



GM A-Body Instructions

2½", 3" and 3½" Systems with X-Crossover

INSTRUCTIONS FOR ALL '64-77

This Complete Kit Includes:

The X Pipe Crossover Kit

Which Includes:

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|------------------------------------|---|
| (2) Collector Flanges | 3-Bolt Flanges, either 2½", 3" or 3½" depending on the stated Collector Size you gave us. |
| (2) Collector Gaskets | 3-Bolt Gaskets the same size as the above flanges |
| (1) Coll. Nuts, Bolts, Washers Kit | 6 sets of Stainless nuts, bolts and washers for the above flanges. |
| (2) Forward Extensions | These have an overall length of approx. 25". The short end is approx. 8" and the bend is 45 degrees. These pipes slip into the front of the X Junction and go to the header. These forward Extensions will be the same size tubing as the collector size. |
| (2) Aft Extensions | These have an overall length of approx. 9". The short end is expanded and the bend is 35 Degrees. These pipes slip into the rear of the X Junction with the Expanded End outward toward the mufflers. These will be the same size as the exit openings of the X Junction. |
| (3) Straight Tubes
22" Long | These Straight Tubes slip into the end of the Aft Extensions and go to the mufflers. They will need to be trimmed to length. |
| (8) U-Bolt Clamps | Clamps to be used in assembling X Pipe. They may be discarded if you weld the assembly together upon completion. |
| (1) X Pipe Junction | Described by its shape. Entrance size is the same as the collector size of header. Exit size may be the same as the entrance or it may be a size smaller depending on what you are ordering. The arrow indicates the direction of Flow. |
| (2) Pipe Reducers
3" x ½" | Used only IF Collectors are 3½" AND 2½" mufflers and Tailpipes are being used. These will be installed on the front of the muffler. There will be (2) extra clamps supplied. |

The Tailpipe Kit

Which Includes:

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|-------------------------|--|
| (2) Tailpipes | Tailpipes may be 1 or 2-piece depending on the year of your vehicle. 2-Piece → '64-67 & '73-77 except for '66-67 Chevelle. |
| (2) Tailpipe Extensions | If you have 2-piece tails – The Turn Down Extensions will have a 40 Degree Turn Down unless you otherwise specified, with the front part expanded to slip over the end of the tailpipe. The tailpipe will need to be trimmed to an appropriate length. The Straight Extensions will be 14" long with the front end expanded. They can be trimmed to length or the tailpipe can be trimmed. |
| (4) U-Bolt Clamps | |
| (1) Hardware Package | Clamps are to be used at rear of muffler and toward ends of tailpipes. Includes (2) Muffler Hangers and (2) Tailpipe Hangers along with all necessary nuts, bolts and washers. |

NOTE: It is strongly suggested that you check for any missing items with the above list and against the Invoice which should list all items also. If you will be taking your vehicle someplace to have the system installed, be sure to tell them to read the instructions first. BEFORE tearing off your old system, look for things such as misaligned headers, headers that are 'up' to high so that when collector reducers are mounted, they or any straight extension off them, will interfere or hit the tranny crossmember or anything else that you think might be a problem during installation. We know that from time to time situations will arise which will not be accounted for. To help minimize inconvenience to you, we recommend that you do some measuring, etc., before "tearing off" the old system. This way, if you have one of the exceptions, 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.

NOTE: The 3" Tailpipes on '73 -'77 Vehicles may be tight between the upper control arm and coil spring. You may find it necessary to dent the tubing somewhat in that area much like it is done with headers at times. **OR, with the rear end hanging free**, first try moving the coil spring outward some in it's perch.

Muffler length is generally limited to a maximum of 20" case length. Both Walker and Flowmaster mufflers work equally well, however, the mufflers used need to be offset in and offset out on opposite sides.



INSTALLATION:

1. First, be sure to read through the Thank You for Ordering and Caution Flyer accompanying these instructions.
2. Secondly, **read these instruction throughout** to get a good overview.
3. Thirdly, remember, **safety first**. Be sure vehicle is secure and remember too that pipes can cut (fingers & hands).
4. Now, compare hardware with the list above to be sure you have everything before beginning. **NOTE:** To help prevent rust on hardware, you may want to paint all

Install Tailpipes First

Let them determine where the hangers and mufflers go.



exposed metal

before installing.

