

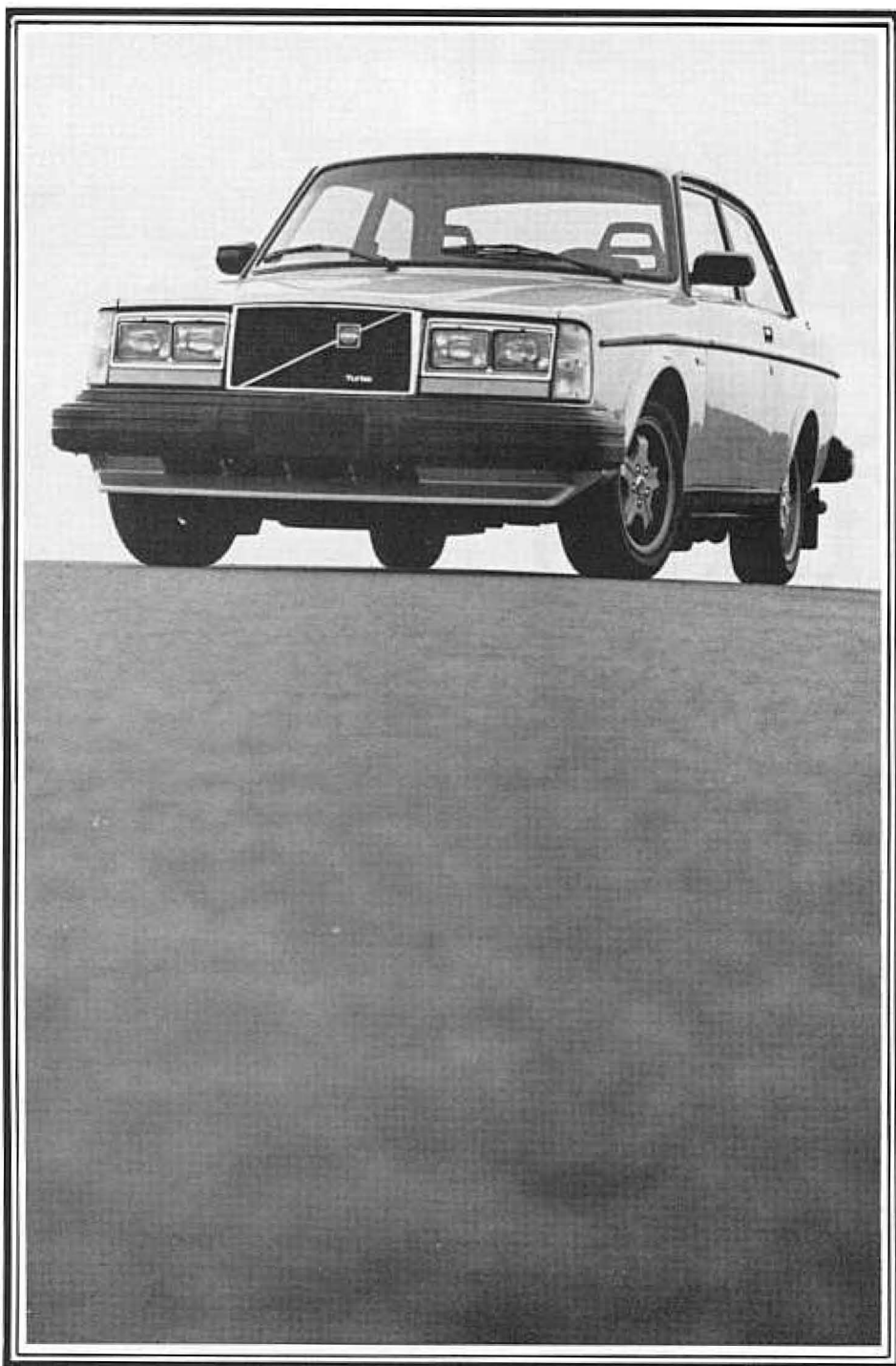
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# CAR ☐ and ☐ DRIVER<sup>®</sup>

