



# THE SCIROCCO GTi

## Porsche in Wolfsburg clothing

By Jay Amestoy

For almost a year we've been hyping the European GTi Golfs and Sciroccos. We've also spent a good deal of time lamenting the fact that they aren't and never will be available in this country.

For those unenlightened few who may not know what the GTi label affixed to the rear of a Golf or Scirocco means, perhaps a short description is in order. Basically, the GTi designation means that under the hood resides a 110 DIN hp, 1588cc fuel-injected super motor. This engine has the same block as the '76 and '77 U.S. Rabbits and Sciroccos (this year the displacement was reduced to 1457cc), but it utilizes 9.5:1 flat-topped pistons, revised cylinder head and higher-lift cam. Of course, the GTi's have none of the emasculating

emission-control equipment such as an EGR or catalytic converter. On the inside, the GTi's come with fabric covered Recaro-type sport seats, supplemental instrumentation, black-out dash and trim. Suspension changes include solid front mounts, shorter springs and Bilstein gas-pressure shocks and sway bars front and rear. On the outside, there's very little (only the GTi letter on the Scirocco) that distinguishes these VW front-drivers from lesser models.

Recaro U.S.A. is the sole distributorship for Recaro GmbH, a large German corporation involved in the manufacture of some of the finest aircraft and automotive seating systems in the world. Recaro's seats are standard equipment on all Porsches,

optional on BMWs, and found on the vast majority of winning rally and racing cars.

George Venieris, president of Recaro U.S.A., is an automobile enthusiast's enthusiast. In the past he's owned more than his share of exotica: Porsches, BMWs, a superbly restored Shelby GT-350, a Pontiac Trans Am, A Z/28, you name it. His present stable of automobiles is quite different, however, and there isn't a Porsche or domestic super car in the bunch. He now owns three rather tame-looking Volkswagens: a '77 Scirocco, a '78 Rabbit "L" four-door and a '78 Rabbit two-door. How could anyone who's owned Porsches be content with VWs? According to George, VW's new-generation, front-wheel-drive

models are much more than meet the eye. His favorite, the Scirocco, "is the cleanest, most stylistic mini hot rod, with the possible exception of Giugaro's Alfasud coupe (which isn't available here)." It is, he says, a true GT machine, though in stock U.S. form most of its potential hasn't been brought out. "There's a healthy market for a car like the Scirocco GTi in this country and at present there are no other German GT cars in what would be a similar price range. You can forget about Porsche 924s and BMW 320i's, they're simply too expensive."

"As they come from the factory, U.S. equipment and all, the Scirocco and Rabbit are exceptional cars," he adds, "but it's my plan to make them

better and to give incentive to Volkswagen and its otherwise excellent product to bring out a performance car worthy of, say, an \$8000 price tag."

Having lived in Germany, George was well aware of the incredible characteristics of the GTi-equipped Golfs and Sciroccos. He was also aware that it's nearly impossible for a lone individual to obtain the necessary parts to duplicate such a package on a U.S. VW. At our suggestion, George turned to German Motors & Parts in Charlotte, North Carolina for assistance in helping him put together the kind of car he believes Volkswagen should market in this country. GMP imports most of its Volkswagen performance parts directly from Germany, including virtually everything

used on the GTi models.

As you would expect from a man who deals with seats every day, all of his cars are equipped with Recaros. The Rabbit "L," which is Cobalt Blue Metallic, is fitted with Recaro LS seats upholstered in the Porsche-Martini striped fabric, a dark-blue background with four light-blue stripes and a center orange stripe. The back seat has been upholstered in the same material. The Rabbit two-door, which is a light blue, also received a pair of Ls, only solid dark blue and with matching fabric for the back seat.

