

Forget the hoary cliché about the writer's spine being pressed into the seat back. My backside was scooting upward, sliding on the leather, vectored toward the roof by the seemingly bottomless acceleration of the twin-turbo Testarossa as it ventured well into triple-digit speeds.

### Wow.

This may not be the fastest street-legal piece of automotive hardware in the world, but it's in a very exclusive club.

Not that the standard Testarossa was a slouch. Its five liters produce some 380 bhp, good enough for a sub-14-sec quarter mile and a top speed of about 180. But the standard Testarossa is naturally aspirated, and this one has not one but two turbochargers. The boost isn't some namby-pamby 10 or even 15 psi, but rather 23 psi, and horsepower, by the claim of the car's maker, is around a thousand. That's 1,000. A one with three zeros. And there's more available, says maker Joe Pirrone, if you want to go with more boost.

Pirrone, owner of Berlinetta Motorcars, a restoration shop and Ferrari modification specialist in Huntington Station, New York, constructed the car for fellow Long Island resident and car enthusiast (absolutely) Ralph Fasano of Lattinatown. And though the 1000 bhp engine is surely

the showcase of what was originally a 1986 Swiss-market car, it has been transformed into an awe-inspiring street vehicle and a track car that knows few peers.

To anyone with even a casual acquaintance with Ferraris, this is no ordinary Modena model. The bodywork has been replaced with an almost complete Koenig body kit, including the front bumper/spoiler, headlamps (replacing the standard pop-up units), front and rear fenders and side valance, as well as the scoop added to the C-pillar and the rear deck extension. About the only thing left off was the big rear wing, which was simply too much, and a lower rear valance panel, which simply wasn't needed. And the controversial standard side strakes were omitted. While the wide-body panels are anything but pure Ferrari, Joe contends that even Ferrari purists give the car's appearance a thumbs-up.

The wider fenders are for more than looks. While the Testarossa originally came with Michelin TRX 240/45VR-415 rubber front and 280/45VR-415 rear, the conversion weighs in with Dunlop SP Sport radials, size 245/40ZR17 front and 335/35ZR17 rear, enough to fill the fiberglass and still have enough surface area left over to apply for statehood. The wheels, by HRE, are three-piece modular, 9.0 in.

wide up front and 13.0 in. at the rear. Because the early Testarossas came with splined knockoff-style wheels, Berlinetta machined the backs of the wheels to fit the original splined hubs.

To keep all that rubber in line, the rubber suspension bushings have been replaced with spherical Heim joints, which also makes the suspension fully adjustable. Pirrone installed stiffer springs, and double adjustable (jounce and rebound) remote-reservoir Fox racing shocks are used all around, with double shocks per side at the rear. Front and rear anti-roll bars are adjustable, the bias changeable from the cockpit.

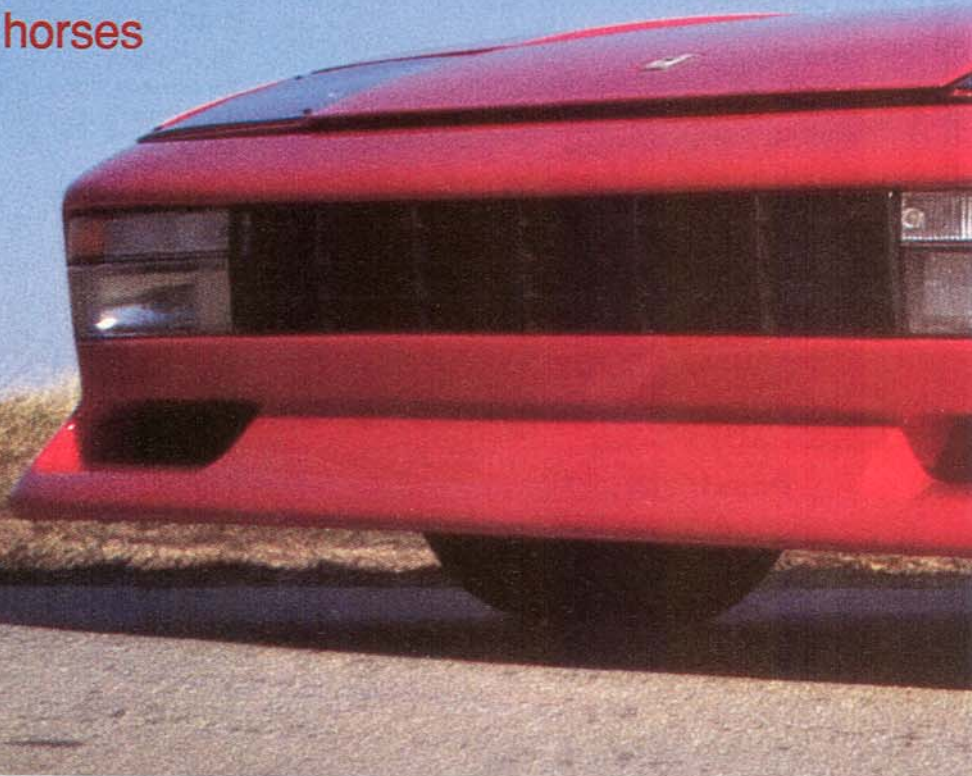
In anticipation of its use, Pirrone installed the huge discs from the Ferrari 512 BBLM, ducting air from openings in the front spoiler to the center of the discs. The cooling air is directed into the ventilated disc itself, exiting through the vanes at the perimeter of the disc. For additional effectiveness, water can be sprayed into the duct inlet, the point being not for water spray to touch the disc—which could cause damage—but for the vaporization to cool the incoming air. (Remember heat of vaporization from chemistry class?) The system is controlled by a master switch on the dash and when on uses the brake light switch to activate the system. Brake bias is

