

**DRAG TEST! GMPP'S BUDGET VORTEC BOW TIE HEADS**

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# CHEVY

**HIGH PERFORMANCE**



**11-SECOND URBAN CRUISER**

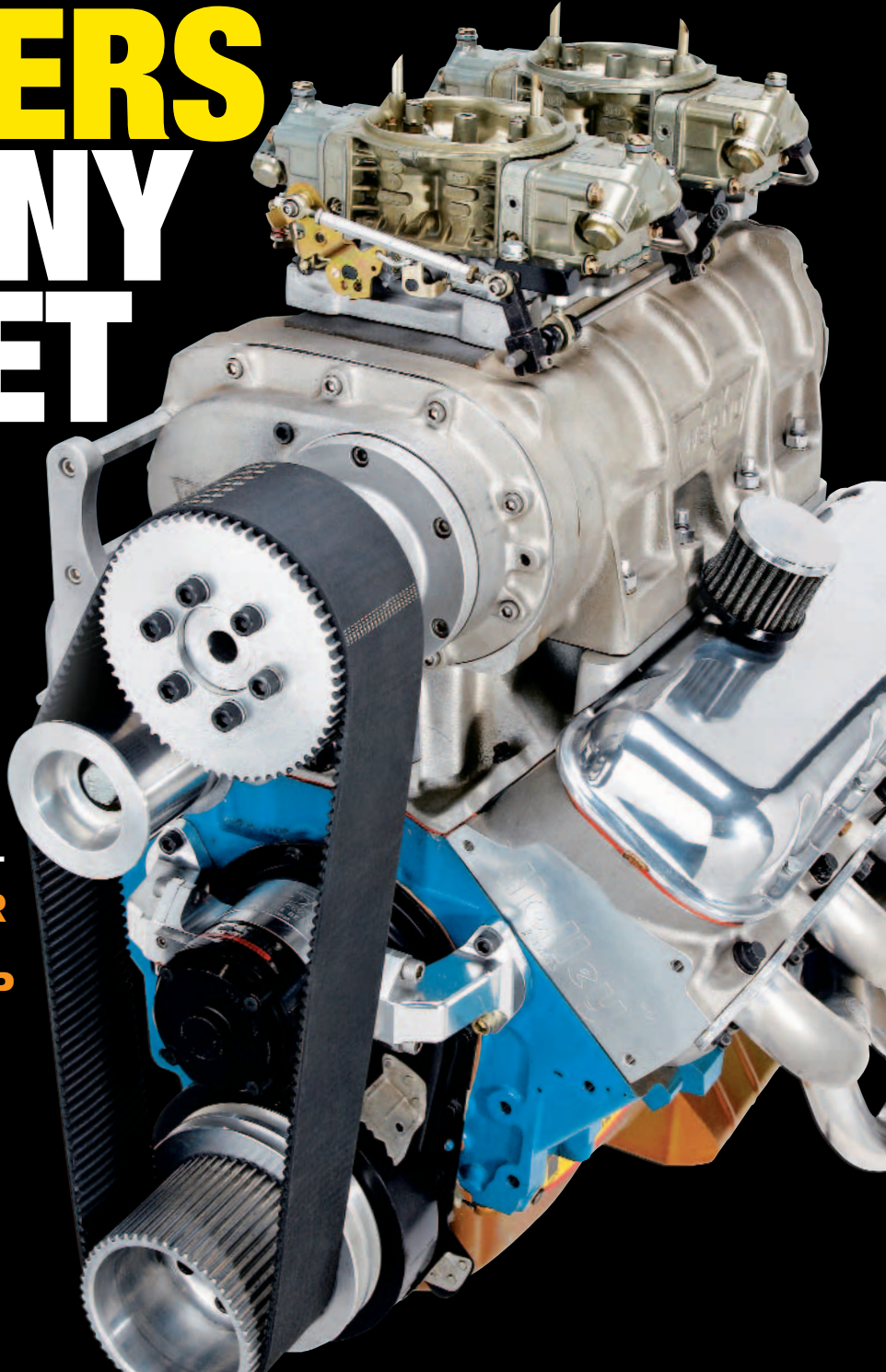
# BLOWERS FOR ANY BUDGET

**NEW VORTECH KIT:  
746 HP FOR ZZ383  
CRATE ENGINES**

**597 EASY HP  
NEW SMALL-BLOCK  
MAGNUSON KIT**

**MINI BLOWER  
VS. ROOTS 8-71:  
PRICE & POWER**

**14 TIPS FOR YOUR  
FIRST TRIP TO  
THE DRAGSTRIP**



# CRATE ENGINE CONFESSIOANAL

Dyno days can be a blast, especially when we're pushing the limits of engines simply to see how much power can be gained from various combinations. Albeit, those days aren't always easy; no matter how far ahead you plan you just never really know what to expect. Basic tests, like swapping manifolds and camshafts, tend to go well, but when you're firing up a fresh motor, mounting a supercharger, and trying to further the test with a cam swap, it becomes a lot more complicated—well, usually.