The Scirocco has seen a number of different seats in the eight months George has owned it. Currently it's fitted with Recaro's new top-of-the-line model called the C-seat. This is without question the most advanced automotive seat in the world. Each of the two in the Scirocco has its own built-in control panel to activate the seat's different functions. There's an electric recline feature, a compressor that inflates a lumbar cushion, three buttons to deflate this cushion to the desired shape, a heating element that'll raise the seat's temperature to 97 degrees if required, and still another switch that turns on a pair of Jensen speakers built into the headrest. The C-seat also has a double-hinged upper backrest that can be adjusted

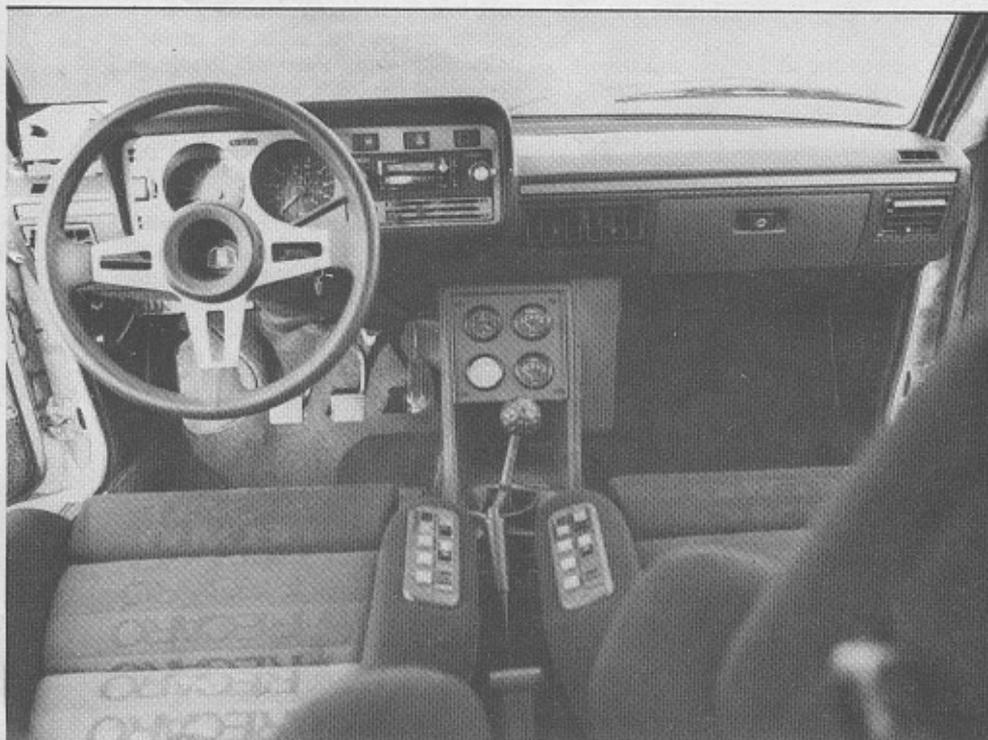


*Black painted bumpers and stripes up C-pillar greatly enhance the looks of the Scirocco.*

*(Opposite page)  
The Scirocco exhibits a classic case of oversteer. Body roll has been minimized.*

*Scirocco GTi nameplate tells it all.*

*The cockpit of the Scirocco is as luxurious as that in any GT car built today.*



independently for added upper back support. As if these controls weren't enough, there are also four knobs that move the side bolsters in and out, enabling the seat to be widened or narrowed to suit an individual's own anatomy, and a bar underneath the front of the seat to move a thigh bolster fore and aft.

These exceptional seats are upholstered in a designer-like fabric made up of colored horizontal stripes in a repeating range of blacks, dark browns, medium browns and several orange tones. The Recaro name is woven into each stripe.

The Scirocco GTi "project" was begun by painting the window surrounds and bumpers black and removing the chrome drip rails. Then attention was turned to the suspension. It was discovered that the U.S. Scirocco, the way it sits on the showroom floor, is actually higher on



(Opposite page)  
*The Recaro Scirocco leads a '78 Turbo through the 700-foot, zig-zag slalom. Though not as quick, Scirocco still gave the Turbo a good run.*

*The Recaro Scirocco GTi sports a Sidewinder II-type front spoiler from Auto-Haus, Pirelli P7s on 5½x15-inch wheels. The striking paint scheme is the work of Dennis Ercek, 1708 Ruxton Lane, Redondo Beach, California. Bob "Rim" Brante at 9817 Park St., Bellflower, California, did the unique lettering and striping.*

*Matching designer fabric was used to cover Scirocco's back seat. Solid colors are also available in the C-seats.*

the left side because a longer left front spring is used to compensate for the driver's weight. This was changed by the installation of GMP's shorter GTi springs all around. The left front dropped 1¼ inches, the right side ¾ inch, and the right and left rear about ½ inch. The stock oil-filled front and rear struts were replaced with Bilstein's "comfort setting" dampeners (part numbers P30-037 front, B46-830 rear). Bilstein, it should be noted, is very serious about the U.S. market and is tailoring its product to suit American road conditions and driving requirements. It has just appointed a Mr. Steinberger as Technical Vice President of Bilstein Corporation of America in San Diego, California. Steinberger will be responsible for all technical developments in the U.S. With the importance Bilstein is placing on the U.S. market, expect to see more good things from it in the near future.