February 1981

## Volvo GLT Turbo

*Another year,  
but not just another Volvo.*



PHOTOGRAPHY BY AARON KILEY

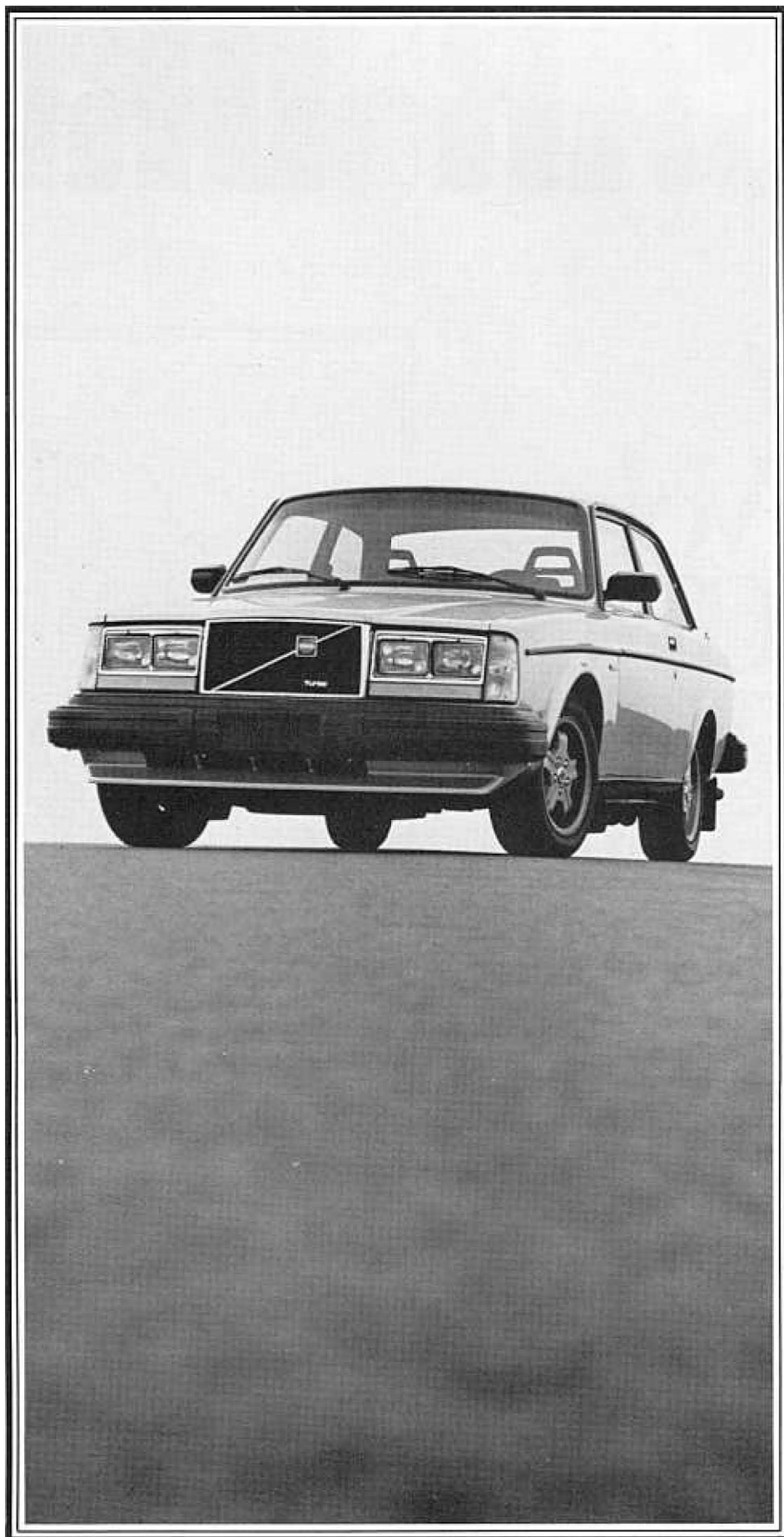
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# Volvo GLT Turbo

*Another year,  
but not just another Volvo.*

• In 1981, for the fourteenth consecutive year, Volvo will not introduce an all-new model. This year's cars look almost exactly like last year's cars, which look the same as they did the year before that. So unless you're a serious Volvo enthusiast or dealer, you'll be hard pressed to tell new Volvos from old Volvos.

