



FOUND!

**1 OF 15 GTO HARDTOP
CEREAL CONTEST WINNERS**

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GREAT NEW GOATS!

› 416 RWHP "BANSHEE" › PERFORMANCE GUIDE › 30hp HEADER INSTALL



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Goat Pipes

We install JBA's "Cat4ward" headers for the new GTO



Text and photography by Greg Raymond

Since the GTO's 1964 introduction, there probably has not been a more common performance modification than a set of aftermarket headers. In fact, that was usually an enthusiast's first move toward increasing the car's horsepower.

More than forty years later, that's still the case. JBA Headers, of San Diego, California, has been making headers for the last 20 years and jumped on the new GTO performance bandwagon immediately — the company had a new Goat for R&D less than a month after they hit the street. Often one of the first manufacturers with smog-legal exhaust headers, JBA has previously been known for their, ahem, Mustang parts.

Nevertheless, the company has embraced the new GTO and first showed prototypes of headers for them at last summer's GTOAA convention in Detroit. Then at last fall's SEMA show, they brought a fully decked-out car with the emissions-legal headers and a cat-back exhaust system.

As exhaust is still at the top of enthusiasts' "to do" lists for improving performance, we wanted to get our hands on a set of JBA's headers and check them



◀ JBA's GTO headers are made from 1.625-inch mandrel-bent 14-gauge steel, with 0.375-inch-thick laser-cut single-piece flanges. As shown, they've got the available ceramic coating (thermal barrier). Best of all, they're 50-state legal, won't void the vehicle warranty and are claimed to be a direct bolt-in. This story will put that latter claim to the test.

out for ourselves. We found this new combination not only supports the time-tested desire for improved looks and sound, our dyno numbers support JBA's claims that the headers perform as promised.

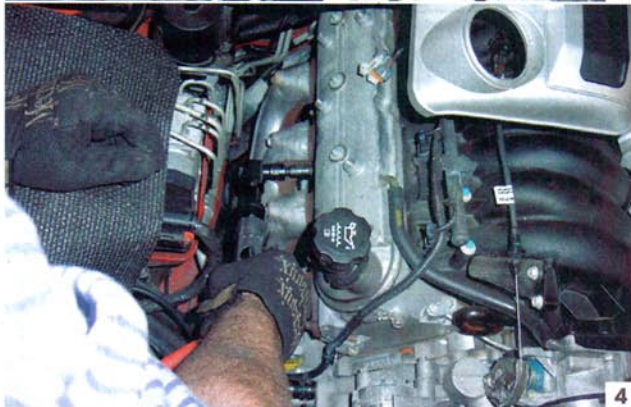
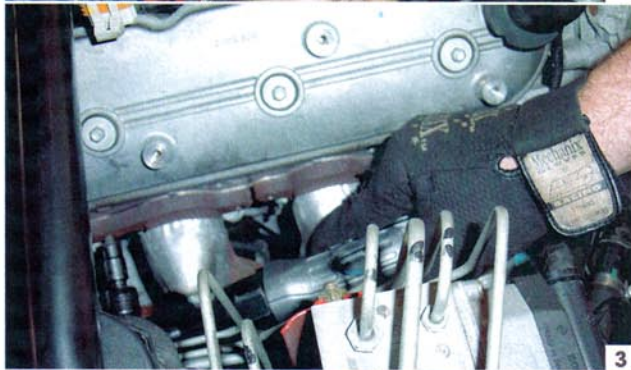
With the headers blowing into a stock exhaust system and nothing more than a K&N air filter, our '04 GTO test car picked up 30 horsepower at the rear wheels and 34 lb-ft of torque. That's a significant gain in our book, as we have been used to seeing much smaller gains with headers on say, otherwise stock LS1 F-cars.

Since there aren't a lot of Mustangs in the PE parking lot, we were new to JBA's products and were pleased to find an apparent dedication to quality and ease of fitment. The Cat4ward headers used in this story have thick, 3/8-inch laser-cut flanges and beefy 409 stainless mandrel-bent primary tubes. A closer inspection also revealed an extra-thick sealing dome and formed collector. Our set also included the available Silver Ceramic coating, which boasts an 1100-1200° F temperature rating.

We got some help with the installation from JBA's chief technician, Greg Smith — who was very knowledgeable despite the fact the car didn't have a running horse in the grille. Thanks to a surprisingly open engine compartment, installation of both headers took only about three hours and then bolted right up to the stock exhaust system.

