

CHEVY

HIGH PERFORMANCE

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55 BOLT-ON HP
FOR GEN-III 5.3L

PULL HARD

Adding 55 Horses with Granatelli Motor Sports Performance Parts

Text and Photos by Bob Mehlhoff

Pop the hood of a late-model full-size Chevy pickup equipped with a Gen III V-8, and you'll find the perfect starting point to build lots more power. In stock form, the 5.3L Gen III features aluminum 18-degree cylinder heads combined with a lightweight valvetrain. Up top, a thermoplastic composite intake manifold keeps the air charge cool, and the equal-length intake runners provide smooth port transitions to optimize

airflow to each cylinder. Granted, all of this adds up to good performance, but for the guys that demand stronger pulling power and hard acceleration, there is plenty more to set free.



WIRED FOR POWER

Baseline + Test I

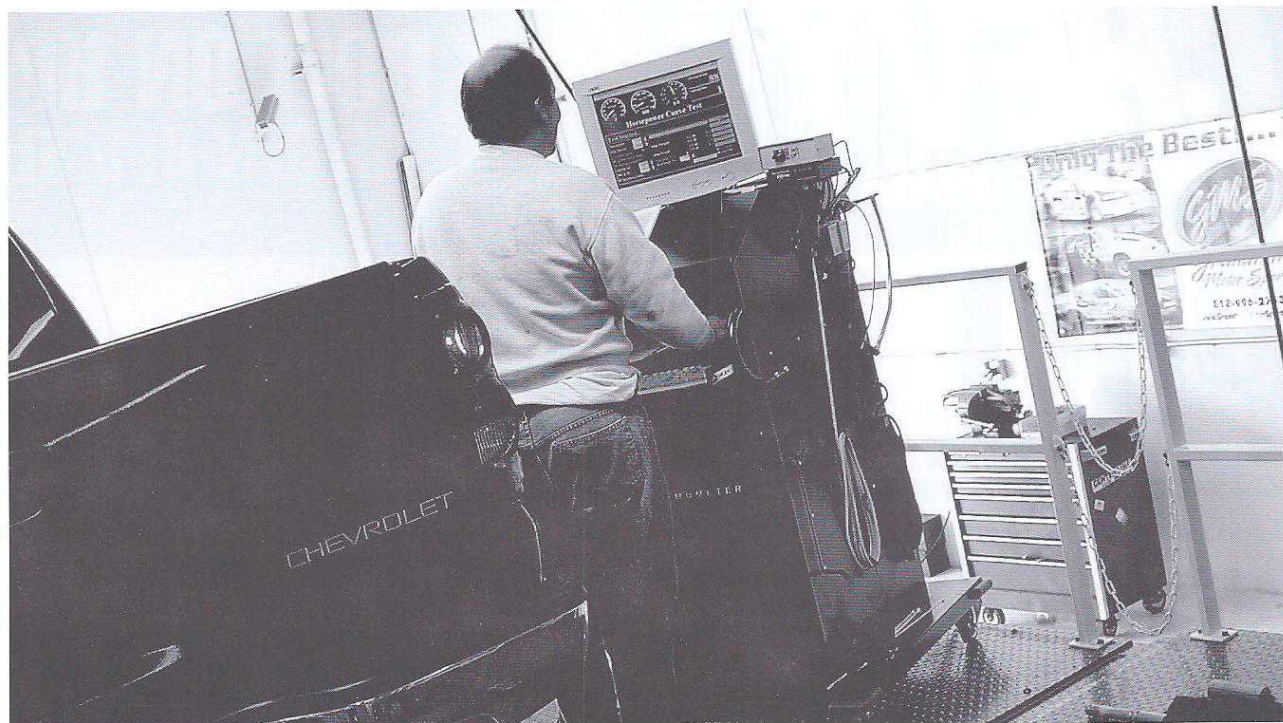
15.3 hp improvement at 5,250 rpm

17.3 lb-ft of torque improvement at 4,250 rpm

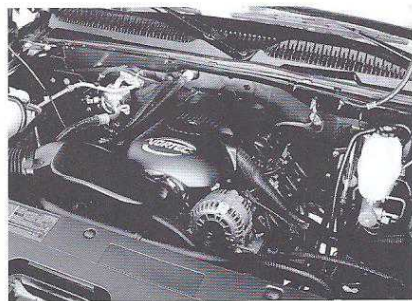
These Granatelli plug wires gain an advantage over stock, because they are manufactured with a solid stainless inner connector cable wrapped with special fiberglass that emits no noticeable radio interference.

Because the Gen III ignition incorporates a coil-near-plug system, each wire measures about 8 inches from the coil to

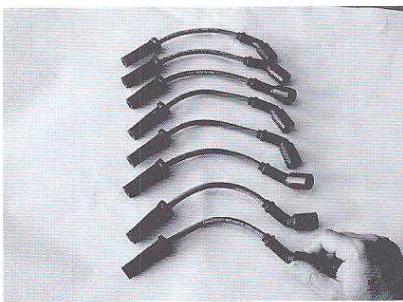
