

A Trio of Turbos

Three 944s show what could have been

The Porsche 944 Turbo is not a legendary machine. Not as defined by Weissach's standards of international competition. There are no great victories, no toppling of goliaths. Not one first to the checkered flag, not a single podium. There is nothing. Nada. Nil. Zilch.

On the other hand, these wonderfully balanced cars with their front-engine/rear-transaxle design were never given much of a chance. At La Sarthe in 1981, the year after three 924 GTPs tried their mettle at the 24 Hours of Le Mans, Porsche slipped a 2.5-liter 420-bhp four-cylinder turbo engine into what looked like the second of two box-fendered 924 GTS racers.

In disguise and classified as a GTP prototype, Car #1 was actually the forerunner of the 944 Turbo. To its credit, it ran flawlessly, making dashes into pit lane only to refuel, and after the second sweep of the clock managed to capture seventh position overall. Had it been able to exceed its mere 175-mph top-end speed down the Mulsanne Straight, it surely would have fared better.

Twenty years later, the 944 Turbo is back and with renewed vengeance. While the inexpensive 914 was once the perfect tool to whet one's appetite for Porsche club racing—cheap to acquire, cheap to fix and with cheap parts in an abundance—the 944 has now taken over that caste. With outstanding, and somewhat unexpected performance, Porsche's overlooked child has begun to earn respectability as it muscles into club racing grids once dominated by the 911.

In Porsche-thriving Southern California, one of the primary supporters of the 944 Turbo as a club racer is Dwain Dement of Vision Motorsports in Laguna Hills. Although Dement cares for a stable of high-powered 911s, his new 12,000 sq-ft race shop looks as Weissach might have in the mid '80s had the 944 Turbo garnered the enthusiasm enjoyed by the 936s and 935s. Of the 20 or so Porsches on hand, 12 are 944 Turbos.

Some are street cars in house for general maintenance; others are being prepared for various levels of racing events. There are the casual competitors whose owners need only to swap their street treads for racing rubber before heading onto the track. Others are of the far more serious vein and have evolved so completely from their earlier forms that only their carbon-fiber skin bears a resemblance to the original car. Beneath, they are all business...the business of racing.

To understand the latitude the 944 Turbos offer their owners, Dement suggested taking a closer look at three of his customers' cars, each as different as they could possibly be.

The Sleeper

Kelly Konzelman's 944 Turbo is red. Blazing red. Hey-cop-dare-ya-to-pull-me-over red. Resting on polished Fikse wheels (9x17 and 10x17) wrapped with Michelin Sport tires (245x45 and 285x40), it is hard to consider this beauty much of

a brawler. Yet, by the gearhead definition, a sleeper is a car that performs far better than its looks advertise. And, as stunning as this Porsche appears, its performance is what makes Konzelman's 944 Turbo a premier example of what Weissach might have built.

In stock guise, Konzelman's 944 Turbo generated 220 bhp with 243 lb-ft of torque at 3500 rpm. Now, it thumps the pavement with 524 bhp and 530 lb-ft of torque.

"Originally, I wanted to start off with the suspension," Konzelman admitted. "My intention was to get into the engine little by little." A Clark Kent sort of a guy, Konzelman doesn't look the type to enjoy having 500-plus horses under his right foot. At least until you watch his eyes as he begins talking Porsche.

"What I was impressed with was the balance of the car," Konzelman said. Having owned a 1994 C2 Turbo, he did not have high expectations the first time he drove one of the front-engine fours. That, however, changed as soon as he slipped behind the wheel. "It is much easier to drive this car fast than the 911. The limits are much more predictable, and if you make a mistake it's easier to correct."

Scouring the Internet, Konzelman found his prize in Dallas, Texas, for a very affordable \$5,500. "There is so much potential in the car. For half the money, you can have a car that is twice as fast," he said, referring to the purchase price of a comparable 911.

