

The SixShooter

A new tri-power system from Barry Grant's Triple-D Induction

Photos by Barry Kluczyk and courtesy of Barry Grant Inc.

Although Pontiac's original Tri-Power had popularized three-deuce induction fashions of the mid-'60s, the Rochester 2GC carburetors and intakes of that period gradually faded to obsolescence. They have retained their evocative appearance and are still desirable today, but they face a tough time competing with modern, single four-barrel carburetors and intakes.

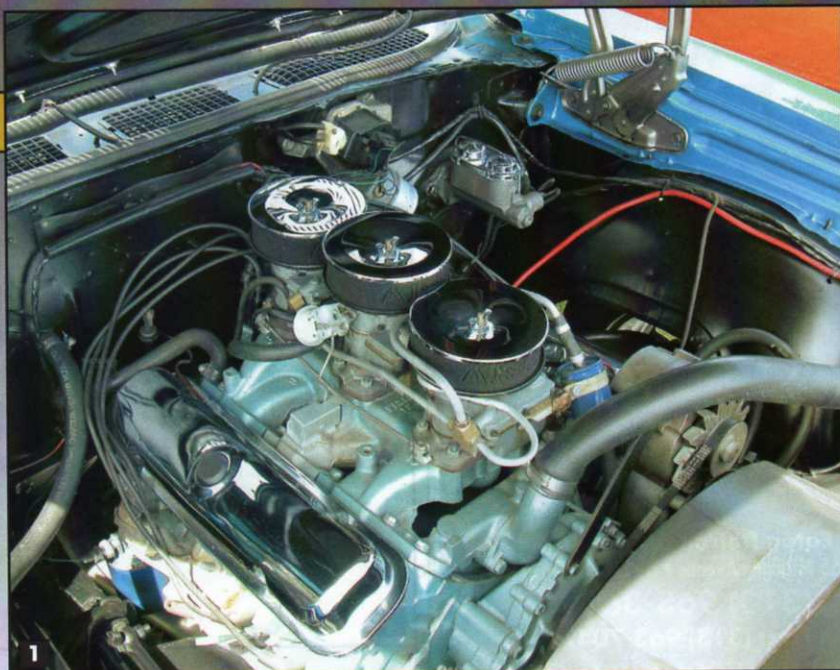
Barry Grant's Triple-D Induction subsidiary introduced its SixShooter tri-power intake in 2003. After an encouraging response, the company has made a push into new markets with their unique induction system—namely, Pontiac. Initial testing was very encouraging, with the SixShooter demonstrating a healthy 50-horsepower improvement over the original Tri-Power, as well as a performance advantage over many contemporary four-barrel carburetors and intakes.

Last December, the prototype Pontiac SixShooter was ready for testing. Arrangements were made with Butler Performance, of Leoma, Tennessee, to evaluate it. Luckily, there was an excellent comparison in the making: Rodney Butler had tested a well-developed Tri-Power induction system on a 461 cubic-inch

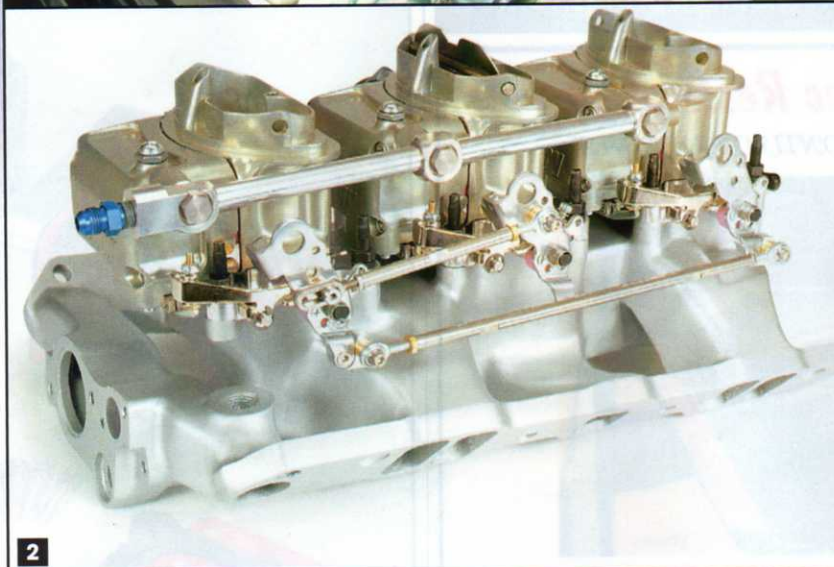
Pontiac street engine, and now there was another 461 awaiting attention; a strong street/strip pump-gas engine. It consisted of a bored and stroked 400-inch Pontiac block with a Scat long-stroke crankshaft, 6.800-inch rods and 9.5:1 pistons. A pair of cast iron D-port cylinder heads with mild port work (basic clean up); an Edelbrock Performer RPM intake with mild porting and gasket matched to the heads (as a baseline intake); and a Comp hydraulic roller camshaft (Part Number 51-423-9) comprised the major specs.

