



GM G-Body Manifold Back System Instructions

Buick 400, 430, 455
Pontiac Ram Air / HO
Olds 442 w/W & Z
Chevy Big & Small Block

Included with this kit are the following:

2 - Downpipes

1 - Balance Tube Kit A
(unless Kit B is substituted)

2 - Headpipes

2 - Tailpipes

2 - 10° Adapters

2 - Tailpipe Hanger Assemblies

8 - U-Bolt Clamps

Pipes which mount to the Exhaust Manifold. Includes 2 mounting flanges as is required except for the Pontiac Ram Air/HO Downpipes which will require the purchase of aftermarket repros for 2.5" tubing OR 2.25" originals can be honed out.

1 piece of straight tubing 22" long. If you substituted for Kit B, then it consists of 1 piece 16" long (expanded on one end), 1 piece 8" long and 1 SS Band Clamps.

Pipes which come from mufflers forward to meet the Downpipes.

Pipes which go over rear end and exit under either under the bumper (Monte SS style) or Behind the Wheel.

10° Adapters mount to the front of the mufflers which enable the mufflers to angle outwards slightly to meet the front of the tailpipes.

Appropriate Muffler and Tailpipe hangers.

U-Bolt Clamps for securing system together and hanging. Zinc coated for extra long life.



The above layout is that of an A-Body, however the G-Body system is the same except for the tailpipes and an additional short pipe (adapter) in front of the mufflers.

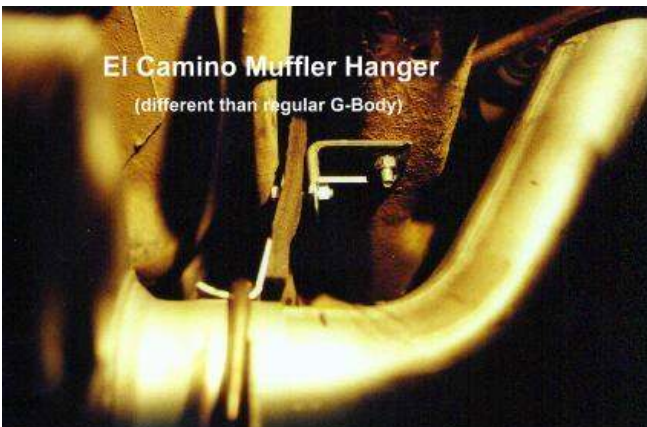
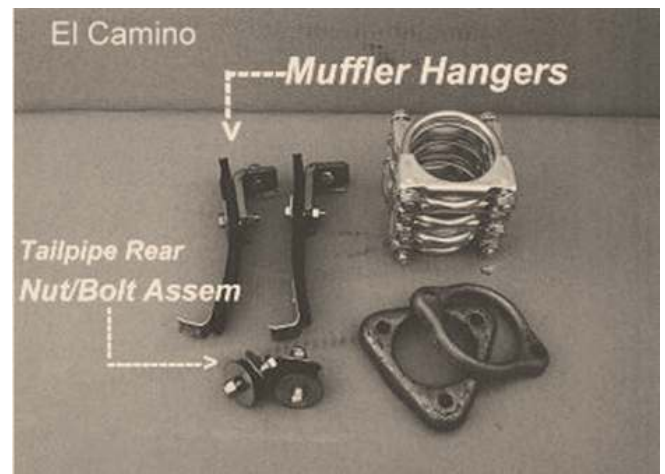
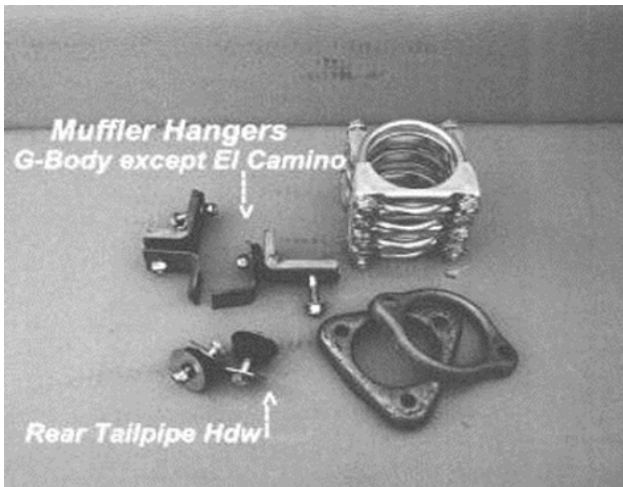
NOTE: To minimize problems and inconvenience on your end, we recommend you do some measuring, etc., before "tearing off" the old system. This way, if you have one of the exceptions or something you've not anticipated, you will not have 'down time' if your vehicle is a daily driver. This will enable you to obtain the necessary parts to complete the installation.

