

# SUPERCHARGING VINNIE'S "V"



## GMHTP INSTALLS A MAGNACHARGER ON VINNIE'S CADILLAC—THAT'S VINNIE FROM ORANGE COUNTY CHOPPERS

BY EVAN J. SMITH  
PHOTOGRAPHY BY THE AUTHOR

America has fallen in love with Vincent DiMartino—at least the thousands of cable-TV-watching gearheads and other aficionados who tune in to watch the Discovery Channel's hit show "American Chopper" every Monday night. On air, DiMartino is better known as "Vinnie," "Vince" or "Vance," whatever Paul Teutul Sr., Paulie Jr. or Mikey are calling him that day.

Vinnie, as we'll call him, is the cool-headed do-all mechanic/fabricator/welder/wiring artist, who is often caught between the father-son battles of Paul Teutul Sr. and Paulie Jr. Yet somehow, amidst the madness, he keeps ticking away, fabricating, welding or wiring one of the popular "theme" bikes.

We caught up with Vinnie (who is as mild-mannered in real life as he is on camera) last summer while attending an NHRA race at our stomping grounds, Raceway Park. A conversation ensued, however the topic was not about "American Chopper," or bikes in general for that matter. We spoke about drag racing and late-model GM performance. Vinnie is quite the fan of newer F-bodies, along with Corvettes or LS-powered anything, and he's up on the competition, too. He can talk Mustangs and Vipers with anyone. Vinnie also mentioned his new toy, a 2005 Cadillac CTS-V. He said the car was awesome and that he'd love to modify it in the future. He talked about how cool it would be to supercharge it; I figured, why not give the GMHTP readers the inside scoop by documenting the process. And when he agreed to dyno and drag test the Caddy before and

after the application of the blower, it was, as Paul Sr. has stated, "time to get to gettin'."

With that, we contacted Magnuson Products Inc. and ordered one of its MagnaCharger kits. A few weeks later, two huge boxes arrived including everything, and I mean everything, for a complete installation. Nothing was overlooked.

"Our kit is designed as a direct replacement for the

Vincent DiMartino, a.k.a. "Vinnie" of Orange County Choppers stands proudly in front of his MagnaCharged Cadillac CTS-V or for short, his "Vee." In addition to his fabrication skills, Vinnie can also find the gears. Our man had awesome control of the "V" launching on the edge of spin (and/or busting the fragile IRS) run after run. He also masterfully rowed the six-speed just hard enough to run deep in the 12s, but not to the point of failure.



factory intake system," stated Bob Roese, the sales and marketing manager at Magnuson. "It utilizes the Eaton M112 Gen V compressor mounted on a new intake and a cast aluminum air-to-water intercooler. The components are the same as the ones used by Aston Martin and Jaguar. The kit also comes with a Superchips tuner and all the necessary hardware to do a clean install. It develops 6 psi, and owners can expect between 120 to 135 hp over stock," added Roese. We asked about raising the boost, but Roese didn't recommend it due to the 10.5:1 compression ratio.

Before bolting on the boost, Vinnie rolled the Caddy onto a friend's Dynojet and found it was putting 327 hp to the tires. He then hauled down to Raceway Park (Englishtown, New Jersey) to make a few laps on the famed quarter-mile. He carefully negotiated the starting pad, launching smoothly yet aggressively—but not so hard as to injure the fragile IRS. On that warm summer evening, he clocked times of 13.80, 13.73, and a best of 13.70 at 107 mph with the 3,900-pound sedan.

In the following weeks, Vinnie and I converged on JBZ Auto Service Center in Campbell Hall, New York, where we completed the installation in a day's time. "The install went excellent," Vinnie states. "The instructions are phenomenal, the best I've ever seen and the quality is like original equipment."

By 9 p.m. (we started at about 9 a.m. and took a few breaks), we had the Cadillac on the ground with the fluids filled and the wires connected. We did a final check for leaks, then fired the engine, and hit the road to test out the newly blown machine.