the spark plug. We wanted to learn why simply replacing the plug wires would yield this kind of power improvement and took an ohm reading on both sets of wires. All the AC Delco wires measured more than 950 ohms of resistance; the Granatelli wires measured less than 1-ohm (0.50 actual reading) of resistance. Remember too, that the Gen III wires are only 8-inches long. If they were as long as a typical small-block Chevy's, the original AC Delco wires would have resistance considerably higher than 950 ohms, because of the longer current path.



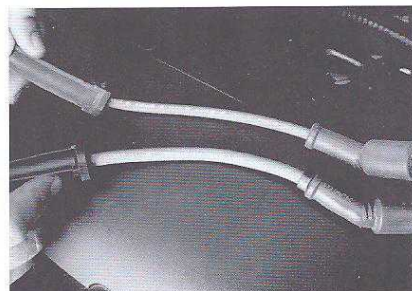
We ran our test on a Mustang chassis dyno.



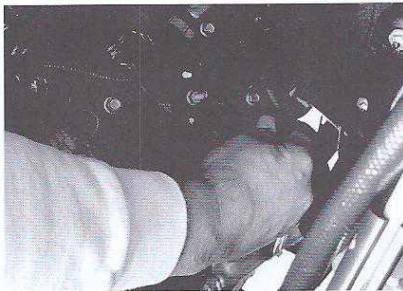
All of the Granatelli parts are emissions-legal and do not void the factory warranty.



We first wanted to see if we could improve the truck's power by simply replacing the factory plug wires with Granatelli Hi-Performance wires. They offer high-temperature silicone boots and an 8mm jacket with a fiberglass-reinforced braid to withstand engine temperatures to 500°F.



The stock AC Delco wire is composed of 7.5mm material (shown upper), compared to the 8mm-thick Granatelli wires (shown lower).



After replacing the wires, we found an astounding 15.3hp increase and an additional 17.3 lb-ft of torque improvement over stock.

MASS AIR-FLOW (MAF) SENSOR AND WIRES Test II

**Plus 26.80 hp at 5,250 rpm
Plus 38.90 lb-ft of Torque at 4,250 rpm**

To improve the air flow and calibration of the stock mass air-flow sensor, Granatelli's hybrid electronics provided improved ignition and injector-timing control, as well as allowed more airflow. The installation took about 15 minutes. With the MAF, we achieved a collective increase of 26.80 hp and 38.90 lb-ft of torque above our baseline power level.

