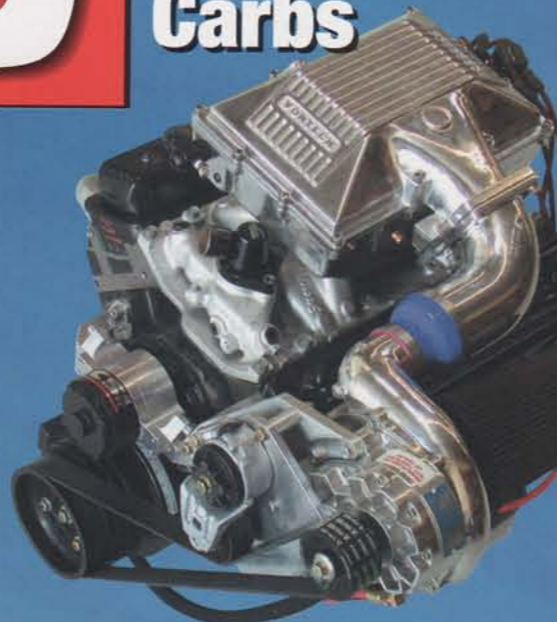
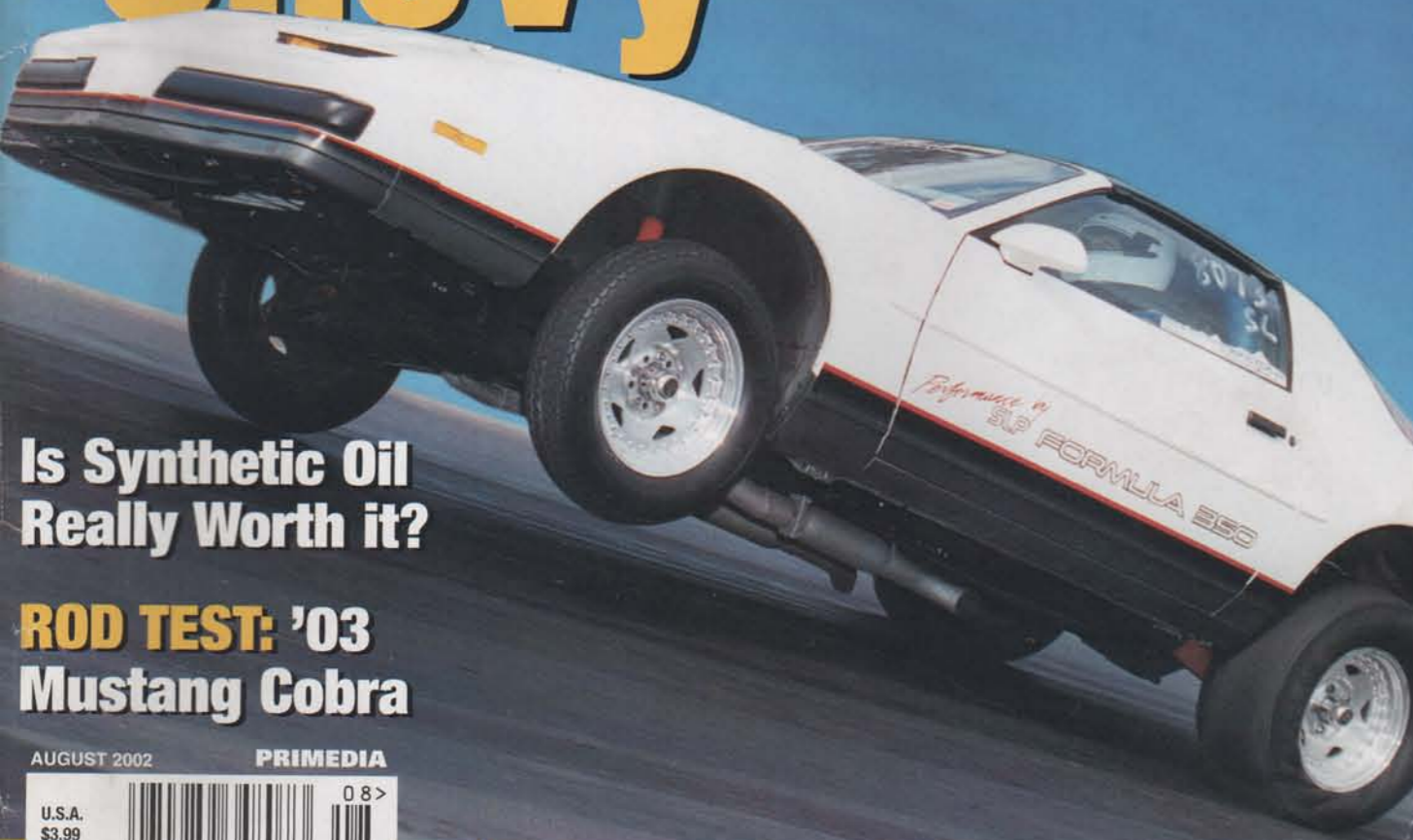