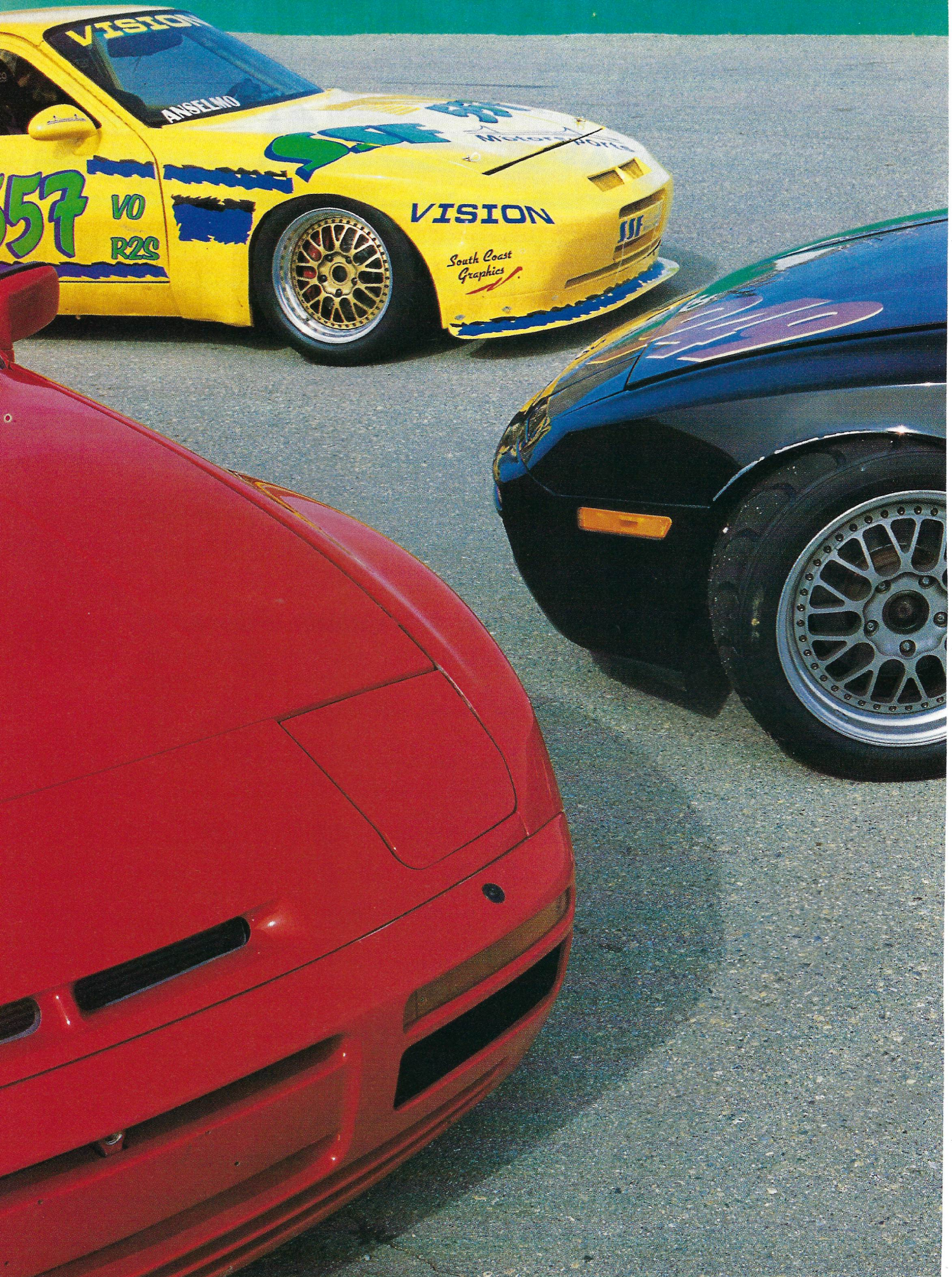
Konzelman's enthusiasm, however, may be tainted. Well, not tainted as much as misplaced. What began as a 1986 944 Turbo is not what's sitting on the tarmac of Willow Springs International Raceway. "We pulled out the engine, torque tube, trans-axle and rear end, and replaced it with the entire drivetrain of a 968," Konzelman said matter of factly.

