

1,000-HORSE "FAIRGROUNDS" BIG-INCH RAT MOTOR

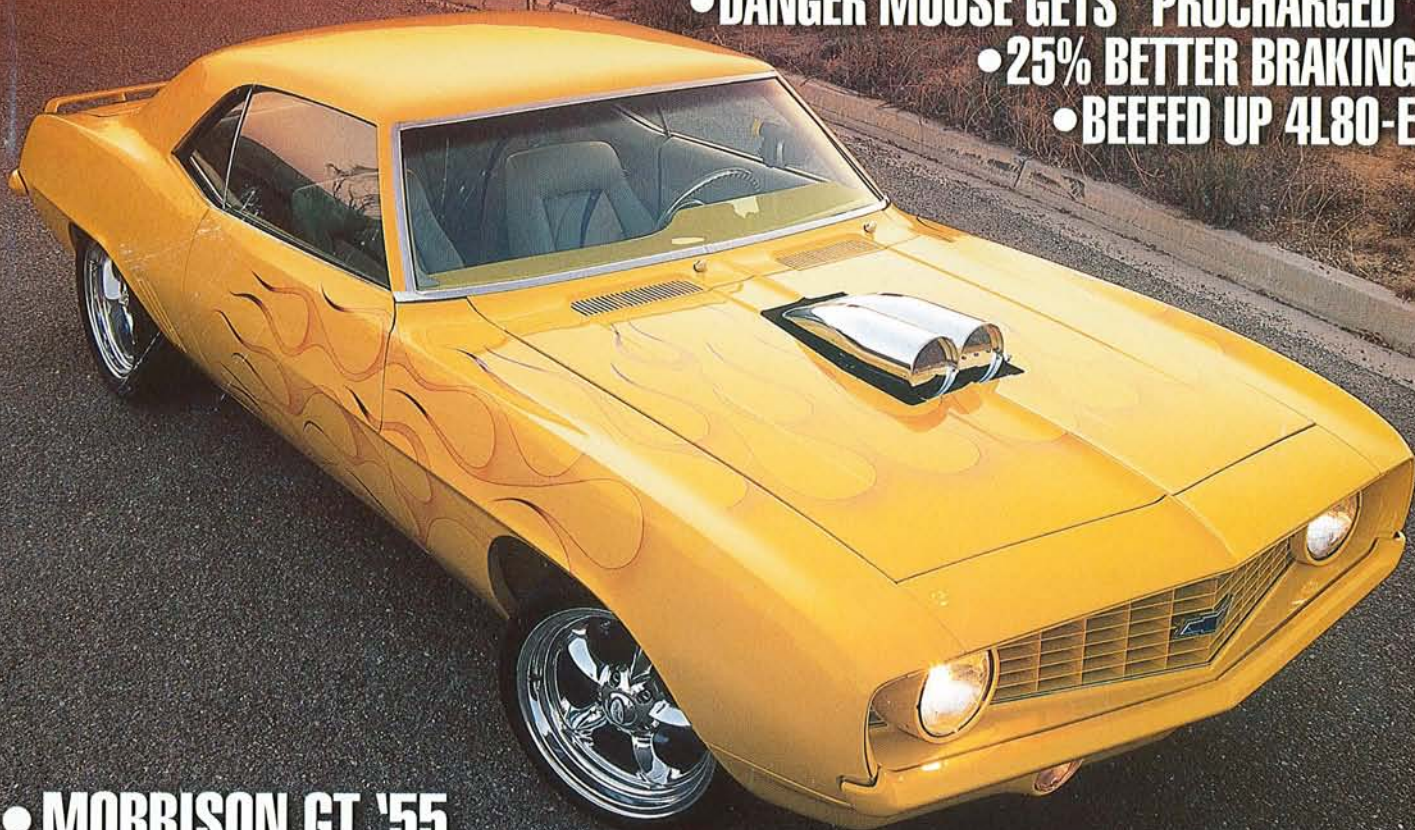
# SUPER CHEVY

THE #1 CHEVROLET ENTHUSIAST MAGAZINE



## ABSOLUTE STREET PERFORMANCE!

- INDEPENDENT VETTE SUSPENSION FOR TRI-FIVES
- DANGER MOUSE GETS "PROCHARGED"
- 25% BETTER BRAKING
- BEEFED UP 4L80-E



- MORRISON GT '55  
PART 3
- SPLITLOCK FASTENERS
- PERFORMANCE SCHOOLING

» [www.superchevy-web.com](http://www.superchevy-web.com)

