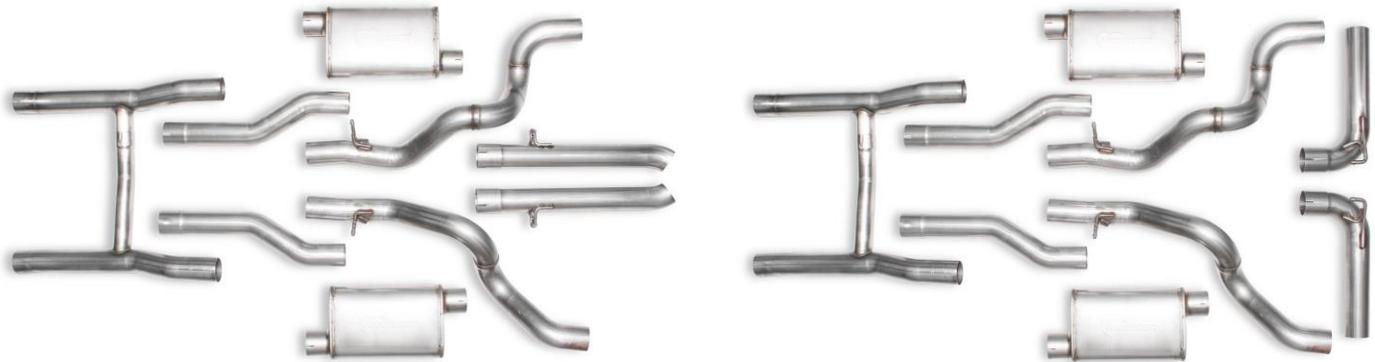




1963-1972 CHEVY/GMC C10 SHORT BED TRUCK 2.5" THROUGH-CROSSMEMBER EXHAUST SYSTEMS

FOR TRUCKS WITH COIL SPRING REAR SUSPENSIONS ONLY

Dual rear exit – BH13194 (409SS) and BH13198 (304SS) and Dual side exit – BH13196 (409SS) and BH13200 (304SS)
Installation Instructions



Thank you for choosing to install a Hooker Blackheart exhaust system on your 1963-1972 GM short bed truck. These systems have been specifically developed for direct connection with Hooker cast iron engine swap manifolds and can be adapted to Hooker Blackheart, or other long-tube headers through modification of the system inlet tubes by a competent fabricator.

PRE-INSTALLATION CONSIDERATIONS:

Check that the hardware package includes the following:

BH13194 & BH13198 Dual Rear Exit	
Qty.	Description
1	2.25" Band Clamp
10	2.5" Band Clamps
2	2.5" Coupler Clamps
1	Left Side Crossmember Hanger - A
1	Left Side Crossmember Hanger - B
1	Right Side Crossmember Hanger - C
1	Right Side Crossmember Hanger - D
1	Front Tailpipe Hanger Frame Bracket
1	Left Side Rear Tailpipe Hanger Frame Bracket - E
1	Right Side Rear Tailpipe Hanger Frame Bracket - F
2	Rear Tailpipe Hanger Plates
6	Rubber Hanger Isolators
4	1/4-20 x 1" Flanged Head Bolts
4	1/4-20 Flanged Head Nuts
4	5/16-18 x 1" Flanged Head Bolts
4	5/16-18 Flanged Head Nuts
4	3/8 x 1" Bolts
4	3/8 Flanged Head Nuts
6	1/2-13 x 1-1/2" Bolts
6	1/2-13 Lock Nuts
12	1/2 Flat Washers
2	5/8-11 x 1" Bolts
2	5/8-11 Lock Nuts

BH13196 & BH13200 Dual Side Exit	
Qty.	Description
1	2.25" Band Clamp
10	2.5" Band Clamps
2	2.5" Coupler Clamps
1	Left Side Crossmember Hanger - A
1	Left Side Crossmember Hanger - B
1	Right Side Crossmember Hanger - C
1	Right Side Crossmember Hanger - D
1	Front Tailpipe Hanger Frame Bracket
1	Left Side Rear Tailpipe Hanger Frame Bracket - E
1	Right Side Rear Tailpipe Hanger Frame Bracket - F
1	Left Side Rear Tailpipe Hanger - G
1	Right Side Rear Tailpipe Hanger - H
6	Rubber Hanger Isolators
4	1/4-20 x 1" Flanged Head Bolts
4	1/4-20 Flanged Head Nuts
4	5/16-18 x 1" Flanged Head Bolts
4	5/16-18 Flanged Head Nuts
4	3/8 x 1" Bolts
4	3/8 Flanged Head Nuts
4	1/2-13 x 1-1/2" Bolts
4	1/2-13 Lock Nuts
10	1/2 Flat Washers
2	5/8-11 x 1" Bolts
2	5/8-11 Lock Nuts

If any listed hardware is missing, please contact Technical Service: 1-866-464-6553 or 270-781-9741.

