



## GM A-Body Instructions

### 3" & 2½" Header Applications

w/ Balance Tube Crossover

Instructions for all '64-77

Included with this kit are the following:

2 Collector Reducers	Either 3½" x 3", 3½"x 2½"x 3" x 3", 3" x 2½" or 2½" x 2½" (Comes with all Nuts, Bolts Washers & Gaskets).
1 Balance Tube Kit A	1 piece of straight tubing 22" long. If you substituted Kit B, then it consists of 1 piece 16" long, 1 Piece 8" long (expanded on one end) and 1 SS Band Clamp.
2 Headpipes	Pipes that come from mufflers forward to collector reducers. (43" long) Pontiac Headpipes will be 53" long – will have HL at the end of the part #.
2 Tailpipes	Pipes which go over rear end and exit at rear of vehicle. (Total length of each is approx 50½" measuring in a straight line from one end to the other. Two-piece tailpipes for '64-67 and '73-77 will be longer.)
2 Tailpipe Extensions either Straight or Turn Down (for 2-Piece Tailpipes only)	'64-67 (except '66-67 Chevelle) and all '73-'77 is a 2-piece tailpipe. The first main section is a tailpipe with a straight end and the other section is a shorter section (approx. 15") that slips onto the end of the first main section. That first main section can be cut-to-length so the end of the tailpipe exits in the desired location.
8 Clamps	4 for the head pipes and 4 for the tailpipes.; (The 2-piece tailpipes will have 2 extra clamps, although they may not be needed depending how you locate the hanger assembly).
2 Swivel Hangers – for Mufflers	Used to hang the mufflers. Depending on vehicle, holes may need to be drilled in the crossmember above rear of mufflers.
2 Tailpipe Hanger Assemblies	As assembled. These are installed on the outside of the frame rail. Usually existing holes can be used. When using the 2-piece tailpipe or when installing tips through the bumper or valance cutout, it may be necessary to drill new holes for proper placement.

**NOTE:** It is strongly suggested that you check for any missing items with the above list against the Invoice that 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 the old system, look for things such as misaligned headers, headers that are 'up' too 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 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. -- (continued)

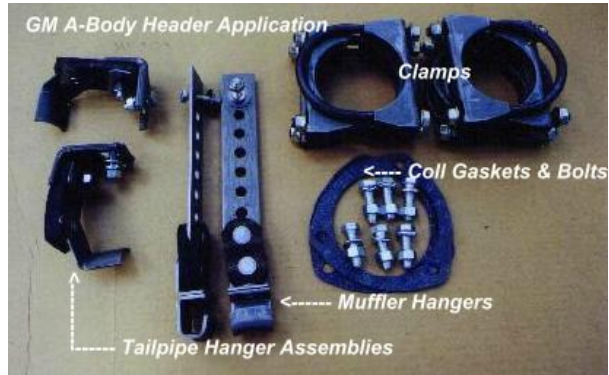
3" System laid out showing how the Torque Tech Mufflers fit. They are really loud under wide open throttle, but really free flowing!



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

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 exposed metal before installing.
5. Begin by mounting the Tailpipes and placing the hangers as needed. It is important to remember to let



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.

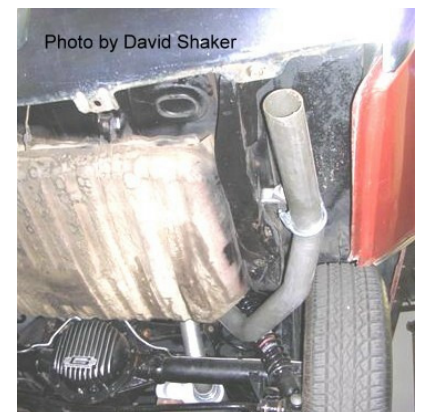
Muffler length is generally limited to a maximum of 20" case length. Both Walker and Flowmaster mufflers work equally well, however, the mufflers used need to be offset in and offset out on opposite sides.