DISPLAY UNTIL 1/26/04

MARCH 2004 • VOLUME 33, NO. 3

\$3.99 • \$4.99 in Canada

0 3



0 75470 08745 5

**PRIMEDIA**  
The Authoritative Source

*SUPER CHEVY* **DangerMouse****PT. 17: HUFFIN' AND PUFFIN'**

It's Boost Or Bust On DM's Second Run Of The Season

■ BY MIKE PETRALIA

Although we've had a lot of fun testing all the different combinations to see how much power Danger Mouse (DM) could make without any power adders, we figured it was about time DM got serious. Because, let's face it. It's become way-to-easy to build a 400hp small-block today and we've already grown tired of such mundane challenges. We always wanted DM to lead the charge, not follow it. So now it's time to see just how much power DM could really make. Or maybe if this would be the test that breaks the Mouse's back.

For this installment we searched out a means to produce so much power that some called us mad. Except, we also had to make sure that the power we made was something you could easily do at home and without having to sell your car just to finance the engine! It also had to be bare-bones simple, the kind of parts it takes less than a weekend to install and we think we torpedoed the target. This month's tests involved bolting on a centrifugal D-1SC ATI Procharger and boosting DM with just enough extra air to crank out almost 700 hp on pump gas! We probably could've made more power, but we ran out of time during our day at the dyno.

We've been considering attempting to make this kind of power with ATI's entry-level P-1SC blower ever since we did the series on ATI's 8-second, pump-gas Super Street Nova, (see: *SUPER CHEVY* December 2002, January, February, March 2003) and we knew we wanted to run one of their self-contained units,

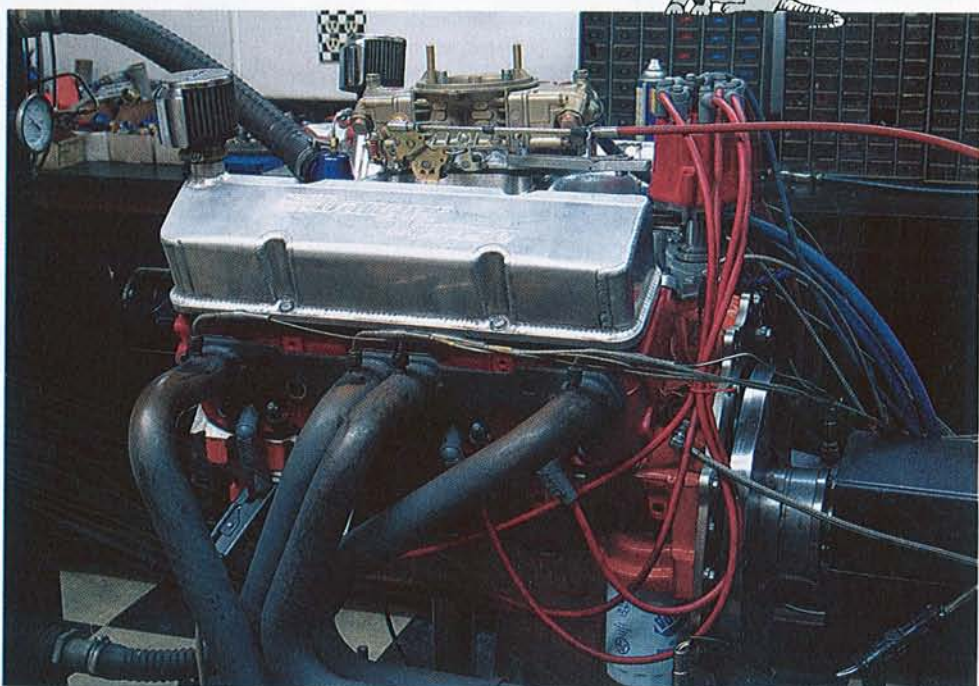
which the D-1SC is, so the choice was simple. We also didn't want to blow out the street-style Fel-Pro (PN 1003) head gaskets so the plan was to limit to the boost to about 15 psi. Besides, pumping in more than one atmosphere (14.7 psi is equal to one atmosphere) on pump gas is very tough for any motor to handle. But none of that really mattered because DM is tough and after it made 697 hp at 6,200 rpm and 613 ft-lb of torque at 5,500 rpm, our resident test mule was now running with some of our bad-boy big-blocks and we're lovin' every minute of it!