Besides performing to our expectations (exceeding them, really), the Cat4ward headers' ceramic coating appearance looks terrific under the hood and the sound gives the Goat a deeper, musclecar-era rumble.

It's reassuring to know that after 40 years, the tried and true power-building tricks for the GTO are still valid.



1 Step #1 requires the disconnection of the factory exhaust system from the stock manifolds. Although this can be accomplished from the top of the engine compartment, a lift makes the job easier.

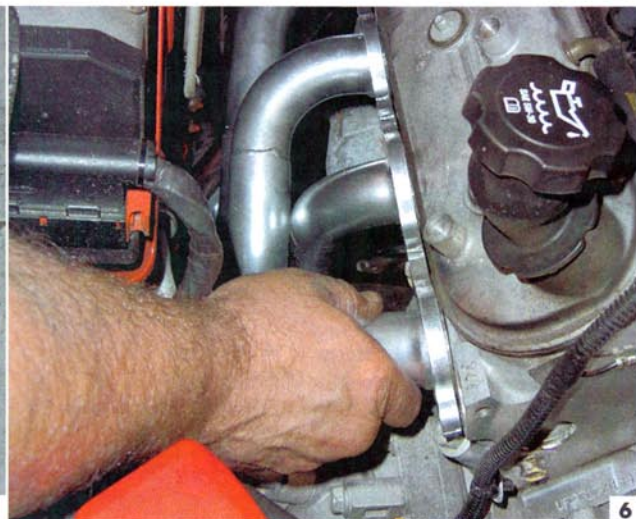
2 Next, the engine covers come off. This will provide easier access to the manifold area. Surprisingly – and in contrast to fourth-gen F-cars – there is ample working space between the engine and chassis.

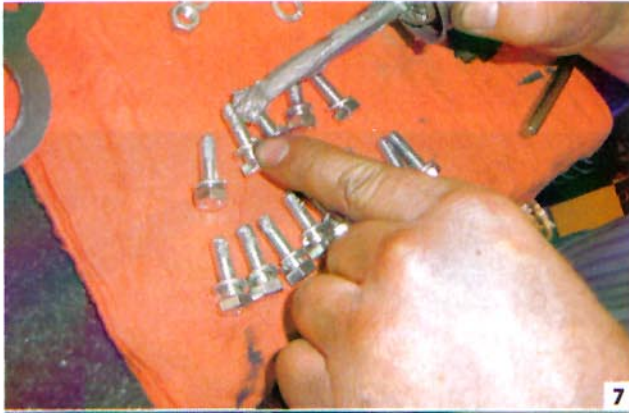
3 Our technician also found it was easier to maneuver under the hood with the coil packs removed. Then, the bolt retaining the dipstick tube was removed from the passenger-side exhaust manifold and the tube pushed out of the way.

4 With the dipstick tube out of the way, the exhaust manifold is unbolted and removed. The same goes for the driver-side manifold (minus the dipstick tube, of course).

5 With the stock manifolds off, we compared them with the new JBA pipes. The side-by-side comparison is dramatic and we hope the new headers will flow as good as they look next to the stockers.

6 The passenger-side header drops right into place from the top of the engine without any trouble. The fit was excellent and the out mounts are slotted so that the header can be positioned after loosely installing a couple of the Grade 5 headers bolts included with the kit. Premium gaskets also are included.

