

Home Made Heavy Duty Brakes

Rather than pay astronomical prices for original HD brake drums and related parts, I devised a method to make a full setup of HD brakes for the 56. This homemade HD brake setup permits the use of readily available big, finned drums which, when finished, will be compatible with STOCK 53-62 brake backing plates. Also, readily available 2 1/2in front shoes (from the front of late 50s-early 60s full size Olds cars) and 2in rear shoes (same as stock size on front of 53-62 Vettes/51-58 pass cars) can be used.

The drums can be obtained from most auto parts stores (likely they won't have them in stock and will need to get them from their warehouse). I get mine online from Rock Auto for the best prices, plus They usually have a picture to click on so that you can see what they look like before ordering.

DO NOT mistake, and **DO NOT** misunderstand. These homemade HD brakes **ARE NOT** equal to a disc brake conversion, but they **ARE BETTER** than stock 2in front and 1 3/4in rear drum brakes. If you **DO NOT** drive your early Vette in competition, then the stock brakes are very adequate. But if a person wants to upgrade to a better brake system, without the expense of vintage HD brakes, without converting to disc brakes, or, just wants to have the heavier brakes for "just in case" reasons, this is a setup that I've had on the 56----- **WITHOUT PROBLEMS** -----for 10+ yrs.

The first thing needed is finned drums. The drums that were selected were stock **REAR** drums used on 1976-77 Olds Cutlass wagons (that's Cutlass wagon, **NOT** full size wagon!!!). The mid-70s GM A-bodies (Cutlass, Malibu, etc.) have the same bolt pattern as Vettes. These drums have to be modified, which is relatively simple to do, but it does require access to a press and a brake lathe. If a person can do the work themselves, it is time consuming, but all the processes are **VERY** straight forward.

The first photo shows the unmodified stock drum and a finished drum. Notice that the outer face of the finished drum (where it mates to the axle flange/hub flange) is now lower than the stock, unmodified drum. This modification is done with a press.



Photo 1: A comparison of the differences in height between the front face of an unmodified drum and a finished drum.



Photo 2: Stock Drum before modification.



Photo 3: Modified drum... This is the amount that the face of the 76-77 Olds drum has to be pressed inward so that the back of the drum does not make contact with the brake backing plate.



Photo 4: Photo of regular, stock drum simply shows where the plane of the front face is, in relationship to the outer diameter of the drum.



Photo 5: This picture shows the parts that were used to set up the 76-77 drums for pressing the front face inward. An old front hub (from any Chevy or GM car that has the same bolt circle as the Vette, which is 4 ¼ in.). Also, the front faces are cut out from 3-4 old junk drums to make the spacers.



Photo 6: Next, the Olds drum and a regular stock drum are sandwiched between the hub and the spacers and bolted together.

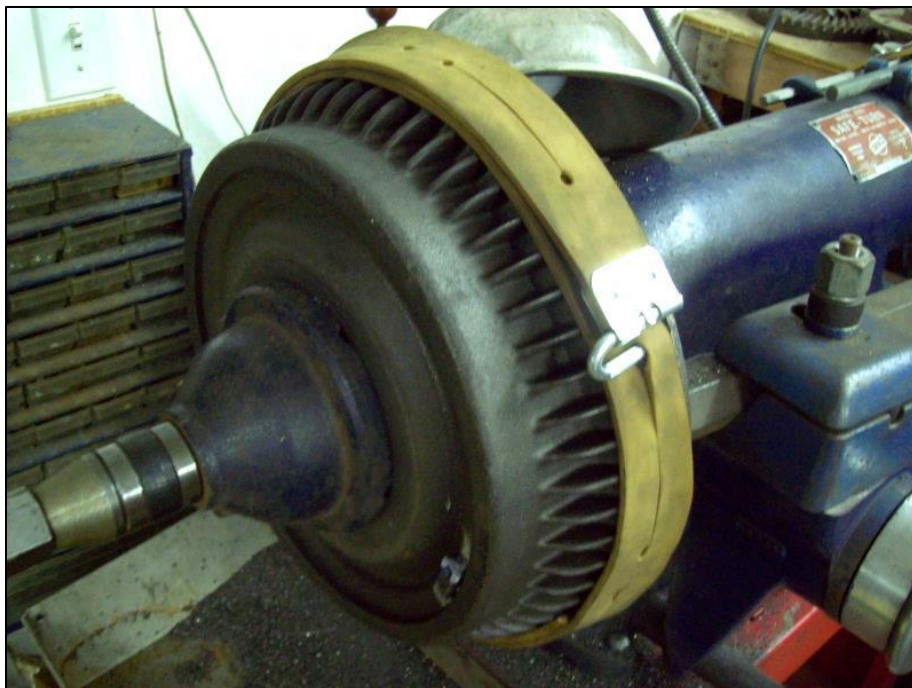
THE HUB GOES INSIDE THE STOCK DRUM. THE SPACERS GO INSIDE THE OLDS DRUM. And all is bolted together tightly. The bolted together combination is: hub-stock drum-Olds drum-spacers-lug nuts.