To say that this test went unusually well would be a complete understatement, and because we have to give props where they're due, Vortech Engineering's Bob Endress was the shining star this month. He selflessly took the time out of his busy schedule to set up the entire assembly, and he even camped out in the dyno cell with us during the three-day thrash session. This meant getting the GM Performance Parts ZZ383 ready to rock on the dyno, setting up the GMPP serpentine belt system, tapping the oil return line into the pan, and mocking up the Gen II supercharger kit. Endress will tell you it didn't take long, but it sure helped to facilitate our testing.

To tell you the truth, it was almost unnerving wondering when something was going to go wrong. Instead, from the onset we made power, and then more power, and even more power on top of that. While we'd even go as far as to say that we put together the ultimate crate-engine package, in all reality, we just had perfectly matched components that obviously worked well together. Utilizing a complete a GMPP ZZ383, a GMPP single-plane manifold, a Demon carburetor, and a complete Vortech Engineering Gen II blow-through supercharger system we had a serious powerhouse generating over 600 hp. At one point we were pleased to leave the testing at 692 hp—nah, we couldn't do that. A quick change of the pulleys and everything above that was pure gravy. We obviously won't give away all the sordid details here, so read on for the blow-by-blow results.



Out of our own curiosity, we placed air temperature sensors before the carburetor and after the carburetor by tapping into the manifold. We knew the fuel would effectively act as a cooler, only we didn't know how much it would drop the incoming air temperature. During naturally aspirated pulls we saw temperature readings drop by 27 degrees, while our 746hp pull dropped it by 52 degrees at 11 psi of boost.

**I remember when making horsepower was hard. It's just too easy now!**

**—STEVE BRULE, WESTECH PERFORMANCE**

## QUICK NOTES

### THE TEST

Dyno a GM Performance Parts ZZ383 crate engine and subject it to a complete Vortech Gen II blow-through supercharger system. We even swap in a blower-specific camshaft and watch the numbers climb.

### COMBO

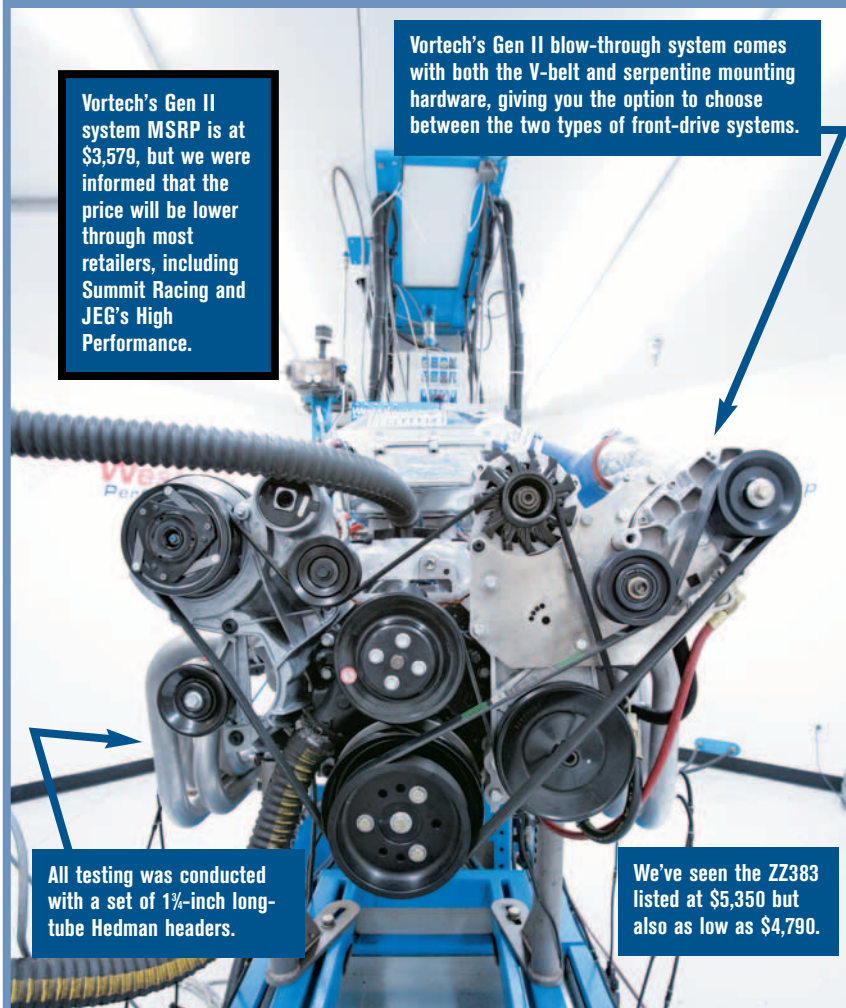
GMPP ZZ383, serpentine-drive assembly, and single-plane aluminum intake manifold, Comp Cams bumpstick, MSD distributor, Demon 750-cfm carburetor