The cool October air provided plenty of oxygen and that translated into amazing power and acceleration. Vinnie was cautious and he wisely took it easy. "I didn't want to jump on it only to find detonation." But little by little he gained confidence, and within only a few miles he was exercising the full potential of the blown LS6—at least as much as the tires would hold. On that night we didn't find much traction—nor did we find detonation.

"There was good power before, I wasn't disappointed," Vinnie says. "If anything it just didn't have enough low-rpm torque, but now we found it nearly

impossible to find traction in First gear and we could make the tires spin hard in Second, too. But at the same time it's so smooth and refined. Now you don't even have to downshift. With the charger you just lay into it and there is plenty of power above or below 4,000 rpm. It doesn't sign off, either, the engine runs hard right up to redline. When you drive the car you have to keep your eyes on the tach. If you don't you will hit the rev limiter. It feels happy to be there, like it wants to rev higher. Now if I could keep it from wheel hopping I'd be 100 percent happy," he jokes.

After putting some miles on the new combination, he was ready to prove its worth by putting the CTS-V up against the clocks at RP. With nothing more than the Magnacharger and a Lingenfelter cold-air kit installed, he headed back to Raceway Park for the "after" portion of the test. To this point, the Cadillac had not been back on the dyno, so Vinnie's seat-of-the-pants feel was the only barometer of performance.

While Vinnie said the car was running much better, we didn't expect that the black bullet would obliterate the past performance. Beginning with the first pass, Vince carefully muscled the "V" down the quarter in under 12 seconds with a 12.83 at a screaming 114 mph. OK, the weather was better, perhaps two-tenths worth, but not almost a full second worth. Feeling he could do better, Vinnie hot-lapped the sedan, now weighing over 4,000 pounds. (thanks to the blower), and with a more aggressive launch he shot to a 12.74 at 114.

"[On the track] it was a little bit of a tap dance to keep it from spinning in First and Second, but it's not that hard to control because the power is smooth and linear, it's not like a light switch," he explained.

After the initial runs, Vinnie gave the engine and the clutch a chance to cool for a half-hour or so. Then he went back to the line and ripped off his best run of the day, a strong 12.50 at just a tick under 116 mph. He produced a perfect launch, with the tires producing the "eeeeek" sound for a second, and he shifted crisply, thus keeping the engine in the powerband. "My technique was to heat the tires minimally and then stage. Coming out of the hole, I revved it to about 200 or 300 rpm above idle and I rolled out the clutch while getting the throttle down. When I got my best time I powershifted on the 1-2, and the 3-4, but not on the 2-3. I didn't want to totally abuse it."

Though he wanted a run in the 12.40s, Vinnie decided to keep the axles attached and spinning in the designed fashion. In other words, we called it a day. Had we been able to cut the "V" loose with a hard clutch drop from, say, 5,000 rpm, we could have run low 12s, but that will have to wait for another day. And days after our drag strip thrash, he went back to the dyno. This time around the Dynojet's computer calculated that the LS6 was producing 451 hp (up from 327) and 438 lb-ft of torque (from 319). That's a total gain of 124 horsepower and 119 lb-ft of torque at the wheels.

