

**PARTS LIST EMERGENCY BRAKE ACTIVATOR
MANNY BRAKES W/ MECHANICAL CALIPER**

Description	Price
Steel Plate: 3" x 36" x 1/4"	\$ 20.00
Linear Actuator, 4" stroke, 1000 pound push	\$184.00
Linear Actuator mounting brackett	\$ 34.00
Adaptor from actuator to 5/16' threaded rod, fabricated from 1" square tubing with end plate and 5/16" coupler nut welded on	\$?
10" long 5/16" threaded rod	\$ 2.00
3- 5/16" coupler nuts	\$ 1.79
3- 5/16" regular nuts	\$.85
4- 7/16" x 1" NF bolts grade 8	\$ 3.20
2- 7/16" x 1 1/4" NF bolts grade 8	\$ 1.80
1- 7/16 x 2" NC bolt	\$ 1.00
1- 7/16" NC nut	\$.25
6- 7/16" Flat washers	\$.90
6- 7/16" Lock washers	\$.90
1- 5/16" x 3" wide x 3 1/2" long steel loop hanger	\$ 3.79
1- 10 amp fuse holder w/ fuse	\$ 2.49
15' 12 gauge two conductor wire	\$ 16.00
Double Pole, double throw, momentary on switch	\$ 9.95
4- butt connectors 12 gauge water proof	\$ 1.49
6- spade connectors for switch	\$ 1.79
 Total Parts- Approximate	 <hr/> \$286.20

INSTRUCTIONS (sort of)

Before you start this project I would suggest you hook up your existing emergency brake handle cable to the cables running back to your installed calipers. Adjust your cable or cables so you are applying the correct pressure to stop the discs from turning. I know its hard to pull up the handle but if you leave it in the up position and then adjust the cables so the rear discs are stopped you will get a good idea of where to start the adjustment of your linear actuator when it is finally installed.

Please understand that everyone of these GMC coaches are different. Where you mount this actuator might be slightly different then where I mounted it. Secondly, there will be items in the way that you might have to modify the plate to clear. Example: If you look at the photo of the plate you will see a half moon size hole removed from the front part of the plate. This was to clear a bolt that holds my couch to the wood floor. Another angle is cut from the rear of the plate to clear my crossmember.

Mounting plate: Let me explain the mounting plate first. The reason I used a ¼ “ plate was so I could thread the holes with a 7/16” Fine thread tap to hold the linear actuator bracket. I put a series of 5 holes for adjustment purposes although once you have it adjusted I doubt if you will need the adjustment holes any longer.

The mounting plate bolts up to the crossmember in the front (just behind the engine crossmember) which holds the wood floor. It also bolts up to the crossmember that holds the wood floor located behind the transmission crossmember. It mounts right next to the muffler. The one part I do not show is the heat shield I made next to the muffler. You will notice a series of 3/16” holes drilled down one side of the mounting plate. These are to hold the heat shield.

To hold this plate up while measuring for mounting holes I drilled two (one forward and one aft) 3/16” holes and used wood screws to hold the plate to the wood floor.

The plate should be mounted on an angle so the push on the aft running brake cables is the same angle as the stock brake handle cable pulls the cables. I left the stock brake handle cable in its original position and just zip tied it out of the way.

Remember that the U clip which is mounted on the brake cable which runs aft on both sides of the coach and is originally pulled by the brake handle cable has to be able to slide a bit so tension is the same on both aft running brake cables.

When you have the plate in the position you want to drill the four mounting holes through the plate and into and through the front and rear floor crossmember. Use a small 3/16” drill. Remove the plate and drill the plate with a 7/16” drill for the mounting bolts to slip through. Drill the front and rear floor crossmember’s with the appropriate size drill so you can tap them for the 7/16” NF 1 “ bolts.

Actuator Adaptor: You are going to have to fabricate the adaptor that bolts onto the actuator and converts it to use a 5/16” threaded rod. The actuator end that extends and retracts is round and is metric in size. I could not find round tube that would fit over the actuator (maybe you can) so I used a piece of square tube about 2 inches long and welded a plate on the end. I then welded a 5/16” coupler nut to the center of the plate. I

Page Three

drilled a 7/16" hole through the side of the adaptor and mounted the adaptor to the actuator with a 7/16" bolt, nut and lock washer.

Mounting the Actuator: Before you disconnect the cable from your brake handle, hold the actuator (completely extended) with mounting bracket, actuator adaptor and threaded rod installed up onto the plate. Look where the threaded rod lines up with the U clip on the rear brake cables. Be sure you have some rear adjustment left on the threaded rod and then mark where you want the holes drilled for the Actuator mounting bracket. I know you need three hands for this but believe me it can be done. (my trick was to hot glue a ruler to the wood floor next to the plate) Once you find out where the actuator should be mounted, remove the plate and drill the holes and tap them for the 7/16" NF 1 1/4 " bolts. You can drill and tap more adjustment holes like I did if your really not sure of where to mount the actuator.

Once you have the Actuator mounted to the plate then you can weld on the 5/16" x 3" wide x 3 1/2" steel loop hanger. I mounted mine about 3/4 of the way down the stationary part of the actuator shaft.

Final Assembly: After you have everything ready to do your final mounting, retract the actuator shaft with some test wires from the battery. Disconnect your brake handle cable from your aft running caliper cables. Install the actuator by slipping the threaded rod through the U clip and bolting the actuator to the plate. I suggest you back off the adjustment on the threaded rod and test to see if it all works with a couple of test wires from the battery.

On your first actuation just extend the actuator about an inch and see if it pulls the aft running brakes evenly. Then extend the actuator another inch and check if the rear wheels turn. If not move it another inch and check again. If you get the actuator all the way out and the rear wheels still move then adjust your cables till they do not move. At my final assembly I put a torque wrench on the rear wheel lug nuts and set it at 140 pounds. When the torque wrench would not move the wheels I stopped adjusting. At this adjustment the emergency brake works fine.

Install a fuse, run your wires to where ever you want to mount your switch on the dash and be HAPPY. You now have a mechanical emergency brake that does not depend on hydraulic fluid to work. If the actuator is close to the exhaust system be sure to put a heat shield between the two.

I am sure one of you is going to find out how much strain we can put on the emergency brake lever of these calipers. When you find out please let me know.

Pumppal1@aol.com if you have any questions.

