VW 1.8 TURBO PERFORMANCE EXHAUSTS

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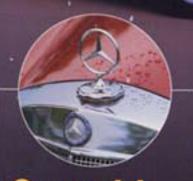
Porsche's new 911 answers the question with more power and panache





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HPA's Ferocious TT Roadster

By Les Bidrawn
PHOTOS BY POB HALLSTROM



emember that film clip of the astronaut on the rocket sled? He starts off looking all cool and collected (like all those test pilots with their slow southern drawls) until the g-forces cause his facial features to distort like so much Silly Putty in a sausage grinder.

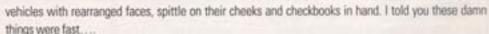
That pretty much sums it up for this latest creation from the crew at HPA. It's a car so powerful that it wipes the features from your face.

Like most good tuners, HPA has always been a few steps ahead of the factory's production line. Marcel Hom, the brains behind HPA's success, was one of the first people to stuff a more powerful VR6 engine into the nose of the New Beetle, anticipating the version that is just now being released from Wolfsburg. Does that mean this TT is a harbinger of things to come—a twin-turbo 24V VR6? If it's not, it should be, because this Audi is quite possibly the most powerful, well-mannered car ever featured in this magazine. It's a Porsche killer with a better cabin, a Corvette crusher that can go around corners, an M3 masher with a better radio.

In the April 2001 issue of ec we featured HPA's stunning twin-turbocharged VR6 New Beetle. Try as I could, my limited command of the English language could not accurately describe its ferocity. More than a



few folks figured I was under the influence of BC's finest agricultural product (I just say "no") or simply lying. Nothing could be that fast and that civilized. One particularly heinous web string even went so far to say that "Bidrawn is a turd and a liar" (now that hurts). People needed to test drive one of these monsters for themselves, if for no other reason than to stop calling me a turd and a liar. Needless to say, HPA has been one of the world's busiest tuners since—people come away from test-driving HPA.



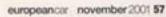
Although few have complained about the 225-bhp TT, a client of HPA's wanted the same buzz he got from Marcel's VR6 twin-turbo New Beetle. "We took delivery of this TT roadster straight from the show-room floor," said Marcel. "The owner didn't even want to see the car until the conversion was complete."

Clad in Audi's rich black paint and featuring the unique "baseball-glove" interior, this high-horsepower version of Audi's roadster is a damn fine car—straight from the box. But "damn fine" wasn't enough, so this car went under the knife with barely 50 miles on its clock.

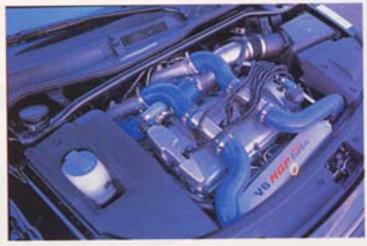


"This was actually a fairly simple program," said Marcel. "Unlike the New Beetle conversion, we didn't need to retrofit Audi's awd Haldex system and new gearbox---it's already there. This was pretty much a bolt-on procedure."

That's a bit of an exaggeration, of course, or Marcel's \$30,000 bill for the job would be hideously out of line. It isn't.













Monster

The TT's 20V four-cylinder engine was removed and replaced with a European-spec 24V VR6, a motor that makes 204 bhp, some 30 bhp more than the 12V version we get in North America. In addition to being more powerful, the 24V engine features a stronger block with more webbing and an ingenious twin-cam-per-bank valvetrain with variable valve timing. So from a tuning perspective, this new configuration is perfect.

HPA utilizes an HGP turbo system comprised of a pair of KO4 turbochargers controlled sequentially through the factory's ECU. A special head spacer brings compression down from 10:1 to 7:1 with boost levels reaching a maximum of 20 psi. To help the TT maintain its 7200-rpm redline, Black race bearings replace the block's stock units. Fuel is delivered through oversized 24V injectors (proprietary design and flow rates) and a Bosch external fuel pump that increases flow, not pressure. The HGP system uses VW's 4.5-bar fuel pressure regulator and the twin intercoolers featured on the 225-bhp TT. HGP custom fabricates its own mass airflow sensor, intake manifold and exhaust manifold, and all the hoses and fittings are aircraft-grade items. The exhaust is a 3-in. system manufactured by Silent and is comprised of T-304 stock from the downpipe to tip. Under hard usage the exhaust actually grows some 2 in., so an expansion joint is placed into the system.

"The real beauty of this turbosystem is that it uses the factory's Motronic computer," said Marcel. "We program all the engine's parameters through the 1552 VAG machine. No piggyback crap or hacker boxes—the Motronic computer does a perfect job. It is the key to this program's success."

As tested on HGP's awd dyno, a motor in this configuration puts out 508 bhp at 5600 rpm with 556 lb-ft of twist at 3400. That's enough torque to crumple a stock TT's driveline components after a few hard launches, but, as Marcel learned, the upgraded transmission and related parts can handle up to 600 bhp. "The driveline in the 225-bhp TT is very tough—tough enough to handle what this motor produces. We did need to upgrade the clutch—we use a heavy-duty unit from HGP. You can dump the clutch at six grand and light up all four tires," said Marcel.

The suspension was augmented with KW's Variant II coilovers, which are height adjustable and allow for compression and rebound adjustment. RH wheels measure 8.5x18 in. and are shod with Bridgestone's latest rubber. John Lindo of Bridgestone braved the madness of Waterfest 2001 (a dust bowl of a location crammed with beautiful VWs) and brought new Pole Position S03s measuring 225/40ZR-18 to Marcel just in time for the photo shoot. The S03 is a fantastic mix of Bridgestone's latest compound and tread design and places it firmly in the upper echelon of ultra-high-performance tires.

HPA left the TT's gorgeous lines unmolested no sense in messing with perfection. Externally, this roadster appears fairly stock save for the massive 12.9-in. Porsche binders in front. It's unnaturally quiet, too, quieter than the factory version due to the muffling effect of dual turbochargers.

Now, here's the sick part: The roadster clocked a 0-to-60-mph time of 4.1 sec. and covered the 1/4-mile with an 11.8. That pretty much blows everything else away—the biturbo 911, the Viper GTS, the 360 Modena... and HPA's TT Roadster has a better radio to boot.

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