**WHAT IT TOOK TO GET THERE**

To build this much power from only 355 cid takes thorough planning and some stout parts. You may recall that in the beginning we built DM using the strongest parts around, just in case we

ran such a test. So this time the World Products four-bolt Motown block and forged Lunati crank, rods, and pistons were really put to the test. We're happy to report that they all performed flawlessly and might make 800 hp the next time out!

Since this test was going to use a bolt-on centrifugal supercharger, we wanted to run Electronic Fuel Injection (EFI), even though carb kits are available for these blowers. We contacted ACCEL for one of its GEN VII Digital Fuel Injection (DFI) systems, just like EFI, but with a different acronym, and the first time we opened the big box it came in, we knew we'd made the right choice. The ACCEL manifold and its related components came completely assembled, with all fittings and injectors installed and even the billet throttle body mounted in place. This was truly going to be an easy bolt-on. Next, to insure



## DYNO TESTING PART 18

The results shown here are listed chronologically and represent the power made before and after the Procharger was installed. Test 31 was without the blower and just running the ACCEL DFI. To baseline the motor's power. If you're not interested in a blower, but still want a great fuel injected street engine, this package is one to look at. It made good torque, even though the cam was very big and the peak hp numbers are very respectable. Test 32 was actually one of the last tests we ran that day. It was after we'd tried many different pulley combinations and found the best one to be the pulley that ATI recommended we run. It made over 14 psi.

Danger Mouse short-block specs for Part 18, Tests 31-32:  
355 cid, 9.1:1 cr, 4.030-bore four-bolt Motown block, 3.48-

RPM	Test 31 Motor		Test 32 Blower		BOOST (PSI)
	TQ	HP	TQ	HP	
2600	316	156	388	192	2.5
2800	346	184	415	221	2.9
3000	364	208	439	251	3.2
3200	384	230	462	282	3.9
3400	384	248	482	312	4.4
3600	385	264	500	343	5.0
3800	383	277	520	377	5.4
4000	388	395	545	415	5.8
4200	398	319	568	454	6.5
4400	404	338	583	489	7.4
4600	405	355	597	523	8.1
4800	411	375	609	557	8.9
5000	420	399	611	582	9.7
5200	424	419	607	601	10.4
5400	423	436	612	629	11.3
5600	419	447	613	653	12.2
5800	413	456	613	677	13.0
6000	405	462	606	692	13.8
6200	395	466	591	697	14.7
Max	424	466	613	697	14.7
Avg	393	333	545	471	7.8

We're always looking for new ideas.  
Do you have a better one for Danger Mouse?  
Send your test suggestions to:

**SUPER CHEVY MAGAZINE**  
Attn: DANGER MOUSE  
720 Hundley Way  
Placentia, CA 92870  
Or e-mail:  
terry.cole@primedia.com

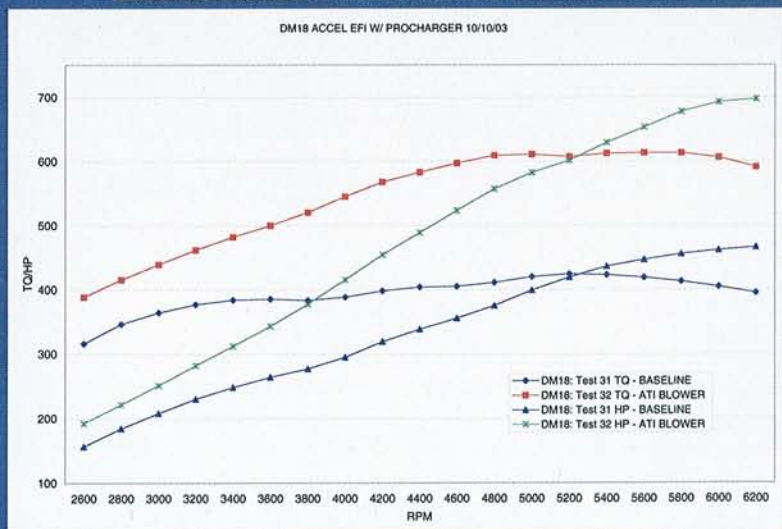
stroke Lunati crank, 5.7-inch Lunati steel rods