Photo 7: I place the sandwiched drums on the bed of a press. I placed a block of aluminum on the wheel hub to assure it will be squared during the pressing.

Pressing is done until the outer diameter of both drums come in contact. If the two drums do not contact each other evenly, it may be necessary to release the pressure of the press, slightly turn the drums and/or slightly off set the location of the press on the hub to even up the gap between the drums. Once the pressing is finished, and the pressure is released, the new drum will slightly spring back up and there will be a small gap between the outer diameters of the two drums.

At this point, separate the two drums and TEST FIT the new, pressed drum on the hub and/or rear axle of the car to make sure that the rear of the drum will turn freely WITHOUT making contact with the brake backing plate. If it does contact the backing plate, additional SLIGHT pressing may be necessary. If so, test fit again.



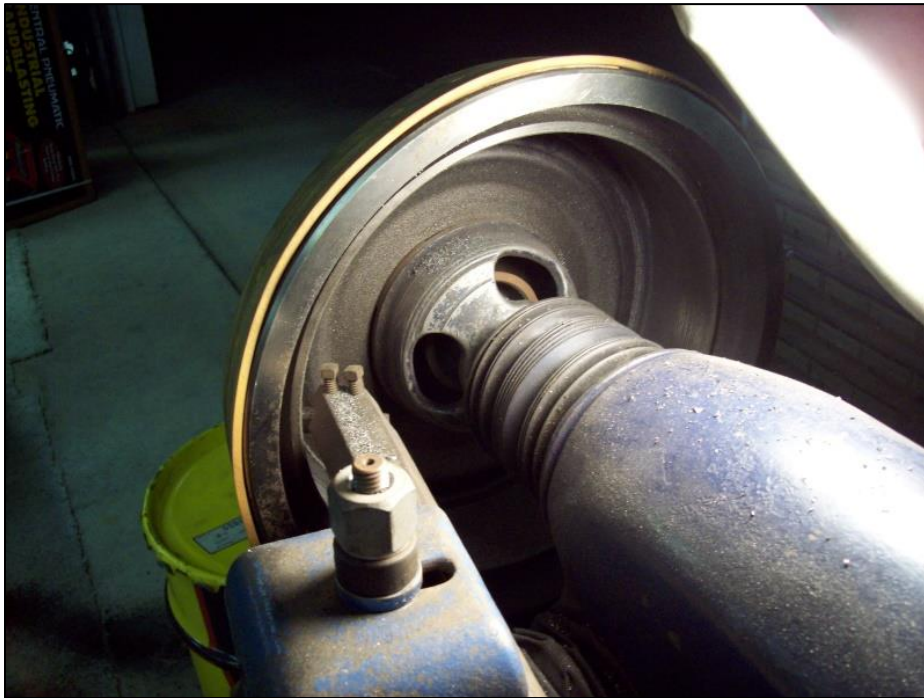


Photo 8 & 9: After the centers of the drums have been pressed down the appropriate amount, they now go on the brake lathe for truing up the brake surface and making the final cuts.