5. Begin by mounting the Tailpipes and placing the hangers as



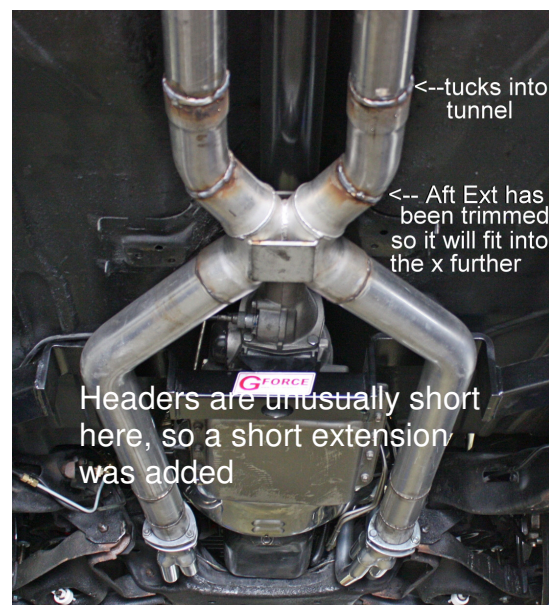
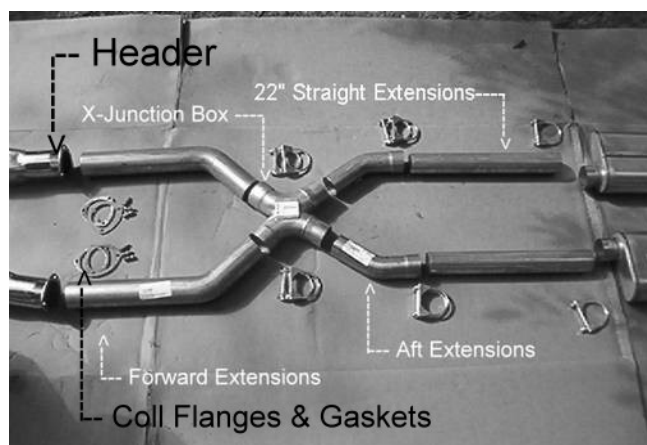
Notice bottom of mufflers are just below the height of the bottom of the differential.

This view shows 2.5" Tails relative to the suspension and frame.



needed. It is important to remember to let the Tailpipes determine the hanger placement! In some situations it may be possible to use existing hangers, otherwise use what is provided with the kit.

6. **Muffler Hangers:** You will need to position the hangers for the mufflers directly above the rear muffler spout. This will be on the cross-piece from one frame rail to the other. There may be existing holes there or you may have to drill new ones.
7. **Rear Tailpipe Hangers:** The hangers for the end of the tailpipe can be placed anywhere along the outside of the frame. If you have two-piece tailpipes, you might want to add the end piece last, but if possible mount the rear tailpipe hanger assembly at the end of the pipe. This way when you mount the last section of the tailpipe, you can use the same clamp. This will allow a cleaner looking installation.
8. **X-Pipe Crossover Assembly:** This is complicated to explain, but you will want to work from the muffler forward, keeping in mind what you will need to eventually do on the front end at the header.
9. **DO NOT** do any welding until you have everything "mocked up" and are positive everything is like you want.
10. **Insert the long straight extension (22" long) into the front of the muffler.** It will probably be longer than necessary, so *you will eventually need to trim it to the proper length*, but not yet. Use clamps if necessary, but not too tight – *just enough to hold!*
11. **Now slip the Aft Extensions (the short extensions with the end expanded – Ext 35038X, EXT30038X or EXT25038X) on the front of the extension you inserted into the front of the muffler.** Keeping in mind that you may need to trim this 22" long extension that was just inserted into the muffler, go ahead and slip the X-Junction onto the Aft Extensions. **If you are finding the 22" extensions seem to be too far outward (so you cannot tuck up into the tunnel area which you would like to be able to do if possible), then this means you will eventually need to trim off some of the front of each Aft Extension.** Remember to use the clamps to help hold the pieces together – *but not too tight....*
12. **Remember: note the location of the front edge of the Aft Extension. You do NOT want it extending so far into the X-Junction that it interferes with flow. Always Keep this in mind.**
13. **If you have determined the front of the Aft Extension needs to be trimmed – don't trim yet.** Eventually when you do trim, you will notice that the Long 22" Extension