MUFFLER NOTE: Muffler length is generally limited to a maximum of 17" case length. Walker, MagnaFlow and Flowmaster mufflers work equally well, however, the mufflers used need to be offset in and offset out on opposite sides.

INSTALLATION:

TRANNY CROSSMEMBER modification is required on the driver side. Possible solutions among others is to notch (cut out) space for the head pipe to pass and reinforce the crossmember with a piece of flat iron above the top of the crossmember. Or, with appropriate measurements of the distance between your frame rails in hand, hit the "bone yards" looking for older early '70 or late 60's vehicles which might have a "dual exhaust" tranny crossmember in an appropriate length. You may have to modify the ends to fit. Be careful about tranny mounting height so as to not change to pinion angle. Better yet, is to purchase an aftermarket Crossmember from G-Force at www.crossmembers.com (330-753-5300)

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3" Behind the Wheel Tails on Rich Cambell's Monte

1. First begin by reading the complete instructions to get a good overview.
2. Remember, safety first. Be sure vehicle is secure and that pipes can cut (fingers and hands).
3. Compare hardware with the list above and photos to be sure you have everything before beginning.



**Mounting of
Monte SS Tails:**
Above is Driver Side

← Passenger Side



3" Monte SS Tails on Buick Regal



3" "Behind the Wheel" Tails from under rear bumper.



Caution: When it comes time to "bust off" the engine after installation of the system, it is very likely a good bit of smoke will come from the exhaust for a short time as the oils used in lubricating the mandrel will be burning off.

