




PHOTO BY JOE RUSZ

# VOLVO GLT TURBO

*Turbocharging  
gives this comfortable sedan  
a boost in the getalong*

PHOTOS BY DEAN KOGA

 UNEXPECTED BONUSES BRING their own special kind of pleasure. Examples: popping out a baroque pearl while oyster-shucking, or the time you plugged into that perfectly ripe watermelon, or catching full and sudden sight of any rainbow, or that warm thrill of a first-time reading of S.J. Perelman or a first-time listening to Itzhak Perlman. In each case the reward was amplified and enriched by its strong accompanying element of surprise.

Want another surprise? Step into one of Volvo's new turbocharged GLTs, either the 2-door sedan or the station wagon, find yourself an open stretch of road, and put your foot down. We think you'll re-experience that same brisk rush of surprise and pleasure.

Along with many of the rest of you, we've longed for Volvo to introduce some sporting boost into its cars, and now they've done it with the brand-new B21FT (the T stands for "turbocharged") engine. It won't throw down enough of a g-load to blur your vision, but it certainly is exactly what was needed to change the whole nature of the GLT sedan and 5-door wagon. Simple enough: the extra response makes driving the cars much more enjoyable.

None of us ever doubted Volvo's ability to do the job—it obviously was always a simple matter of priorities. In Sweden, as at Volvo, strength and durability are serious matters—ranking not too far down the list behind motherhood and ski-joring. That has been the solid foundation upon which Volvo has built an international reputation for mechanical integrity and longevity, and you don't imperil hard-won fame like that for a few pounds per square inch of boost. Not without a lot of careful thought.

But, as we say, now they've done it: The turbo engine is in two of the Volvos, and we were very much pleased with the new dimension it gives both cars. In the first place, horsepower immediately jumps from the old B21F's 107 bhp up to 127, and torque climbs from 114 lb-ft to 150 at 3750 rpm—a substantial 32 percent increase. Again, this won't unravel the backs of your



driving gloves, but it most certainly is enough to change your attitude toward the car's straight-ahead performance, and to make it far more interesting to drive.

One of the most consistently annoying characteristics of an under-powered car is its stodgy inability to get from rest up to traffic speed without generating hang-dog sullenness within, and hoots, honks and hostility without. As annoying, but considerably more frightening and dangerous, is wheeling the same struggling barge out into an oncoming lane in an attempt to pass another vehicle. These are both areas of powerful emotional relationship, and they are exactly where the new turbocharged 4-cylinder makes many of its points.

The figures tell part of the story. Volvo's identical sedan with its conventional B21F (non-turbocharged) engine covers the quarter-mile in 18.5 seconds, and goes from 0 to 60 mph in 11.3 sec. The B21FT lowers the times to 17.4 for the quarter and 10.2 for 0-60. Numbers alone, however, can't tell the whole tale. Keep in mind that this is no frail, race-bred barque, but as we have established, a strong, comfortable passenger-oriented sedan or wagon built (well, relatively anyway) for the ages. (Consider this: A recent Swedish study found that Volvos stay on the road for nearly 18 years, on the average!)

Excellent driveability is the other part of the story. The engine started up from cold easily and ran without temperament or bother. The boost came in smoothly, with a progressive insertion of power, reaching its peak at around 3000 rpm, and finally beginning to run out of muscle about 5000 rpm. This is, of course, just where its help is needed—a natural and useful arrangement.

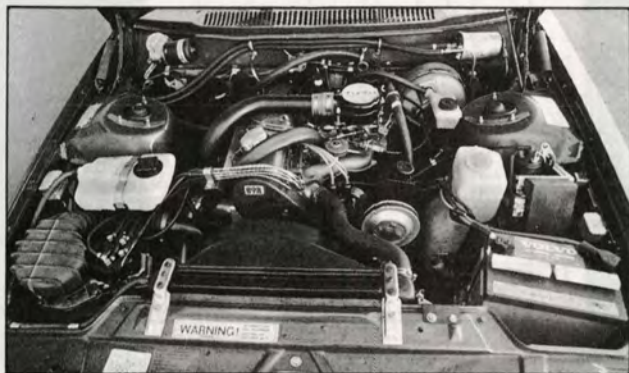
It is worth mentioning that though the additional responsiveness of the new GLT does encourage more throttle-play, we came through the test period with exactly the same fuel-consumption figure we obtained with the standard version: 20.5 mpg. This, however, is due at least in part to some drivetrain gearing changes that were engineered into the car along with the turbocharged