### PRICE (APPROX)

\$10,600

SEE THE DYNO PULLS AT [CHEVYHIPERFORMANCE.COM](http://CHEVYHIPERFORMANCE.COM)

# CRATE ENGINE CONFSSIONAL



Vortech's Gen II system MSRP is at \$3,579, but we were informed that the price will be lower through most retailers, including Summit Racing and JEG's High Performance.

Vortech's Gen II blow-through system comes with both the V-belt and serpentine mounting hardware, giving you the option to choose between the two types of front-drive systems.

All testing was conducted with a set of 1½-inch long-tube Hedman headers.

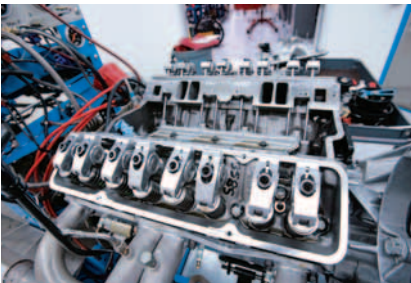
We've seen the ZZ383 listed at \$5,350 but also as low as \$4,790.

Adapting a serpentine belt assembly just got easier with GMPP's belt-drive system. This kit comes with everything you see here, including all the accessories and necessary hardware. That A/C compressor is part of it. The power-steering pump is part of it. The water pump is part of it—starting to get the idea? If you don't want the deluxe kit, GMPP offers additional systems with select components.

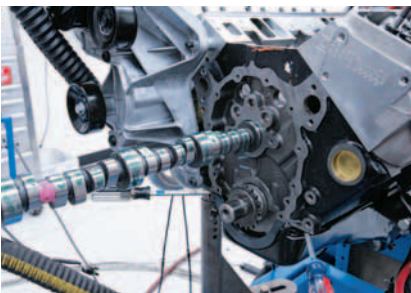
PN:12498772  
 Compression: 9.7:1  
 Block: cast-iron, four-bolt main  
 Stroke: 3.800-inch  
 Bore: 4.00-inch  
 Crankshaft: 4340 forged steel  
 Pistons: 5.7-inch powdered metal  
 Heads: aluminum Fast Burn  
 Combustion chambers: 62cc  
 Valves: 2.00/1.550-inch intake/exhaust  
 Camshaft, lift: hydraulic roller, 0.509/0.528-inch at 0.050 intake/exhaust  
 Camshaft, duration: 222/230 degrees at 0.050

### CAMSHAFT SPECS

Manufacturer	Comp Cams
Part number	08-301-8
Type	hydraulic-roller
Valve lift at 0.050	0.520/0.540-inch intake/exhaust
Duration at 0.050	244/252 degrees intake/exhaust
Lash (cold)	0.012/0.012 intake/exhaust
Lash (hot)	0.016/0.016 intake/exhaust
Intake centerline	106 degrees
Lobe separation	110 degrees



There's no need to spend extra money on rockers, as the ZZ383 crate motor even includes a complete set of 1.5:1 aluminum roller rockers.



The ZZ383 came with a stout camshaft that worked well in both naturally aspirated and supercharged configurations; however, if the funds permit, an extra \$246 for a Comp Cams blower grind is money well spent. We saw a gain of 11 hp on the motor alone, while comparing the 6-inch crank and 3.33-inch blower pulley setup showed an increase of 32 hp and 9 lb-ft.