Test 31: DM Part 18 -

ACCEL Gen VII DFI with 55 lb-hr injectors and Dual Sync ACCEL computerized distributor. Crane Cams hydraulic roller camshaft PN 119681 (306 intake/314 exhaust advertised duration; 240/248 at .050 inches; .595/.595 lift with 1.6:1 ratio rockers; 114 lobe separation, installed at 109 intake centerline). Crane retro-fit hydraulic roller lifters, Crane pushrods (special 7.150-inch length), and COMP Cams 1.6:1 rockers.

Test 32: DM Part 18 -

Installed Procharger D-1SC centrifugal supercharger with 4.25-inch pulley.



that the DFI and blower would work well together and make the most power they could, the crew at Speed-O-Motive installed an off-the-shelf hydraulic roller cam from Crane. In keeping with the spirit of making the most power it ever has, DM's new cam is also the largest it has run to date, with 240/248 degrees duration at 0.050 inches and more than 0.590-inch lift with the 1.6:1 COMP Cams Pro Magnum roller rockers we ran. This cam sure wasn't a little street grind, but

combined with the blower, the engine idled well at 900 rpm making greater than 9-inches of vacuum. And to make sure that DM was compatible with the new blower, (read that as having lower compression) we once again installed the set of big-chamber Trick Flow Specialties (TFS) aluminum heads that we've used on several previous tests (see: *SUPER CHEVY* July, August, September 2003). The TFS heads, combined with the flat-top Lunati pistons,

put DM's compression at 9.1:1, which may still seem a bit high for a blown motor running pump gas. But, the DFI and big cam, along with the centrifugal blower's high efficiency, meant that we were confident DM would not detonate itself to death. And the fuel experts at 76 Racing who supplied the gas for this test agreed that their 91-octane unleaded could support the boost levels and power we were trying to make. So from there it was onto the dyno. ▣

64-72 Chevelle™  
and El Camino®  
**PARTS**

# MUSCLE FACTORY

CLASSIC CHEVELLE™ AND EL CAMINO® PARTS  
2031-D VIA BURTON • ANAHEIM, CA 92806



800-762-0317 • 714-635-2314 • FAX 714-635-6517

## 64 GRILL & FRONT END MOLDING KIT



KIT INCLUDES:

- 1 64 GRILL
- 1 64 UPPER GRILL MOLDING
- 1 PR. 64 HEADLIGHT BEZELS
- 1 PR. 64 EYEBROW MOLDINGS
- 1 64 LOWER VALANCE MOLDING
- 1 64 HOOD MOLDING
- KW501 .....\$349.95

## 3 SPOKE WHEELS



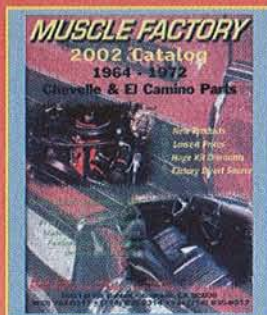
- SW050 69-70 BARE WHEEL .....\$159.95
- SW055 64-68 COMPLETE WHEEL ..\$199.95
- SW060 69-72 COMPLETE WHEEL ..\$199.95

## 70-72 "SS" SPEEDOMETER AND CLOCK



- TT616 70 SPEEDOMETER ...\$169.95
- TT617 71-72 SPEEDOMETER ...\$169.95
- TT618 70 QUARTZ CLOCK ...\$129.95
- TT619 71-72 QUARTZ CLOCK ...\$129.95

## CALL FOR FREE 64-72 CHEVELLE & EL CAMINO CATALOG



**1-800-762-0317**

## 70-72 TACH AND GAUGES

COMPLETE CONVERSION KIT

KIT WILL CONVERT ALL "SS" WARNING LIGHT UNITS TO TACH-GAUGE PACKS. COMPLETE WITH PRINTED CIRCUIT AND INSTRUCTIONS.