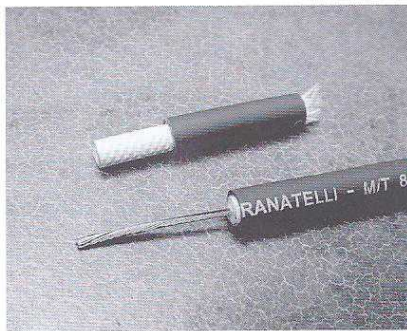
COLD AIR KIT, MASS AIR-FLOW (MAF) SENSOR, AND WIRES Test III

**Plus 55.05 hp at 5,250 rpm
Plus 45.10 lb-ft at 4,850 rpm**

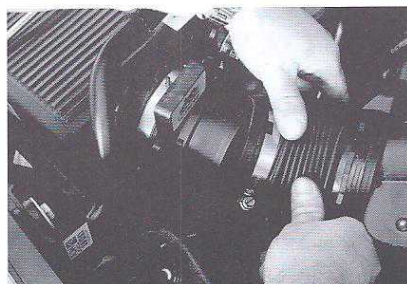
Because we were improving the power of this engine, we needed to improve the airflow available to it, something that the stock air-filter element and box could not provide. Installation of Granatelli's Cold Air Kit took about 20 minutes. We found we'd added a collective 55.05 hp and 45.1 lb-ft of torque rpm at the rear wheels.



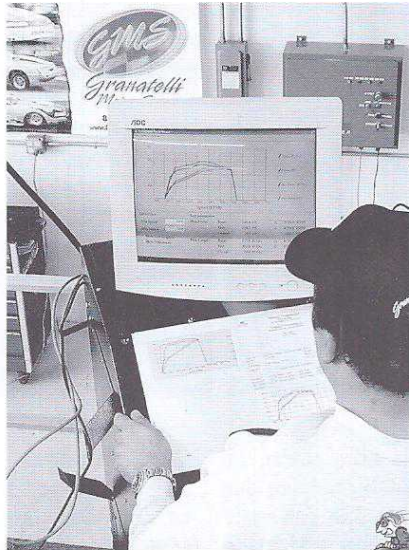
By checking the ohm readings of both wires, we quickly found how the power increase occurred. The original AC Delco wire exhibited a 958-ohm reading compared to the Granatelli wire of less-than-1 ohm (0.50 measured).



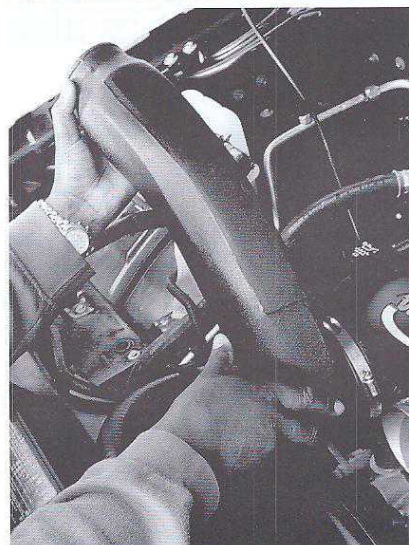
We cut this Granatelli wire apart to see why they work so well. The less-than-1 ohm reading (0.50) is due to the solid stainless connector cable that is crimped to a stainless snap-lock spark-plug connector. The tightly wound fiberglass-reinforced braid and silicone jacket allow this design to provide clear and static-free radio operation.



We then replaced the stock mass air-flow sensor (MAF) with a Granatelli unit that allows increased airflow. The Granatelli MAF sensor offers improved calibration to changing engine and fuel demands, as well as ignition timing. The MAF sensor took just a few minutes to install by using either a 8mm or 5/16-inch socket wrench.



With the addition of the MAF sensor and the wires, we checked the power output on the chassis dyno, which now totaled 26.80 hp and 38.90 lb-ft of torque above our baseline figures.



