**Warning!**
These instructions, including the diagrams, must be read and fully understood before installation, otherwise installation should not be attempted. Failure to follow these instructions may result in poor performance, vehicle damage, personal injury or death.

If you have any questions, contact your Genuine Stromberg dealer or email us at tech@stromberg-97.com

**1. Read this first**

**Have you got the right linkage?**
Stromberg TwoStep linkages are designed to fit Stromberg 97 (and BIG97), 81, 48 and 40 carburetors on specific intake manifolds. Carburetor spacing differs between intake makes and models. Please check that you have the right linkage for your application before you attempt installation.

All carburetors should be firmly fixed to the intake manifold before installing the linkage. Your linkage comes pre-assembled, but installation is easier if you remove the sliding linkage rod from progressive linkages first. Leave any rod ends fixed in place. All linkage lock nuts, screws and set screws must be fully tightened before use.

**WARNING!**
Do not over-extend any threaded rod to fit an application that your linkage was not designed for. Keep no more than five threads visible past the lock nuts at all times.

**WARNING!**
Never smoke, use an open flame, or produce any sparks where gasoline or gasoline vapors could be present. Always perform any work on the fuel system in a well ventilated area. Failure to do so may result in the build up of dangerous gasoline or other combustible vapors that may cause severe respiratory injury, or a fire or explosion, resulting in property damage, serious personal injury or death.

**WARNING!**
Stromberg recommends that installation be performed only by a professional auto mechanic. An improperly fitted linkage may cause poor performance or lead to property damage, personal injury or death.

**WARNING!**
Always disconnect your vehicle’s battery and make sure that the engine is cool before performing any work on a vehicle’s fuel system. Failure to do so may produce sparks, causing a fire or explosion, resulting in property damage, serious personal injury, or death.

**Banjo Fittings**
To ensure correct interference-free clearance between the linkage and fuel hoses, banjo fuel fittings (eg. Stromberg 9082K and 9083K) can ONLY be used with Stromberg progressive linkages if you ALSO use 9086K banjo fitting spacers (see picture at right).

**Cable Throttle**
The Stromberg Cable Throttle Bracket (9136K) makes it easy to use Stromberg linkage kits with aftermarket throttle and kickdown cable kits. (Note: 9136K is not compatible with some Ford Flathead fuel pumps). On a 2x2 intake, use a TwoStep direct linkage with swivels and fix the throttle cable end fitting into the front swivel (see picture at right). On a 3x2 system, fix it to the center carb lever, either into the swivel or the lowest adjustment hole. For more information on cable throttle installations, log onto the Stromberg Tech Center at www.stromberg-97.com

**2. Tools required for installation**

> Small protractor or angle finder
> Small flat blade screwdriver
> 3/8in open-end wrench
> 3/32in hex key (Allen key)
> 5/64in hex key (Allen key)
Stromberg TwoStep linkages

Direct linkage with swivels (2x2 shown)

Premium direct linkage with rod ends (2x2)

Premium progressive linkage (3x2) pushing rear carburetor

2x2 Direct linkage with cable throttle

Progressive linkages with banjo fittings need spacers
3. TwoStep installation

Direct linkage with swivels (2x2 and 3x2)

Step 1 - Fit the SuperLink arms
a) Hook one of the supplied torsion-type carburetor return springs over a SuperLink lever arm and slide it over the front carburetor throttle shaft, pointing upwards with the clamping screw head to the right. (see Picture 1) They are designed for a tight fit. Ensure the spring is located correctly on the base casting as shown.

b) Use a small school protractor or angle finder to set the lever to 40 degrees before the vertical. (see Picture 2) Tighten the countersunk lever clamping screw with a long, flat blade screwdriver. Do not over-tighten. The spring should now keep the carburetor 'snap shut' against the throttle stop screw on the other side of the carburetor. (see Picture 3)

c) Now work backwards, fitting the other return spring and SuperLink arms to the other carburetors. Set them all at the same angle and the same distance onto the throttle shaft (use the hole in the shaft as a guide). Three-carburetor systems only need two springs – fit one to the carburetor which is linked to the throttle pedal.