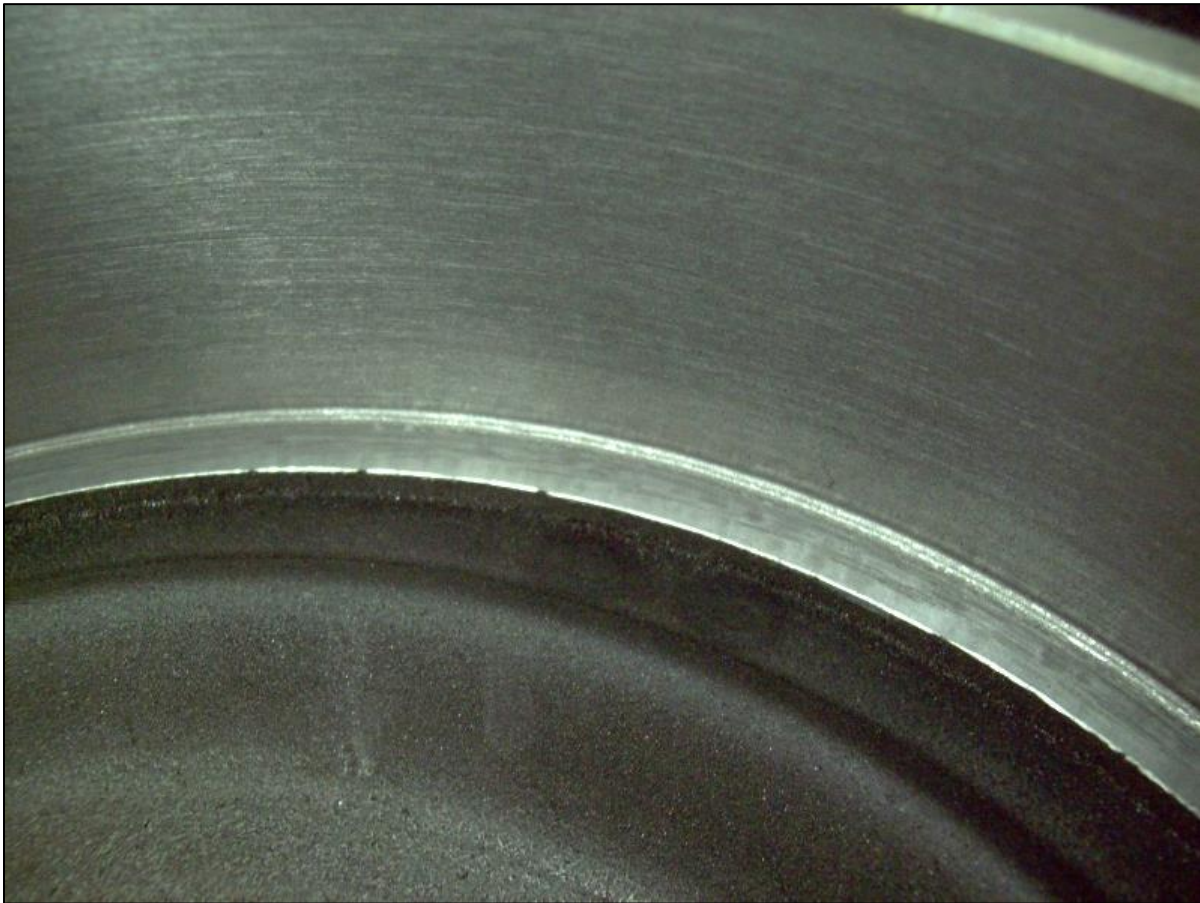


Photo 10: I like to position the cutter ALL THE WAY down into the inner corner and slightly remove some additional metal for added clearance for the brake shoes.



Photo 11: Once the inside corner and braking surface have been turned and trued up, the next process is to cut the outer flange away from the fins to expose the ends of the fins. You better have a few extra cutting blades on hand, because it is possible that 1, 2 or 3 of the blades may get broken once the flange is completely cut away and the cutter begins to contact the ends of the fins. To eliminate, or at least minimize, the possibility of breaking a cutter blade, it is necessary to cut SLOWLY and make VERY SMALL cuts once the fins begin to be exposed



***Photo 12: After the flange is completely cut away, I like to use a file to smooth out the cutting lines. I do this while the drum is turning on the lathe
BE CAREFUL HERE!!!!***



Photo 13: Finished drums after applying a coat of High Heat Black paint.