While the car's original engine displaced 2.5 liters, the new powerplant had an additional 500cc, bringing it to 3.0 liters. The Porsche 968, however, was never turbocharged, save for a handful of specially ordered cars.

But these select turbocharged 968s were built without the production car's advanced variable-cam-timing mechanism and four-valve-per-cylinder head. The VarioCam, as it was called, improved the 3.0 liter's low- and mid-range torque and was a piece of Porsche engineering Dement wanted to retain on Konzelman's motor. Plucked from a damaged 968, the engine arrived at the race shop with very low mileage, allowing the overhaul to focus on refinements and not repairs.

"The crank was knife-edged to remove about 14 lb," Konzelman said. "The intention was to reduce reciprocating weight in order to optimize performance without sacrificing longevity."

By **Mitchell Sam Rossi**
PHOTOS BY JOE HAYASHIBARA



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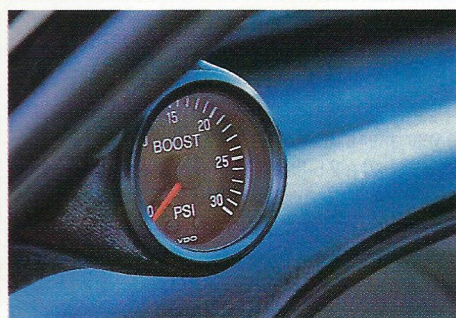
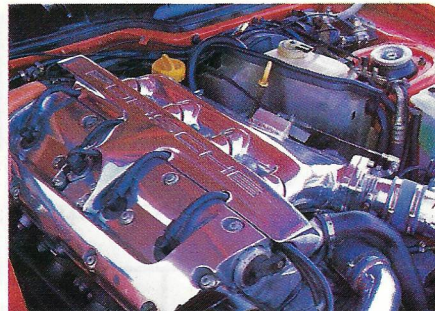
Remembering the expenses of his 911 Turbo, durability was crucial. "I didn't expect the car to run 200,000 miles, but I didn't want to rebuild it every year," Konzelman acknowledged.

To get the proper compression ratio with the original pistons, custom Carrillo connecting rods measuring 1.5mm shorter than the originals were

radiator and stock intercooler, but Konzelman has yet to experience any overheating problems. Even the exhaust system is stock. "We could not have built a more efficient system than what the factory put on the 968," he said.

Another substantial problem in the hybrid was the fact that the 944's Motronic system did not work with the 968 appliances. Instead, Dement relied on the Link 1 Engine Management System

The 944/968 received Bilstein coilover suspension up front and large gun-drilled torsion bars in the rear. Kokeln sway bars were used to keep this highway rocketship level. To rein in this much horsepower, Porsche's Big Red calipers and 13-in. discs were fitted up front. The grip of these large clamps, the same units as the 993 Twin Turbo, allowed Dement to leave the 944 T's rear braking arrangement stock.



installed. The next obstacle was the intake manifold. As the stock 944 throttle body was inadequate for the 3.0 liter's needs, Dement considered several alternatives, finally deciding to fabricate a custom intake-manifold plenum. By designing a new airbox, Dement was not only able to make room for the turbo but also lessened the turbo lag associated with spooled engines.