IMPORTANT! Position and support your vehicle on a suitable surface. **USE CAUTION AND WORK ONLY ON A LEVEL SURFACE USING JACKS AND JACK STANDS OF SUFFICIENT CAPACITY TO LIFT AND SUPPORT YOUR VEHICLE. NEVER WORK UNDER A VEHICLE SUPPORTED BY A FLOOR OR BUMPER JACK.** Use of a two-post under arm lift or four-post drive-on lift will considerably reduce the time and effort required to complete the installation. **MAKE SURE LIFT LOCKS ARE ENGAGED BEFORE WORKING UNDER THE VEHICLE.**

INSTALLATION:

NOTES: The following steps assume that you are installing the system using Hooker cast iron engine swap exhaust manifolds and Hooker Blackheart manifold adapter tubes already in place on the vehicle. If you are performing an installation of this system without utilizing these products, see further applicable information in the compatibility section of these instructions.

Due to the custom through-crossmember design of this exhaust system, the stock or aftermarket trailing arm mounting crossmember used in the vehicle must have a minimum 3-3/4" diameter hole placed in each side of it at a center point distance of 5-1/2" from the inside face of the vehicle frame rail wall, and at the vertical center point within the height of the crossmember. Locate and drill/cut these holes prior to beginning installation of the exhaust system.

The stock parking brake cable system will most likely need to be modified/redesigned forward of the trailing arm crossmember to provide proper functionality and clearance of the cable with the exhaust system tubing.

If you are performing installation of this system on a truck equipped with a rear frame-mounted fuel tank, the tank will more than likely need to be removed from the vehicle to provide the tool access required to install the rear tailpipe hanger brackets supplied with the exhaust system.

1. Remove all existing exhaust system components from the vehicle, including any factory hanger brackets.
2. Attach the supplied front tailpipe hanger frame bracket onto the front side of the stock frame crossmember that the shock absorbers are attached to (use the existing two holes in the vertical wall of the crossmember for this purpose). The flat bar portion of the hanger assembly rests behind the front wall of the crossmember, and the hanger rods will be extended towards the front of the vehicle when properly orientated. Once the bracket is attached, install one supplied rubber isolator onto each barbed rod on the hanger bracket. Refer to the images in **Figure 1** below for visual reference.



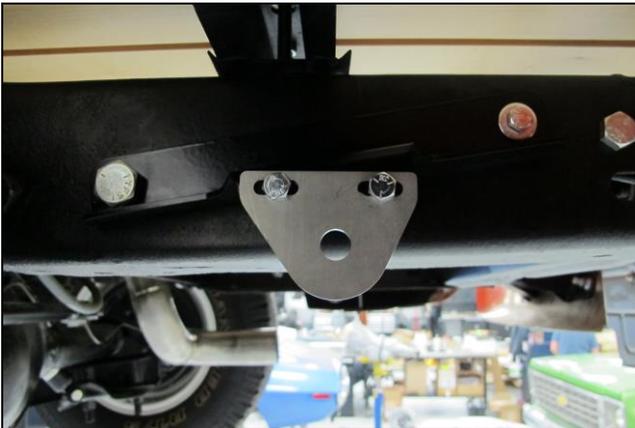
Front Tailpipe Hanger Frame Bracket Installation
Figure 1

3. Attach the supplied rear tailpipe hanger brackets onto the outside of the rear frame rails behind the rear tires. Use one supplied 5/8" and 5/16" nut and bolt, and the existing 5/8" and 5/16" holes in each frame rail for this purpose. The small bent flanges of each bracket that the two 1/4" holes lie on will point towards the ground when the brackets are in their correct left/right side orientation. Refer to the images in **Figure 2** below for visual reference.



