

Fitting a dual circuit brake servo to an MGBGT V8 conversion

As part of the conversion of his MGBGT to V8 specification in 2008, Mike Howlett fitted dual circuit brakes to a 1969 chrome bumper MGBGT using the In-line Master Cylinder and Servo. Here Mike describes the job.

My car is a 1969 GT that I bought as a complete wreck five and a half years ago with the express intention of making my own MGBV8. The inspiration for the conversion was Geoff King's V8 Roadster which I rode in shortly after it was completed. Family and work commitments have meant that progress has been slow, but I retired in April 2008 and so work has speeded up, with all the bodywork completed and a Hoyle suspension upgrade fitted. The 3.9 litre engine is nearly rebuilt and I am currently stripping the LT77 gearbox.

It has always been my intention to upgrade the car wherever possible, and one of the improvements that I decided on early in the planning was to use the late model twin circuit brake master cylinder with a direct acting servo. Accordingly I purchased from Andy Jennings a complete late model pedal box with cylinders, servo and pedals. This cost me £45 in 2006.

I stripped the assembly down, and cleaned and painted the parts. A new brake master cylinder was bought, but for the servo I simply dismantled it, painted the case and reassembled it using a servo repair kit. As the inline servo does not have brake fluid in it, the internal components

were in excellent condition. There is an issue with the clutch master cylinder, but I'll come to that later.

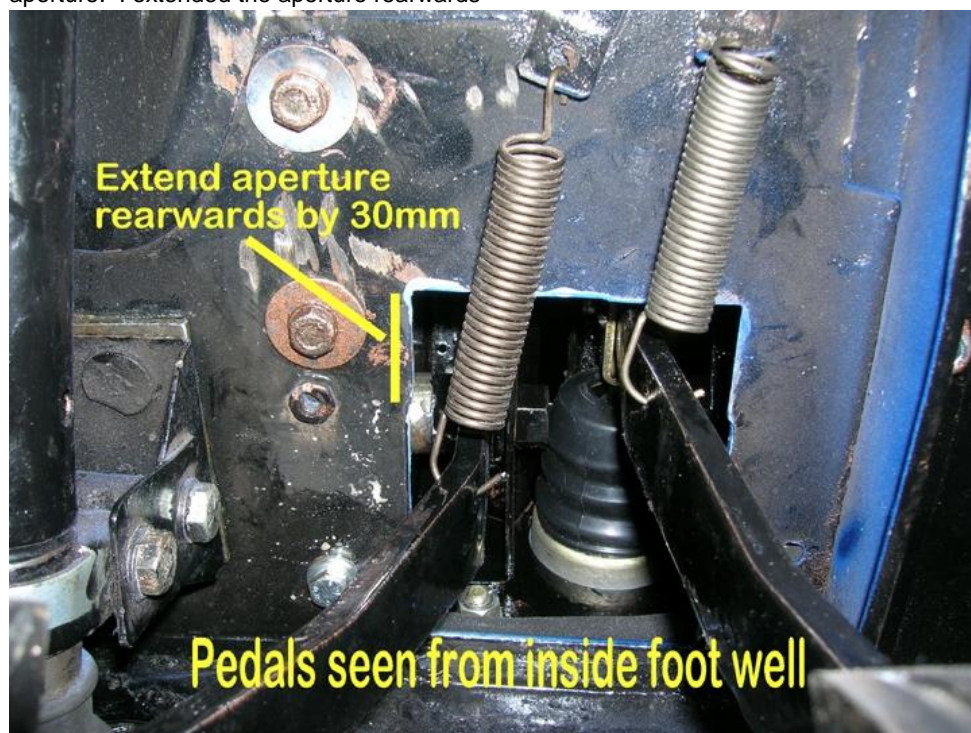
Holding the new pedal box up to the car showed that the bolt holes are in the same places, so no extra drilling would be required for them. However, the brake pedal is hung in a slightly different way and fouls on the rear of the original square aperture. I extended the aperture rearwards

bolting the servo to the pedal box and offering it up showed that there was a small area of conflict with the servo body and the inner wing. A little dressing with a hammer soon gave sufficient clearance (see photo).

