



How do I tune the Stromberg 6x2 for the street?

Let's get your Stromberg 6x2 linkage working.

It's not hard to see why every hot rodder loves a Stromberg 6x2 system. It's an eyeful from every angle. And it hauls ass too. But don't forget that 6x2 systems were generally designed for racing, so making them work effectively on the street is another question altogether. Now, we're not going to be talking about which Stromberg 6x2 kit to select for your intake here. We cover that in another Tech Center How-to (and elsewhere on this Bulletin). What we're talking about is how a 6x2 intake can be set up, with a linkage that helps your whole application work better...

First off, we better remind everyone that a 6x2 system is no place for worn out old 97s. You need good reliable carburetors with good fuel metering, no play in the shafts and no air or fuel leaks. Six air leakers is a problem for good idle. Six fuel leakers is a problem for your personal safety.

Racing. If you're genuinely using six 97s to go racing then it's simple. Buy a Stromberg 6x2 direct linkage. And set the pedal link to open all six at the same time - quickly.

On the street. OK, so what about the 6x2 linkage in your grocery-getter? The truth is, we can't give you a definitive answer for every application. But we can say that, whatever you do, you're probably going to look at a linkage based around two Stromberg TwoStep 3x2 progressive linkages, plus a Back-bar kit to join the two banks of carburetors together. Linkage installation instructions can be downloaded at our Tech Center, of course.

Let's look at some basic principles and remind you that all Stromberg progressive linkages are hugely flexible in operation, so you can tune it for many different outcomes. One setting does not fit all applications, and the weight of the car, gearing and rearend ratios, engine tune and drivability, your favored freeway cruising speed, and more, can all play a part.

Pedal response. As a rule, you want smooth throttle operation with a slow pedal ratio, ie. you push the pedal further for a set response at the carburetors. Do the opposite and the throttle becomes like an on/off switch, which is no fun on the street. Now, your pedal ratio and travel are probably fixed, so being able to change things at the linkage end is important.

There are three adjustment holes at the top of the long back bar levers. And if you link your pedal to the highest hole and set the link to the carbs in the lowest hole, you will get the slower throttle response. The opposite is true of course, if you find you are bottoming out your pedal before you hit WOT and you need faster response at the carburetor end of the linkage. Remember, of course, that you must never hit Wide Open Throttle (WOT) with any pedal travel left to go, as forcing the pedal further could damage the linkage, stress all the links and, worse, break it and leave your motor uncontrolled.

Four carbs working. Here's the next thing to think about. Just because you have six 97s on the manifold, it doesn't mean you have to use them all. One option is to use our 29447K Blank-off plate kit under the center carbs on each bank (remembering to use a gasket above and below the plate) and blank off the fuel to them too (you can solder up the inlet jets), keeping the outer four operational. So, now it looks like a 6x2, but operates like a 4x2. You'd keep one carb pretty much over each set of intake ports. Plus you'd be looking at 4x162cfm = 648cfm – enough to run a 350 Chevy and rev any older motor well beyond its comfort zone.

If you do blank off the center carbs, you can still run a progressive linkage option in case you ever change your mind on the center carburetors, and the linkage on each bank can be set up so it pulls the outer carbs from idle. Adjust the rod stops so they are up against the outer carb levers at idle. But remember that if you think about the leverage, it will make the throttle response quicker because the outers will be open by the time those long center levers are at half throttle. You may be able to compensate for this by adjusting the leverage at the back-bar end. Just needs a little thinking time..

If you want to use a direct linkage you will need a shorter linkage arm on the center carbs, because they sit slightly higher than the others (due to the spacers), and the direct linkage rods need to align through all three carb levers in a line. This not a problem, however, as we still have you covered. Our 3x2 progressive kits use a slightly shorter arm and it works perfectly with that arm in the center of a 6x2 direct kit with a raised center carb. This arm doesn't come with our standard 6x2 direct linkage kits, but it is available separately if you email us and tell us what you want to do.