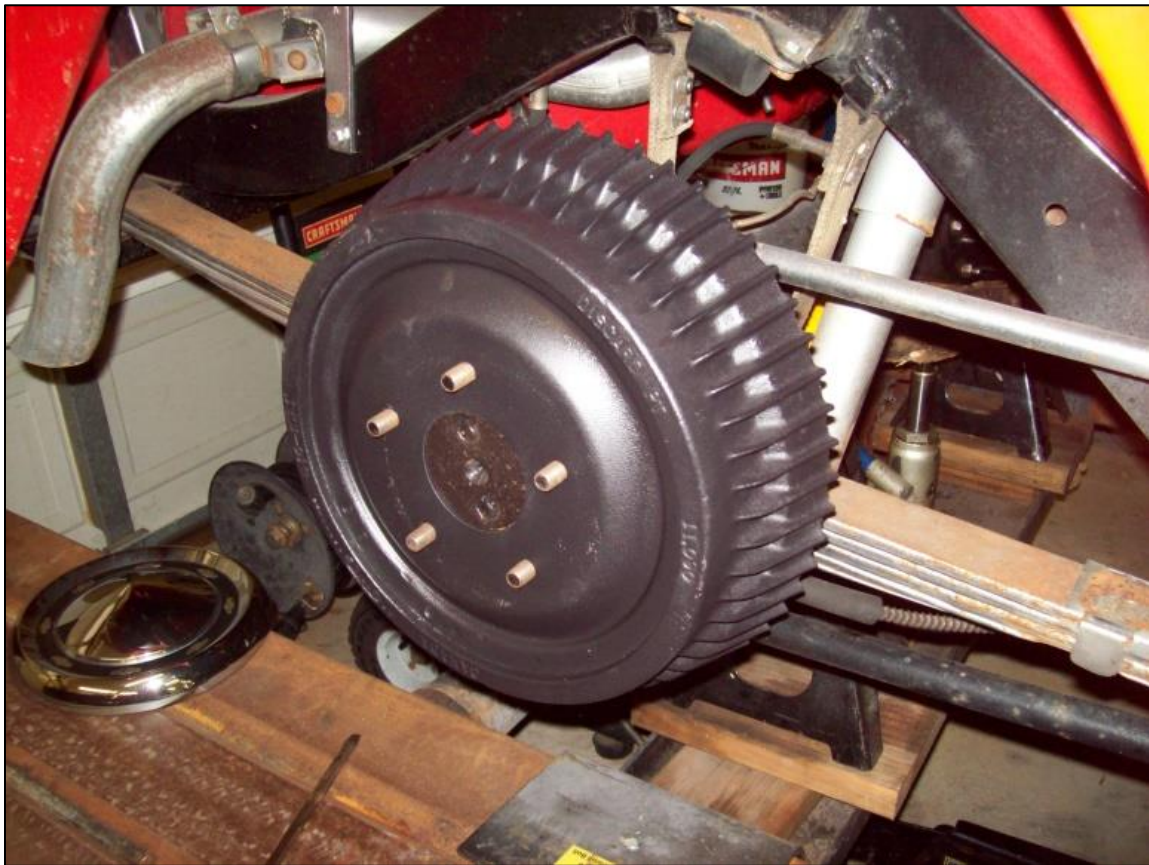


Photo 14" TEST FIT ... JUST RIGHT



Photo 15 & 16: After the drums are modified, the next items to address are brake shoes and fitting everything together.

FOR THE FRONT brakes, IF THE WIDER OLDSMOBILE SHOES ARE TO BE USED, the front wheel cylinders will need to be spaced out away from the backing plate.

I used very large flat washers with a hole the same size as the hole in the backing plates (about 1 in.). I cut, trimmed and drilled the washers to fabricate spacers for the front wheel cylinders.



Photo 17: Here are the fabricated spacers for the wheel cylinders.

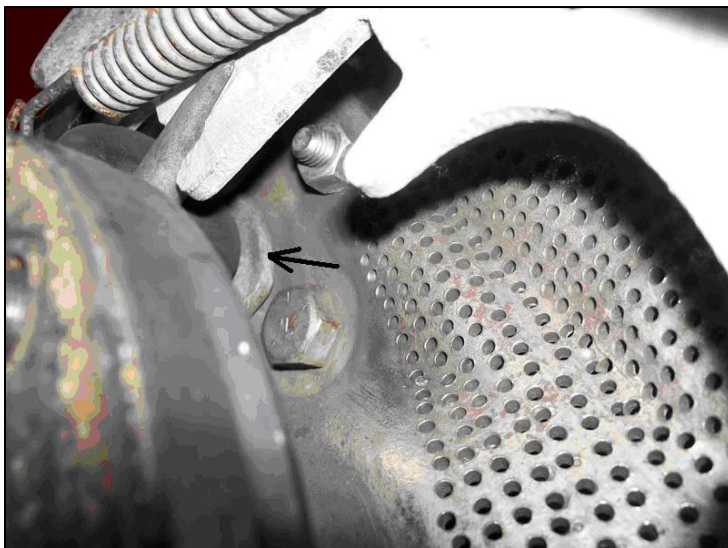


Photo 18: When all is assembled, you can just barely see the edge of the spacer between the cylinder and backing plate (arrow in below at left).