While this would logically lead you to believe that Volvos have changed very little over the years, nothing could be further from the truth. Though the boxy, Checker Marathon look has stayed much the same for over a decade, a steady mechanical evolution has been taking place under the surface. The original 140 line was treated to a major refurbishing in 1975, and every year since then the serious-minded Swedish engineers have made their car a little bit better. This year's "improvement" is a new version called the GLT Turbo. And it's by far the best Volvo ever.



PHOTOGRAPHY BY AARON KILEY



None of this is to suggest that Volvos hover near the leading edge of technology. The Ford Fairmont, which itself represents last-generation technology, matches the Volvo in almost every critical dimension.

Still, this illustrates just how efficient the original design was to begin with. And while the rest of the world's car-makers were catching up, Volvos slowly matured and forged a solid following among this nation's professional class.

Back in the antiwar days, Volvos were embraced as anti-Detroit symbols. Volvos were considered honest, forthright vehicles, anti style and anti annual model change. Not that their reputation has changed much since. Volvos are known to be rugged. (Remember the ads showing them stacked six high?) Their durability is legendary. (In Sweden they last an average of 17.9 years—or is that 27.9?) And of course, they're safe. (National Highway Traffic Safety Administration chief Joan Claybrook, a known Naderite, owns one.) Safe and solid—yep, that's Volvo.

But more recently, there's been a change of heart in the home office. Vol-

vos have become quite pleasant—if not exactly exciting—to drive. Last year saw the debut of the GL four-door, a poor man's four-cylinder Mercedes. A couple of years back the GT bowed, and has since been polished into a kind of overgrown BMW 320i. And this year, the GLT Turbo takes another step in the sporting direction. It's the closest those conservative Swedes have come in several years to a—quick, hide the children—hot rod.

The GLT Turbo is essentially last year's GT two-door sedan (renamed GLT for 1981) pumped up with a turbocharged version of the venerable 2.1-liter B21F four-cylinder engine that's powered Volvos for years. And while that all sounds rather straightforward, it's enough to transform what was formerly just a pleasant car into one that has *joie de vivre*.

The GLT Turbo's Geritol infusion

comes from an AiResearch TB03 turbocharger with an integral waste gate, which pumps a relatively mild 5 psi into the intake manifold (see technical highlights). Bosch K-Jetronic fuel injection, borrowed from Volvo's 2.8-liter V-6, has been recalibrated to supply the proper amount of fuel under all conditions. And to lower the possibility of detonation, the compression ratio has been backed down from 9.3:1 to 7.5:1 with a different set of pistons. The result is 127 Swedish-registered horses, a 20-hp improvement over the normally aspirated powerplant.

The power boost is enough to slash the GLT's zero-to-sixty time from 12.9 seconds to 9.6, and to push its flat-out top speed from 97 mph to 106 mph. And while that brand of performance won't exactly strain your neck muscles, it does put the GLT Turbo on an equal footing with the likes of the Saab 900



rally placed. The chairlike driver's seat, one of the most supportive touring seats in any car, offers an adjustable lower cushion, a lumbar support, and a reclining backrest. So almost anyone can dial in a position that's as comfortable as his favorite pair of Adidas.

The controls, too, operate with the satisfying precision of a well-oiled Ruger Redhawk. The shift linkage is crisp and jewel-like. The clutch takeup is velvety and linear. And the steering is sensitive, direct, and accurate. The only sil-

liness in the whole cabin, in fact, is a radio nestled out of sight just atop the transmission hump.