- TT611 70 KIT 5500 R/L .....\$369.95
- TT612 70 KIT 6500 R/L .....\$369.95
- TT613 71-72 KIT 5500 R/L .....\$369.95



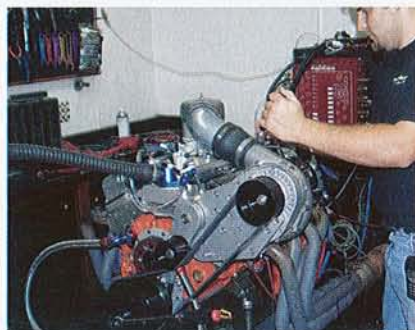
- TT600 70 TACH 5500 R/L ...\$169.95
- TT601 70 TACH 6500 R/L ...\$169.95
- TT602 71-72 TACH 5500 R/L ...\$169.95
- TT612 70 KIT 6500 R/L ....\$369.95
- TT609 70 TEMP/FUEL .....\$169.95
- TT610 71-72 TEMP/FUEL .....\$169.95
- TT603 70 AMP GAUGE .....\$ 94.95
- TT604 71-72 AMP GAUGE .....\$ 94.95



MON-THUR 8:00 - 5:30  
FRIDAY 8:00 - 4:00

"CHEVELLE, EL CAMINO AND GM RESTORATION PARTS EMBLEMS ARE GENERAL MOTORS TRADEMARKS USED UNDER LICENSE TO MUSCLE FACTORY."

## HUFFIN' AND PUFFIN'



*Danger Mouse is all set and ready to blow! That's Chris Spies from ATI/Procharger, who came out to help us dial our rodent in.*



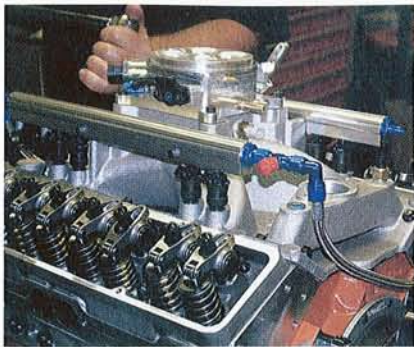
*Prior to bolting the engine onto Urbancic Brother's DTS engine dyno for this month's tests, the crew at Speed-O-Motive, the keepers of Danger Mouse, tore it down to its short block and installed new parts like this big Crane hydraulic roller cam.*



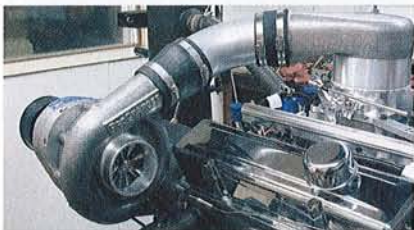
*In its new configuration with the "zero" deck Lunati pistons, Trick Flow heads, and Fel-Pro PN 1003 head gaskets (shown), DM is at 9.1:1 compression. That's just about right for a hard-core centrifugally charged street engine, which is the effect we were after.*



*These Trick Flow heads that we got a long time ago from Summit Racing have become a staple of DM's performance because it's worn them every time it's made the most horsepower. They're CNC machined and offer terrific flow numbers for such an affordable head.*



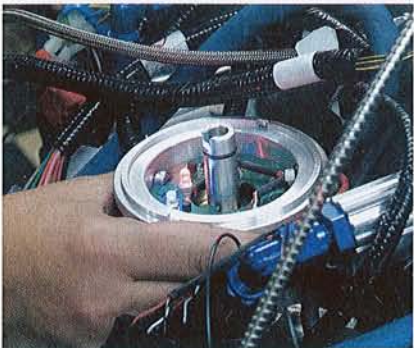
ACCEL's GEN VII DFI system has to be one of the easiest bolt-ons we've made yet. It came completely assembled and all we had to do was bolt it on. Even the throttle body was in place, so it was actually easier than swapping an intake manifold and carb.



You may note the rather plain valve covers we used this month. That's because our trick Billet Fabrication aluminum covers would not clear the blower or the ACCEL fuel pressure regulator. Check out the simple, functional plumbing for the Procharger blower.



The D-1SC centrifugal blower does not require any oil line connections to the motor. It only took about 30 minutes to install, once we figured out the correct bolt-hole locations from the many available in its bracket.