In the sway-bar compartment, George installed a GMP 19mm GTi bar at the back and a Quickor Engineering 22mm bar in the front. Ever since we ran Quickor bars on our own Project Rabbit, Glenn Rissberger and his group in Beaverton, Oregon have really been getting into the Rabbit and Scirocco end of the suspension-tuning business. They have supplied five different sway bars to Recaro for evaluation on its Scirocco and Rabbits and are now in the process of developing a coil-over shock for these VW front-drivers, using a Bilstein dampener.

The suspension mods alone were almost enough to give the Recaro Scirocco the cornering capabilities of a slot car, but George didn't stop there. He had Joe Klitzch, owner of GMP, send him 5½x15-inch ATS alloy wheels for the Scirocco. These wheels are specifically designed to accept ultra-low-profile Pirelli P7 radials. The

wheels have been approved by the T.U.V., a more demanding equivalent of the Department of Transportation, and by Volkswagen AG for street use on VW's products.

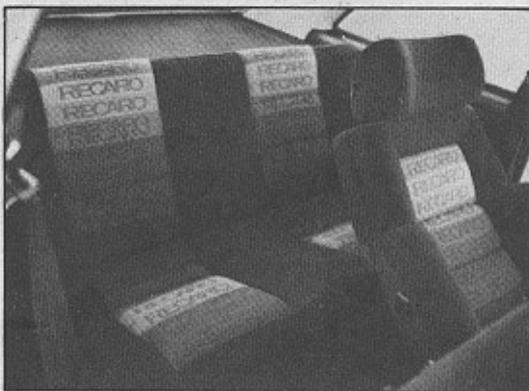
The Pirelli P7 is a 50-series, 200-mph tire that, when it was first introduced, was hand grooved. It is now standard equipment on Porsche's Turbo and, at almost \$250 apiece, may have the distinction of being the world's most expensive tire.

P7s were mounted on the GMP-supplied ATSS and were set at one-degree-negative camber. The advantage of the ATS/P7-combination of tires and wheels is that they fit within the Scirocco's (and Rabbit's) unaltered wheelwells, and the rims have a stock Rabbit/Scirocco offset, so increased loads aren't imposed on the wheel bearings by the wider 195-15 tires. Most important, the P7s are perhaps the stickiest tires on either wet or dry pavement presently available for the street.

The suspension and wheel and tire changes resulted in a total ground clearance reduction of one inch at the front and only ¼-inch at the rear. The track was increased a full inch front and rear with the P7s. The car now sits level and measures exactly two feet from the ground to the top of the wheelwells.

To bring the 1588cc engine in the Scirocco up to GTi specs, George ordered the GTi 9.5:1 forged pistons, GTi camshaft and GTi cylinder head from GMP to replace the stock pieces. The GTi head comes with larger 38mm intake valves. When assembling the engine, George had the intake ports matched, but avoided the heavy porting and polishing job. New camshaft bearings were also installed, though those in the engine (which had 3500 miles on it) were in good shape.

The vacuum retard was also closed



off and the timing was advanced to five degrees. Other than removing the restrictor from the venturi of the throttle plate, the Bosch K-Jetronic fuel injection was left stock.

With increased compression ratio, the GTi engine will not run properly on low-lead or unleaded fuel. Therefore, the converter and the filler-neck restrictor were removed. Of course, any alterations to the engine or its emission-control devices should only be done if the car is going to be used exclusively off the road. Otherwise it would be a violation of federal law.