# HOT ROD

## 675HP! Vortech Blower For Carbs



# 25 New Ways To Build a Small-Block Chevy



### Is Synthetic Oil Really Worth it?

### ROD TEST: '03 Mustang Cobra

## Twin Turbo Crate Engine



### Source

Nelson Racing Engines  
Chatsworth, CA; 818/998-5593

We've yet to see a true bolt-on turbo kit for a small-block Chevy, though guys still backyard 'em once in a while. But this is the first time we've seen twin-turbo crate engines, and Nelson Engines has them with carbs (hmmm) or injection in 20 different configurations.

## NASCAR Leftovers

In the July issue, we showed you how Muscle Motors builds a complete SB2-headed street engine with used NASCAR parts. However, you can also buy leftover speedway goodies for more mundane uses. We recently nabbed a Sonny Bryant crank with a 3.335 stroke and set of killer Carillo 6.200-inch rods for about \$1,400. That's cheap for such extreme quality. Toss these into a junkyard 350 block with a 4.060 bore and we've got a 1.86:1 rod ratio and 345ci of high-winding power that'll just love a load of nitrous. Or nitro! To avoid custom pistons, we'll use JE Pistons (PN 182007); they have a 1.125 compression height, and if we mill the block from its stock 9.025 deck height to 9.000, the piston deck height will be 0.0075. Combine that with SCE's 0.0395-compressed head gaskets, and you get a 0.047-inch piston-to-head clearance. The pistons have 9.5cc domes, so compression is 13.0:1 with 58cc chambers, 11.89:1 at 65cc, or 10.7:1 at 72cc. Lower compression is very doable with flat-top pistons, as is a 363ci combo using a 4.155-bore 400 block.

The only drawback of the NASCAR crank is that it uses a big-block crank snout. That requires an aftermarket balancer, a special timing chain available from Cloyes, and a CV Products timing cover (PN CV1186, \$99.00 from Muscle Motors).



### Sources

Muscle Motors  
Huntersville, NC; 704/948-1155;  
www.musclemotorparts.com

SCE Gaskets  
Lancaster, CA; 888/427-5381;  
www.scegaskets.com

## Huge Bore, Tiny Stroke

The performance trend these days is to use the biggest possible bore with a short stroke to get the desired cubes, rather than a long stroke and a stock bore. The advantage is that short strokes reduce friction by reducing piston speed, and that bigger bores mean larger pistons, thereby providing more surface area for the combustion pressure to shove on. Taking the theory to extremes, we decided to find out how big a bore and how short a stroke were feasible in a small-block Chevy.

With production parts, you'd have to use a stock 400 block and a 283 crank. The stock 400 bore is 4.125, a 0.030-inch bore to 4.155 is safe, and some blocks can go as big as 4.185, especially if you strengthen them with block filler. You could use a 3.000-inch-stroke 283 crank, but the difference in main-bearing sizes is too great; the 400 has 2.650 main journals and the 283 is 2.300. However, both Speed Pro and Comp Cams have bearing spacers to mate 350-type main journals, which are 2.450 in diameter, into 400 blocks. Therefore, you can use a 400 block and a 267 Chevy crank with 2.450 mains and a 3.10 stroke to make an engine that's 336ci at a 4.155 bore or 341ci at a 4.185 bore. You could also off-set-grind the 267 crank to a smaller 3.02 stroke by changing the rod journal from 2.100 (stock) to 2.000 (early 283/327 style), then you'd have 328ci with a 4.155 bore.

Delving into the aftermarket, things get even more freakish. For example, while most aftermarket blocks are spec'd for a 4.185 max bore, guys often push them to 4.200. We called Lunati and asked about the shortest practical small-block stroke, and it turned out to be 2.750. Combine that with the 4.200 bore, and you've got 298 ci. However, you also have the problem of an excessive rod ratio or pistons with too much compression height if you go that route. However, that can be solved with special medium-deck (8.700) or low-deck (8.325) blocks from Scoggin-Dickey.

### Sources

Lunati  
A Division of Holley;  
www.holley.com

Scoggin-Dickey  
Lubbock, TX; 800/456-0211;  
www.sdp2000.com

## Vortech and a Carb



Want blower power without the hole in the hood? Without the EFI conundrum? Vortech's finally shipping centrifugal-supercharger kits for use with a carb. See the entire story on page 46 in this issue.

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