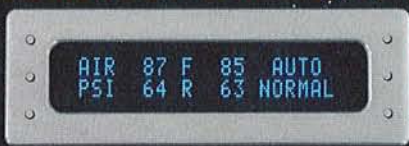


ACCEL's Dual-Sync computerized distributor was included so the GEN VII ECU could control all timing events. Its dual-light installation checking system also made it very easy to install. The ACCEL guys really have thought of everything to make their DFI very user friendly. ▶

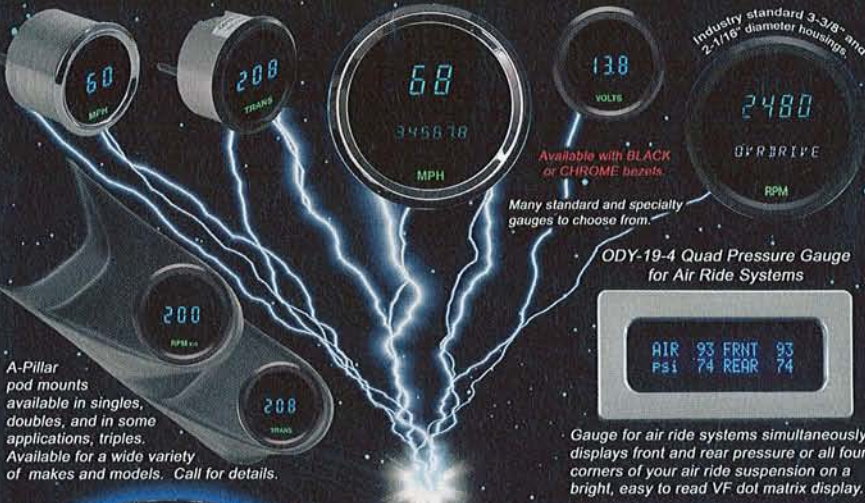
## DIGITAL INSTRUMENTATION TO NAVIGATE YOUR UNIVERSE!

### ARC-1000 Auto Ride Height Control for Air Ride Systems

All new ride height control system automatically raises and lowers vehicle to maintain user settable bag pressures. Menu driven set-up and operation for ease of use.



- Four user adjustable presets.
- Automatic or full manual mode.
- Front/rear or quad operation.
- Bag dump for parking stance.
- Automatically raises vehicle to last height when key turned on.
- Displays all four corners plus tank pressure.
- Optional remote control.



Available with BLACK or CHROME bezels.

Many standard and specially gauges to choose from.

### ODY-19-4 Quad Pressure Gauge for Air Ride Systems



Gauge for air ride systems simultaneously displays front and rear pressure or all four corners of your air ride suspension on a bright, easy to read VF dot matrix display.



55-56 Chevy

Many other models and years available! Call if you don't see yours.



57 Chevy



70-78 Camaro



82-89 Camaro



69 Camaro



66-67 Chevelle



64-65 Chevelle



66-67 Nova

visit [www.dakotadigital.com](http://www.dakotadigital.com) or call 1-888-881-0535 for a free catalog!

**Dakota Digital**

# At Total Cost Involved... WE KNOW NOVAS!



Above, testing on 420 foot slalom with 7 cones, 70 feet apart. Results - 1963 Nova: 43 MPH; 2002 Camaro Z-28 LS-1 6 speed: 40 MPH. The Nova is equipped with Total Cost Involved front clip with air bags.

**The 1962-1967 Nova Coil Spring IFS**

Big Brake, GM Caliper  
Narrowed A-Arms  
Brakes Assembled and Bearings Packed  
Anti-Roll Bar Included  
Rails Inset 1" Per Side for Wider Tires  
2" Dropped Spindles

Complete Plain Package	\$2,495
Complete Show Package	\$2,729
Clip Only	\$895

## Power Brake



Power brake unit features firewall mount 7" booster, dual chamber master cylinder, adapter bracket and hardware

'62 - '67 Nova Power Brake Assembly \$299.95

**The 1962-1967 Nova Coil-Over IFS**

11" Rotor with GM Caliper Standard, Optional 12" Drilled Rotor Shown  
Chevy Engine Mounts Installed  
Billet Coil-Overs  
Anti-Roll Bar Included  
2" Dropped Spindles