## Install Tailpipes First

Let them determine where the hangers and mufflers go.

## 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**



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



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. 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. The hangers for the end of the tailpipe can be placed anywhere along the outside of the frame. Often existing holes can be used, but you may need to drill new ones. 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.

**6. Now, mount mufflers onto the front of the Tailpipes.**

Adjust tailpipe location somewhat if needed, *but always have the Tailpipe determine hanger location*. You may want to temporarily secure the mufflers with something placed under them. This will allow you to devote full attention to determining the correct length for the Head Pipes. Muffler length should be limited to a maximum of 20" case length. Note that often moving the muffler rearward just a little can allow for more tailpipe rotation that can help with proper positioning and angle at the end of the tailpipe. Lowering the muffler can also help sometimes. When cutting Headpipes to length, always cut "long" as this places the muffler farther rearward. Remember, you can always shorten the Headpipe, but its hard to add length. If you are installig the 2-piece Tailpipe for the longer tail-end A-Body Vehicles, then you will need to trim off an appropriate amount from the end of the tailpipe. If you are installing the Straight Extension onto the tailpipe, then you can trim off the end of it instead.

7. Next mount the Collector Reducers on end of Headers. You may want to note now if your headers seem to be pointing straight back. IF one or both aren't, they will present problems when it comes time to install the Head Pipes. IF you're not sure, then you can temporarily mount the Headpipes onto the reducers and see how they do.
8. If a Headpipe wants to cross over into the driveshaft, then this is telling you the header is pointing inward.
9. If the Headpipe wants to point outward away from the center of the vehicle as it goes back toward the muffler, then this is telling you the header is pointing outward.
10. The header could even be pointing downward or upward. The Headpipes are designed so as to allow you to compensate for some error, but if it's much, then you will be faced with adapting. Our "No-Weld" Collector Reducers can often help. Sometimes it will take more than this. If you are not sure, give our Tech Dept. a call. We can offer suggestions if you can tell us exactly what is happening. See note at end of Instructions.
11. **Fine-tune the fit.** Once you have trimmed the Headpipe

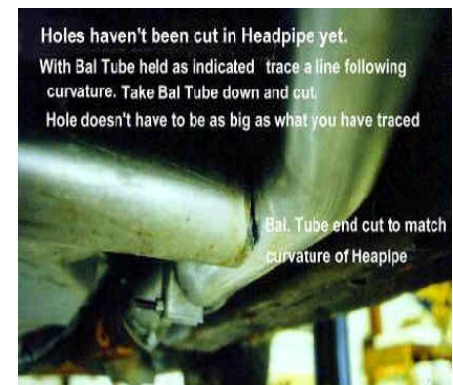


for proper fit, then begin “fine tuning” the overall fit of the system. Do not tighten clamps until you have everything fitting. Consider suspension movement while fine-tuning.

12. **Check for leaks upon completion.** Normally good sealing occurs with clamp 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, next try rotating the clamp about 45 degrees and re-tighten. Next, try relocating the clamp forward or backward from its present position 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.



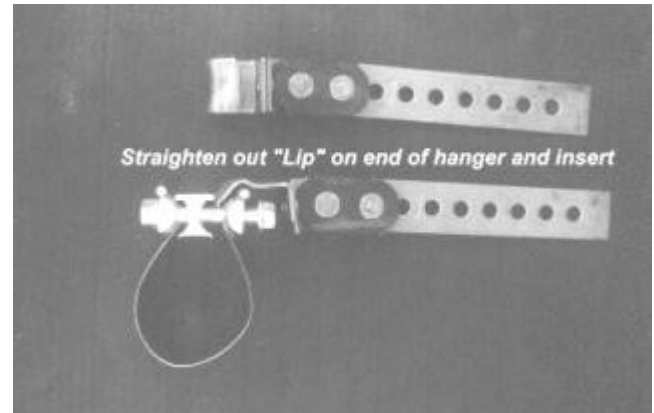
13. Now, its time to consider mounting the Balance Tube Kit. (This may be a project for a professional if you don't have welding equipment handy or the welding skills or a buddy with such). Both kits are installed the same way. It is the only part of our system which needs to be welded and luckily this is done last after everything else is in place. Ideally, to determine the best mounting location, you will need to spray a line of paint on the side of the head pipes from the collector reducer back approximately 20". With the vehicle running, you can determine at what point the paint stops burning off. This is where you want to mount the Balance Tube. If for some reason there is an obstruction prohibiting this, then mount it as close as possible to that point. We have found that usually mounting 8" – 16" from the collector flange works fine.