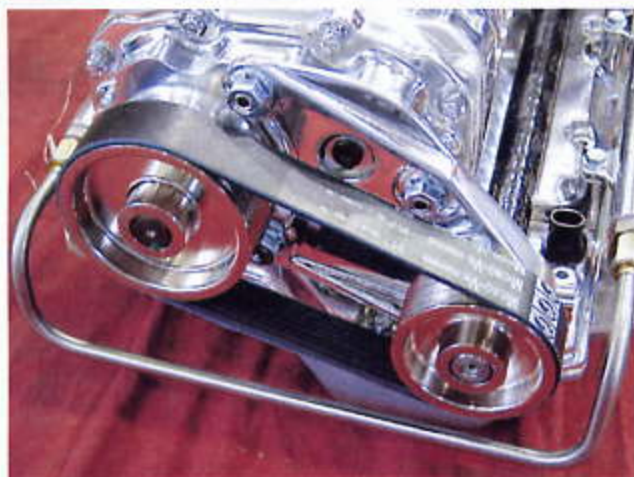
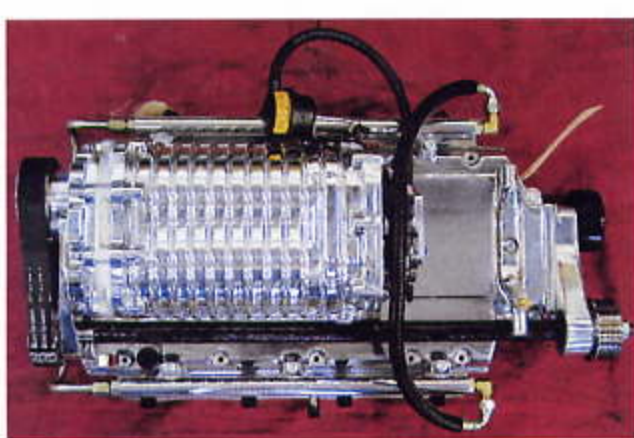
"I'm very pleased with the kit, but mostly with the level of refinement. There's no worry, it even idles better than stock. It's weird, [the idle] was lopey with the stock tune, but I don't notice that anymore. The only thing is when you're messing with someone, they know you have a blower because of the whine. With the cold-air inlet it sounds like it's going to suck the inner fender in, but that's not such a bad thing." ■



Our MagnaCharger kit with the polished blower retailed for \$6,995. The kit includes everything you will need for an OE-like installation, including a step-by-step instruction manual with photos of each procedure. For \$1,000 less you can order the kit with a silver powder-coated blower.



Stock CTS-V LS6 is rated at 400 horsepower and 395 lb-ft of torque. Once supercharged, the LS6 pumped out 451 horsepower and 438 lb-ft of torque at the wheels.



The polished blower uses a jackshaft and a drive belt to spin the rotor pack. Max boost is 6 psi.



While the actual parts and pieces looked sharp, we were impressed by the detail and accuracy of MagnaCharger's instruction booklet. We read along and began by removing the rear passenger seat.



Removing the rear seat provides access to the fuse center. It is necessary to remove the "Audio" fuse for the vehicle's PCM to be reprogrammed safely. It is also necessary to replace the stock fuel pump fuse with the supplied 30 amp fuse.



Next, we connected the Superchips tuner that was supplied with the blower kit, and we loaded the program. With this done we replaced the Audio fuse and then disconnected the battery as per the instruction manual.



Vinnie then removed the windshield wiper arms along with the wiper motor assembly. It is necessary to grind a small portion of the wiper arm so it will clear the blower drive system.



While Vinnie was grinding away, Mike Faia and I removed the upper strut-tower brace and the decorative engine cover.



Once the cover was off the engine, we removed the radiator mask, the lower splash pan and the front fascia, all of which unbolted in a matter of minutes.



The coolant was drained from the engine...



...and the throttle body was removed.



We then unplugged the eight 28.5-lb injectors (shown) along with the electronic throttle control (ETC), the throttle position sensor, both coil packs, and the MAP.



With the fuel lines disconnected, the intake was unbolted and carefully removed.



Before taking the installation any further, we cleaned the intake valley area of debris using a shop vacuum. We also stuffed each of the intake ports with paper towels to prevent foreign objects from getting into the engine.