Custom Nova IFS Complete Plain Package	\$3,195
Complete Show Package	\$3,895

## Fender Panels



Stepped Inner Fender Panels & Hood Hinge Supports \$199.95

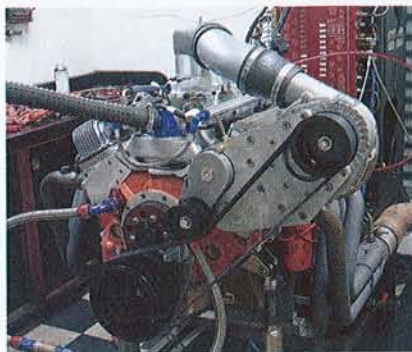
## Stock Spindle Disc Brake Kit

11" GM Brake kit for your stock spindles includes rotors, calipers, brackets, seals, bearings and hardware



'62 - '67 Nova Disc Kit	\$329.95
TCl / Chevy Rotor (ea.)	\$ 94.95

## HUFFIN' AND PUFFIN'



Procharger designed one the beefiest blower brackets we've ever seen, which helps limit the deflection under heavy loads that can cause belts to be tossed off. The idler pulley is also well thought out and maintains a firm hold on the belt, however, it's design makes pulley changes time consuming, but overall, it's a great system.



Not only did Chris Spies from Procharger help us set up the blower, he also helped tune the ACCEL DFI MAP on the dyno. Chris has the same DFI system on his own racecar and really knows his way through ACCEL's system. Dyno operator George Vrbancic (right) was also instrumental in getting DM up to speed and making so much power this month.



Proper ignition advance is critical to making power with any engine, but even more so with a blower. Too much advance and the engine will kill itself, while too little will create excessive heat, especially in the exhaust, which can also cause damage. Here, Bob Vrbancic reports the idling timing figures back to Chris in the dyno control room, who then confirms its what the ACCEL DFI computer registers.



TOTAL COST INVOLVED Catalog Order your free copy now: Dept. SC0304

Call Now to Find Your Closest Dealer!

**(800) 984-0884**

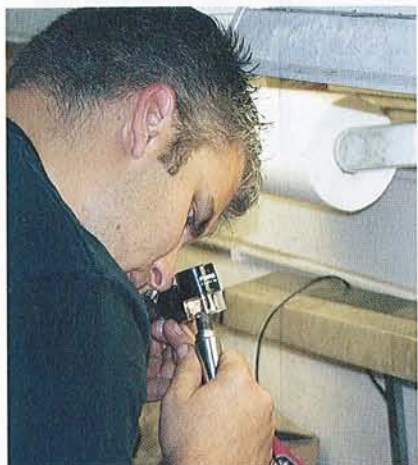
www.totalcostinvolved.com



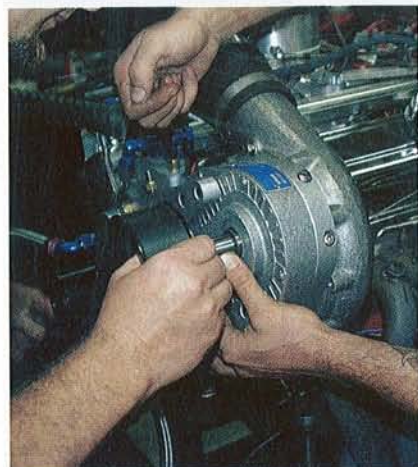
Where More Optional Parts Are Standard



We never had any doubt that we could make 700 hp on pump gas and the engineers at 76 Racing Fuels assured us that it was possible so we ended up burning through about 15 gallons of 76's 91-octane unleaded, the same stuff you can buy at the pump.



Our confidence in pump gas might have been high, but we're not fools. After each pull we carefully checked the spark plugs for signs of detonation and if there were none we proceeded with another pull.



We tried a few pulley swaps just to see what it would do. It turned out that the 4.25-inch diameter pulley, the size Procharger said we'd need to make this kind of power, worked best. An interesting side note is that we probably could've made equal power using Procharger's entry-level P-1SC blower, but we wanted to run the larger D-1SC instead.

SUPERCHEVY-WEB.COM

# Performance Serpentine Systems

**NEW!** *With Style!*

**Deluxe Style Outward Mount Serpentine Kit for Big Block**

Short water pump standard rotation.

**Starting at \$441.95**

Small block coming soon.

**All Billet 6061-T6 Aluminum for Strength and Wear. Clear Powder Coated No Polishing or Sealants Required**

**Compact Design "Front Mount"**

Short Water Pump System for Small & Big Block Chevy, Works with Hot Rod Air & Vintage Air Systems



Made in the U.S.A.