According to Butler, this is a popular package among his street-enthusiast customers, and typically produces at least 470 horsepower and 550 lb-ft of torque, when topped with an 800-cfm Holley four-barrel.

Rodney says Butler Performance generally discourages the use of original-style Tri-Power setups on high-performance engines. He finds the original Tri-Power is hindered by



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1 Pontiac's original Tri-Power setup is an icon—but not necessarily the best or most cost-effective way to make horsepower. Besides being expensive, they generally give up 35-50 horses over a well-tuned single four-barrel induction system.

2 Barry Grant's Triple-D Induction

distribution and drivability issues, as well as lacking power. He also says that the relative scarcity of the original Tri-Power units makes them quite expensive—especially when judged against their performance.

Recently, Butler had run the aforementioned engine combination with an original Tri-Power that a carb specialist had reconditioned. The best power produced was, as expected,

subsidary developed the SixShooter about three years ago, but only recently developed a version for Pontiac engines. It bolts on to the Pontiac V-8 just like an original version. All three carburetors feature eight-hole annular-discharged boost venturii and 30cc accelerator pumps with accompanying discharge nozzles with 0.31-inch orifices.

approximately 50 horses less than Butler's normal package. The consensus among Pontiac engine builders around the country seems to be that a good single four-barrel package will generate approximately 35-50 horsepower more than the original Tri-Power, depending upon engine size and modifications.

On The Dyno

The dyno testing of the SixShooter

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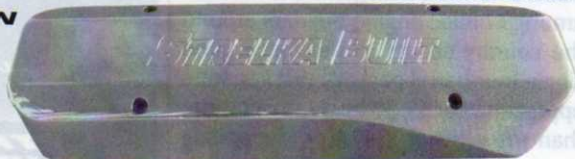
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3 The SixShooter uses a trio of Barry Grant's Demon two-barrel Road Demon carburetors, each rated at 250 cfm. There are only three adjustment screws, which makes installation and setup easier. No synchronization is required.

4 With the SixShooter setup, the central carb is equipped with two idle-mixture adjusting screws, an idle speed adjusting screw, a power valve with a value of 6.5 inches of vacuum—when the vacuum falls below 6.5



4



inches, the power valve opens to add fuel—an electric choke and separate circuits for the idle-mixture discharge and transfer slot functions.

5 An exploded view of a Road Demon shows many of its unique components, including a billet metering block, a billet baseplate, replaceable boosters, large-capacity float bowls and more. There's also a glass sight window for determining the float level.



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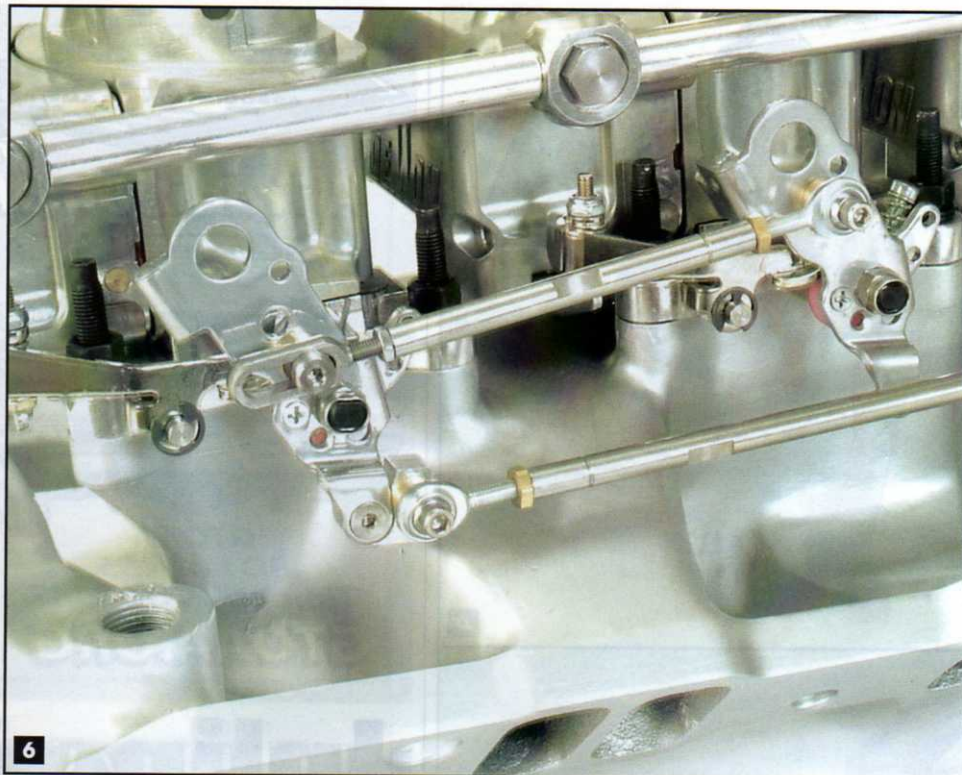
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was conducted at Young's Performance in Alabama, a shop where Butler routinely tests their engines. For the baseline figures, the engine was run-in with their normal configuration: a single four-barrel carburetor and an Edelbrock Performer RPM intake. In this guise, the engine's best numbers