14. 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.
15. Now cut the holes 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 Balance Tube to protrude into the Headpipe as this will impede flow and be counterproductive. IF the hole is cut a little too big OR if the Balance Tube is cut a little short, you can “Fill Weld” in the gaps to make it fit. It will be a good idea to paint the welds with Hi-Temp Aluminized Paint as this will 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 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.

See our Web Site: [www.torquechexh.com](http://www.torquechexh.com)

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1 Balance Tube Kit A	1 piece of straight tubing 22" long. If you substituted Kit B, then it consists of 1 piece 16" long, 1 Piece 8" long (expanded on one end) and 1 SS Band Clamp.
2 Headpipes	Pipes that come from mufflers forward to collector reducers. (43" long) Pontiac Headpipes will be 53" long – will have HL at the end of the part #.
2 Tailpipes	Pipes which go over rear end and exit at rear of vehicle. (Total length of each is approx 50½" measuring in a straight line from one end to the other. Two-piece tailpipes for '64-67 and '73-77 will be longer.)
2 Tailpipe Extensions either Straight or Turn Down (for 2-Piece Tailpipes only)	'64-67 (except '66-67 Chevelle) and all '73-'77 is a 2-piece tailpipe. The first main section is a tailpipe with a straight end and the other section is a shorter section (approx. 15") that slips onto the end of the first main section. That first main section can be cut-to-length so the end of the tailpipe exits in the desired location.
8 Clamps	4 for the head pipes and 4 for the tailpipes.; (The 2-piece tailpipes will have 2 extra clamps, although they may not be needed depending how you locate the hanger assembly).
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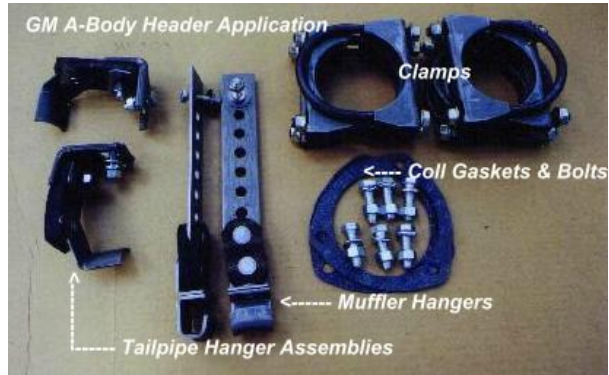
3" System laid out showing how the Torque Tech Mufflers fit. They are really loud under wide open throttle, but really free flowing!



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

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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.

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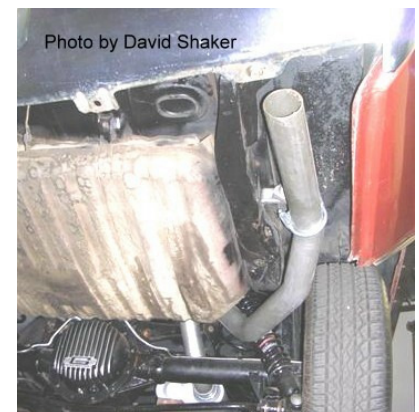
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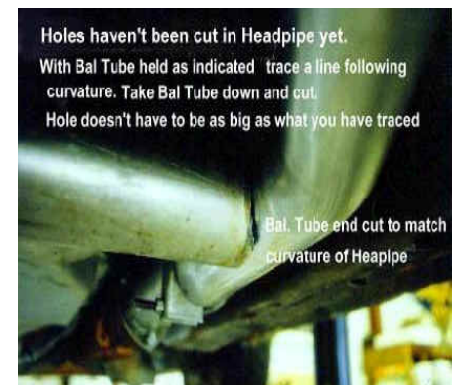