Step 2 - Adjust the linkage rod
a) Before you clamp the lever arm to the rear carburetor, check that it is at the same angle as the front lever with both carburetors shut against their throttle stops. (see Picture 3)

b) If the rear carburetor lever arm is not at the same angle, or if it is binding, or if one of the carburetors is not shut against its throttle stop, you must adjust the length of the linkage rod between the two rod ends. The linkage must fit your pre-set 'balanced' carburetor idle settings - not dictate them.

c) To adjust the linkage rod length, loosen the rod end lock nuts, which are right and left-hand threaded at opposite ends. Then adjust the rod length by turning the rod to pull the rod ends closer together or further apart. (see Picture 5 overleaf) When both levers are at the same angle and both carburetors are shut against their throttle stops, tighten the lock nuts onto the rod ends using the 3/8in open-end wrench, taking care not to alter the rod length. Do not over-tighten. Then tighten the rear carburetor lever clamping screw. Do not over-tighten. Go to Part 5, overleaf.

Premium direct linkage with rod ends (2x2)

Step 1 - Fit the SuperLink arms
a) Install the SuperLink lever arms and torsion-type return springs as described above (Direct linkage with swivels), but install the linkage fully assembled. (see Picture 5 overleaf)

b) Set the front carburetor lever arm at 40 degrees before the vertical (see Picture 2) and tighten the countersunk lever clamping screw. Do not over-tighten. The rear carburetor lever arm should now fall into approximate alignment.

c) Eye the linkage through from above to ensure correct alignment, adjusting the rear lever arm on the throttle shaft to correct any misalignment.

Step 2 - Adjust the linkage rod
a) Before you clamp the lever arm to the rear carburetor, check that it is at the same angle as the front lever with both carburetors shut against their throttle stops. (see Picture 3)

b) If the rear carburetor lever arm is not at the same angle, or if it is binding, or if one of the carburetors is not shut against its throttle stop, you must adjust the length of the linkage rod between the two rod ends. The linkage must fit your pre-set 'balanced' carburetor idle settings - not dictate them.

c) To adjust the linkage rod length, loosen the rod end lock nuts, which are right and left-hand threaded at opposite ends. Then adjust the rod length by turning the rod to pull the rod ends closer together or further apart. (see Picture 5 overleaf) When both levers are at the same angle and both carburetors are shut against their throttle stops, tighten the lock nuts onto the rod ends using the 3/8in open-end wrench, taking care not to alter the rod length. Do not over-tighten. Then tighten the rear carburetor lever clamping screw. Do not over-tighten. Go to Part 5, overleaf.
Premium progressive linkage (2x2 and 3x2)

Stromberg progressive linkages can be mounted with the sliding rod set to push the rear carburetor or pull the front carburetor open. The linkage must be mounted to avoid any potential interference eg. on a fuel pump, hose or adjoining carburetor.

Push linkage (on rear carburetor):
This is the most common application, eg. on most overhead valve V8 intakes and on Ford flathead motors with a remote fuel pump and a firewall-mounted fuel block.

Pull linkage (on front carburetor):
The 97’s fuel inlet position has always made front-pull progressive linkages difficult. But if you have a 6x3 back-bar, for example, it’s the only option. The good news is, a Stromberg Extended SuperSeat hose fitting (9080K-E), or a Banjo fitting spacer with rod clearance (9086K-C) on the centre carburetor, or the use of any Stromberg TwoStep fuel line, will provide clearance between the fuel line and the front-pull progressive sliding rod. (see Picture 7)

WARNING!
The throttle linkage must operate freely at all times. Do not use the linkage in any configuration that will cause sticking or binding, which could result in uncontrolled engine speed, property damage, serious personal injury or death.

Step 1 - Fit the SuperLink arms
a) On a 2x2, fit the two lever arms as described overleaf (Direct linkage with swivels – Step 1) using the narrower torsion-type throttle return spring (supplied) on the shorter lever. Go to Step 2, below.

On a 3x2, follow the instructions overleaf (Premium direct linkage with rod ends) to mount the two short SuperLink arms onto the two outer carburetors. Use the narrower torsion-type throttle return spring (supplied) on one of these two carburetors.

b) The swivels on these two arms are different. One has a hole right through it for the sliding linkage rod. The other has a small blind cross-hole used only as a levering point for tightening the nut on the back.