# Twin Turbo

A thousand prancing horses

by John Matras

PHOTOS BY THE AUTHOR





adjustable from under the hood.

Inside the cockpit, a roll hoop behind the seats is braced to the rear, and five-point Simpson racing belts are installed, but other signs that this is a special Testarossa are limited. The stock instrument panel and dash are retained, and you still have to be a limbo artist to get in, but only the turbocharger boost and fuel pressure gauges, an LED readout for rich/lean fuel mixture, and the nozzle and safety-capped button for the onboard fire extinguisher system hint at other than standard equipment.

There's a small crackle-painted black box behind the passenger seat, however, that orchestrates the violence of the V12 just the other side of the firewall: twelve pistons, four cams, 48 valves and two turbos' worth of activity that, when pro-

voked, leaves little doubt that this Testarossa is special in the absolute sense of the word.

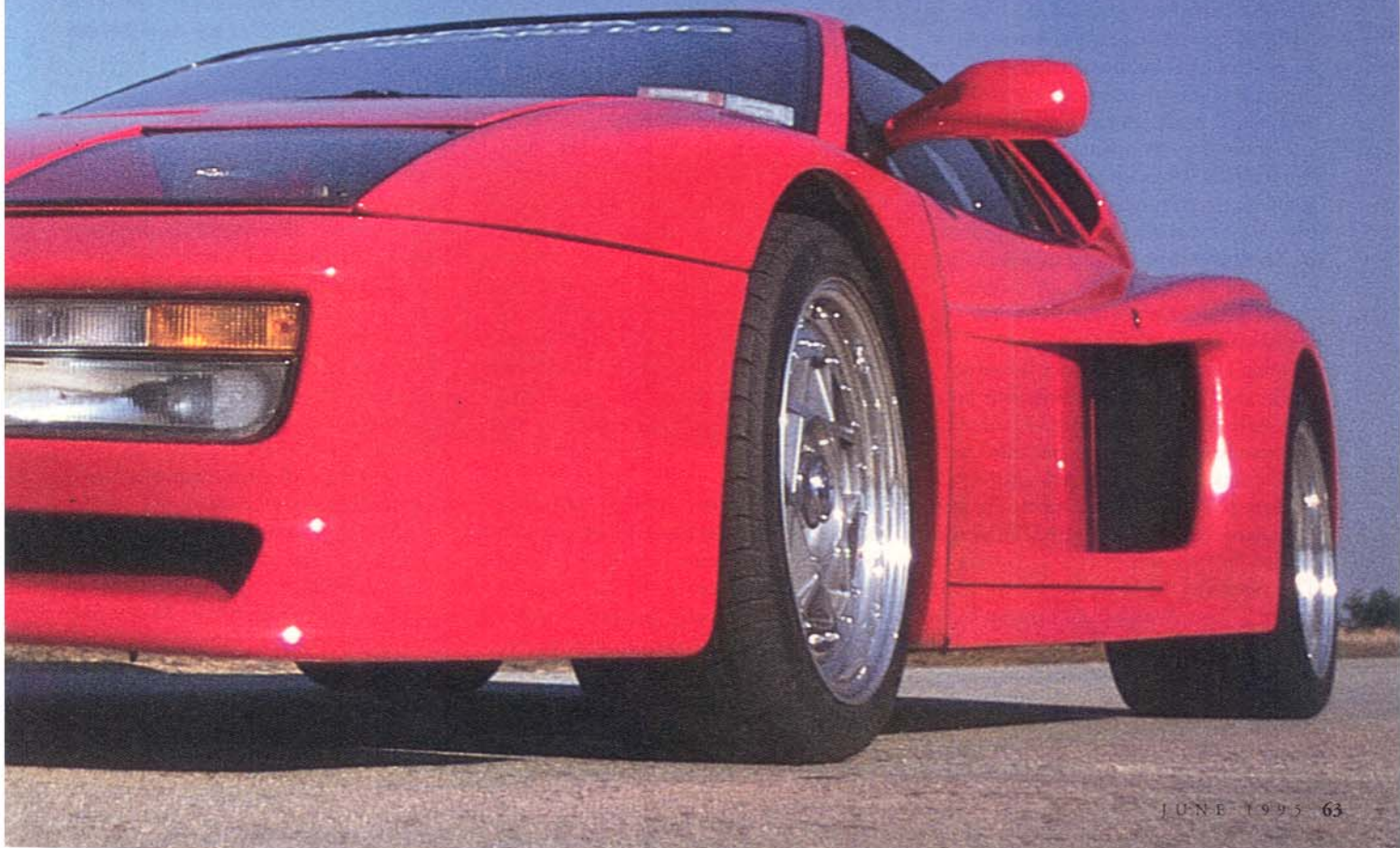
Berlinetta rebuilt the 4942cc V12 utilizing lightweight Carillo connecting rods and oversized wrist pins. The pistons, like those used on the Toyota GTP cars, are from JE and have larger than standard rings to guard against breakage from possible detonation. Instead of the standard aluminum cylinder liners, custom fabricated steel liners are used with stainless steel O-rings for head gasket sealing. To really make sure the heads stay on, cylinder head studs of AerMet 100, a special steel alloy used for, among other