The GTi engine develops maximum horsepower at 6100 rpm (compared to 5500 for the stock U.S. engine) and puts out 40 percent more power than its U.S. counterpart. According to the factory, top speed jumps from 103 mph for an American spec Scirocco to 115-plus mph for a European GTi version. It was felt that the Scirocco's 9.4-inch solid front discs weren't up to the job of hauling it down from its increased velocities, so a pair of GMP's internally vented GTi discs were installed in their place. Vent holes in the discs dissipate heat more quickly and reduce the chance of fade during prolonged high-speed stops. The GTi discs, which are the same diameter as the stock ones, also come with larger



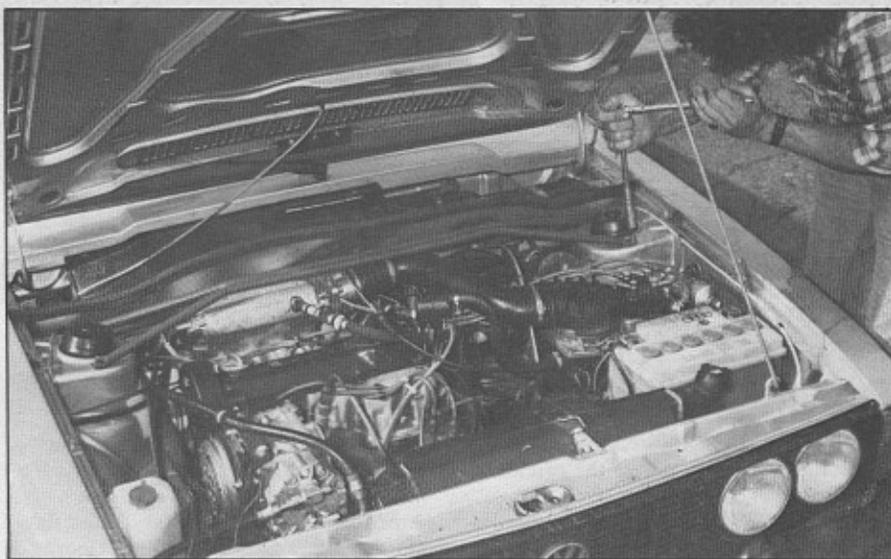
Ate calipers. The stock brake lines were discarded in favor of the braided stainless aircraft items. As the true GTi comes with a rear wheel brake-pressure regulator and a larger brake booster for the servo assist, George has plans to install a Ford Motorcraft CSSZ-2B901-A proportioning valve to help distribute braking loads more evenly. He's also contemplating Textar V-1431G hard pads for the Ate calipers.

In terms of performance, handling and braking, the Recaro Scirocco either duplicates or surpasses the European Scirocco GTi—at least on paper.

But then problems cropped up. Once the motor had been run in for a couple of hundred miles, it was discovered that it didn't want to rev above 5500 rpm. The redline on the European models is 6100 and, were it not for a rev-limiter, they'd easily go to seven grand. Since the Recaro car had the GTi cylinder head with larger 38mm intake valves, 9.5:1 flat-topped pistons, and had had all the necessary injection and timing changes performed, 6500 rpm should have been easily attainable.

At first the problem was diagnosed as a too-lean mixture—evidenced by a snow-white tailpipe. A talk with a couple of the experts at Bosch and a day spent swapping different fuel-metering heads netted a slightly richer mixture (with the same CIS metering head) but no appreciable change in performance. More calls were made around the country to determine what additional changes to the Bosch K-Jetronic unit, if any, were made on the European unit to compensate for the European engine's higher output.

The motor was torn down. Everything looked in order. Closer inspection, though, revealed that the camshaft was the same as the one that originally came with the stock U.S.



motor. That was it, wrong cam. No such luck. While on a trip to Germany, George inquired about a GTi camshaft and was told it's identical to the one used in the federal 1.6-liter engines.

The motor was reassembled and an Auto-Haus tubular-steel header system installed. This, it was felt, would relieve some of the backpressure inherent to the stock-cast manifold and come closer to duplicating the GTi's four-into-two-into-one manifold. Even with the new header system, and the catalytic converter removed, the engine still seemed down on power. It was pulling better at high rpm but was minus about 30 of what should have been 110 horses.

By this time, the magazine deadline was beginning to back us into a corner. A track test was called for, even though we knew the car wasn't going to be an asphalt burner, at least not in a straight line until some problems were solved. On the other hand, we felt the Scirocco was pretty well sorted out in the handling department.