**Ultra Performance Serpentine Kit**

**20H.P. Gain!**



**NEW!**

**Bracket Kits For Electric Water Pumps**

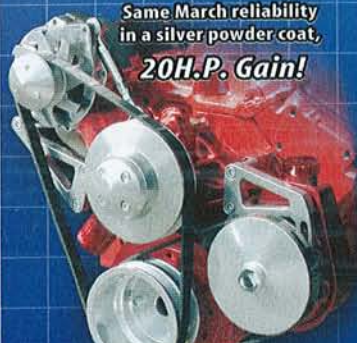
Available for Meziere, GSI, Aerospace Components and Proform electric water pumps. Chose from Ultra and lower cost Custom styles.



**NEW! Lower Priced Custom Performance Serpentine Kit**

Same March reliability in a silver powder coat,

**20H.P. Gain!**



**Starting at \$209.95**

without power-steering

shown with optional alternator fan and cap and water pump nose cover

**NEW! Mid Mount Performance Brackets**

Serpentine or V-Belt Superior style brackets precision CNC machined from solid billet 6061-T6 aluminum to fit perfectly and handle high torque and vibration. These kits come complete with stainless steel tensioning rods and chrome moly rod ends that make getting belt tension correct a snap, and unlike slotted brackets adjustment rods will not slip out of adjustment.

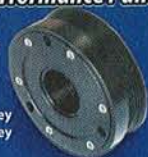


#20124 ULTRA Small Block Alternator Bracket for long water pump.....\$99.95  
#20160 ULTRA Small Block Power Steering Bracket for long water pump.....\$108.16

**LS-1 S.F.I. Fluid Dampened Performance Pulley**

Fluid dampened design will not cause spark sensors to retard timing with resultant loss in power unlike some poorer designed pulleys. Dyno tested at 12H.P. gain. S.F.I. Approved.

4501.....Camaro/Firbird dampener crank pulley  
4505.....Camaro/Firbird dampener crank pulley and power and amp alt pulley



See Our Web Site for a Complete Line of Serpentine, V-Belt Pulleys and Brackets

**Call 734-729-9070**

**www.marchperf.com**

**MARCH**   
PERFORMANCE PULLEYS & BRACKETS

March Performance 6020 Hix Road, Westland, Michigan 48185

# BUY DIRECT!

CHEVELLE • EL CAMINO • MONTE CARLO  
RESTORATION AND PERFORMANCE

DON'T WAIT... Get a catalog filled with thousands of parts now!



- OVER 40,000 RESTORATION AND PERFORMANCE PRODUCTS
- HUNDREDS OF NEW "NEVER BEFORE OFFERED" PARTS
- BEST GUARANTEE IN THE BUSINESS
- WE ARE THE MANUFACTURER!

TO ORDER A CATALOG DIAL TOLL FREE

**1-800-CHEVELLE**

FOR INTERNATIONAL DIAL

714-230-6000 OR ONLINE AT

[www.gmrestoparts.com](http://www.gmrestoparts.com)

OR FAX US AT 714-230-6050

24 HOURS 7 DAYS A WEEK.

Our 2 acre facility!



Showroom & Order desk hours;  
7:30AM to 5:00PM M-F, 10:00AM-3:00PM Sat.  
5252 Bolsa Ave. Huntington Beach, CA 92649

## HUFFIN' AND PUFFIN'



Since an engine basically sits in the dyno cell with little air moving around it, we wanted to give DM every chance to make the best, repeatable power. To that extent, as we made more and more pulls, temperatures went up so we cooled the intake track down with ice and directed a fan at the blower in between runs.



Maybe it was to check up on us or to see his favorite pet project in action, whatever the reason, it was great to have our boss, Terry Cole (right), stop by to help with the tests.

## DANGER MOUSE PARTS LIST FOR PART 18

DFI	ACCEL GEN VII (PN 77143)
CAM	CRANE HYDRAULIC ROLLER (PN 119681)
HEADS	TFS (PN 30400013-CNC)
LIFTERS	CRANE (PN 11532-16)
PUSHRODS	CRANE (PN 95623-16, 5/16-inch diameter, 7.150-inch length)
ROCKERS	COMP CAMS PRO MAGNUM (1305-16)
MANIFOLD	ACCEL
GASKETS	FEL-PRO (head gaskets PN 1003), (intake gasket PN 1206)