Six carbs working. Ok, so you want the full 6x2 street experience? Let's talk about linkage adjustment. With the progressive sliding links on the top adjustment holes in the center carburetor levers, and the sliding stops adjusted so that all three carbs on each bank reach Wide Open Throttle (WOT) at the same time, the system will run on the center two carburetors from idle, bringing the outer carburetors in from around 50% throttle. On a 3x2 you have a lot of versatility on bringing the outer carbs in earlier or later, but on a 6x2, it's not that easy because the slider rod MUST be attached to the top hole in the long center lever because the bottom hole is taken by the link to the back-bar. And if you swap them, those back-bar links hit the back carb fuel inlet.

Even then, we're not completely out of the woods. On a 6x2 progressive linkage, the sliding rods on each bank must join to the front carburetors. They cannot join to the back carbs (as you would usually with a 3x2) because of clearance issues with the back-bar. Why is that a problem? Because on a front-facing 3x2 progressive, with the sliding rod in the top adjustment hole, that sliding rod will rub on

the underside of the center carburetor hose (if you use traditional fuel hoses). The good news, though, is that we offer a special fitting to help you out. 9080K-E, our extended Superseat hose fitting, moves the hose and clamp further out a little to leave a gap for the sliding rod to clear. Check out the pictures on our website. You may have seen pics of old school 6x2 progressives with slider rods bent like a big L shape to miss that center carb fuel inlet. Use a 9080K-E and bendy rods are history.

One more thing. You can still bring the outer carbs in later, simply by adjusting the rod stops on the sliding rods. You won't get primaries and secondaries to all hit WOT at the same time, but on a light car with a big motor, that might not be a bad thing. !

WARNING! Do not use the linkage in any configuration that will cause sticking and binding, which could result in uncontrolled engine speed, property damage, serious personal injury or death.

Return springs. Make sure all six carburetors snap shut when you lift off at the pedal. We mean it! All Stromberg linkage kits are supplied with our Snapback torsion throttle return springs. They're almost invisible. They work great and you can get more from your Stromberg dealer (ask for 9154K). Remember you already have the accelerator pump springs helping return the throttle so you shouldn't need a crazy number of springs. If there is any slowness in the throttle return it is probably at the pedal end or because your swivels are misaligned. Eye the system from above and adjust the levers along the throttle shaft or Back-bar as required.

Jetting. We cover jetting in other How-to's and the message is the same for a 6x2 system as any other. With engine tune, elevation, local gas laws, ethanol content and more all having a bearing, each application will be different, so it's almost impossible for us to estimate what you need. So we usually say start with the standard 0.45 mains that Stromberg 97s come with and see how it works from there. Though as a rule you'll probably need small power valves – nearer the number 71 mark.

Just remember, the main jets come in almost immediately off idle and control the fuel air mixture at cruise speeds. Once you get past around half throttle, the power valves join the party. The power valve controls the amount of enrichment at higher revs. While it does pass through the power valve, the volume of accelerator pump 'squirt' is not really dictated by it. In tuning, you might want to try disconnecting some of the accelerator pump lever links (like all outer four at first) to test reducing that top end enrichment and also the amount of raw gas injected when you pump the throttle. Remember, most 6x2 intakes were designed for racing at full throttle. If you crawl around town and rev it at the lights, you will get hot, raw gasoline in the bottom of the intake. I'll repeat that. Hot, raw gasoline...

As always, getting the car/engine onto a dyno of some sort will help you measure what is happening and make informed decisions about tuning. One small tip: Once the linkage is set-up, it is often easier to leave it in place and remove the carburetor bowls off the bases to change jets. Keep persevering and you will find a good level of tune that suits your engine and your driving style.

Your link to the pedal. We have said this before, but it's worth repeating. Stromberg recommends a mechanical pedal link for all multi-carb systems. Ideally, your 6x2 Back-bar can be connected to the pedal via one of the long levers that work the two banks of carburetors. But if these don't line up with your pedal link, you can add a third long lever to the Back-bar shaft with Stromberg kit 9096K (Long linkage arm/swivel) positioned to align with your throttle pedal 'pull' point.

As with all our Tech articles, we welcome customer feedback and other input. Email us (tech@stromberg-97.com) with your thoughts and if it adds to the debate, we'll add it in. Thanks for listening.



