

Callaway Turbo Scirocco

A high-performance special you can actually buy.

• At last you can go to a Volkswagen dealer and buy one of the long-awaited turbo Sciroccos. Unfortunately, they're available only from a few selected dealers in Connecticut, New Jersey, and New York. And the cars aren't built in Wolfsburg or even Westmoreland, but rather in Old Lyme, Connecticut.

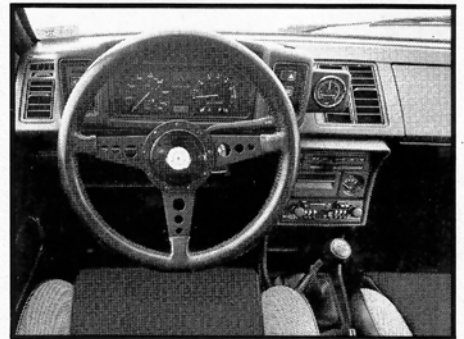
These blown Sciroccos come from none other than Callaway Turbo Systems. Reeves Callaway, the proprietor, has been marketing well-respected turbo kits for Volkswagens—and nearly everything else on four wheels—for several years. In the Scirocco he saw a unique opportunity to expand his business by building on the car's basic goodness and offering complete package upgrades through Volkswagen dealers. This approach is meant to attract cus-

tomers who desire the benefits of high-performance modifications but lack the inclination or skills to perform them personally. It also allows the cost of the improvements to be included in the cars' financing arrangements.

There are a few catches, of course. New cars must comply with federal safety and emissions requirements, and new-car buyers expect warranties with their cars. Callaway attacked both of these issues head-on. To satisfy the nebulous EPA requirements for aftermarket manufacturers, he refined his turbo kit to work with the stock catalytic converter until he could demonstrate that it had minimal effect on the standard Scirocco's emissions performance. The warranty problem was even simpler. Callaway contracted with an aftermarket

warranty company (one of the firms that offer extended warranties on regular new cars) to provide a twelve-month/20,000-mile warranty for his car, the same coverage offered with factory Volkswagens. The cost of the warranty is included in the package.

Callaway considered the total-package concept critical to the car's success, so he upgraded the chassis to keep pace with the blown engine. Starting from the pavement up, 195/50VR-15 Phoenix Stahlflex tires mounted on 5.5-inch-wide Centra or ATS wheels replace the standard items. Bilstein shocks and stiffer springs at all four corners, along with a 19mm rear anti-sway bar, keep the suspension's motions in tune with the



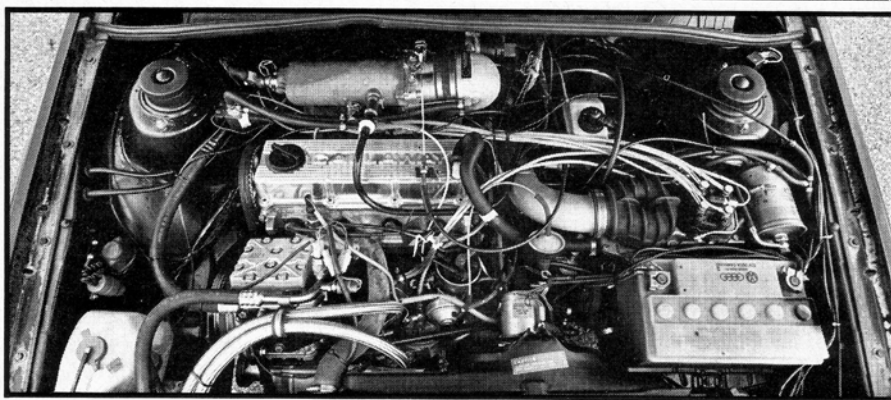
Scirocco's newfound speed and grip.

Inside, a classic three-spoke, leather-wrapped steering wheel directs these components. A boost gauge, mounted in a beautifully executed housing to the right of the instrument binnacle, monitors the engine's efforts. The only other interior change is special Callaway-embazoned upholstery fitted to the otherwise stock seats.

Naturally, a trick car needs some external identification. Callaway has added four tapering stripes to each side of the car to accentuate the Scirocco's basic wedge shape, as well as "Callaway Turbo Scirocco" graphics to the hatch and rear quarter-windows. Combined with the spacy wheels, these additions clearly differentiate the Turbo from garden-variety Sciroccos, yet are still reasonably subtle and tasteful.

All of these modifications aside, the heart of the car is its turbo engine. With a mere eight pounds of boost, it's one of Callaway's milder installations, yet it still pumps the horsepower from 74 to 117. Water injection and premium-unleaded fuel keep detonation at bay, while a thermostatically controlled oil cooler keeps the temperature under control.

This engine is hard to fault. It retains all of the stock engine's docile and refined nature, yet can boot the Scirocco around with real authority. Zero-to-60-mph acceleration takes but 7.7 seconds, the quarter-mile is covered in 15.8 seconds at 87 mph, and 100 mph comes up in 24.6 seconds. Top speed is improved



Doing It the Hard Way

• The Callaway Turbo Scirocco breaks new ground because it requires no more customer involvement than a check. Even that is more than our turbo-kitted test cars require, since they're handed over to us ready-to-go. Consequently, although our comments on the finished articles are valid, the full ramifications of the turbo-kit experience are rarely driven home.