Surprisingly, the car still employs the original

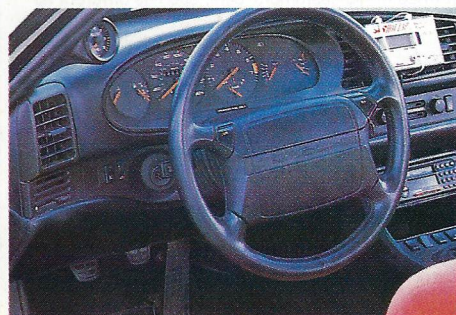
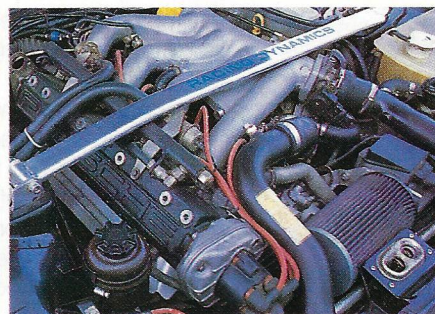
from Performance Development to control the VarioCam timing along with the turbo's boost settings and wastegate.

A bonus to the 968 running gear was that Konzelman's 944 now speeds down the road with the aid of a six-speed transmission. The drawback is that there is no speedometer. The 944's needle ran off the gearbox while the 968 used the ABS braking system, which the car did not inherit.

"We were inventing stuff as we went," Konzelman said of the project. "That is why it took almost a year and half from the time I bought the 968 components to the time I drove it out of the shop." From the looks and performance of this sleeper, it was time well spent.

The Beginner

Parked near Konzelman's jewel is another 944



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Turbo from Dement's stable. This one is a little rough around the edges, a bit more battered and beaten. Yet these are not the blotches of dejection but the scars of contest.

As a senior consultant for a database company, how else would Mitchell Tracy find his black 1989 Turbo S than over the Internet. "It was driveable, but it needed help," he said, admitting that when his wife first looked at the car she suggested he sell it and take the loss.

Although Tracy purchased a car in less than pristine condition, he did have himself one of the most sought-after 944 Ts. The Turbo S incorporated the 250-bhp engine that was supposed to have been limited to 1,000 cars the year before. Tracy's car also came equipped with the M030 option, which utilized better shock absorbers and springs. It had bigger brakes, a larger turbocharger and an updated electronics system.

While these improvements made the Turbo S desirable, Dement suggested that the would-be buyer have a good idea what he plans to do with his car before finalizing his purchase. "The funny thing about the Turbo S," Dement said, "is when we modify these cars for the track, we take off the pieces that make them special and replace that equipment with better components." Thus, laying down extra cash for a Turbo S as a race car may not be the best investment.

Competing with both the local Porsche Owners Club and the Touring Car Club, Tracy is constantly striving to get the most out of his car. "We are really lucky in this part of the country, especially if you are in the POC," he said, referring to the number of 944 racers in the club. "You can talk to the other drivers and say, 'Gee, my car is not doing this or that,' and chances are someone else has already been down that road."

When the odometer neared the 100,000-mile mark and puffs of smoke were getting him black-flagged off the track, Tracy knew it was time to refresh the motor. "It wasn't like I was going after more horsepower," he said, but cheerfully acknowledged that the car is now putting out nearly 350 bhp. To attain the additional horsepower, Vision lightened the crank, installed 968 connecting rods and installed a Kokeln intake system with a Stage 3 turbocharger.

Suspension improvements for the weekend racer included 31mm drilled rear torsion bars and Bilstein Turbo Cup struts with Hypercoil springs. A Weltmeister front swaybar was added.

Like Konzelman's car, responsibility for stopping Tracy's 944 Turbo fell onto Porsche's Big Red front calipers and the factory rear brakes. To help the car go where Tracy points it, the fenderwells are filled with Kinesis three-piece alloys measuring 10x17 in. and shod with 245/45R17 Yokohama A032 high-performance tires.

The car was also lightened by eliminating the

The 944 Turbo Family

From its launch in 1986 to its demise in the U.S. market in 1989, the Porsche 944 Turbo threatened the existence of the 911. At least on paper. With the 50/50 weight distribution created by a front-engine/rear-transaxle layout and 220 bhp on tap, the force-fed 944 was an outstanding performer. In its later form as a Turbo S, it was in fact faster than the 911, both at top end and 0 to 60 mph, and thus is an attractive alternative over its rear-engine sibling.