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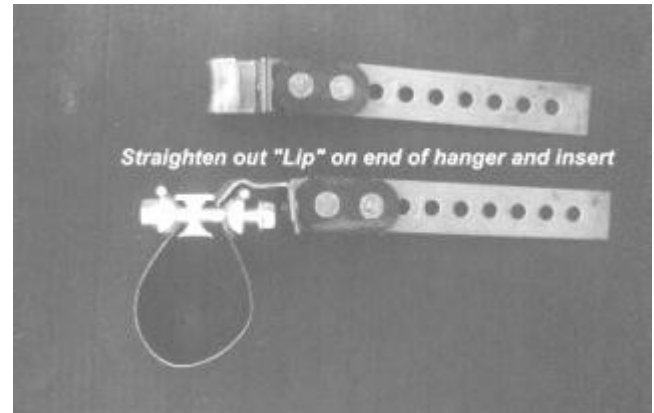
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See our Web Site: [www.torquechexh.com](http://www.torquechexh.com)

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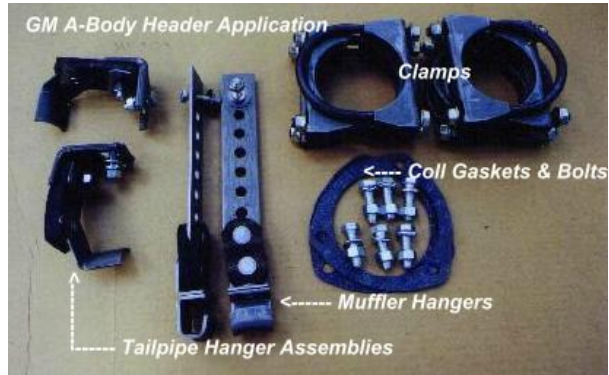
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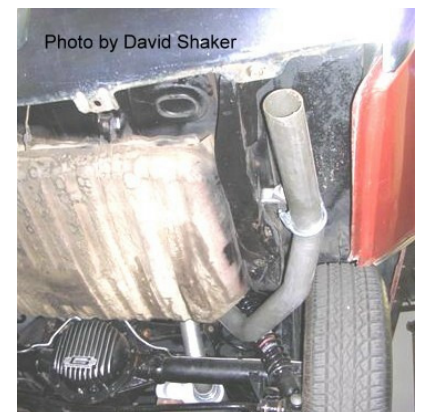
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**6. Now, mount mufflers onto the front of the Tailpipes.**

Adjust tailpipe location somewhat if needed, *but always have the Tailpipe determine hanger location*. You may want to temporarily secure the mufflers with something placed under them. This will allow you to devote full attention to determining the correct length for the Head Pipes. Muffler length should be limited to a maximum of 20" case length. Note that often moving the muffler rearward just a little can allow for more tailpipe rotation that can help with proper positioning and angle at the end of the tailpipe. Lowering the muffler can also help sometimes. When cutting Headpipes to length, always cut "long" as this places the muffler farther rearward. Remember, you can always shorten the Headpipe, but its hard to add length. If you are installig the 2-piece Tailpipe for the longer tail-end A-Body Vehicles, then you will need to trim off an appropriate amount from the end of the tailpipe. If you are installing the Straight Extension onto the tailpipe, then you can trim off the end of it instead.