Also, as can be seen, the rods between the ends of the cylinder and the shoes are still at a very slight angle. This setup has been on my 56 for 10+ yrs and so far there have not been any detectable adverse effects, nor any observable uneven wearing of the brake shoes. Also, going from the 1 ¾ in. stock rear shoes to the slightly wider 2 in. shoes on the rear have NOT produced any problems.

To install the wider shoes up front, it will be necessary to use longer hold down pins for the shoes, available at any auto parts store.



Photo 19: The factory HD brake package included vented backing plates which had irregular cut openings that had wire mesh welded over the openings to keep out debris. Today's prices for HD brake backing plates are astronomical! I borrowed some original backing plates from a friend, traced out the opening pattern on my stock backing plates, marked out a grid, then drilled about 300 holes per backing plate. The forward opening is for intake cooling air and the rear opening is to allow hot air to exit. I also bought a pair of reproduction front air scoops ("elephant ears"), located the proper position on the stock backing plates, drilled and tapped holes (5/16 fine thread) and then attached them with 5/16 in. bolts and used nuts and star lock washers to firmly secure the bolts.

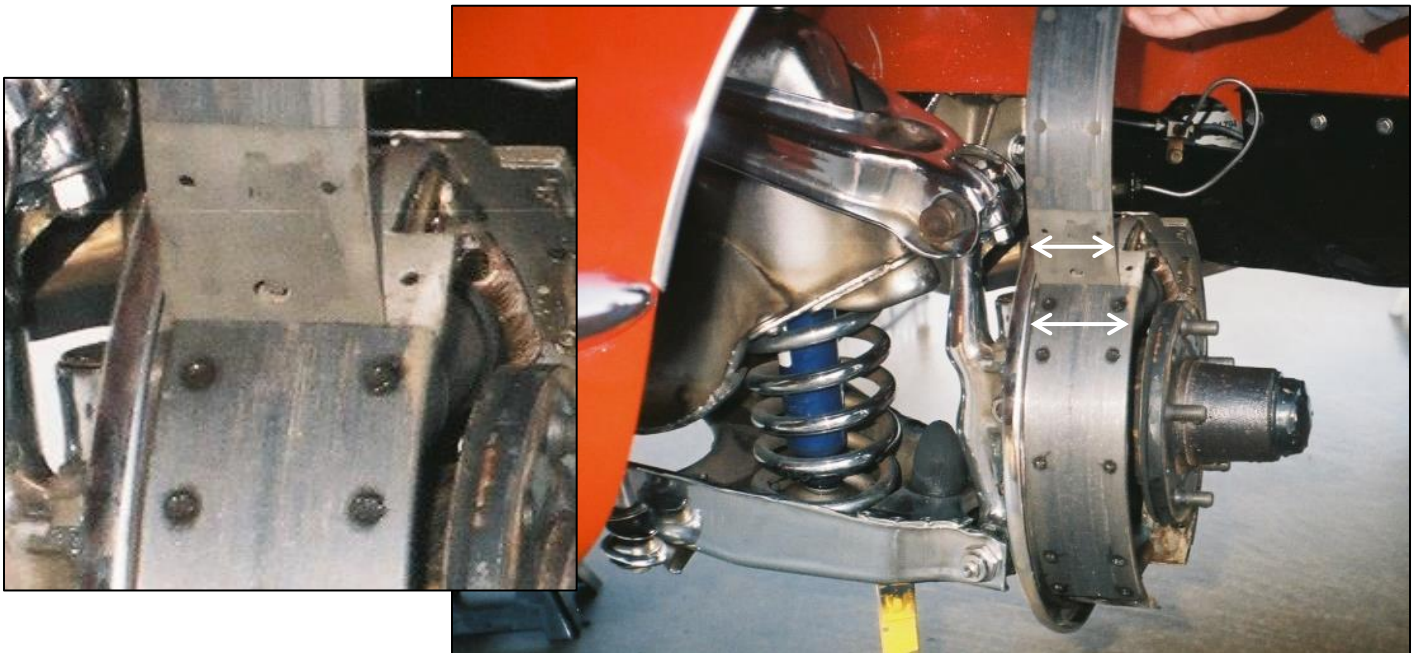


Photo 20: The original HD brake shoes were 2 ½ in. wide (stock 53-62 Vette front shoes are 2 in. wide) with individual pads made of special lining material (cerametallic) riveted to the shoes. This material didn't work well under normal driving conditions and needed to be heated up to provide better braking. Consequently, HD brakes were not very acceptable for street driving. The later pads on the shoes were made from an improved metallic material, which still was not the best for street driving. It was common for owners of HD brake cars to substitute the front Olds shoes for street driving. They were a 100% direct swap, but require some modification to adapt them to stock backing plates as described above. Here's a comparison of stock 2 in. front shoes and the wider Olds shoes.