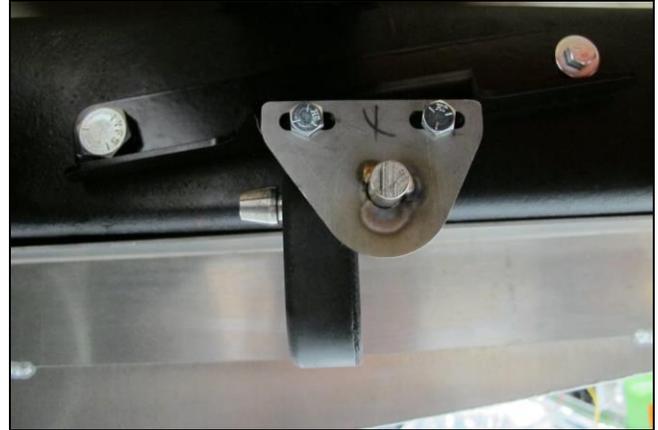
Driver's Side Tailpipe Hanger Frame Bracket Installation
Figure 2

4. If you are installing a dual side exit system, skip ahead to step 5. If you are installing a dual rear exit system, attach the supplied rear tailpipe hanger plates onto the rear tailpipe hanger frame brackets using the supplied 1/4" bolts and nuts. Orient the hanger plates so that the small half-circle notch in the outer profile is positioned towards the rear of the vehicle. Once the plates are attached to the brackets, attach one supplied rubber isolator to them using one supplied 1/2" bolt, nut, and washer for each. Place the washers between the nuts and the isolators on the inboard side of the hanger assemblies. See the images in **Figure 3** below for visual reference to this step.



Driver's Side Dual Rear Exit System Tailpipe Hanger Installation
Figure 3

5. For dual rear exit system installations, attach the supplied rear tailpipe hanger brackets onto the rear tailpipe hanger frame brackets using the supplied 1/4" bolts and nuts. Orient the hanger brackets so that their barbed hanger rods are pointing towards the front of the vehicle and are oriented inboard towards the frame rails. Once the brackets are attached, install one supplied rubber isolator onto the hanger rods of each of them. See the images in **Figure 4** for visual reference to this step.



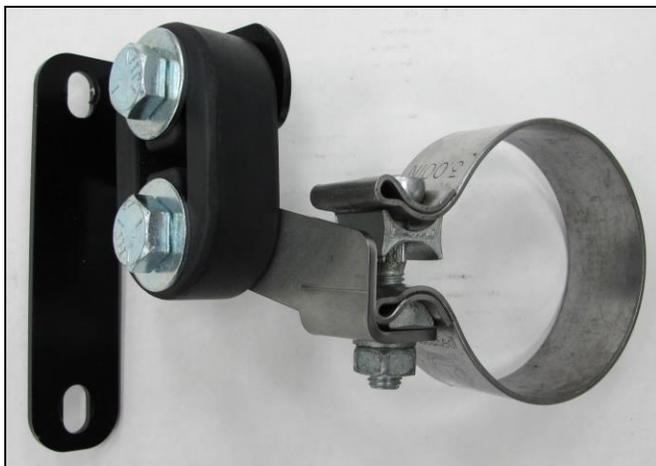
Driver's Side Dual Side Exit System Tailpipe Hanger Installation
Figure 4

6. The supplied crossmember hanger bracket assemblies are designed to be installed onto the front face of the stock trailing arm crossmember after drilling the two required exhaust pass-through holes in it. The size and location of these holes is defined in the "Note" section that precedes the beginning of the installation steps.

The mounting holes of the hanger brackets are designed for bolt-in compatibility with the Hooker Blackheart 1/4" thick crossmember gusset plates that are available for this application. If you are not using the Hooker Blackheart gusset plates, you will need to locate and drill mounting holes for the hanger brackets in your crossmember per your "best-fit" judgement after all the system components have been installed onto the vehicle.

If you are using the Hooker Blackheart gusset plates, drill the holes required for their attachment per the instructions included in their packaging. Once that is done, slip the gusset plate into place on the front face of the crossmember and temporarily attach them to it using a single supplied 3/8" bolt and nut (only engage the nuts onto the bolts by a couple of threads)

Now assemble the left and right crossmember hanger/clamp assemblies to visually match the depiction of the assemblies in **Figure 5** below. Each assembly will be comprised of two supplied 1/2" bolts/nuts, five supplied washers, two supplied brackets, and one supplied band clamp. Remove and reinstall the nuts/washers from the two supplied band clamps to perform this task. As can be seen in the image, three of the washers go between the rubber isolator of each assembly and the lower hanger brackets that are attached to the clamps.