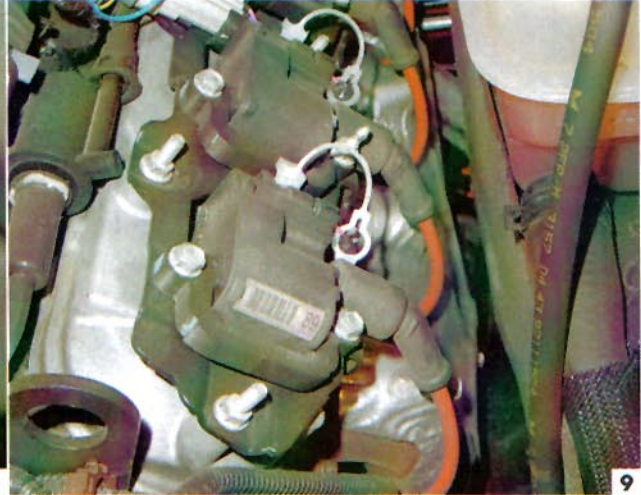
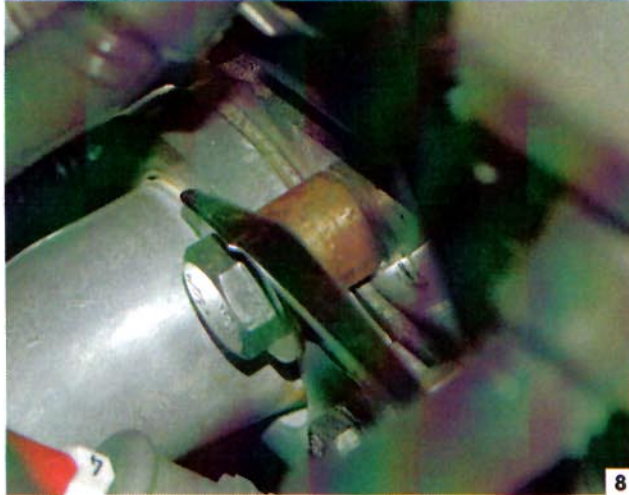




7 Because the GTO's LS1 is topped with aluminum heads, it is imperative to coat the header bolts with anti-seize compound.

8 One portion of the installation that didn't go as instructed was the replacement of the dipstick bolt. It didn't mount up as it did on the stock manifold, so a spacer was fabricated to secure it.

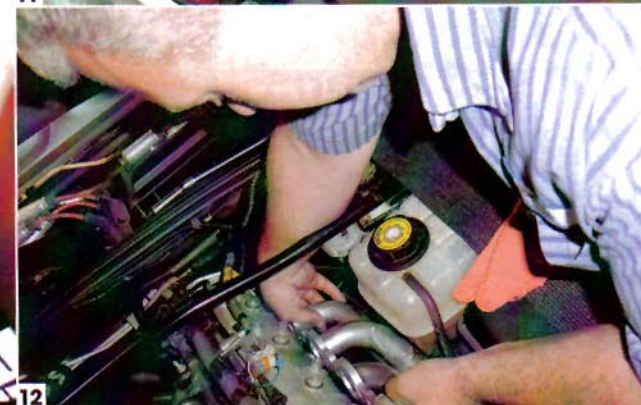
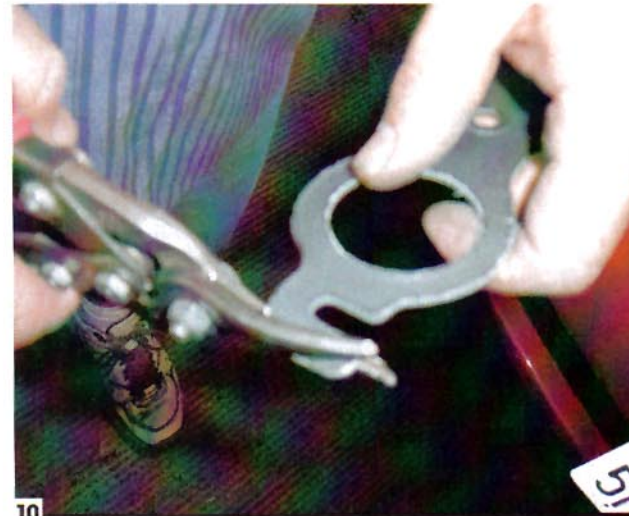
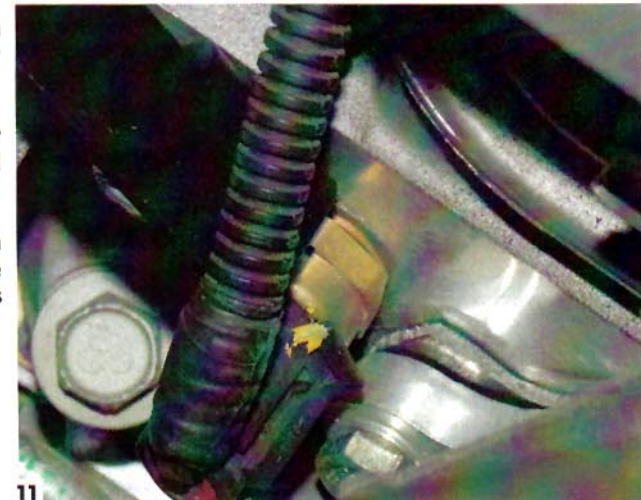
9 When it came to the driver-side of the engine, working conditions got a little tighter. Thanks to the factory heat shield, it was easier – and just about mandatory – to loosen the driver-side engine mount and slightly lift the engine. This also made it easier to install the new header.