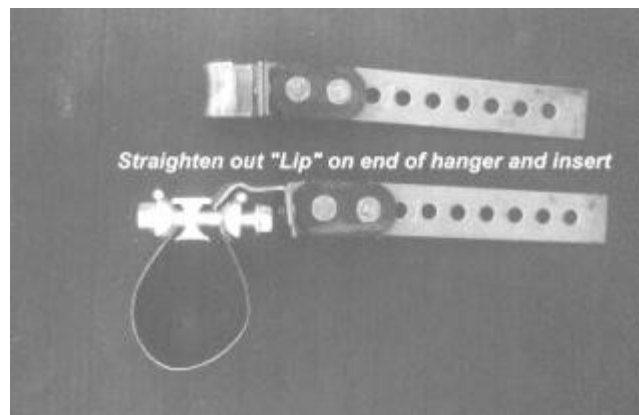
going into the mufflers will begin to move inward towards the center of the vehicle, thus causing the muffler to move inward toward the center also. This is how you keep the muffler in the proper location (distance from center of vehicle) so that the tailpipes will fit as needed. This also allows you to be able to “tuck up” into the tunnel area.

14. **At this point, BEFORE actually trimming the Aft Extension and 22” Extension, take a look at the forward extensions and how they are lining up, needing trimming, etc..**
15. **At this point, go ahead and install the 3-Bolt flanges onto the end of the header.** You do not need to use the gaskets or necessarily all the bolts. If one or both headers do not aim straight back, you should be able to work around this. When you insert the Forward Extension into the mounted 3-Bolt flange, it will be at a slight angle. This is okay. Just remember to trim off the small part that protrudes on the inward side of the header as this will interfere with flow.
16. As you insert the Forward Extension into the 3-Bolt flange, do so just enough so that it will “stay” there as you work the adjustments elsewhere. The use of some duct tape may help with this OR you might do a small “tack weld” to temporarily hold.
17. There should be a Directional Arrows of Flow on the X-Junction itself. This arrow indicates the direction of flow, not which way is the front. If the label has come off, you should be able to figure the correct direction with a few trial and error tries.
18. Now, if things are so far off on the Aft side, that you need to trim at least a little to help to get things forward of the X-Junction close, then go ahead and trim ‘some’. Remember, it is hard to add back, so trim carefully, a little at a time, trial fitting after each trim. As you insert the Forward Extensions into the front of the X-Junction, you will notice that you may need to shorten the overall length at its front AND you may also need to shorten the end going into the X-Junction itself. Shortening or trimming this end enables the extension to move inward toward the center of the vehicle which might help with alignment with the headers.
19. **As you shorten the end going into the X-Junction, it pulls the pipes inward toward the center of the vehicle, just as in the back with the mufflers. This is how you line them up with the ends of the headers.**
20. Trimming off the front of the Forward Extensions just allows you to get the proper length needed.
21. Continue working with both the front and aft sections until you have everything lined up and adjusted. Only then, should you begin thinking about welding all joints. As you already know or have guessed, you will have to weld the Forward Extensions to the 3-Bolt Flanges. It would be best to “tack” weld each in several locations before taking off the vehicle. After taking them off, then run a bead of weld all the way around. Welding the other joints is highly recommended since there are so many. This will make the unit more structurally sound also. You may leave the clamps on permanently or weld and remove them at a later date.



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 bracket to a Band Type Clamp.



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 and frame rails), 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 otherwise, just not welded – you do that. These will usually help unless you have a really bad situation. Installation of these “no-weld” units is relatively simple.

1. Mount the flange to the header.
2. 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.
3. Tack weld in several places, then take the assembly off the vehicle and run a bead all the way around. Check to be sure there is no metal protruding through the flange into the collector area as it will impede or hinder flow. Grind off if necessary.

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