engine to match its characteristics. These include raising the final-drive ratio from 3.91:1 to 3.71:1, and changing the 1st gear ratio from 3.71:1 to 4.03:1.

The transmission in our test car was a 4-speed manual plus overdrive (a 3-speed automatic is a no-cost option), and it has ratios that are particularly well suited to maximizing the efforts of the turbocharged engine. Our 2-door sedan test car carried a full roster of standard equipment, including such desirables as air conditioning, electric window lifts and outside mirrors and an AM/FM stereo cassette rig with electrically actuated antenna. All very nice, of course, and we enjoyed them. But these amenities do add weight to an already substantial machine. They brought the all-up test weight to 3290 lb. and made the car's fuel consumption figure even more significant.

Unfortunately, the externals of Volvo design are all too familiar. We continue to hope for a departure from the tried and true lineaments of yore, and entry into today's world of automotive configuration. It must be recognized, however, that the interiors of the sedan and the wagon are roomy, comfortable, and even



AT A GLANCE	Volvo	Saab	Audi
	GLT Turbo	900 Turbo 3-door	5000 Turbo
List price	\$14,610	\$15,600	\$13,665
Curb weight, lb	3070	2780	3250
Engine	inline-4	inline-4	inline-5
Transmission	4-sp M + OD	5-sp M	3-sp A
0-60 mph, sec	10.2	10.8	9.4
Standing ¼ mi, sec	17.4	17.8	17.1
Speed at end of ¼ mi, mph	78.5	77.0	80.0
Stopping distance from 60 mph, ft	150	140	160
Interior noise at 50 mph, dBA	67	70	71
Lateral acceleration, g	0.760	0.746	0.737
Slalom speed, mph	58.2	61.4	59.4
Fuel economy, mpg	20.5	23.0	17.0
Issue		4-80	10-80

approach a sort of elegance in their correctness and simplicity. Rear-seat accommodations are very nearly as good as those in front, with none of the oppressive closeness that afflicts some of Volvo's competitors. Again, though, it is possible to wish for a more modern selection of upholstery fabrics, panel coverings and trim patterns.

Volvo advertising literature makes a proud claim that the cars "will respond the same way in a crisis as (they do) normally." Not a bad boast and one that is, as nearly as we could determine, well justified. The power-assisted brakes, for example, were smooth in every kind of application, didn't fade or grab, and have that fine faculty of working so well that they become an extension of the driver's wishes.

The steering also has power assist—it's a servo-aided rack-and-pinion setup, with 3.5 turns lock-to-lock. Both steering and suspension got high marks in our skidpad and slalom tests, especially in the latter, where the sedan's balance and adhesion permitted a 58.2-mph average through the 700-ft course. The amount of power assistance is to our liking, with the steering generating a nearly ideal balance between ease of control and effort/feedback while parking, nudging about town, or cruising at speed. It is a comfortable car for long-range touring and just as much at home on your favorite bit of twisty blacktop.

The matter of comfort is worth a bit of discussion, as these cars are deliberately built with attention to their inhabitants' ease over the long, long haul. This is, of course, a 14-year-old design that has been updated and improved in just about every imaginable way. The seats are not only ample; they also give good lateral and thigh support, and perform all the necessary mechanical functions correctly and easily. One surprise: The rear seat armrest in the sedan even has a passageway into the trunk!

The driver's amenities include a proper steering wheel, thick and grippable enough for any taste; and a full range of instruments, all positioned for full visibility and shielded from glare. These comprise not only the usual run of dials, lights, bells, whistles and buzzers, but something a little less familiar: a turbo boost gauge that reports on pressure conditions where they really matter.