While the normally aspirated 944 (1983-89) was considered the entry-level Porsche of that era, the turbocharged version gave the marque's potential customers ample reason to veer from the costlier Carrera. But the Turbo model was a lot more than just a 944 with a high-output whirlwind bolted to its motor.

While many of the Turbo's enhancements quickly trickled down to the standard car, it was unique in the Porsche lineup for its power, flexibility and driver friendliness when piloted to the extreme.

The 944 Turbo was visually distinct, a redesigned front end incorporating the car's indicator lights, foglamps and airducts into a smooth polyurethane nose and bumper assembly. At the tail, to tidy up the airflow and help cool the transaxle, a rear under-spoiler was attached.

For wheels, the early Turbos were fitted with the cast alloy "telephone-dial" style, sized at 7x16 and 8x16 in.. In 1988, the improved Turbo S was offered with the seven-spoke cast wheels similar to those of the 928.



with alloy units. At the rear, transverse torsion bars with semi-trailing arms and hydraulic shocks remained. The diameter of the Turbo's front and rear anti-roll bars were increased to 22mm and 18mm.

Adhering to true sports-car doctrine, Porsche never offered an automatic transmission on the Turbo. The five-speed gearbox was equipped with an external coil-type cooler and internal pump. A limited slip was optional until the introduction of the Turbo S model, when it became a standard feature.

Under the hood, the sohc 2.5-liter four-cylinder engine was fed by a KKK K26 turbo. The forged pistons were designed with a compression ratio of 8:1. To adapt to the increased power, the engine block was designed with thicker cylinder walls. At 5800 rpm, the engine was rated at 220 bhp with a peak torque of 243 lb-ft at 3500 rpm, the boost being electronically restricted. With the help of an improved engine management system, the car could ingest low-octane fuel, an important factor in the mid '80s.

Inside, the Turbo's dash received a complete makeover, drawing its styling clues from its big brother, the 928. New, more adjustable Recaro seats were added. Under the tachometer needle, the turbo's boost gauge appeared.

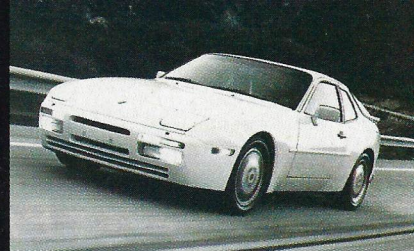
The car reached its zenith when, in 1988, the factory offered the limited addition Turbo S. Only a thousand of these special models were proposed, but, in fact, the number actually topped 1,600 units. Enthusiasts drawn into purchasing the so-called "special" Turbo S were understandably miffed when their high-performing Porsche became the mainstay 944 Turbo in 1989. The Turbo S, with a larger turbo and further improved engine management system, now generated 250 bhp, giving the car a top-end speed of over 162 mph.

Perhaps the most elusive 944 T—and, unfortunately, not imported to the U.S.—is the limited-edition Cabriolet. Built during the car's last production year, the 944 Turbo Cabriolet packed all the performance punch of the Turbo S coupe but was honestly held to the exclusive number of 625 units.

The 944 Turbo is probably one of the best Porsche-per-dollar values on the market today. The problem, however, is that both race enthusiasts and originality devotees are well aware of them. Prices for 1986 models range from \$5,000 to \$9,000, while examples of the Turbo S can be found in concours condition above the \$20,000 mark. Luckily, the cars were imported in large enough volume to allow potential buyers to be as fussy as their wallets will permit. —MSR

air conditioner, cruise control and the passenger-side airbag. A fiberglass hood was set in place along with a fiberglass rear bumper. Sparco seats replaced the heavy original buckets, which Tracy quickly discovered offered little support as the car's cornering forces increased.