## DYNO DETAILS

### ZZ383 CRATE W/VORTECH GEN II SYSTEM

Pulley combo	None	6" crank, 3.33" blower	6" crank, 3.12" blower	6" crank, 2.95" blower
Advance	36 degrees	28 degrees	28 degrees	28 degrees
Fuel	91-octane	91-octane	91-octane	91-octane
Boost level	0	6	7	7.5
Max lb-ft	456 @ 4,500	543 @ 5,000	545 @ 5,000	571 @ 5,000
Max hp	437 @ 5,500	598 @ 6,200	609 @ 6,500	636 @ 6,400

## DYNO DETAILS

### ZZ383 W/COMP CAMS BLOWER-SPECIFIC CAMSHAFT & VORTECH GEN II SYSTEM

Pulley combo	None	6" crank, 3.33" blower	6" crank, 3.12" blower	6" crank, 2.95" blower	7.8" crank, 3.33" blower
Advance	36 degrees	28 degrees	28 degrees	28 degrees	25 degrees
Fuel	91-octane	100-octane	100-octane	100-octane	100-octane w/splash of 114
Boost level	0	7	8	9	11
Max ft-lb	454 @ 4,600	552 @ 5,200	570 @ 5,200	596 @ 5,500	658 @ 5,400
Max hp	448 @ 5,800	630 @ 6,500	660 @ 6,500	692 @ 6,500	746 @ 6,300

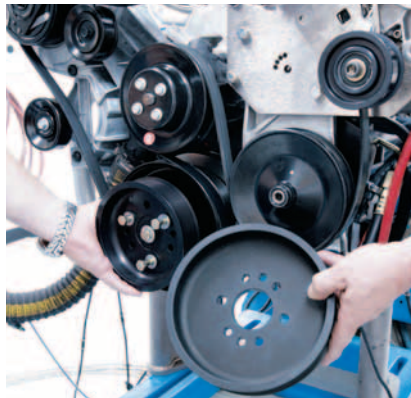
# CRATE ENGINE CONFESSIONAL



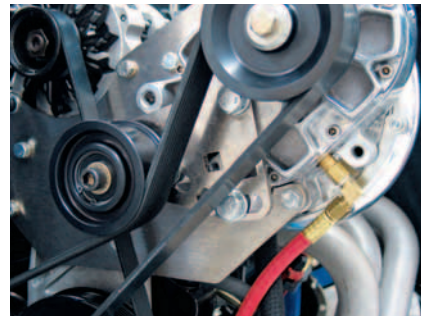
Manifold of choice was GMPP's single-plane aluminum manifold. What's nice is that the ZZ383 comes with a dual-bolt pattern, giving you the choice to use this Vortec design intake or other conventional pieces from any number of aftermarket manufacturers.



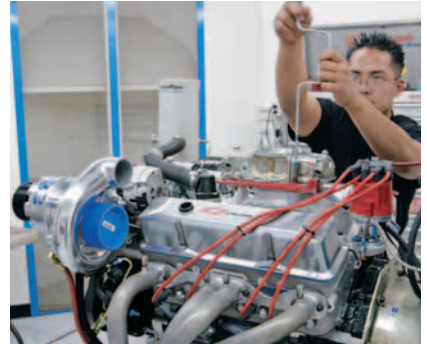
It's so easy to gain power with a centrifugal supercharger that it's almost wrong. The Gen II system includes a 3.33-inch blower pulley, which can be changed in a matter of minutes, if not seconds. For our testing purposes we also ordered 3.12- and 2.95-inch blower pulleys (PN 2A031-312 and 2A031-295) and an optional 7.8-inch crank pulley (PN 4MA018-061).



Making the big power came from swapping out the stock 6-inch crank pulley included in the system for the larger 7.8-inch piece.



Whether you need to swap belts or simply add tension to the blower belt, it's just a matter of loosening two bolts.



Both naturally aspirated and blown testing were fed with the same Demon 750-cfm Mighty Demon and used a MSD Pro-Billet distributor to light the fire. **CHP**

## GET THE HOOKUP

### GM PERFORMANCE PRODUCTS

gmgoodwrench.com or visit your local GMPP dealer



Vortech offers a complete fuel-line assembly kit that bolts right in. We used a 750-cfm Mighty Demon carburetor, which required kit PN 8M110-030.

## PRICE LIST

MANUFACTURER	PART NUMBER	DESCRIPTION	PRICE
Comp Cams	08-301-8	Xtreme Energy SFT	\$246
Demon	5402010GC	750-cfm Mighty Demon	\$520
Fel Pro	1205	Intake gaskets	\$13
	1010	Head gaskets	\$35
<b>GM Performance Parts</b>			
	12498772	ZZ383 crate engine	\$4,790
	12496822	Aluminum raised-runner intake	\$290
	12497698	Deluxe serpentine system	\$754
	12497978	Cover kit	\$154
MSD Ignition	85551	Pro-billet distributor	\$226
Vortech Engineering	Gen II T-trim system	4GP218-038T	\$3,579