10 The supplied header gasket interfered with the location of one of the engine sensors, so it was trimmed slightly for clearance.

11 The photo jumps ahead slightly and shows the header already installed, but we wanted to illustrate how the trimmed gasket fits around the sensor.

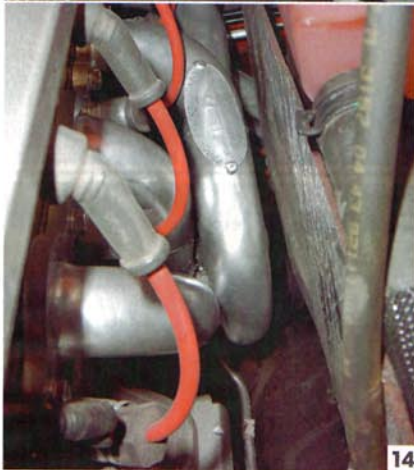
12 With the engine still lifted slightly, the installation procedure for the driver-side header was the same as the passenger side. And though space was a little tighter on this side, the header still dropped in from the top.





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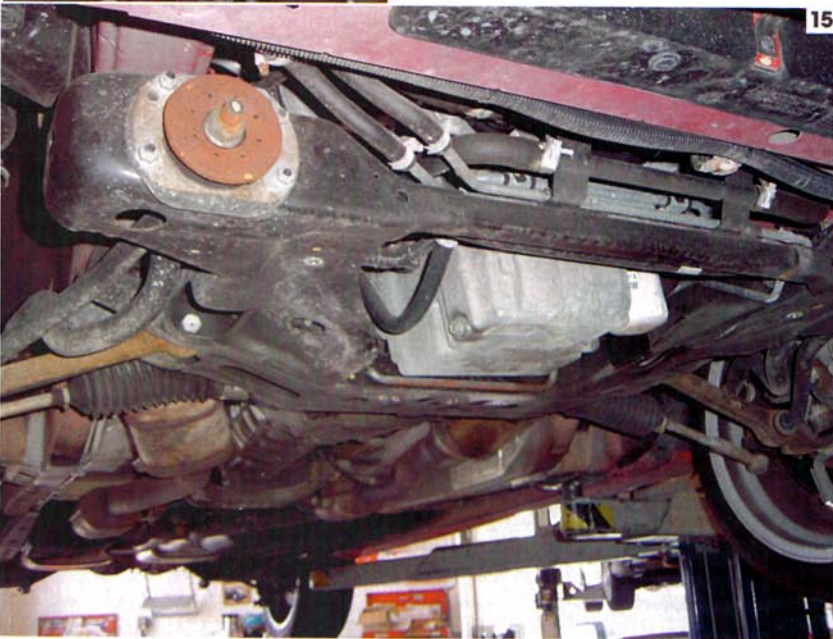
13 With the headers installed, the coil packs were reattached and the engine covers need only to be snapped back into place.



14 Here's a close-up of the driver-side header installed. There is still plenty of room around the header – and this is the "tight" side of the engine.

15 With the engine back down on its mounts and the headers secure, the stock exhaust system was bolted up from below. And guess what – it all fit as promised! It bolted right up with hardly a tug. Very nice!

14



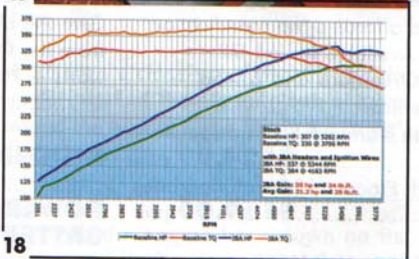
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16 JBA also threw on a set of "their" performance ignition wires. Interestingly enough, "JBA" was spelled "MSD" on the boot wires!

17 The installation and fit were great, but the proof of the new headers' performance would come on the dyno. We should note that – in contrast to the lead photo depicting an aftermarket exhaust outlet system – the tests were performed with the headers blowing through a stock exhaust system.

18 The chassis dyno shows a jump of 30 horsepower and 34 lb-ft of torque compared to the stock 307 horses and 330 lb-ft of torque. That's a significant gain in our book. These tests were performed with the new ignition wires in place, too. ■

SOURCE
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