"For what the car can do, I probably would have had to double or triple my investment in a



911. You cannot rebuild a 911 engine and get another 100 horsepower for \$5,000," Tracy said. While this street car/racer may not be as aggressive in the engine department as Konzelman's hybrid, in its present form and with Tracy behind the wheel, the car is turning the fastest lap times in its POC class.

Still, Tracy admits he has reservations about

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the model. "Dwain will disagree with me," he said honestly. "But I'm wondering if it is truly competitive at the upper echelon (of club racing). Development on the 944 stopped in 1991, but it's still continuing with the 911, 993 and 996."

The Racer

Along with Dement, another person who might find fault with Tracy's assessment of the 944's limitations is Joe Anselmo. His 1986 944 Turbo does reside at the upper levels of Porsche club racing. Although not yet on the top tier, Anselmo's racer has the potential.

"Like everyone knows," Anselmo said, "you either build an all-out track car or you end up with a really rough-running street car. I hit that point and decided to sell my street car in order to pay for the race car." What he sold was a 1986 944 Turbo, his second 944, the first being normally aspirated. A racing-equipment specialist, Anselmo was never bewitched by the 911 and knew early on he wanted to explore the limits of the 944 Turbo.

Stripped to the metal and cut down to the monocoque, Anselmo's original body pieces have been exchanged for weight-saving fiberglass. The front is one piece, incorporating the bumper and fenders. It is the same unibody setup at the rear. All told, the car weighs in at an impressive 2,150 lb.

The car's full rollcage links the front and rear shock towers, increasing the chassis's rigidity. A Bilstein suspension system using springs with ratings of 700 lb replaces the car's rear torsion-bar assembly. Up front, the system uses stout 850-lb-rated springs. The stock swaybars have been traded for Kokeln adjustable units fore and aft.

Rolling on massive 12-in. Kinesis wheels wrapped in 315x35x17 Yokohama A032 tires, Anselmo brings his racer to a halt via 993 Twin

Turbo front brakes assisted by European 968 RS brakes at the rear.

The running gear, the transmission, torque tube and motor are all from a 1989 Turbo S. The engine, however, has undergone Vision's customary improvements. Retaining its 2.5-liter displacement, the four-cylinder was given a knife-edge crank, JE pistons and a high-performance camshaft. The combustion chambers were modified to improve the engine's air-flow characteristics which, in turn, allowed for larger injectors. The high-capacity squirters supplemented the car's Kokeln Stage 3 turbocharger. To keep the new components coordinated, the stock Motronic engine-management system was enhanced with Kokeln-designed computer chips.

"When the engine was originally built, it generated 300 bhp at 15 psi of boost," Anselmo said, estimating it would produce 400 bhp if he dialed the turbocharger to its 22-psi limit. Entering his third racing season with the car, Anselmo admitted he spent the first 2 years getting accustomed to the horsepower. "It can pull just about everything down the straightaway except for the big twin turbos and 996 GT3Rs," he said. "And I'm into the car for fifty grand less."

Although Anselmo is elated with his racer, Dement contends there is still more potential waiting to be tapped. "We built this car to be a bulletproof club racer. Instead of making it blindingly fast, we made it fast but reliable," he said, noting that in 3 years the only service the car has required has been oil changes and brake pads.

While reliability is an important advantage of campaigning a 944 Turbo, the car's inherent balance and stability are also major benefits. "You can do things with the car that you'd never dream of in a 911," Dement said, explaining the ease with which the car could be settled into a four-wheel drift. "They are incredibly driver friendly."

As to their scarcity among the highest ranks of Porsche club racing? "It's the mystique," Dement explained. "The guys running in the top five spots began with a \$100,000 invested in their cars. Those guys didn't start with 944s. They had to have a 911."

But, how prominent could this force-fed, front-engine GT have stood in the annals of Porsche racing had they been given their proper due? And, enriched by 20 years of competition, might it have really replaced the 911 as it was intended? With admiration growing, perhaps the 944 Turbo is beginning to hint at what could have been. ❧

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