

Clearing the Logjam

Gibson's New Header Install



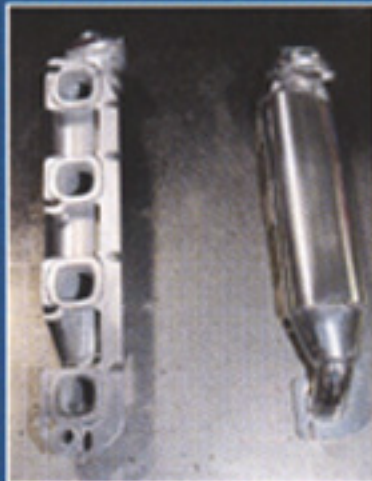
We recently had the opportunity to check out a set of Gibson Performance's new headers—inspired by the design of old turbo diesels. Those low-rpm powerplants have great torque, which is exactly what Gibson wanted to recreate. It accomplished that by adapting the log-style headers of those turbo diesels to the 5.7L Hemi Magnum motor, accomplishing good torque minus the turbo. Gibson's log-style headers have an oval design to increase flow. Made of T409 stainless with a ceramic outside and thermal barrier inside, they actually lower the temperature of the manifold by as much as 200 degrees F, as measured by a laser IR gun.

The result of all this tinkering? Gibson claims an increase of 21 lb-ft of torque and up to 11 hp in aftermarket headers that are smog-legal and bolt on as a direct factory replacement.

We chronicled the installation of the first production set of Gibson's new headers onto a '03 Dodge 1500 pickup, as done by Shawn Seidelman at Gibson's R&D shop in Corona, California. A header mounted to the left side of the engine block is essentially the same as its counterpart on the right, as are the installation procedures. Therefore, we're going to address the installation of the new headers as one unit but use the left- or right-side image that best illustrates each step. But just in case you feel short-changed by our attempt to streamline the story, we threw in an after-cat exhaust install that the boys at Gibson hung onto the pickup right after they finished bolting on the headers.

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HEADER INSTALLATION



1. Aside from the passenger- and driver-side headers, the kit includes head gaskets, a 4x10-inch heat wrap, a bolt kit for the header, and zip ties.



4. Out with the old and in with the new.



2&3. Being an early bird, Shawn disconnected the Y-pipe assembly from the manifolds before we got there to photograph it; he then removed the starter and set it aside to make way for the removal of the driver-side shock shield and manifold. The OE headers use 10 and 13mm bolts.

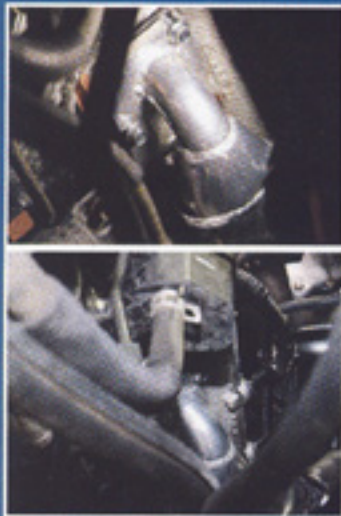


5. After cleaning off any debris from the cylinder head, Shawn applied anti-seize directly to the surface surrounding the bolt holes.



6. The new flange gaskets were secured with 12mm

HEADER INSTALLATION



7&8. Once Shawn slotted the Gibson log headers onto those already-screwed-in bolts, he torqued the bolts to 30-35 lb-ft. These bolts need to be re-torqued after the first 200 miles to 25 lb-ft. (In fact, it's a good idea to tighten them after each scheduled oil change or other related time interval until no more loose bolts are found.) Then he reinstalled the starter into the transmission. Wrapping the starter wires with the supplied header wrap and zip ties protects the wires from engine heat.

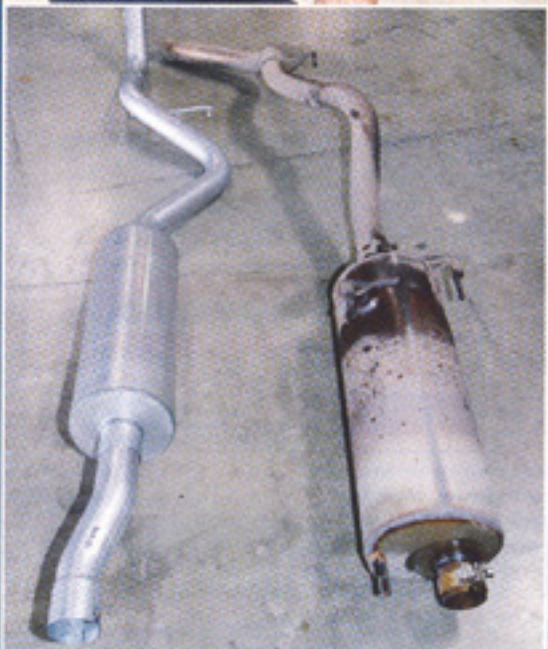


9. Here's another angle of a newly installed header. The header install took about two hours in Gibson's well-equipped bay. Should a shadetree mechanic try it, it might take up to three hours.