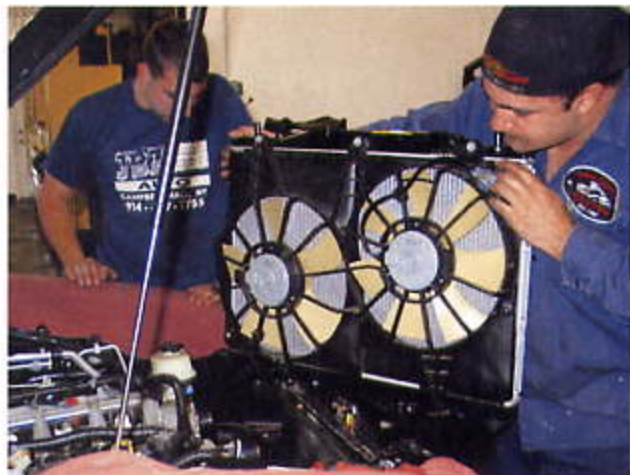
The knock sensors were disconnected and the valley cover was removed.



After thoroughly cleaning the area, the supplied cover was installed and the knock sensors were replaced.



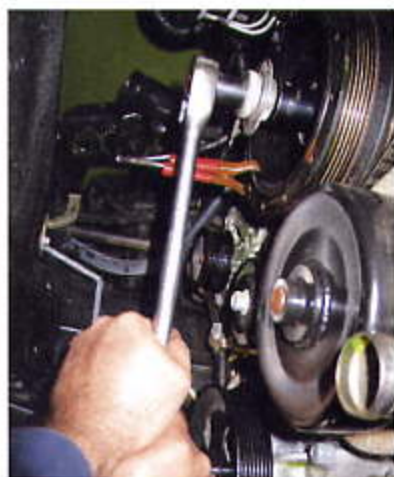
It's important to properly install the knock sensor wires, which must be glued down using silicone, and taped until the silicone dries.



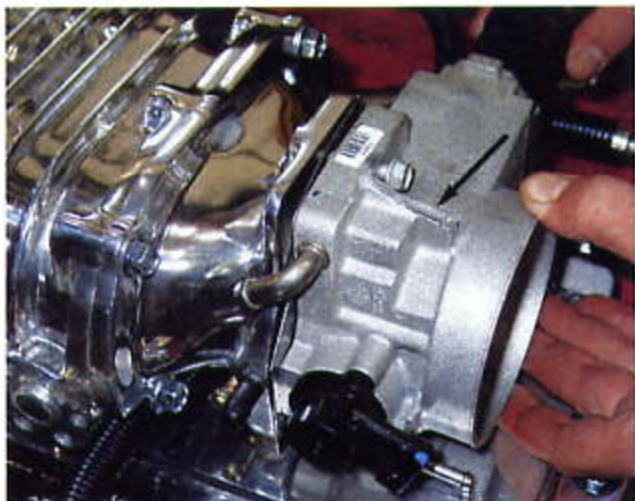
While waiting for the silicone to dry, Vinnie removed the radiator and fan assembly.



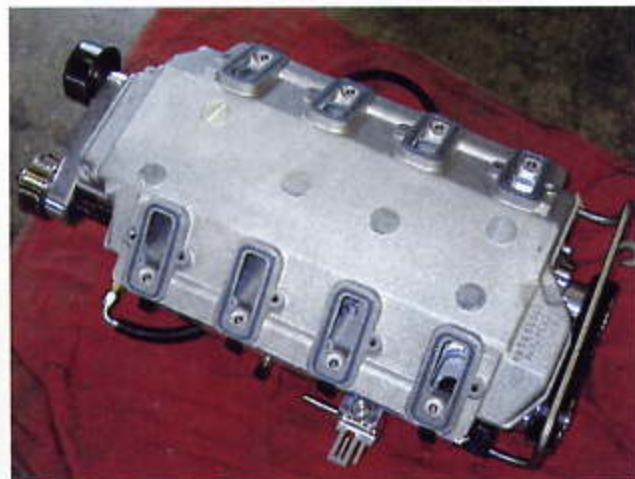
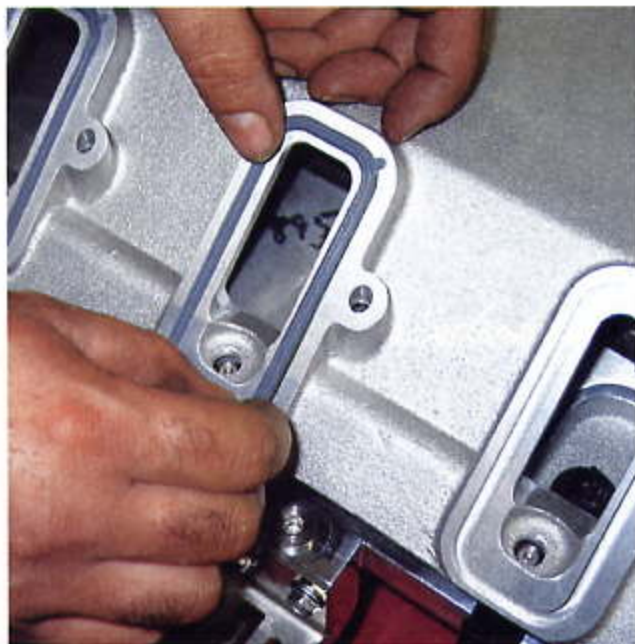
Because the supercharger drive places extra load on the single accessory belt, it is necessary to reinforce the harmonic balancer by pinning it to the crank. The MagnaCharger kit includes a drill guide, drill bit, and hardened steel dowel pins so you can accomplish the procedure easily.