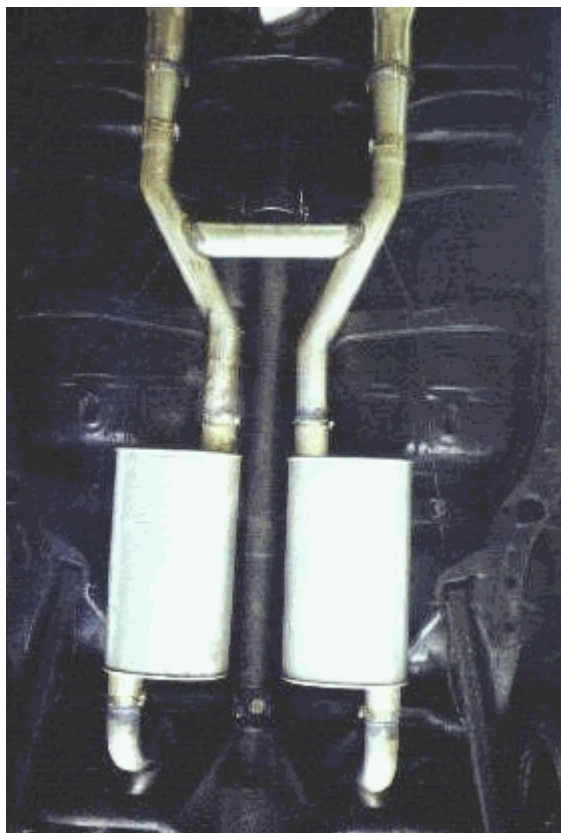
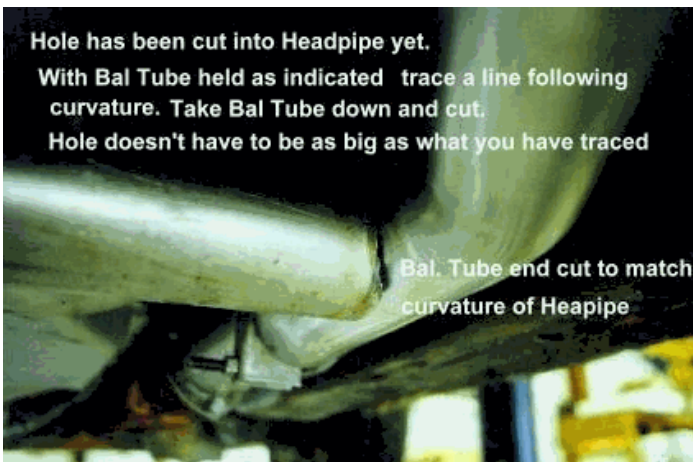
4. Begin by mounting the Downpipes to the Exhaust Manifolds. If you are using the Ram Air/Ho manifold flanges that originally came with the Ram Air/HO Manifold, because of their overall length, flexibility in positioning the Downpipe is unfortunately limited. Occasionally this will mean "tweaking" the Downpipe just a little to get the proper angle in positioning the end of the DownPipe relative to the Transmission Crossmember. The front of the Head Pipe will eventually mount to the end of the DownPipe. We recommend using Repro Flanges specifically made to handle 2.5" tubing.
5. With the **"Behind the Wheel"** Tails, secure the mounting bracket (piece that is welded to end of tailpipe) to the appropriate hole in the frame. Sometimes it may be necessary to bend the bracket to get the fit you need since there is a little variation at the bottom of the quarter panel from one kind of vehicle to another.
6. With the **Monte SS Tails**, secure to the bumper shocks. Take out appropriate lower bolts and install provided bolts. On the Bumper Shock that has 2 bolts, use the outermost one.
7. To hang at the rear of the muffler, there is a short brace which is adjoining the main frame and the cross frame that crosses from one side of the vehicle to the other. This short brace has several holes in it for mounting the Big "L" bracket. The smaller "L" bracket (the one with the slightly curved end – for mounting to the muffler) bolts to the Big "L" bracket (see hardware photo).

IMPORTANT:

Position Tailpipes **BEFORE** mounting the Hangers. Let the Tailpipes DETERMINE the Hanger location.

NOTE: El Camino/Caballero's do not have this short brace. You should have been provided with the Big "L" bracket and Rubber Hanger to use in this case. The Big "L" bracket will be mounted to the cross frame in an appropriate location to position the tailpipe and muffler correctly. A hole will have to be drilled in this cross frame on each side.

8. Mount the muffler onto the front of the tailpipe. You may want to temporarily secure the muffler with something placed under them. This will allow you to devote full attention to determining the correct length for the Headpipes.
9. With the 10 Degree Adapter on the end of each Headpipe, test-fit the assembly. Then simply make a note of approximately how much you will have to trim off the Headpipe and/or the Downpipe length. Then, re-measure just to be sure. It's easier to cut off some extra, than it is to add some extra.



10. With the mufflers in place mount the Headpipe onto the ends of the Downpipes. When trimming you may need to also trim the end of the Downpipe for best overall fit. Remember, measure and re-measure.
11. **fine-tune the fit.** Once you have trimmed the Headpipes for proper fit, then begin "fine tuning" the overall fit of the system. After you have trimmed the appropriate length, THEN go back to the tailpipes and begin working forward again, this time fine-tuning the fit everywhere. Do not tighten clamps any more than necessary until you are ready.