Push linkage (on rear carburetor):
Mount the swivel for the sliding rod on the rear carburetor. (see Picture 6)

Pull linkage (on front carburetor):
Mount the swivel for the sliding rod on the front carburetor.

c) Adjust the linkage rod length as required to ensure both lever arms are at the same angle (ie. 40 degs before the vertical) with both carburetors shut against their throttle stops before you tighten the lock nuts and clamping screws. (see Pictures 2 & 3 overleaf.)

The linkage must fit your pre-set ‘balanced’ carburetor idle settings - not dictate them.

d) Now mount the long lever arm (and its wider torsion return spring) on the center carburetor. Clamp it tight at the same angle as the smaller levers, with all three carburetors firmly shut against their throttle stops. Check that the center lever arm does not touch the linkage rod between the two outer carburetors. For most applications, keep the swivel in the top hole of the center lever arm. (See ‘Tuning the linkage’, below.)

Step 2 - Fit the sliding linkage rod
a) Mount the sliding (primary to secondary) rod through the center and outer swivels (front or rear carburetor), with one tapered throttle stop each side of the outer swivel. Tighten the set screw in the center swivel with a 5/32in hex key, leaving around 3/8th inch of rod clear past the swivel.

b) Eye the rods through from above (see Picture 8) and adjust the position of the center lever on its shaft to keep the two rods close to parallel and avoid any binding in the swivels.

c) Now push the throttle stops to Wide Open Throttle (WOT) on all three carburetors at the same time. It’s easier with a helper.

Push linkage (on rear carburetor):
Hold all three carburetors at wide open throttle. Slide the tapered throttle stop that’s between the two carburetors up to the swivel on the rear carburetor and tighten it up with the 5/64in hex key.

Pull linkage (on front carburetor):
Hold all three carburetors at wide open throttle. Slide the tapered throttle stop on the far end of the rod up to the front carburetor swivel and tighten it up with the 5/64in hex key.

Return the carburetors to idle, then slide the other throttle stop to meet the same swivel, but from the other direction. Lock that one down too.

d) 3x2 linkage, with all its return springs, can cause the center Stromberg throttle shaft to twist in operation. In some applications, you may need to account for this twist by adjusting the throttle stop even further along the sliding rod to push or pull the outer carburetors to WOT.

4. Tuning the linkage

The baseline setting described above will work for most applications. With the swivel on the top hole of the center carburetor lever arm, the linkage will start to open the outer carburetors at around 50% throttle rotation (ie. when the center arm is around vertical). We say ‘around’ because the geometry changes for different intake manifolds, and whether you use a push or pull linkage system.

One setting does not fit all applications. The weight of the car, the gearing and rear end ratios, the engine tune and drivability, your favored freeway cruising speed, and more, can all play a part. The Stromberg linkage is hugely flexible in operation and you can tune it for many different outcomes.

For details of alternative settings, with geometry and advice on how to get the best from your linkage, visit our Tech Center at www.stromberg-97.com
5. Check for interference

Before and after you attach the throttle pedal, check that all carburetors move freely from idle to Wide Open Throttle (WOT) and snap shut when released. Check that the pedal does not strain the linkage once WOT is achieved, or cause any ‘over-center’ condition. Check that the throttle linkage does not interfere with the fuel line and vice versa. And check that the throttle return springs work effectively.

**WARNING!**
Stromberg torsion-type throttle return springs are supplied. NEVER run a carburetor without an effective throttle return spring. The Stromberg 97 accelerator pump lever spring is NOT a throttle return spring. Failure to run an effective throttle return spring, or any sticking, binding, or ‘over-center’ movement in any part of the linkage could result in uncontrolled engine speed, property damage, serious personal injury or death.

6. Security and maintenance

a) Engine vibration can cause fasteners to become loose over time. Once you have established your preferred linkage setting, we recommend the use of thread locker (eg. Loctite® or similar) on the linkage set screws.

b) After an initial running period, and at regular intervals throughout the life of the linkage, check and retighten all fasteners as required.

For further information or assistance, please contact your Genuine Stromberg dealer or email us direct at tech@stromberg-97.com

You’ll find more information and pictures at the Stromberg Tech Center.

Log on to www.stromberg-97.com