things, Naval aircraft tailhooks, were used. Spray oiling, via nozzles tapped into oil galleries, cool piston bottoms. A carbon-kevlar clutch was installed, and the transaxle was fortified with a stronger fifth gear set and strengthened input and intermediate shafts.

All this was just preparation for the two Garrett turbochargers, sized for peak power between 5000 and 8500 rpm, mounted under the heat shields over the tail of the transaxle. The turbos are fed intake air from the NACA scoops on the



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## TWIN TURBO

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rear fenders; the intercoolers, pressed against the grille work between the taillights, get their cool air from the side scoops, air that in a standard Testarossa cools the rear brakes. Brake cooling air now comes from the C-pillar scoops. The side scoops are shared between the engine radiators and the intercoolers.

From the intercoolers, fabricated tubing—a crisscross section delightfully glistening in silver crackle—leads to a fabricated airbox. The original Bosch K-Jetronic CIS fuel injection was replaced by a Haltech electronic injection system, the intake manifold machined for the new injectors and set up to take the throttle position sensor. The injection is controlled by that black box in the cockpit, which contains a programmable computer that also controls the twin-coil ignition.

Two heated oxygen sensors are installed in the exhaust system, one feeding the computer terminal, the other used for the LED monitor on the dash. The computer-connected sensor will eventually be used to emission-tune the engine on the fly, although it is now used in “open loop” mode only so that it doesn’t affect the programmed mixture. A laptop computer plugs into the onboard unit to monitor



operation or alter the program. We’ve come a long way from tuning by ear and the color inside the tailpipe.

Twin storm-sewer-size tailpipes service the off end of the turbos. Initially twin resonators were positioned after the turbochargers but had the unfortunate effect of making the Ferrari whisper-quiet. Off they came. It now *sounds* like a Ferrari V12. The turbine blades puree the exhaust note into a street manageable level but hardly emasculates the tenor wail of twelve cylinders in concert. The Twin Turbo Testarossa remains as manageable

around town and on the freeway as the family minivan—at least any minivan with a gated five-speed floor shifter—and the most difficult chore is negotiating the Ferrari's proboscis in and out of driveways. We all should have such problems.

A Testarossa attracts attention. Road gangs pause from leaning on their shovels to watch it pass, and the exhaust note causes heads to rise from less important duties. And anything is less important. Inside is no different. The twelve cylinder burbles, warbles, moans and howls. Goosebumps! Then layer in the pop-off valves and their mighty expirations at every shift at speed. It *lives*.

Dust off the clichés, round up the superlatives, put a spit shine on your astonishment. Mashing the throttle puts the rest of the world in freeze frame: Other cars can move laterally, but you control the advance and rewind button with the gas and brake pedals. The brakes are instant slo-mo. There's more power here than holding the remote for the VCR.

But does it really make one thousand horsepower? It hasn't been dyno'ed, but Pirrone figures it this way: If it makes 380 bhp naturally aspirated—effectively at a pound or two vacuum—then at one bar, or 15 psi, it should make twice that, the engine as a pump processing twice the air and fuel. Add another half bar, for a total of 23 psi or so, and add another 190 bhp, for a total of 960 bhp. Figuring that the engine is built to handle 30 psi boost, 1000 hp is not out of reason. At least if you accept the premise.

But does doubling the pressure then double the flow which then doubles horsepower? I don't know and I can't tell you. My seat of the pants dynamometer, remember, was lifted off the seat. ☒

Nothing is ever done alone. Doug Pirrone credits the following Berlinetta Motorcars personnel:

Lee Stayton, design and fabrication engineering, mechanical assembly.

Nino Volpe, all in-house machining.

Ruben Rodriguez, sheetmetal design and fabrication, welding, fiberglass.

Guy Dalton (Zul Broaching), specialty machining, engine and materials consultant.

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