Passenger's Side Crossmember Hanger/Clamp Assembly



Driver's Side Crossmember Hanger/Clamp Assembly

Figure 5

7. Place two supplied band clamps over the H-pipe inlet slip-connectors that are just forward of the H-pipe crossover tube. Insert the long end of the supplied H-pipe inlet tubes (the driver's side tube can be identified as the one with the small notch in its outlet end) into the slip-connectors and rotate the inlet tubes so as to slope the slight bends in the end of the tubes upwards, not pointing down or to the left or right.

8. Separate the crossover pipe connection of the H-pipe, if connected, and install the included 2-1/4" band clamp onto the slip connector of the crossover pipe and then reassemble the H-pipe assembly. Place the previously assembled crossmember hanger/clamp assemblies over the outlet ends of the H-pipe as shown below in the **Figure 6** image.

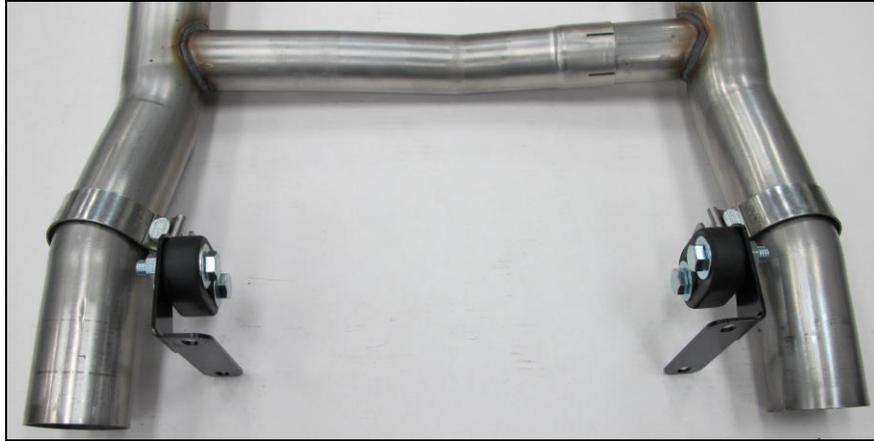


Figure 6

9. Place the two supplied coupler type clamps onto the inlet ends of the H-pipe so that the nuts of the couplers will be positioned outward towards the frame and be facing the ground once the H-pipe is installed.
10. Lift up the H-pipe assembly and tilt the outlet legs up in front of the trailing arm crossmember and insert them through the pass-through holes in it (and through the Hooker Blackheart gusset plates also, if using them). Tilt the front end of the H-pipe up and slide it forward and connect it to the header collectors with the coupler clamps. Use a measuring tape to place the gap between the H-pipe and the collectors in the middle of the clamps. Tighten the clamps just enough to hold them in general position at this time.
11. Remove the 3/8" nuts and bolts temporarily holding the Hooker Blackheart gusset plates to the crossmember and then attach both the crossmember hanger brackets and the gusset plates to the crossmember using the supplied 3/8" nuts and bolts. Only the two inboard side holes drilled to install each gusset plate will be used to install the crossmember hangers. Refer to the image **Figure 7** below for a depiction of the installation of the driver's side hanger bracket/clamp assembly and Hooker Blackheart gusset plate to the crossmember. The installation of the passenger's side bracket/clamp/gusset plate is a mirror image of this view.



Figure 7

12. Insert the slip-connector end of the muffler inlet tubes through the backside of the crossmember and install them onto the H-pipe outlets. The driver's side muffler inlet tube can be identified as being the one with the singular short notch placed on its outlet end.

Tighten the band clamps on the slip-connectors enough to remove all the slack in the clamps, but still allow full freedom of movement of the clamp and the muffler inlet tubes. Rotate the muffler inlet tubes on the H-pipe outlets so that the bent jog in them is past the straight-up vertical position and tilted outward towards the vehicle frame rails by about 5 degrees. Tighten the band clamps on the inlet slip-connectors slightly to hold this preliminary positioning of the muffler inlet tubes.