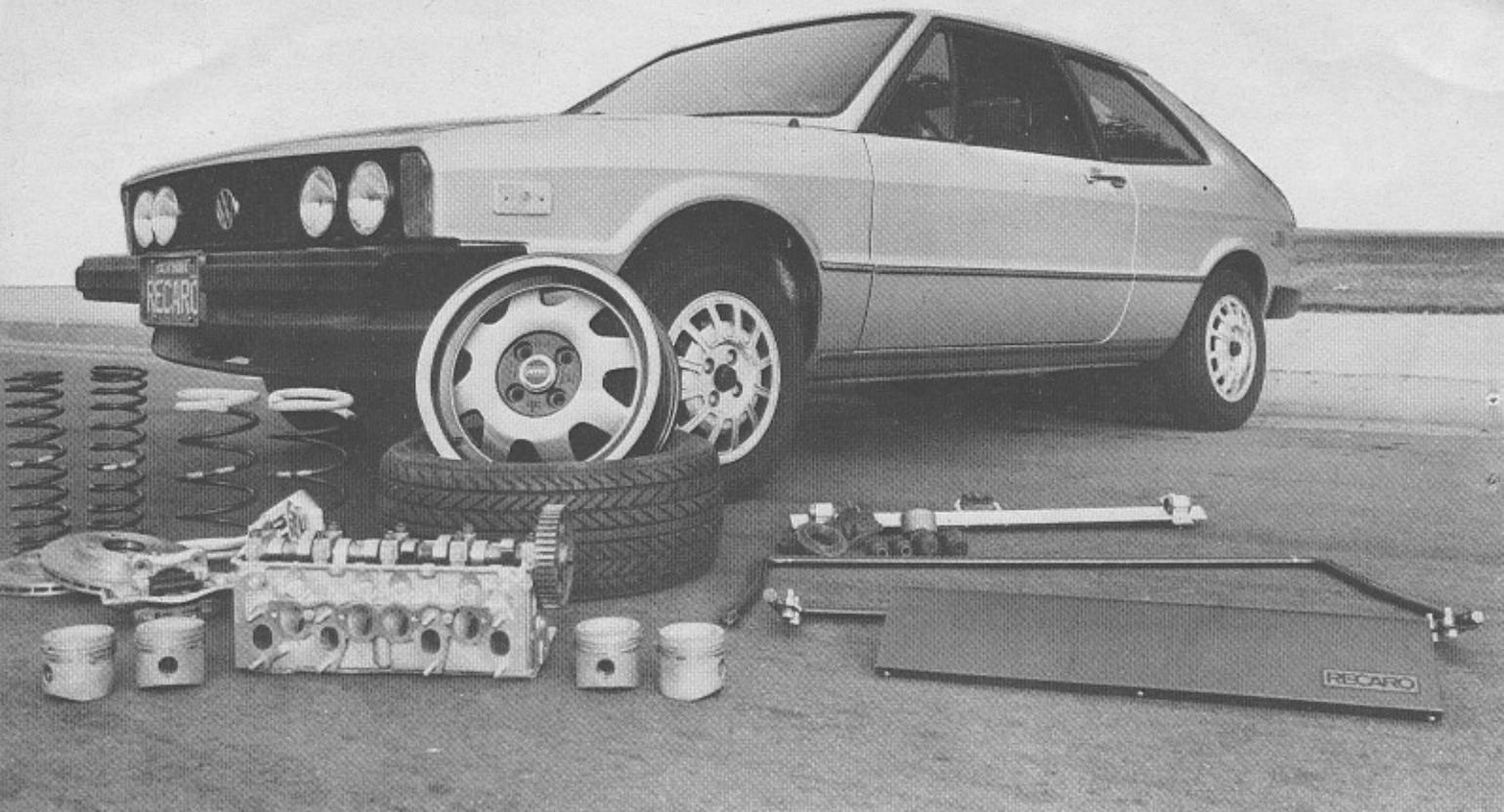
*Designed by George Venieris, this tubular crossmember bolts to MacPherson strut towers using existing bolts. It reduces geometry changes under load.*

We were right on both counts.