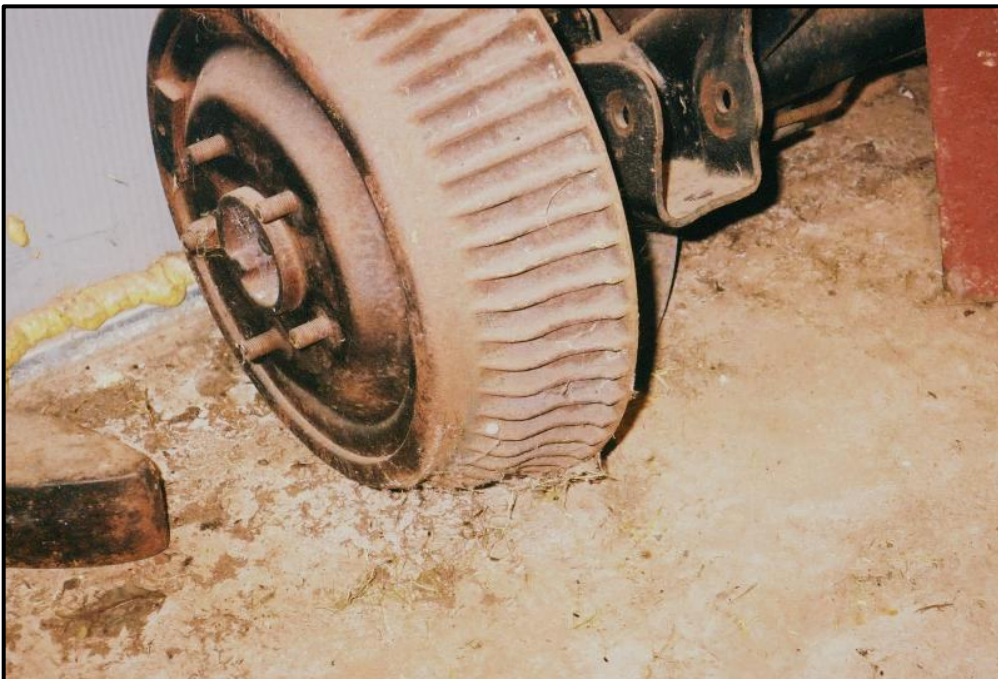
Homemade Heavy Duty Brakes – Part 2

Tom, Do you use the same drums on both the front and rear?

Yes (sorta), I use the same drums. The application for the drums is the same, BUUUUUUUUUUUUUUUUT, the drums with the bigger/longer fins actually came from cars in junk yards, and when I've ordered new drums from my parts store, they were the ones with the slightly smaller fins.

Unfortunately, since Photobucket has hijacked everyone's pictures for ransom to permit 3rd party hosting, I can no longer post pictures here from Photobucket to show the difference that I'm referring to. Is there a way to post pictures from my computer?

This is the drum with slightly larger fins, as I have found on mid-70s GM A-body wagons such as 76 Cutlass wagons.





Below is a replacement drum for the same application (before and after modification) that I bought from the parts store.

I use this drum on the rear of the 56 and the drum with the bigger fins on the front of the 56.



This is the drum with slightly larger fins after I modified it and cut off the flange.



The drums from the parts stores are probably closer to the appearance of original HD drums, but I much prefer the ones with the bigger fins which came on the 70s GM cars.

If there was a way to search through warehouse inventories which supplied GM replacement drums, a person might be able to find some drums with the bigger fins, but I have no access to such sources.

Once the drums with the larger fins are installed on the car, all that can be seen is the ends of the fins. Thus, larger fins make a better "showing", as seen below.



Notice the ends of the fins on this drum (replacement drum from parts stores) are not as prominent. I use these on the rear.





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Thread Title: [CI RPO BB "Look-a-like" drum Corvette Restorer Article](#)

[Link to Thread at NCRS-TDB](#)

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