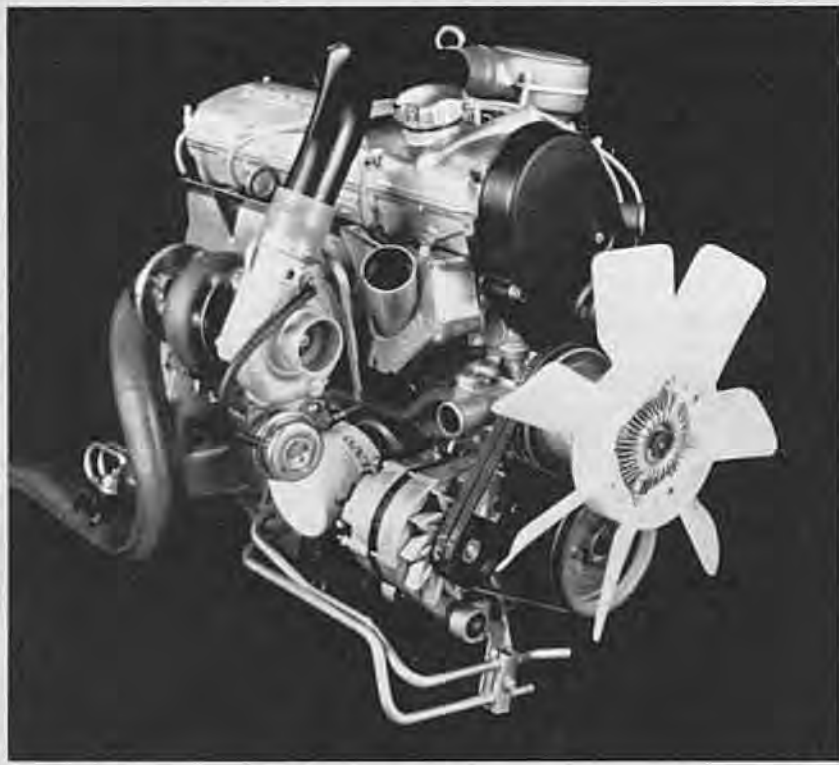
The careful development evident elsewhere in the GLT flows right through to the chassis. There's nothing exotic under there—MacPherson struts, coil springs, and an anti-sway bar up front; and a rigid axle, four trailing links, coil springs, a Panhard rod, and an anti-sway bar in the rear. But twist the steering wheel and the GLT Turbo cuts surprisingly well for a car so large

## Technical Highlights

When a conservative company like Volvo jumps on the turbocharger bandwagon, it's the equivalent of the Good Housekeeping Seal of Approval. Turbocharging is hereby declared safe and free from any negative side effects. As you'd expect, Volvo's turbo system isn't the least bit radical, but it's still far from a bolt-on conversion. To prepare the engine for the internal stresses that come with pressurizing the intake charge, the compression ratio was lowered from 9.3:1 to 7.5 with different pistons. The valves are sodium-filled for better heat dissipation, and the valve faces and seats are Stellite—a special heat- and corrosion-resistant alloy. An AiResearch TB03 turbocharger, nestled down low on the engine's right side, draws air through a Bosch K-Jetronic air-flow sensor (borrowed from Volvo's 2.8-

liter V-6). The turbo pumps the pressurized air up and over the cam cover to a complicated-looking throttle body sitting atop the intake manifold. The turbo's integral waste gate regulates boost to a mild 5 psi, which Volvo says will enhance the engine's longevity. And just to be sure oil temperature stays clear of the breakdown range, a thermostatically controlled oil cooler is plumbed into the lubrication circuit. The B21FT, as the engine is called, produces 127 horsepower at 5400 rpm, an increase of nearly 20 percent, and churns out 150 pounds-feet of torque at 3750 rpm, about 30 percent more than the normally aspirated powerplant. The only penalty paid for the extra performance is a 1-mpg drop in fuel economy, from a lackluster 19 mpg to a lackluster 18 mpg.

—Rich Ceppos



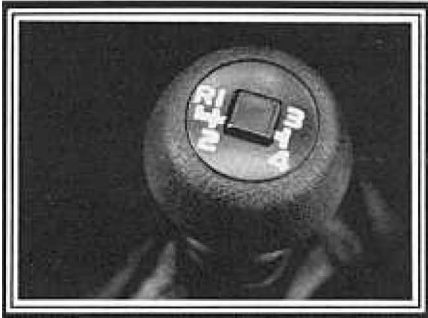
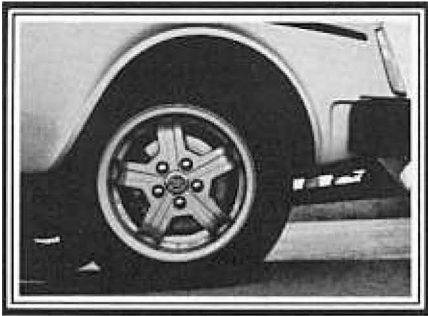
### Turbo and the Audi 5000 Turbo.