The supplied balancer bolt was installed and tightened to 37 ft-lb of torque. Following along, we then attached a torque angle meter and rotated the bolt an additional 140 degrees.



Next, a small portion of the throttle body casting was removed (note grind marks on top of unit) and it was attached to the blower inlet.



Then the blower assembly was inverted and we popped in the intake port gaskets.



Finally, it was time to install the polished MagnaCharger on the LS6 engine. The intake/blower assembly comes complete with 42-lb injectors, lines and the intercooler all in one neat package.



With the intake in place, the front engine dress, including the drive belt, was installed.



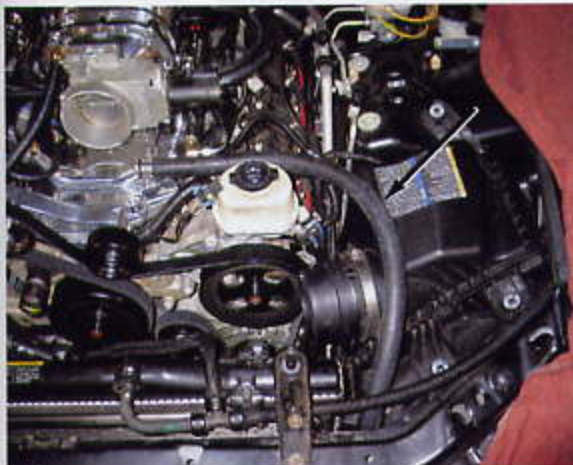
Vinnie and Faia dropped the radiator back into place. They also handled some of the wiring chores such as extending the wires to the IAT harness and the purge solenoid (not shown).



We got cool by fitting the supplied heat exchanger to the front of the Caddy.



Following that, we installed the system's coolant tank and pump and we connected the supplied lines.



The pump harness was then wired into place.



Next, the Magnavolt box was wired into the trunk harness...



...and the box was mounted under the hood.



With the help of shop owner Joe Zapone, Vinnie filled the cooling system with the recommended GM coolant. We then checked for leaks. Thanks to a careful install there were none.



With the polished MagnaCharger we totally improved the power, performance, and the underhood appearance of the CTS-V.

The front fascia was returned to its rightful place on the nose of the Caddy. By this point we were getting anxious. It was Monday night and I joked to Vinnie that I had to get home and watch my show that came on at 10 p.m. He laughed.



Vinnie utilized the OCC water jet cutter along with the in-house HAAS CNC mill to fabricate this unique plaque.



A smooth launch led to a best of 12.50 at 115 mph. That is haulin' for a 4,000-plus Cadillac on pump gas and standard street rubber. In the future, Vinnie plans to upgrade the tune and the exhaust. Are 11s possible?

## Source

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SUPERCHARGING  
VINNIE'S

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