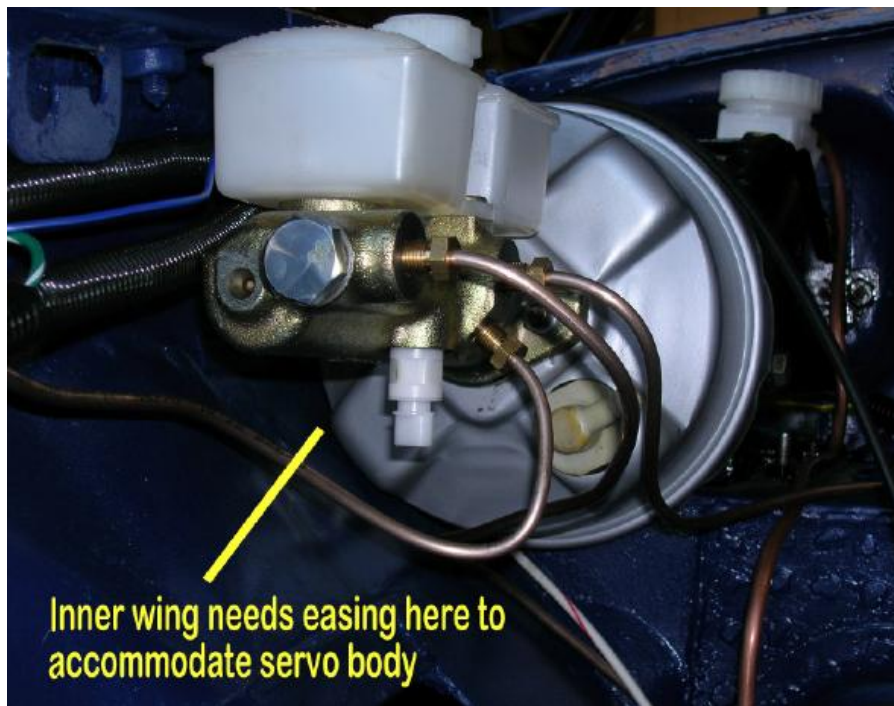
When I was finally ready to fit the pedal box I found that both pedals together will not go through the aperture from the top. On the bench I removed the clutch pedal, bolted the servo on the box and connected it to the brake pedal. I bolted the clutch master cylinder to the back of the box. Then I manoeuvred the brake pedal through the hole, fiddled the rubber gaskets in place under the box and bolted it down. This was a bit awkward as some of the bolts are in the narrow gap between the pedal box and the inner wing. Then I introduced the clutch pedal from beneath. You can either use an assistant to push it up, or haul it up on a piece of wire as I did. I bolted the clutch pedal in place and connected it to its master cylinder.

The brake master cylinder bolts on the front of the servo and fits under the bonnet line nicely. I found that on my car, the manual bonnet prop did not get in the way. If you have a telescopic prop, you might have to move it to the left side of the car as the factory did.

The cylinder has three outlets, two in the first stage and one in the second stage. I connected the two front brakes to the



by 30mm to give clearance (see photo).



twinned outlets, and the rear brakes to the second stage outlet. This way if one circuit fails I should still have either front or rear brakes working (see photo).

There is a circuit failure switch incorporated in the master cylinder – it's the white object you can see beneath the cylinder. It is up to you whether you connect this up. Personally I reckon you would instantly know that a circuit had failed by the feel of the pedal, so I haven't bothered.

This pedal box also has a mechanical stop light switch actuated by the brake pedal. Again you can decide whether you want to

use this or continue with the hydraulic item, if that is what your car has fitted as standard. The pedal switch needs to be adjusted to make sure it doesn't prevent the pedal from returning fully to its rest position. Details are in MGB workshop manuals.