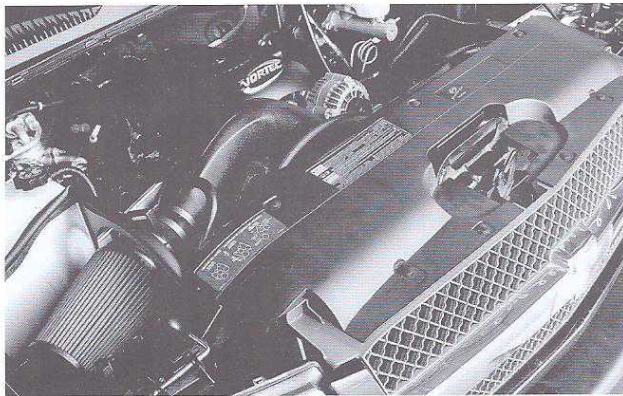
Next, we reinstalled the Granatelli MAF sensor and aluminum air box.



The Granatelli element uses a special air-inlet tube designed to provide a smoother transition into the engine intake system. The Cold Air Kit also requires a different MAF sensor designed to match the improved airflow characteristics of the new system.



The installation of this kit required about 20 minutes. The new air filter element allows the air to flow freer into the intake system. With the first three parts installed, we found that the addition of the Cold Air Kit now increased our numbers to 55.05 hp and 45.10 lb-ft of torque.



Parts List

Here are the part numbers we used on the 5.3L engine. The following parts prices are from www.summitracing.com

Granatelli Wires	GRN-470000	\$160.99
Granatelli Mass Air Flow Sensor	GRN-350115-C	\$329.95
Granatelli Cold Air Kit	GRN-410000	\$209.95

SOURCES

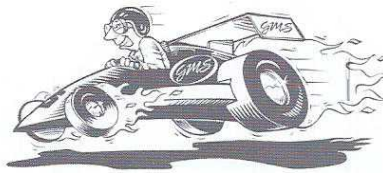
Granatelli Motor Sports

1000 Yarnell Pl., Dept. CHP • Oxnard, CA 93030
(805) 486-6644 • www.granatellimotorsports.com

To learn how trouble-free it is to find this extra power, we spent an afternoon at Granatelli Motorsports, helping Joe Granatelli as he made three simple changes to a 5.3L Silverado pickup and then measured the improvements on a Mustang dynamometer. The selection of power-adding parts included high-performance spark-plug wires, a mass air-flow sensor (MAF), and the Cold Air Kit. When we were done, we'd collectively added 55 extra horses in a single afternoon—without getting dirty.

Conclusion

We increased the 5.3L's horsepower and lifted the power curve between 3,000 and 4,500 rpm. That's right in the sweet spot where you need power during passing, towing, or hard acceleration. These improvements occurred largely because all of the components are matched to work together with a common goal of improving available power in the rpm range that the vehicle is generally operated in, while maintaining good overall drivability. Now, where's that hill?



GM

28-1545S	Hi-Perf Coil-Near-Plug Conn Kit, 97-04 GM Cars LS1/LS6 5.7L V-8
28-1629S	Hi-Perf Coil-Near-Plug Conn Kit, 99-06 GM Trk/SUV 4.8/5.3/6.0L V8 LS1/LS6
28-1712S	Hi-Perf Coil-Near-Plug Conn Kit, 01-06 GM 8.1L Trk/SUV V8
28-1811S	Hi-Perf Coil-Near-Plug Conn Kit, 2005 GM 6.0L LS2/LS7 - Vette, Pont GTO

Ford

28-1697s	Hi-Perf Coil-On-Plug Conn Kit, 97-04 Ford/Linc 4.6/5.4L 2V V8
28-1812s	Hi-Perf Coil-On-Plug Conn Kit, 2005 Ford 4.6/5.4L "3V Eng" Must GT / Trk & SUV

Dodge

28-1799s	Hi-Perf Coil-On-Plug Conn Kit, ** 03-05 Chrys / Dodge 5.7L Hemi V8
28-1801s	Perf Ignition Wire Set, ** 03-05 Dodge 5.7L Hemi - Less/Coil Conn Kit