While the GLT Turbo is a hang-it-out-Olaf rat-racer in Volvo's scheme of things, it's still fairly tame. Actually, "refined" is a word that comes to mind as you wheel the GLT Turbo down the road. Everything seems to work with a fluidity, a harmony, that's lacking in most other cars. No small detail has been left unpolished.

Even the turbocharger adds to the air of refinement: it dampens exhaust pulses in a way that seems to smooth the engine. What you hear is the soothing hum of expensive machinery, as if two or four cylinders were added.

The GLT Turbo is one of those cars that just flat feel good to drive. Almost everything about it seems to have been carefully developed. The driving position is a perfect example. The small, padded steering wheel, the pedals, and the shifter all seem perfectly and natu-





(3020 pounds). Part of the credit goes to the impressive, 195/60HR-15 Pirelli P6s, which come standard. The rest is simply good suspension tuning. Boy-racer banzai attacks on expressway entrance ramps can send the GLT into a wheel-spinning, axle-hopping fit (a limited-slip differential would help here), but on almost any road at a halfway-sane speed, the GLT Turbo goes where you point it, easy as you please.

The GLT Turbo is also just the car to strap on for a cross-country munchie run. With the button-actuated, electric 0.80:1 overdrive gear engaged, the engine is hushed at cruise speed. The GLT arrows down the highway, solid and stable. The ride is Mercedes-taut. The body is drum-tight and rattle-free. And of course there is comfy seating and plenty of spread-out room for a whole family of strapping Swedes. (This year there's a handsome, new, well-instrumented dash to look at as well.)

About the only thing concerning the GLT that troubles us is its fuel habit. The little engine has a lot of car to pull around, and the EPA rates it at a lackluster 18 mpg. (The normally aspirated car rates 19 mpg.) All we can say is that Volvo ought to try harder on this front.

But aside from this one gray cloud, it's pretty much blue skies for the GLT Turbo. After all these years, Volvo has scienced-out every nook and cranny, and the result is a big sedan that does a whole lot of things awfully well. Which leads to one inescapable conclusion about the advancing age of Volvos: they're not just getting older, they're getting better.

—Rich Cebos

## COUNTERPOINT

• It's hard not to knuckle under when the whole world has been on you for years. That was always Volvo's trouble. There wasn't *anybody* who didn't like the 242GT, but everybody always came away saying, Hooboy, they ought to get some horsepower in that sucker, 'cause it's really nice. The poor old Swedes stood there for a long time, tucked in, taking the pummeling of that left-handed praise, and finally it was too much to bear. Ha! Now you can tell the world that the

### *Is this any way for a turbo to act?*

242GT has been turned into something little less than sensational.

But time out for some more left-handed praise. While the turbo does lots of good things for the little four, making it faster, smoother, quieter, more tractable, and altogether less likely to leave you second in the contest of your choice (which is to say, against Saabs, BMWs, Audis, and the like), Volvo's turbocharger also fits into the drivetrain too well. What's the point of having a sporting turbo that's perfectly disguised? You can't detect the boost by ear, and you never really *feel* the rush. Is that any way for a turbo to act? Call me shallow and a thrill-seeker, but I'd rather feel all tickly way down deep.

—Larry Griffin

Volvo just refuses to lie down and die. Newer, roomier, lighter, cheaper, more sophisticated competitors with better fuel economy are hammering from all sides, and all Volvo has in defense is a fourteen-year-old body/chassis (albeit heavily facelifted six years ago), along with a rehabili-

tated engine whose lineage traces back more than 25 years.

Despite this, Volvo soldiers on, making piecemeal improvements and steadily refining its cars. With the advent of the GT model a couple of years ago, Volvo showed that it could build a fine handling car, and now the GLT Turbo shows that Volvos can do more than get out of their own way. Combining these virtues with Volvo's traditional reliability, solidity, utility, and comfort has resulted in an excellent high-speed country cruiser. Furthermore, the price is even reasonable.