story. Stay tuned for it.

Next, a prototype Triple-D intake and three Demon two-barrel carburetors were installed. The intake was a pre-production prototype from Barry Grant's machine shop and the carbs each were 250-cfm units. They use annular boosters and a unique progressive

On the first pull with the new SixShooter, the engine made 467.9 horsepower and 561.1 lb-ft of torque. The average numbers included 431.3 horses and 525.3 lb-ft Rodney Butler could scarcely believe his eyes given his experience with other 3x2 induction systems on this same engine package.

were 474.9 horsepower and 554.7 lb-ft of torque. Average power output from 3,300 to 5,400 rpm was measured, too, which came out at 432.1 horses and 525.6 lb-ft of torque. The engine certainly was no slouch. At this time, the Holley carburetor was removed and several four-barrel Demon carbs were installed and tested, in order to compare the numbers for a future

linkage that Demon developed for the operation of the secondary throttles. For consistency, it was decided to retain the ignition timing and curve used with the single four-barrel combo.

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BARRY GRANT/TRIPLE-D INDUCTION SIXSHOOTER DYNO TEST OVERVIEW

DYNO PULL	CARB	AIR/FUEL	PEAK HP	PEAK TQ	NOTES
#1	800-cfm 4-bbl	n/a	470.6	552.7	warm-up pull
#3	800-cfm 4-bbl	12.5	474.9	554.7	best w/ 4-bbl
#8	3x2 SixShooter	13.01	467.9	561.1	first w/3x2; lean
#10	3x2 SixShooter	11.8-12.2	475.8	560.1	best w/3x2

Net difference between best 4-bbl run and best SixShooter run: 0.9 horsepower/5.4 lb-ft.



6 The front and rear carbs have their idle-discharged circuits linked to the transfer slots and their idle mixture and idle speed adjustment screws preset (no synchronization required). The central carb also has a provision for constant vacuum and ported vacuum. Also, the rear carburetor is provided with a PCV port.

technicians on hand determined the SixShooter was a little lean, as indicated by a 13:1 Lambda (air/fuel) reading. So they made a quick jet change and reran the test.

With the air/fuel ratio between 11.8 and 12.2, the SixShooter revealed peak horsepower and torque of 475.8 and 560.1, respectively; the average numbers indicated 435.5 horsepower and 529.8 lb-ft of torque—a significant jump over the four-barrel combination, while using slightly less fuel, too.

Additional tests were performed at part-throttle to ensure the fuel flow was equal throughout all cylinders. At part-throttle testing with the primary carburetor (center) open and the outer carburetors closed, the exhaust temperatures were all equal. Under acceleration, the engine responded

could scarcely believe his eyes given his experience with other 3x2 induction systems on this same engine package. Looking over the numbers, the Demon

7 To complement the induction setup, Barry Grant also offers a specific air cleaner for the SixShooter. It is three inches deep and the filter is reusable. It looks great, but a trio of round air cleaners would look more "Pontiac."



7

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A SixShooter setup would look at home in a modified street car. It would definitely get tongues wagging at cruise night.

well, showing no signs of hesitation. To leave no stone unturned, the Demon

technicians installed larger carburetors to determine whether the engine needed more airflow. Although the power numbers were similar, the larger carburetors did not perform with the same enthusiasm, indicating the engine

did not require more air.

And with that, the initial testing of the SixShooter Pontiac induction system was wrapped. The performance surprised more than a few who were used to the traditional performance of original-style Tri-Power systems. The new Barry Grant/Triple-D Induction system promises uncompromised performance to go along with the underhood glamour that comes with a three-deuces induction setup.

Don't be surprised to see more than a few modified Ponchos hitting the street with this setup. Our brains are already whirring with project ideas. ■

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