7. Next mount the Collector Reducers on end of Headers. You may want to note now if your headers seem to be pointing straight back. IF one or both aren't, they will present problems when it comes time to install the Head Pipes. IF you're not sure, then you can temporarily mount the Headpipes onto the reducers and see how they do.
8. If a Headpipe wants to cross over into the driveshaft, then this is telling you the header is pointing inward.
9. If the Headpipe wants to point outward away from the center of the vehicle as it goes back toward the muffler, then this is telling you the header is pointing outward.
10. The header could even be pointing downward or upward. The Headpipes are designed so as to allow you to compensate for some error, but if it's much, then you will be faced with adapting. Our "No-Weld" Collector Reducers can often help. Sometimes it will take more than this. If you are not sure, give our Tech Dept. a call. We can offer suggestions if you can tell us exactly what is happening. See note at end of Instructions.
11. **Fine-tune the fit.** Once you have trimmed the Headpipe

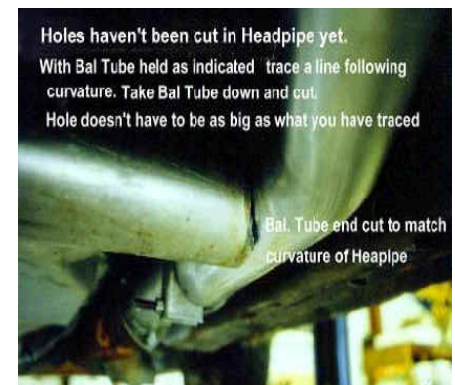


for proper fit, then begin “fine tuning” the overall fit of the system. Do not tighten clamps until you have everything fitting. Consider suspension movement while fine-tuning.

12. **Check for leaks upon completion.** Normally good sealing occurs with clamp 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, next try rotating the clamp about 45 degrees and re-tighten. Next, try relocating the clamp forward or backward from its present position 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.



13. Now, its time to consider mounting the Balance Tube Kit. (This may be a project for a professional if you don't have welding equipment handy or the welding skills or a buddy with such). Both kits 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. Ideally, to determine the best mounting location, you will need to spray a line of paint on the side of the head pipes from the collector reducer back approximately 20". With the vehicle running, you can determine at what point the paint stops burning off. This is where you want to mount the Balance Tube. If for some reason there is an obstruction prohibiting this, then mount it as close as possible to that point. We have found that usually mounting 8" – 16" from the collector flange works fine.

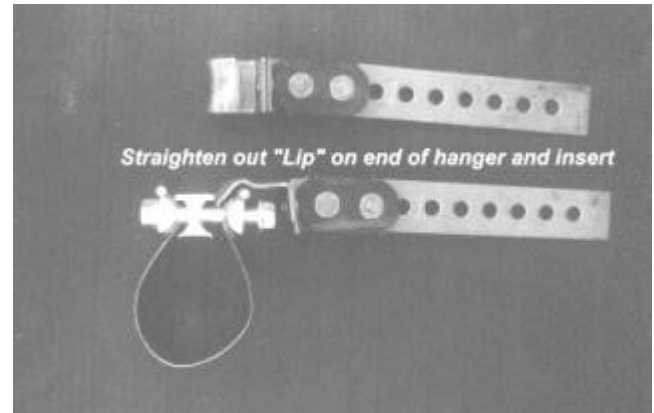


14. Now that you have determined where to mount it, you need to determine the length. Remember to allow for the curvature of the Headpipes as you will want to have some curvature on each end of the Balance Tube. (With Kit B, first install the short piece of pipe into the longer piece and maybe hold together 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.
15. Now cut the holes 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 Balance Tube to protrude into the Headpipe as this will impede flow and be counterproductive. IF the hole is cut a little too big OR if the Balance Tube is cut a little short, you can “Fill Weld” in the gaps to make it fit. It will be a good idea to paint the welds with Hi-Temp Aluminized Paint as this will 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 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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