Of course, it still needs work: the seats have poor lateral support, and the engine could stand more development, as shown by the smaller-displacement, higher-horsepower turbo motors from Porsche and Saab. But we've waited this long. What's a few more years? —Csaba Csere

One of my more memorable attempts at mobility came in 1972 when, having only ten fingers to count on, I bought a 1961 Volvo 544 for \$250 on the basis of its sterling reputation of lasting a minimum of eleven years. It was a hysterical-looking, comfy, crazy whale of a car, and I owned it for two months before it blew up. Never bearing malice toward Volvo, blaming myself for the 544's demise, I have watched with interest Volvo's downs and ups during the past eight years—an incurable case of Volvoitis.

Well, the turbocharged GLT is an up. This is *the* car—handsome, roadworthy, luxurious, spacious, and *quick*—that will fan the flames of the old eleven-year-durability claim and have some ten-fingered Volvophile picking one up in 1992 for \$2500.

—Jean Lindamood



**Vehicle type:** front-engine, rear-wheel-drive, 4-passenger, 2-door sedan

**Price as tested:** \$13,880

**Options on test car:** base Volvo GLT Turbo, \$13,630; AM/FM-stereo radio/cassette, \$250.

**Sound system:** AM/FM-stereo radio/cassette, 2 speakers

#### ENGINE

Type ..... 4-in-line, iron block and aluminum head  
Bore x stroke ..... 3.62 x 3.15 in, 92 x 80mm  
Displacement ..... 130 cu in, 2130cc  
Compression ratio ..... 7.5:1  
Fuel system ..... Bosch K-Jetronic fuel injection  
Emissions controls ..... 3-way catalytic converter, feedback fuel-air-ratio control  
Turbocharger ..... AiResearch TB03  
Waste gate ..... integral  
Maximum boost pressure ..... 5 psi  
Power (SAE net) ..... 127 bhp @ 5400 rpm  
Torque (SAE net) ..... 150 lbs-ft @ 3750 rpm  
Redline ..... 6000 rpm

#### DRIVETRAIN

Transmission ..... 4-speed with overdrive  
Final-drive ratio ..... 3.73:1  
Gear Ratio Mph/1000 rpm Max. test speed  
I 4.03 4.7 28 mph (6000 rpm)  
II 2.16 8.7 52 mph (6000 rpm)  
III 1.37 13.8 83 mph (6000 rpm)  
IV 1.00 18.9 106 mph (5600 rpm)  
V 0.80 23.6 106 mph (4300 rpm)

#### DIMENSIONS AND CAPACITIES

Wheelbase ..... 104.3 in  
Track, F/R ..... 56.3/53.5 in

Length ..... 192.5 in  
Width ..... 67.3 in  
Height ..... 56.2 in  
Curb weight ..... 3020 lbs  
Weight distribution, F/R ..... 54.3/45.7%  
Fuel capacity ..... 15.8 gal

#### CHASSIS/BODY

Type ..... unit construction  
Body material ..... welded steel stampings

#### INTERIOR

SAE volume, front seat ..... 48 cu ft  
rear seat ..... 41 cu ft  
trunk space ..... 14 cu ft  
Front seats ..... bucket  
Recliner type ..... infinitely adjustable  
General comfort ..... excellent  
Fore-and-aft support ..... excellent  
Lateral support ..... fair

#### SUSPENSION

F ..... ind, MacPherson strut, coil springs, anti-sway bar  
R ..... rigid axle, 4 trailing links, coil springs, anti-sway bar, Panhard rod

#### STEERING

Type ..... rack-and-pinion, power-assisted  
Turns lock-to-lock ..... 3.5  
Turning circle curb-to-curb ..... 32.2 ft

