

More then you want to know about pipes – Brian Robinson

There is no true formula. Everyone say's to do it a different way. I can tell you what I have read. What I have heard. What I have done. What has worked for me. What didn't. What worked for others and how it didn't work for me. Then add to it all the variables of use and how that effects what's really the right pipe. Confused yet?

Mad scientists and their equations

There are mathematical formulas that have some validity. (wish i could spell, or at least get spell check and vista on this site to be friends) But in the end they are just close approximations. There are formulas for tuning what's called three stepped headers (three different sizes all welded up at specific lengths to take advantage of different pressures and when they hit the atmosphere at the end of the pipe. There are good old drag pipes. And two into one pipes.

Lets talk about myths.

1. Paint you pipes black and go down the drag strip at wide open throttle, then cut off the pipe where the paint is burned at the ends to get the tuned length.....Ah I actually tried this.. it was kinda close to what i ended up with in the end, but I don't recommend it.
2. Drag pipes (with bolts 1 3/4" from the end) are horrible on the street and can't be tuned...Bull crap!
3. Two into one pipes are vastly superior and make a lot more power then Drag pipes...Bull Crap! If you average the power numbers for torque and hp across the rpm band from say 2400 to 4500 rpm you will find that the numbers average about the same(with bolts in the end of the drag pipes) the two into one will make a point maybe two more but that's it. If you add 4500 to 6300 you'll find the drag pipes take off and leave the two into one behind. Probably like 4 or 5 more ft lbs of torque. Where the two into ones are superior is the guy with a 80" averaging 1500 rpm to 3800 rpm. Ah..... Who cares? If I'm going 1500 rpm and I think I'm gonna out run somebody I'm nuts. If somebody is goosing their throttle and trying to provoke my wrath.. I gonna drop a gear and leave, starting at about 3000 rpm and probably wont get that low again even after each shift Till I'm at the pub drinking my second beer and waiting on him.. so who cares about power at 1500 rpm? Oh, the guy who is just wanting to pass the Semi on highway 1 two up and to lazy to down shift, that's who. So depends upon what you want.
4. Pipes you see on an alcohol pro drag bike are not the pipes you want and the pipes you see on OCC are defiantly not the pipes you want.

Tuning a Drag pipe.

Ok, enough about the myths, lets talk tuning.

Again there is enough opinions on this to write several books.. So here is what I have seen work on Friday night special hot rod bikes, that are street and drag steeds. This is what I did.

- Buy two sets of 40" Drag pipes the same. Put one set on. Run many passes and average their 60 ft times, Mph, and Et. Tune the bike to its very best performance at that length.
- Next cut off an inch from the end of each pipe and start over tuning it (should be close)
- Keep doing this one inch at a time until you see that after three passes and averaging these three that your MPH has started to drop. Once this happens, stop. add back one inch and cut the other set of pipes at that length with the one inch added back.
- Finally experiment with putting a baffle or bolts back in the end. You will see a difference on a dyno, MAYBE at the track in your 60 ft times. I saw no difference in my MPH. MPH is king in tuning even over ET.

Tuning three step headers

I have not finished a set yet to try, so I am reluctant to tell you what I have not really done. I started a set using a standard 1 3/4 pipe cut 25% of the total pipe length. a 1 7/8" pipe cut 32% and the 2" cut 43% then you weld it all up. I stopped because Crazy mentioned a genius Idea I never thought of.. use 1 5/8 for the first pipe, 1 3/4 for the second and 1 7/8 for the last. its probably a better way to go. I never started that Idea because how can I get the primary tube to have all the even bends in it?

Two into One tuning

I can't really help you. See the big names that make these over priced pipes don't share their dimensions.. and *one size does not fit all*. They make one size.. hmm should say something right there. I would start with drag pipes and run the starting tubes at least 18" long. next I'd make the volume of the muffler chamber about 3 or so in diameter and I would make the length about 18 to 20 inches long?? Its not worth the return compared to the less variable, easy to do drag pipes. So just buy one and stick it together, hope for the best and tune at the end with plates. I do know to compensate for what you loose on the top end with two into ones, get a large volume muffler section. It will help give back some of what you lost on the top. I did waste money trying a two into one. ah..you see I'm back to drag pipes. I honestly hated the sound more then the loose of mph.

Summary

You said keep it in simple terms. Somebody will start using mad scientist terms like Reflector/Scavenging/Inertia scavenging/ wave/ reversion/ anti reversion/ Reversion so on and so on. If you wanna get your dictionary out we can go down that road. But i tried to keep it simple.

Light chopper or fx bike

IF all this sounds like way more work then you want, close is about 36.5 inch long drags with short baffles or bolts in the end.

OR

What ever two into one you can afford (I'd do the mild upswept cycle shack cause at least its not ugly and its half the cost)

Bagger or two up

Drags with larg volume slip on mufflers approx 36.5 inches long

OR

What ever two into one you can afford (I'd do the mild upswept cycle shack cause at least its not ugly and its half the cost)

Yeah i didn't tell you the dimensions to cut up a bunch of pipes and weld up a two into one pipe. Its trial and error. Then you can report back to us 🇺🇸