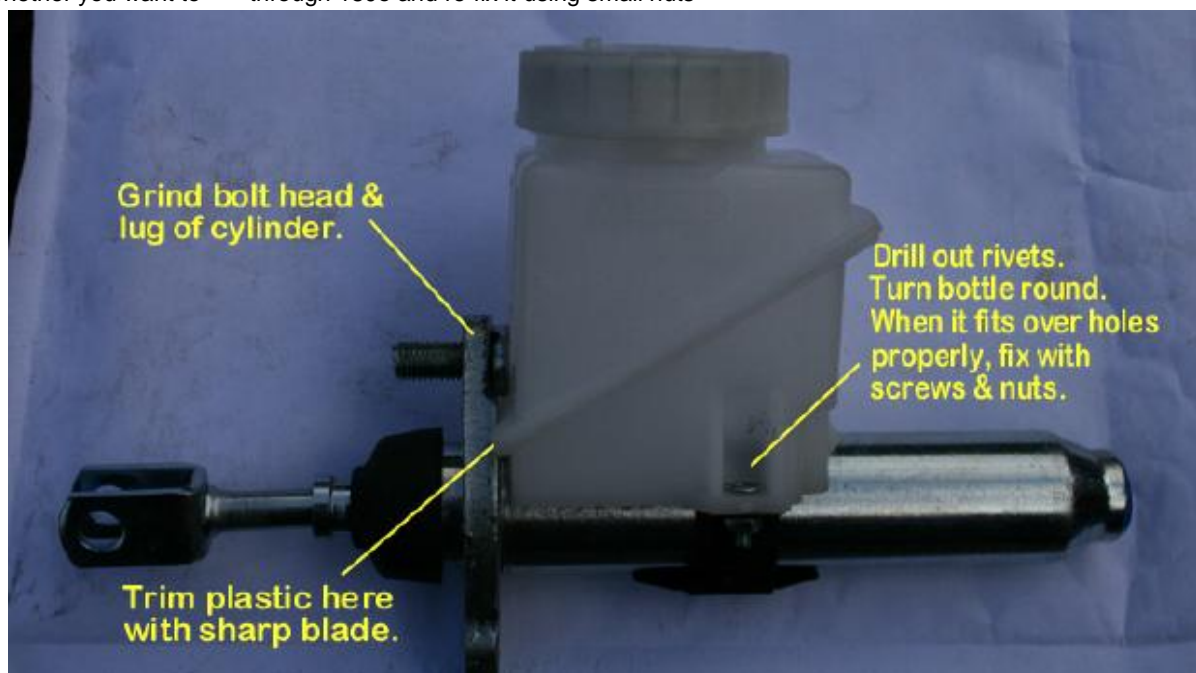
Now the clutch master cylinder. If you have a serviceable cylinder with a metal reservoir, then use it. It will bolt straight in. If you go to any of the usual suppliers and buy a new V8 brake master cylinder, you

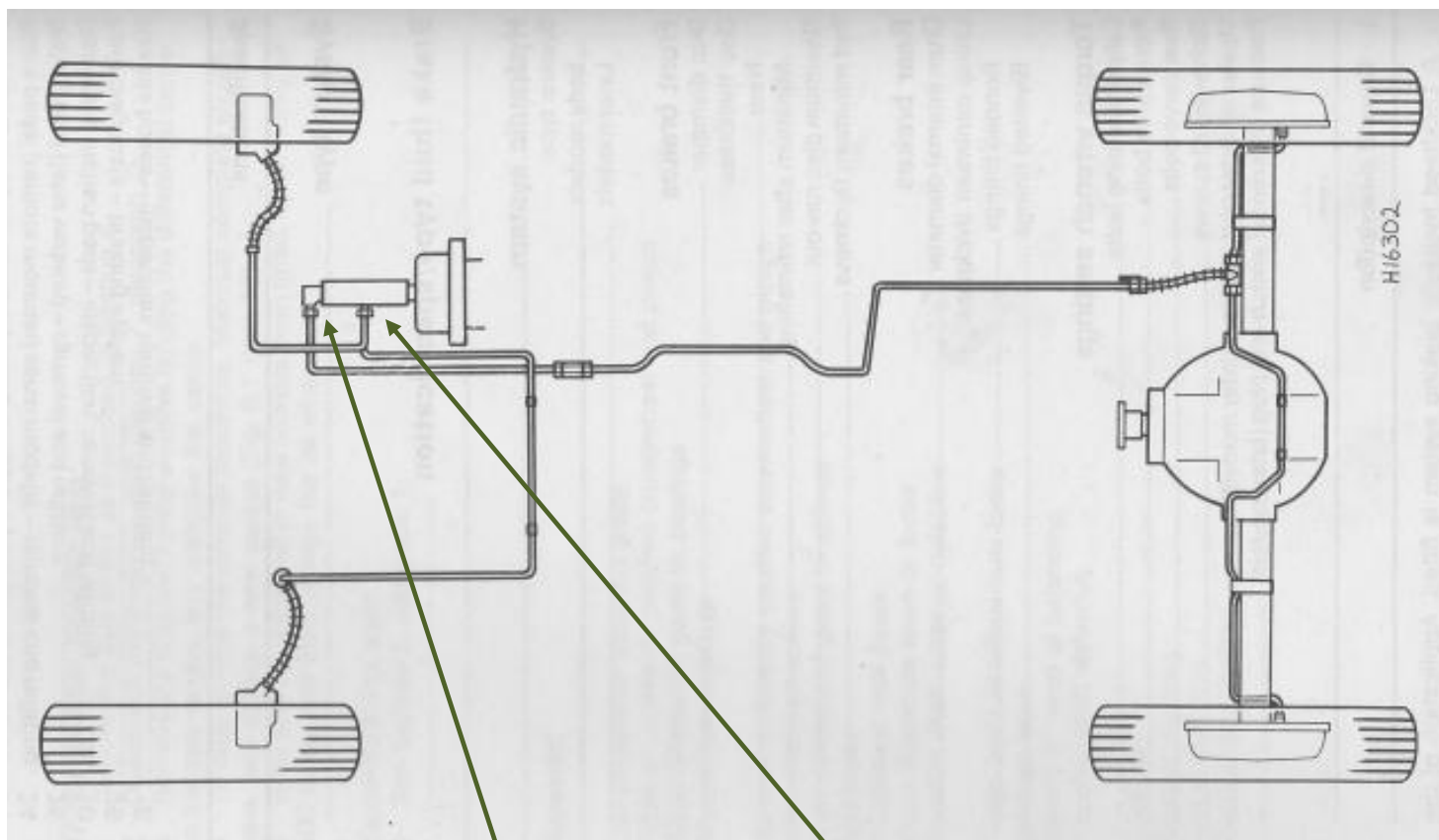
will be sold part no. GMC1011. This has a plastic reservoir. If you bolt this onto the dual circuit pedal box, you will find that it is too tall to go inside the recess on the bulkhead (see photo). Metal reservoir cylinders are no longer available it seems and my supplier seemed non-plussed when I said it didn't fit. I assume it works on the earlier style pedal box.

