

# Zoomie Headers

## Assembling a Hedman Husler Zoomie header kit

Story & Photos by Scott Gault

Prior to writing this article I discussed this project with Josh Dunn (Dunn & Gone nostalgia Funny Car crew chief) as he has built several sets of Hedman Heddgers for his team and fellow racers. I made multiple phone calls to Josh and Phillip Wigington at Hedman, so I would like to thank them for their technical assistance and expertise.

There are many angles to consider when laying out your header design – vertical and horizontal angles where the tubes meet the flange and also the layback angle on the exit tubes. As shipped from Hedman the tubes consist of 8 J-bends. We will refer to these as primary tubes before

the bend and exit tubes after the bend. We are building a set of “Shorty” style Funny Car headers. The primary tube vertical angle is 65° (tubes angled up 25° from 90° at the flange). I chose to have all 4 pipes meet at the center of the cylinder head between the 2nd and 3rd port for the horizontal angle. The rear 2 tubes angle forward and the front 2 tubes angle back.

Each tube has a different exit radius bend. The tubes are mandrel bent at 86° on the front tube, increasing by 2° increments to 92° at the rear tube. This allows for proper

alignment of the exit tubes taking into account the spacing between the exhaust ports. The Funny Car kit is made for full length tubes, so I had the tubes bent in 3° increments at a local shop for this “shorty” style project. A mandrel bender uses a round ball inside the tube that keeps the tube from collapsing during the bending process.

The flanges provided by Hedman are 1/2” thick and have a CNC machined beveled edge on the top of the port opening. This



Since the 8 tubes come various lengths, cut the exit end of the tubes to equal length. Measure your existing headers or determine what looks best on your car. Lay all 8 tubes on a table with the exits pointing straight up (90 degrees to table) and mark each cut with a black Sharpie marker. Deburr the inside of the tubes with a circular deburring tool and use a belt sander on the outside to eliminate the sharp edges.



If you have a set of headers that you are duplicating, lay them on a flat surface with shims under the tubes (making sure they are not resting on the flanges) and measure the exit angle with a protractor or digital angle finder. If you are not duplicating an existing set, lay the tubes back at an angle that looks nice on your car. My existing headers were laid back at 45°.

65° bevel creates the angle that the tubes exit vertically once they are swedged into the flanges – tipping them up slightly from the head port. You can adjust the primary tube vertical angle up or down a few degrees to suite your preference.

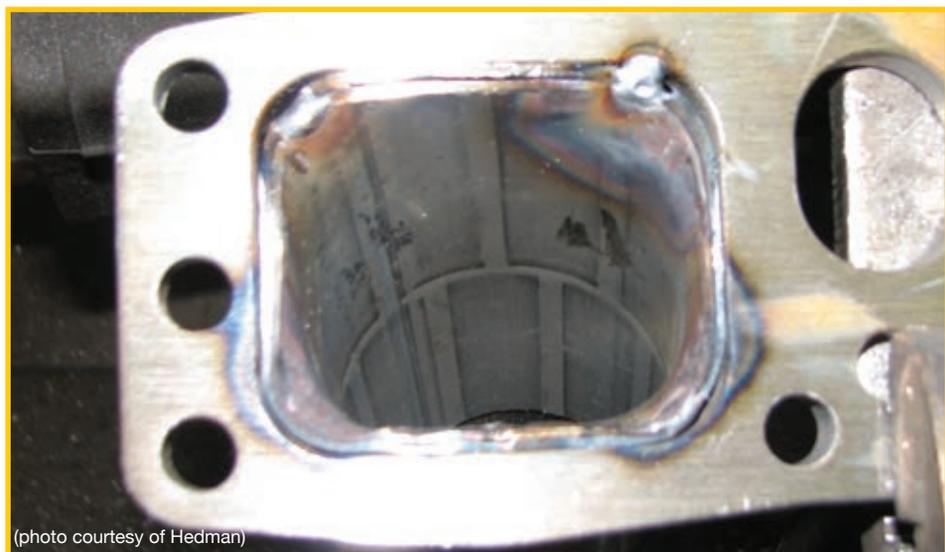
Cut the primary tubes to your desired overall length at a 25° angle with the longer side of the cut at the bottom of the header tube. Make sure to take into account the exit lay back angle when setting up this cut so that the tubes will fit the flange. Cutting the tubes slightly longer and finishing them with a belt sander or hand grinder assures they will fit the port opening correctly.



Vertical tube angle of 65° point tubes up slightly

Not having a jig will require a few pieces of wood on a flat table to support the tubes as they are mocked up. A pair of welding clamps and 2 pieces of angle iron will assure that the tubes are aligned when fitting them to the flange. Setting the tubes in position on a pair 4 x 4's will allow the clamps to clear the table.

Hedman offers up and down swept zoomie kits for all popular engine combinations. They have exhaust flanges for nearly every V-8 engine that can be combined



(photo courtesy of Hedman)

Swedged tube at the port to fit square AJII cylinder head flange

with J-bend tubes to ship as a kit. Collector style race headers are also available for naturally aspirated cars.

This kit was easy and fun to build. Do-it-yourself or call Hedman to purchase completely finished race headers. You can also visit their Atlanta facility to have them custom built to fit your engine/chassis/body application.

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Header manufacturers have custom tools or shoes to form the end of the tube to fit the header flange (round tube into a square hole). A wooden workbench top and a body hammer forms the tube just fine. Heating the tube with a torch once it's tacked into the flange will allow final fitting the corners with a rounded off dull chisel. Building a simple tapered swedging tool to match the port dimensions as shown in this photo is my plan for the next set that I construct.



Hedman supplies several types of weld on brackets to support the exit tubes. The larger U-bend brackets are normally used in nitro applications and the flat straps are for headers that are not subjected to violent tires shake and extreme heat. Hedman does not recommend welding the tubes together in the "valleys" on full length headers, but was a neat way to support the exit tubes on my "shorty" style project. It saved a little weight too.



Headers mocked up and ready to tack weld at the flange



Horizontal tube angles point tubes to the center of the head



Finished set of "Shorty" style headers