# Digle to MC

# Single to dual reservoir master cylinder conversion

#### **BY BIGDUMMY@EARTHLINK.COM**

ecently, I swapped out my single reservoir master cylinder for a 1967 Mustang dual reservoir master cylinder in my 1964 Falcon. The swap was a direct bolt in and only required minor bending of brake lines and the purchase of a few brake line fittings which can be obtained at any auto parts supplier. The swap does not require any cutting of the firewall, bashing in of the spring tower for clearance or the cowl braces which the Geo swap requires. I performed the swap for the safety factor of a dual reservoir master cylinder without the aggravation of updating to the Geo power assisted system. Also, the stopping performance of non power assisted brakes is not too bad to begin with so I felt I did not need power assisted brakes. This upgrade can be done for about \$45.00 and 2 hours of your time.

Since the conversion, I posted a short procedural write up a Falcon discussion group (TFFN) without any pictures. I got a few responses from several TFFN subscribers, but some felt that a few pictures in addition to a write up can help (pictures are worth a thousand words).

#### **Parts Needed:**

\* 1 rebuilt 1967 Mustang non power assisted master cylinder for drum brake setup -\$25.00

\* 1 3/16" brake line T - \$2.00

\* 1 3/16" brake line T and a 1/8 pipe thread adapter for adapting the brake light switch to this T.

\* Two 6" of 3/16" brake line tubing with double flared ends with 3/8-24" inverted flare nuts. You can buy tubing in various lengths pre flared with brake line nuts or you will have to have it made unless you have the proper equipment and know how. -\$3.00 (1965

Falcons only need one 6" of 3/16" brake line) \* 1 quart of DOT 3 brake fluid (you'll have plenty left over) - \$5.00

\* 2 reducer fittings to fit the rebuilt master cylinder line ports and to accept the brake line nuts on a 3/16" brake lines. The two ports on the master cylinder are each of a different size. The best advice is to take your master cylinder from store to store until the proper reducer fittings are found. - \$5.00

1 six pack of beer of your choice - \$5.00

### **Tools Needed:**

- \* 3/8" flare wrench
- \* 3/8" combination wrench
- \* small flat blade screw driver
- \* small hammer
- \* 9/16" socket
- \* Ratchet wrench (3/8" drive preferred)
- \* 9/16" combination wrench
- \* Double flare kit (if you plan on making your own custom lengths of brake tubing)



Comparison of both master cylinders side by side



Original single reservoir master cylinder



Dual reservoir master cylinder installed and brake lines repositioned. Notice reducer fittings.

## Old Master Cylinder Removal Procedure

1) Disconnect the battery (I had to say this)

2) Disconnect the brake line nuts on the old master cylinder using a 3/8" flare wrench (you may have to spay the nuts with W-D40 the night before). Carefully bend the lines away from the master cylinder without kinking them.

3) Unplug the pressure switch connector from the master cylinder (1964 and earlier Falcons).

4) Remove the C clip from the brake pedal stud that retains the master cylinder

brake rod eyelet from under the dash. Use a small flat blade screw driver and a small hammer for removal. Don't lose the two plastic stud bushings. Save this push rod as you will use it with the new m/c.

5) Remove the 2 9/16" bolts that hold the master cylinder to the firewall and remove the master cylinder.

6) Remove the pressure switch from the master cylinder. On 1964 models, it's used to activate your rear stop lights when the brake pedal is depressed.

7) Throw the old master cylinder as far as you can (aim for the garbage can).

# New Master Cylinder Installation Procedure

1) Bench bleed the master cylinder as per it's instructions (this is important).

2) Position the master cylinder into the firewall mounting hole and bolt it to the firewall using the 2 9/16" bolts.

3) Install the 2 reducer fittings into the master cylinder line ports. This will allow you to bolt on of the 3/8" brake line nuts.

4) Attach the **old master cylinder rod** to the stud on the brake pedal under the dash and reinstall the 2 plastic bushings.

5) Carefully bend the two front brake lines in a position where you can install the brake line T. Tighten the 2 brake line nuts into the T.

6) Using a 6" piece of 3/16" brake line bend it to fit between the remaining port in the brake line T and the rear port of the master cylinder. Install the line and tighten the nuts.

7) Attach the remaining brake line for the rear wheels to the 3/8"-1/8" T fitting (use the 3/8" port on the T).

8) Run a short piece of brake line from the remaining 3/8" port on the T to the front brake line port on the master cylinder.

9) Install the pressure switch into the 1/8" threaded port on the T and attach the bullet connectors from the original wires to the switch (1964 and earlier Falcons only).

10) Make sure your master cylinder is at least 3/4 filled with DOT 3 brake fluid.

11) Now, once again, make sure all your brake line connections are tight! Follow the standard procedure for bleeding your brakes. Remember, when bleeding your brakes, periodically check the fluid levels in your master cylinder.



Perfect access to without any cross brace interference



Front view of dual reservoir master cylinder. Notice combined fittings for brake switch connection.

12) Test your brakes then drink the six pack...Your done!

#### \*\* Notes

\* You must use the push rod from the old master cylinder. The new rod was about 1/4 inch longer which caused the brakes to drag. The rod eyelet that connects to the brake pedal linkage is an exact match when compared to the original rod.

\* The original master cylinder has it's brake line port located towards the front. The replacement master cylinder has it's brake line ports located on the left side. Don't panic, there is more than enough room to make your brake line connections.

\* The master cylinder swap will fit either the 6 cylinder or V8 engine configurations without any cleareance problems.

\* 1964 Falcons use a brake line presure switch (located near the master cylinder) to activate the rear brake lights. 1965 Falcons use a switch located located under the dash which is activated by the brake pedal linkage to operate the rear brake lights.

\* I've only applied the swap to my 1964 Falcon so I can't verify the procedures will work for non-1964 Falcons.

\* 1964 and earlier Falcons use a pressure switch to activate the brake lights and is attached to the single reservoir master cylinder. 1965 and newer Falcons use a brake light switch located under the dash and works off of the brake pedal. On 1964 and earlier Falcons, the pressure MUST be relocated using a T block . The T block is in-line with the brake line as explained above in steps 5 through 10 under New Master Cylinder Installation Procedure.