turn the slot into a V shape.

In this case, we probably machined deeper than we needed - pretty much right down to the floor of the manifold upper plane. Opening up the web to around an inch deep would still do the job.



You're done! If you think we've missed anything or can improve on this Genuine Stromberg 'How To', please let us know.

Email us – tech@stromberg-97.com