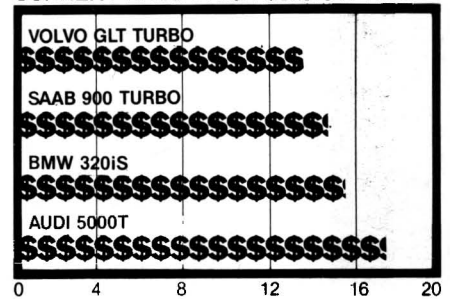
#### BRAKES

F ..... 10.3 x 0.9-in vented disc  
R ..... 11.0 x 0.4-in disc

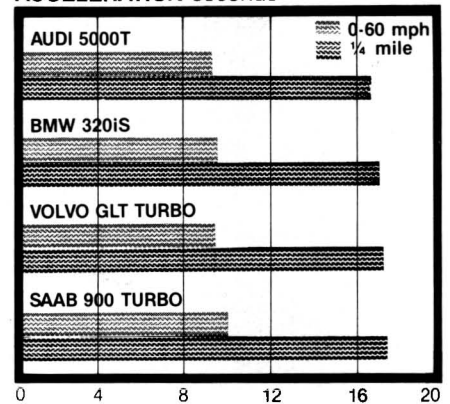
#### WHEELS AND TIRES

Wheel size ..... 6.0 x 15 in  
Tire make and size ..... Pirelli P6, 195/60HR-15

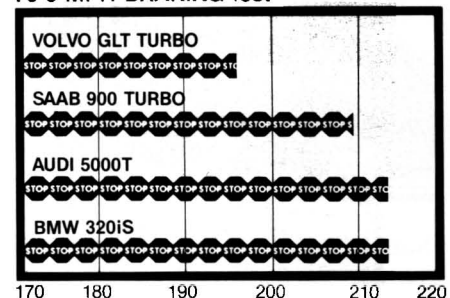
CURRENT BASE PRICE dollars x 1000



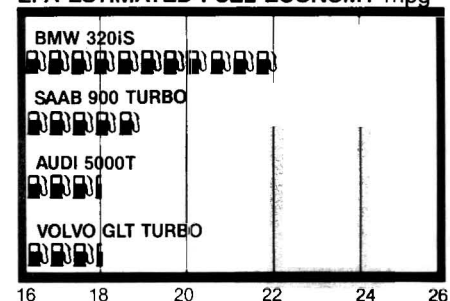
ACCELERATION seconds



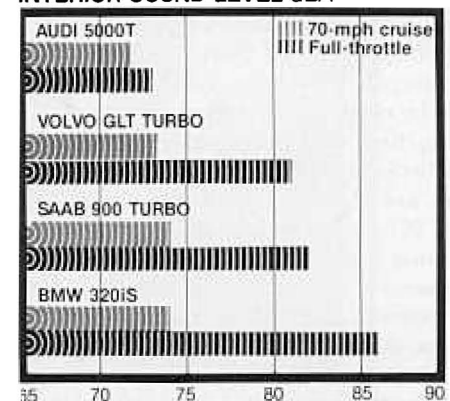
70-0 MPH BRAKING feet



EPA ESTIMATED FUEL ECONOMY mpg



INTERIOR SOUND LEVEL dBA



## Car and Driver Test Results

#### ACCELERATION

Seconds  
Zero to 30 mph ..... 3.1  
40 mph ..... 4.6  
50 mph ..... 6.6  
60 mph ..... 9.6  
70 mph ..... 12.8  
80 mph ..... 17.2  
90 mph ..... 25.3  
Top-gear passing time, 30-50 mph ..... 14.6  
50-70 mph ..... 13.4  
Standing 1/4-mile ..... 17.2 sec @ 80 mph  
Top speed ..... 106 mph

#### HANDLING

Roadholding, 282-ft-dia skidpad ..... 0.74 g  
Understeer rating ..... moderate

#### BRAKING

70-0 mph @ impending lockup ..... 196 ft

Modulation rating ..... fair  
Fade rating ..... none

#### COAST-DOWN MEASUREMENTS

Road horsepower @ 50 mph ..... 17.0 hp  
Friction and tire losses @ 50 mph ..... 7.0 hp  
Aerodynamic drag @ 50 mph ..... 10.0 hp

#### FUEL ECONOMY

EPA city driving ..... 18 mpg  
EPA highway driving ..... 28 mpg  
EPA combined driving ..... 22 mpg  
C/D observed fuel economy ..... 19 mpg

#### INTERIOR SOUND LEVEL

Idle ..... 51 dBA  
Full-throttle acceleration ..... 81 dBA  
70-mph cruising ..... 73 dBA  
70-mph coasting ..... 73 dBA