13. Place one supplied band clamp onto the inlets of the mufflers (the mufflers are bi-directional) and install one muffler onto the outlet of each muffler inlet tube. Measure the distance between the inside frame rail face and the outside edge of each muffler's front end cap and further adjust the rotation of the muffler inlet pipe at the H-pipe slip-connector so that the distance between the inside frame rail face and the muffler front end cap edge is approximately 3-3/8" for both mufflers. Tighten the crossmember hanger clamps on the muffler inlet tube slip-connectors enough to hold the mufflers in this preliminary position.

14. Place one supplied band clamp onto the outlet of each muffler and then feed the over-axle tubes over the axle from the behind the axle and install their inlet ends into the muffler outlets. Engage the hanger rods on the over-axle tubes with the rubber isolators previously installed onto the shock absorber crossmember hanger assembly. Tighten the band clamps only enough to hold their rotational positions on the muffler outlets.
15. Place the last two remaining clamps onto the tailpipe inlet slip-connectors and install the tailpipes onto the outlets of the over-axle tubes. Immediately following, engage the hanger rods on the tailpipes with the previously installed rubber hangers on the hanger frame brackets. Tighten the band clamps only enough to hold their rotational positions on the muffler outlets.
16. If you have installed the system along with the Hooker Blackheart trailing arm crossmember gusset plates, proceed to step 16 below. If you are not using the Hooker Blackheart gusset plates in your installation, adjust the H-pipe assembly to achieve the most even gap possible between the muffler inlet tubes and the through-holes in the crossmember. You can telescope the H-pipe cross-over tube slip-connector in/out slightly to aid with this. Position the crossmember hanger brackets against the inner face of the crossmember in a straight-up vertical position in both the side-to-side and fore/aft planes to mark the position of the hanger bracket mounting holes to be drilled in the frame. Position the brackets as high as possible to maximize the final tension that will be exerted on the rubber isolators following installation. Drill the holes and then attach the hanger brackets to the crossmember using the supplied 3/8" bolts/nuts.
17. Adjust the system to obtain the designed system baseline geometry as follows: Begin by first focusing your efforts on getting the clearance between the muffler inlet tubes and the edges of the pass-through holes in the crossmember to be as even as possible between the left and right sides. This is done by loosening the coupler clamps on the header collectors, the band clamps on the crossmember hanger assemblies, and the band clamp on the H-pipe crossover tube slip-connector. Loosen them all just enough to allow full freedom of movement of the H-pipe and muffler inlet tubes.

Once the clearance between the muffler inlet tubes and the crossmember pass-through holes has been established, tighten the header coupler clamps and the H-pipe cross-over tube slip-connector clamp. Now, push the hanger brackets attached to the forward face of the crossmember as high as they will go and tighten the 3/8" bolts/nuts that hold them to the crossmember.

Re-measure the distance between the inside faces of the frame rails and the outside edges of the front muffler end caps and rotate the muffler inlet tubes around the H-pipe outlets, if needed, to place the outside edges of the muffler front end caps back to approximately 3-3/8" from the frame face.

Tighten the clamps on the muffler inlet tube slip-connectors to hold the muffler inlet tubes in this reference position. Be sure to pay attention to the vertical and twist alignment of the rubber isolators on the crossmember hanger assemblies, and the rotational position of the band clamps on the slip-connectors as you tighten the clamps. Rotate the mufflers into a visually flat position and tighten the clamps on the inlets of the mufflers enough to hold the mufflers in this general position.

Rotate the over-axle tubes so that their hanger rods are as close to parallel to the hanger rods on the frame hanger above them (in both the vertical and fore/aft planes). Tighten the clamps on the muffler outlets enough to hold this general position of the over-axle tubes.

Adjust fore/aft position of the tailpipes inlet slip-connectors so that the rear frame brackets can be adjusted to position the rubber isolators in vertical alignment over the hanger rods on the tailpipes. This now completes the baseline adjustment procedure.

18. Now, perform targeted re-adjustment of the components to provide the best possible clearances and fitment on your specific vehicle. This process should not require adjustments to the H-pipe and should be focused on getting the tips in the state of alignment you desire, the mufflers in a flat horizontal position, and the hanger rods and rubber isolators as vertical as possible in both planes. All of the supplied hanger brackets have been designed with adjustability in at least one plane to aid you with this process.

