

HOW TO CHOOSE THE CORRECT POWER BOOSTER FOR YOUR MIDSIZE GM MUSCLE CAR

Here's some basic information that will help you make the correct decision when it comes time to replace the booster on your midsize GM muscle car. In order to keep things fairly simple we'll limit the discussion to only midsize cars like the Chevelle since heavier vehicles like the 55 chevy will require more power assist simply because of their weight. We'll also limit the discussion to cars that have disc brakes in the front and drum or disc brakes in the rear...the most common systems.

The most important thing to remember is that a midsize GM car with **disc brakes in the front and drum rear** will require at least 900-1,000 psi to the wheels to lock them up. The pressure output of the booster is directly proportional to its diameter, the larger the booster the greater the power assist.

So how do you attain that 1,000 psi level of pressure output? The first thing you must remember is that any booster will require at least **18" of vacuum** to operate correctly. As the vacuum level drops off so does the efficiency of the booster to operate. A drop of vacuum from 18" to 15" can decrease pressure output by as much as 30%! If you have less than 18" of vacuum then you only have two choices, eliminate the booster completely and go to manual brakes or use a supplemental electric vacuum pump to increase the level of vacuum.

Assuming you've got the correct vacuum level the next decision will usually be the size of the booster.

The most common replacement booster is the single diaphragm 9". This booster will easily provide the necessary 1,000 psi making it the universal choice. Now let's suppose that you have a big block with tall valve covers and you would like a smaller booster. Dropping the size to 8" would drop the pressure output to less than 900 psi making it unusable for disc brakes. To overcome this problem the booster designers added a second internal diaphragm to the 8" booster which raises the pressure output to over 1,000 psi. Problem solved!

Below is some test data that illustrates the effect of booster size on pressure output. All this data is taken with a vacuum level of 18" and a master cylinder with a bore size of 1-1/8".

Booster Diameter	Pedal force	PSI out
9" single diaphragm	120psi	900
8" dual diaphragm	120	1,000
7" single diaphragm	120	800
7" dual diaphragm	120	900

Based on this data you can see that there are a couple of options for choosing the correct replacement booster for your car. Even though the 7" dual diaphragm booster will do the job it's always better to go with the larger booster if at all possible. Bigger is always better especially if your vacuum level can drop below 18" at times.

So what do you need if you have a **four wheel disc** system?

Well basically you will need more pressure. Based on the data above the only system in that list that would be recommended for four wheel disc brakes is the 8" dual diaphragm booster, all of the others will give a pressure output that's too low. However with four wheel disc brakes the more pressure you can supply the better off you are.

For four wheel disc systems we recommend the use of a dual diaphragm 9" booster. This booster will produce over 1200 psi of pressure making it perfect for four wheel disc brakes.