Andrew Harrison gave me the idea for overcoming this problem. Basically you need to detach the reservoir from the cylinder by drilling out the rivets, rotate it through 180° and re-fix it using small nuts

and bolts. It is necessary to cut away a little of the plastic moulding on the reservoir, and also to grind down the bolt head and the lug on the cylinder. Hopefully the picture describes the work. It shows the reservoir turned round and re-fixed after the mods have been done.

Having done that the reservoir will now sit in front of the recess. The hydraulic connections to the cylinder can be reached through the hole in the bulkhead that is normally filled with the large rubber grommet.



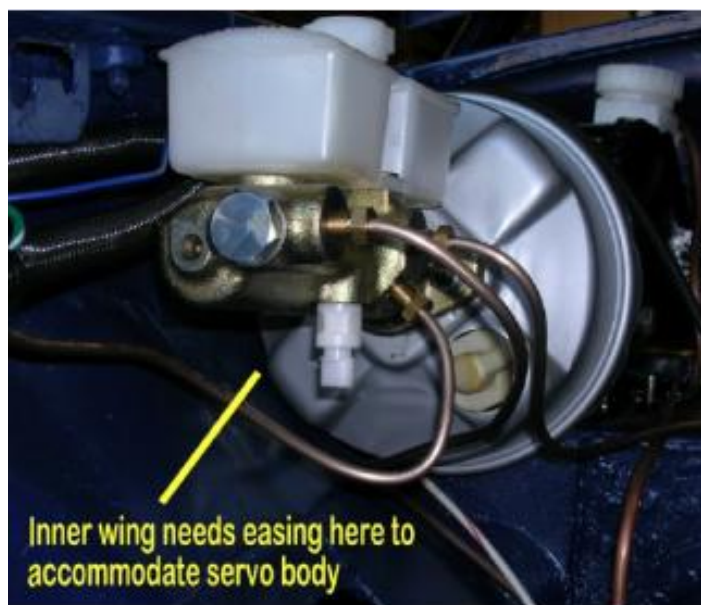


Dual circuit brake servo layout

The master cylinder has two chambers:

Front chamber feeds the rear brakes with a single pipe.

Rear chamber feeds the front brakes with two pipes, one to the right and the other to the left.



Hydraulic brake layout, later type (RH drive) with tandem master cylinder and servo.