Acceleration times at Orange County International Raceway didn't measure up to the factory GTi figures. In the quarter-mile, the best ETs we could coax out of the Scirocco averaged out to 16.8 seconds at speeds just over 76 mph. This is a full second faster than a stock '78 Scirocco. Sixty mph from rest came up in around 9½ seconds (compared to the factory's claim of 8.7 for the German version). Of course, a U.S. Scirocco with steel door beams, five-mph bumpers and the rest of the mandatory safety equipment is heavier than its non-export counterpart, but that didn't account for the eight-tenths of a second difference.

While the Recaro Scirocco was anything but a star on the strip, it did

1988 VW GTI PERF. APPROX. 65-70. 83-88



*In front of the Recaro Scirocco are the GTi pieces that'll make it a super performance coupe. The ATS wheels, Pirelli P7s and Quickor front sway bar are not standard on European GTis.*

shine on our 700-foot zig-zag slalom course.

But George wasn't satisfied with the car's cornering capabilities. There was still more understeer and body roll than he preferred. To remedy this, he had another  $\frac{1}{4}$ -inch Quickor sway bar bolted to the top of the triangular bracing bracket at the rear of the torsional beam axle *above* the original Quickor bar. Then he designed and had fabricated lengths of chrome-moly tubing to tie the MacPherson struts together in the front. This, he reasoned, would stiffen the suspension system and minimize geometry changes under load.

These stiffeners consist of two tubes welded together that attach to existing bolts on top of the strut towers. The new crossmember is also designed to clear the CIS unit and the bottom of the hood.

Underneath, George has installed another chrome-moly tube that bolts up to the linkage attachment points on the A-arms.

The result of these modifications is a front-wheel-drive car that'll get through our slalom run two-tenths of a second quicker than a '78 gymkhana-suspension-equipped Corvette we ran it against. Now oversteer can be induced in a corner by applying more throttle (if there's throttle left!). These strut tie-offs further reduce body roll and help keep the inside tire from lifting in the apex of a turn. Transitional handling is almost neutral. Considering 60 percent of the Scirocco's weight is over the front wheels, which also do

the pulling, this is quite an accomplishment.

*VW Greats*, which provided the inspiration for the Recaro Scirocco GTi, began recording the step-by-step transformation of the 1977 1.6-liter coupe into a high-performance super coupe back in its May/June issue. The incredible story since the GTi was last featured (July/August) is that *our* car has turned into the darling of the American automotive press. Every day another magazine is hounding George Venieris for a chance to wring out the car.

What these magazines have found is that the Recaro Scirocco surpasses even the lofty standards of the European GTi from which it was patterned. *Road & Track*, for instance, found that our Scirocco was the second fastest car they'd ever run through their slalom course and cornered "just a tick less than the Ferrari 308 GTS which pulled 0.852g and the Lamborghini Countach at 0.832g." Their overall assessment of the car was, "The Recaro Scirocco is every bit a driver's car . . . fun to drive. It's a car for the super enthusiast who buys a Scirocco for its handling and ability, then wants more." That's heady praise from the dean of the car books.

On the Recaro Scirocco GTi, the modifications for the suspension and drivetrain were limited basically to bolt-on equipment. "After all," George Venieris cites, "the Scirocco is one of the best handling cars available in the mass-production market."

Recaro's modifications "were

calculated to increase specific areas of performance," as Recaro's product specialist David Schwartz describes in explaining their goals. "We wanted to create an extremely 'streetable' car, and have a lot to offer." To briefly highlight the Recaro suspension modifications, George and David installed a Quickor anti-roll bar up front and a pair of them at the back, to minimize body lean and added shortened springs front and rear.

Heavy-duty suspension bushings were installed to the control arms, upper strut bearings and the transmission mounting. David notes this suspension rubber cannot be added, "without a lot of experience and a lot of trouble."

Bilsteins were mounted all around, along with ATS wheels and Pirelli P7s, the Porsche Turbo of tires. Not everyone can afford \$225 a tread.

"Our intention," explains David, "was to keep the Scirocco extremely tractable. We wanted to surprise, not overwhelm the driver. One of the unique features is the ability of this GTi to go into a corner flat out and keep one hand on the steering wheel."

For George, however, what has been the result of this project of giving birth to the Recaro Scirocco GTi? "An exercise in frustration," he quickly replies.