AFTER-CAT EXHAUST INSTALLATION



10&11. Shawn removed the clamp just in front of the OE muffler, leaving the stock headpipe and all rubber grommets in place.



12&13. Shawn then removed the stock exhaust and put it on the floor (pictured next to Gibson's after-cat single exhaust system). This new exhaust includes a 3x21-inch extension headpipe, a superflow muffler, a 3-inch overaxle tailpipe with hanger, a 3-inch exit pipe, a 3-1/2-inch stainless tip, three 3-inch clamps, a band clamp, a band clamp bolt kit, and a front hanger.



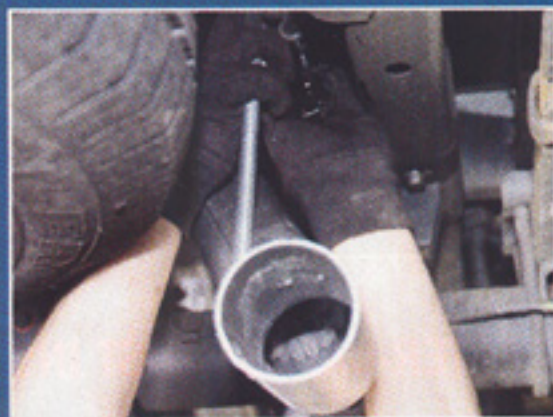
14. Shawn connected the extension headpipe to the OE front pipe, securing it with a 3-inch clamp. Then he inserted a hanger into the rubber grommet and secured it and the rest of the clamps loosely with a 9/16-inch socket and wrench.



15. The muffler installed onto the extension headpipe with the louvers facing the converter. A 3-inch clamp secured the two together.



16&17. After sliding the band clamp onto the muffler, Shawn inserted the clamp's hangers into the rubber grommets.



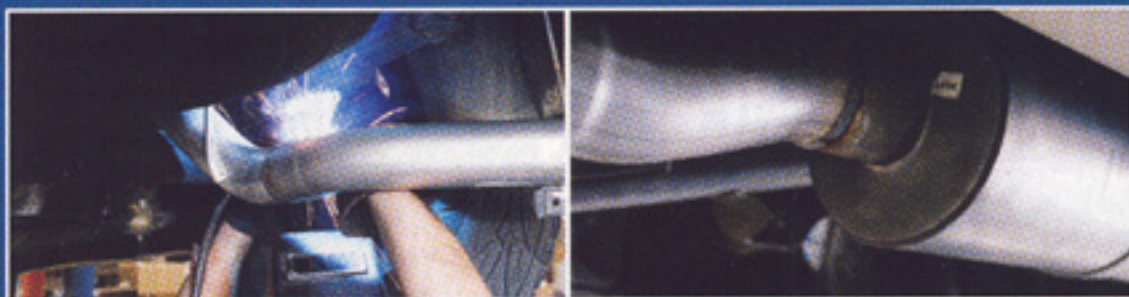
18&19. Shawn installed the overaxle tailpipe into the muffler and secured it by inserting the hanger into the rubber grommet. Another 3-inch clamp secured the overaxle pipe to the muffler.



20, 21&22. Shawn trimmed the exit pipe to get a better fit and then attached it to the overaxle pipe, using a level to determine the best angle.

POWER Upgrades

AFTER-CAT EXHAUST INSTALLATION



23&24. Shawn emphasized that while the kit works just fine with the 3-inch clamps provided with it, he decided to succumb to personal preference. In this case, that meant welding all the pipes together, in favor of a cleaner look (shown).



25. Finally, the stainless tip was bolted on, everything throughout the system was tightened and checked, and...



26. ...the job was done. It didn't take long for Shawn to install the after-cat exhaust, but he estimated that it might take someone outside a shop about an hour to finish.

SOURCE

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