Check for leaks upon completion. Normally good sealing occurs with clamps type installations. However, occasionally we run into a situation where proper sealing is difficult to obtain. If this is the case, first try tightening the clamps a little more. However, with a lot of tightening, it is possible for the pipe to start crimping or the U-Bolt to "break". OR, try relocating the clamp forward or backward from its present location and re-tightening. Another possibility is trying "muffler cement" which can be purchased from any muffler shop, or auto parts outlet. If there is excessive clearance between the two pipes or muffler and pipe, then it may be necessary to cut one or more slots in the outer pipe to allow it to compress further for better sealing. Try to rotate clamps so the bolt part is not pointing downward for a cleaner looking installation.

12. **Now, its time to consider mounting the Balance Tube Kit.** (This may be a project for a professional if you don't have the welding equipment handy or the welding skills or a buddy with such). Both kits (A & B) are installed the same way. It is the only part of our system which needs to be welded and luckily this is done last after everything else is in place. We recommend mounting the balance tube immediately after the transmission crossmember.

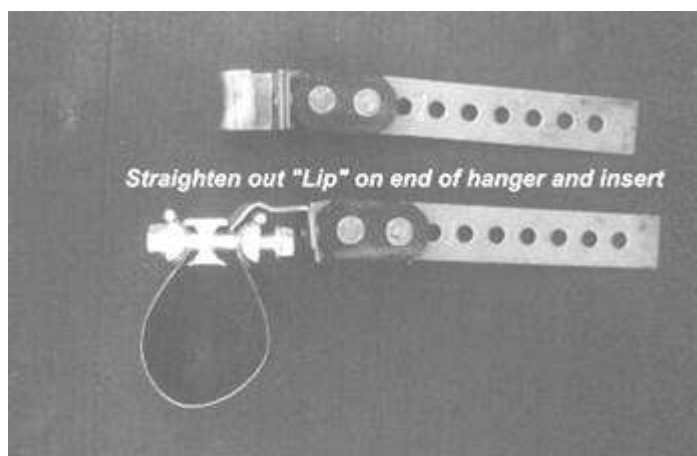
Now that you have determined where to mount it, you need to determine the length. Remember to allow for the curvature of the Headpipes, as you will want to have some curvature on each end of the Balance Tube. (With Kit B, first install the short piece of pipe into the longer piece and maybe hold together with the Band Clamp – now you know the overall length and determine everything just as if it were Kit A). Remember, better to cut too long than too short.

Now cut the holds in the side of the Headpipes. They DO NOT necessarily have to be as big a diameter as the size of the Balance Tube. Do not allow parts of the Balance

Tube to protrude into the Headpipe as this will impede flow and be counterproductive. IF hole is cut a little too big OR if Balance Tube is cut a little short, you can "Fill Weld" in the gaps to make fit. It will be a good idea to paint the welds with some Hi-Temp Paint as this will help protect it from rust.

Stainless Steel Band Clamp Upgrade Installation:

If you are using Band Clamps, you will need to "flatten out" the little lip that is always on the end of any hanger. This allows you to slip the end of the hanger into or between the bars of the Band Clamp as pictured here. The following photos show how to handle attaching most any hanger or



HEADER ANGLED WRONG?!

If the collector of one or both headers aim outward, upward or downward (they're supposed to be straight back and parallel to the ground), then we have special collector reducers that may help (we call them "no-welds" simply because we have not welded the tubing part of the reducer to the flange). They are the same as our regular long tapered units, just not welded. These will usually help unless you have a really bad situation. Installation of these "no-weld" units is relatively simple. Mount the flange to the header. Insert the tube part of the reducer onto the head pipe and into the hole of the flange. It will be going into this hole at an angle because of your problem header. Tack weld in several places, then take the assembly off the vehicle and run a bead all the way around. Check

Thanks for buying Torque Tech!

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