Be patient and loosen any clamp(s) needed to reposition any component(s) required to achieve the best possible fitment. This should be expected to be the most time-consuming portion of the installation process in order to optimize the fitment of the system. Make your adjustments in small incremental steps and remember that any adjustments to a component will have consequential effects to the fitment of all components downstream from it.

Use the adjustment slots under the 5/16" bolts in the rear frame hanger brackets to obtain equal clearance between each tip and the sides, or the bottom of the rear bumper.

Once the best fitment has been achieved, tighten all of the system clamps and fasteners, including the 1/4", 5/16", and 5/8" bolts and nuts on the forward tailpipe frame hanger assembly and the rear tailpipe frame hanger assemblies. The image below is a reference target for your final-adjustment efforts.



Any questions? Please contact Technical Service: 1-866-464-6553 or 270-781-9741. For online help, please refer to: www.holley.com.

COMPATIBILITY INFORMATION:

These exhaust systems were designed for direct installation with compatible Hooker Blackheart LS/LT swap engine and transmission mounting components listed for this vehicle application. If needed, additional compatible LS engine swap components, such as EFI fuel control systems, fuel filters, fuel pumps, plumbing hose/fittings, valve covers and accessory drive brackets can be found at www.holley.com.

The tube bend geometry of these systems is designed for compatibility with aftermarket rear frame-mounted fuel tanks and stock or aftermarket rear suspension track/panhard bars (aftermarket bar must mount in the stock left frame rail mounting bracket to be compatible).

As shipped, the bend geometry and sizing of this system's inlet tubes (forward of the trailing arm crossmember) is only bolt-in compatible with Hooker cast iron engine swap exhaust manifolds (requires an adapter tube kit for connection to these manifolds) and Hooker Blackheart engine mounting brackets and transmission crossmembers for this application. As such, interference with factory GM, or aftermarket transmission crossmembers and/or poor line-up characteristics with any other type/brand of exhaust manifolds or headers should be expected. Such issues can be remedied through modification of the supplied Hooker Blackheart inlet tubes, or the fabrication of new inlet pipes, to provide compatibility with the components installed on your vehicle.

These Hooker Blackheart exhaust systems are compatible with driveshafts up to 4" in diameter, rear frame mounted fuel tanks, stock and aftermarket rear axle panhard bars (only bars that are attached to the left frame rail using the stock anchor bracket can be used), a spare tire and most aftermarket trailer hitches.

The bend geometry of these systems has been optimized for use on trucks with 4"-6" of rear suspension drop. Use of these systems on trucks lowered more than 6" may encounter interference between the rear axle housing and the exhaust system over-axle tubes.

Some model year trucks have a L-shaped brake line support bracket that is spot welded to the top of the right side axle tube just below the over axle tube. If your truck is equipped with such a bracket, you will need to drill out the welds and relocate the bracket as far towards the center of the axle as possible to prevent interference with the over-axle tube during vehicle operation.

LIMITATION OF LIABILITY – DISCLAIMER:

The regulation of emissions production, noise levels, and safety standards is undertaken by the federal government, each of the fifty state legislatures, and by many local municipalities, towns, and counties.

HOOKER™ makes no warranties of merchantability, of fitness for particular purpose, or that its products are approved for general use, or that its products comply with laws, regulations, or ordinances in the state where they may be sold to the ultimate purchaser, the consumer.

Unless expressly stated to the contrary in the catalog, instruction sheet; or price list, the entire risk as to the conformity of any company product in any such state and as to repair should the product prove to be defective or non-conforming, is on the retail purchaser, the buyer, the ultimate consumer, of such product and it is not upon the seller, distributor, or manufacturer.

In this connection, the retail purchaser, the buyer, the ultimate consumer assumes the burden of the entire cost of any and all necessary service, alterations, or repair.

THE FOREGOING STATEMENT LIMITS THE LIABILITY OF THE MANUFACTURER.

California vehicle code, sections 27156 and 38391, prohibits the advertising, offering for sale, or installation of any device, which modifies a vehicle's emission control system, unless exempted, unless otherwise noted. HOOKER™ Headers that have not received an Executive Order (E.O.) exemption from these code sections are not legal for sale or use in California on vehicles originally equipped with catalytic converters, except for racing vehicles, which may never be driven upon a highway. Check with your local authorities to determine if these headers are legal for use in your particular area.

Technical Service: 1-866-464-6553

Phone: 1-270-781-9741

For online help, please refer to the Tech Service section of our website: www.holley.com

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