As a down payment on our long-delinquent turbo-kit dues, I helped my friend Tom Ferguson (one of Ford's brighter young engine engineers) install a Callaway turbo kit on his 1981 Volkswagen Rabbit S. Being a true performance freak, Tom ordered a stage II kit, complete with adjustable-to-infinity boost control, Callaway's Microfueler, an oil-cooler kit, and a heavy-duty clutch.

About two weeks later, five medium-to-large boxes arrived. Containing an absolutely amazing number of parts, the Callaway kit had everything from a totally new exhaust system to the last lock washer, hose clamp, and cable tie. Accompanying the parts were an inventory list, about 30 pages of detailed instructions, and a list of special tools. Callaway assumes that the kit buyer has access to normal mechanic's tools, but the list specifies the necessary drill bits, hole saws, and even a tapered reamer.

Once these were on hand, we got started. Callaway's instructions are excellent, breaking the installation down into simple steps with clear and precise directions throughout. Photos and illustrations are provided where necessary. We did have a few problems, though. The instructions are intended to cover installation on all Volkswagen models; while most model and chronological variations are listed, a few surprises slipped through. These discrepancies could

all be solved, however, with simple, impromptu modifications.

One problem that couldn't be dealt with by pure initiative was a solid interference between some of the turbo plumbing and the Rabbit's brake booster. The difficulty turned out to be the wrong compressor housing, which Callaway promptly exchanged along with two other inappropriate parts.

Most of the installation consisted of routine unbolting and bolting of parts. One thought-provoking exception was drilling the eleven-sixteenths-inch hole in the cylinder block for the turbo's oil-drain-back line; a mistake here couldn't be fixed by simply loosening some screws and trying again. Thankfully, Callaway's directions located the hole perfectly and the operation went much more easily than we had expected.

Some of the parts were a tight fit. Since the turbo and its attendant plumbing really fill the space between the engine block and the fire wall, some bolts had to be tightened one-quarter turn at a time. But everything did fit, and there are no rattles. About 30 man-hours after we started, the engine was ready to run. The clutch installation required twelve more man-hours.

The installation worked the first time out, but there have been some teething problems, including slight detonation and a sticking waste gate. Nonetheless, I wouldn't hesitate to install a good turbo kit like Callaway's on a car I wanted to perk up.

If you're tempted to join the turbo-it-yourself ranks, just bear in mind that this modification requires good basic mechanical skills, several hours of hard labor, and never-ending vigilance for signs of malfunction or detonation. If any of these ingredients is missing, you'd better have a second car.

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by an incredible 24 mph, to 126 mph.

The Turbo does have a voracious appetite for water when driven this hard. But the two-quart supply, held in the windshield-washer reservoir, will last as long as a tank of fuel under anything but track conditions. Our overall water consumption was 415 miles per gallon during very hard driving. Fuel economy was an excellent 22 mpg; according to the certification tests, the Turbo delivers the same 28 mpg as a stock 1982 Scirocco when driven sedately.

The Turbo's suspension nearly equals the engine's all-around excellence. Cornering grip is improved dramatically, from 0.74 to 0.79 g. Equally important, the Turbo responds more crisply and turns in harder than any stock Scirocco.

The engine's goodness comes with no compromises, but the suspension does extract a comfort penalty in exchange for its handling improvements. Particularly on small pavement imperfections, there is a decided increase in ride harshness; still, this seems like a fair trade for the cornering capabilities. We also tried a Turbo with the optional front anti-sway bar. That car was far rougher-riding, with no commensurate handling benefits.

The only performance aspect of the Turbo that is unimproved is the brakes. While standard Scirocco brakes are very good, the Turbo's higher speed capabilities can push them well beyond their fade limits. Unfortunately, there is no expedient improvement available, although GMP in Charlotte, North Carolina, does offer an assortment of upgrad-

Vehicle type: front-engine, front-wheel-drive, 4-passenger, 3-door sedan

Price as tested: \$17,000 (base price: \$16,495)

Engine type: turbocharged 4-in-line, iron block and aluminum head, Bosch K-Jetronic fuel injection

Displacement	105 cu in, 1716cc
Power (SAE net)	117 bhp @ 5800 rpm
Transmission	5-speed
Wheelbase	94.5 in
Length	165.7 in
Curb weight	2300 lbs
Zero to 60 mph	7.7 sec
Zero to 100 mph	24.6 sec
Standing ¼-mile	15.8 sec @ 87 mph
Top speed	126 mph
Roadholding, 282-ft-dia skidpad	0.79 g
EPA fuel economy, city driving	28 mpg
C/D observed fuel economy	22 mpg

ed brake components from West Germany.

For \$16,495, the Callaway Turbo Scirocco is pretty hard to beat. It's a well-executed blend of Scirocco refinement, utility, and economy with outstanding performance, tenacious handling, and distinctive appearance. Our only concern is long-term engine durability, but Callaway offers an optional extended warranty to put customers' minds at rest. We can't help wondering why, if Callaway Turbo Systems can turn out such a car, Volkswagen of America still hasn't seen fit to do so.

—Csaba Csere