And, of course, the turbocharger is extremely important to the GLT sedan and wagon. They both already were civilized, durable, high quality machines with comfortable rides, good driver control, and the safety that comes with thoughtful engineering and careful construction. But the additional power available from the new turbocharged engine has brought them the element that has been missing for too long from Volvo's line—a little excitement. It is truly an unexpected bonus.



PRICE	
List price, all POE	\$14,610
Price as tested	\$15,151
Price as tested includes standard equipment: air cond, sunroof, elect. window lifts, elect. adj outside mirrors, Lambda Sond 3-way catalyst; AM/FM stereo/cassette with rear speakers & power antenna (\$541)	

GENERAL	
Curb weight, lb/kg	3070/1394
Test weight	3290/1494
Weight dist (with driver), f/r, %	54/46
Wheelbase, in./mm	104.3/2649
Track, front/rear	56.3/53.5/1430/1359
Length	192.5/4890
Width	67.3/1709
Height	56.2/1427
Trunk space, cu ft/liters	13.9/394
Fuel capacity, U.S. gal./liters	15.8/60

ENGINE	
Type	sohc inline-4
Bore x stroke, in./mm	3.62 x 3.15/92.0 x 80.0
Displacement, cu in./cc	130/2131
Compression ratio	7.5:1
Bhp @ rpm, SAE net/kW	127/95 @ 5400
Torque @ rpm, lb-ft/Nm	150/203 @ 3750
Fuel injection	Bosch K-Jetronic
Fuel requirement	unleaded, 91-oct

CHASSIS & BODY	
Layout	front engine/rear drive
Body/frame	unit steel
Brake system	10.3-in. (262-mm) vented discs front, 11.0-in. (279-mm) discs rear; vacuum asst
Wheels	cast alloy, 15 x 6
Tires	Pirelli P6, 195/60HR-15
Steering type	rack & pinion, power assisted
Turns, lock-to-lock	3.5
Suspension, front/rear	MacPherson struts, lower A-arms, coil springs, tube shocks, anti-roll bar/semi-trailing arms, coil springs, tube shocks, anti-roll bar

DRIVETRAIN	
Transmission	4-sp manual with OD
Gear ratios: OD (0.80)	2.98:1
4th (1.00)	3.73:1
3rd (1.37)	5.11:1
2nd (2.16)	8.06:1
1st (4.03)	15.03:1
Final drive ratio	3.73:1

CALCULATED DATA	
Lb/bhp (test weight)	25.9
Mph/1000 rpm (OD)	24.0
Engine revs/mi (60 mph)	2500
R&T steering index	1.13
Brake swept area, sq in./ton	242

## ROAD TEST RESULTS

### ACCELERATION

Time to distance, sec:	
0-100 ft	3.5
0-500 ft	9.4
0-1320 ft (1/4 mi)	17.4
Speed at end of 1/4 mi, mph	78.5
Time to speed, sec:	
0-30 mph	3.3
0-50 mph	7.0
0-60 mph	10.2
0-70 mph	13.6
0-80 mph	18.2

### SPEED IN GEARS

OD (4800 rpm)	114
4th (6000)	114
3rd (6500)	90
2nd (6500)	57
1st (6500)	31

### FUEL ECONOMY

Normal driving, mpg	20.5
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### BRAKES

Minimum stopping distances, ft:	
From 60 mph	150
From 80 mph	262
Control in panic stop	very good
Pedal effort for 0.5g stop, lb	20
Fade: percent increase in pedal effort to maintain 0.5g deceleration in 6 stops from 60 mph	nil
Overall brake rating	very good

### HANDLING

Lateral accel, 100-ft radius, g	0.760
Speed thru 700-ft slalom, mph	58.2

### INTERIOR NOISE

Constant 30 mph	61
50 mph	67
70 mph	75

### SPEEDOMETER ERROR

30 mph indicated is actually	29.0
60 mph	60.5

## ACCELERATION

