

# VOLVO

## THE DRIVER'S CAR





# AUTOMOBILES DON'T DRIVE THEMSELVES.

An active, fully alert intelligence makes a car perform each function: stop, go, accelerate, decelerate, turn. Only the automobile's driver can make those critical decisions which insure the car and its passengers reach their destination safely. Which is why Volvo has a well-established tradition of paying special attention to the *needs of the driver*.

That tradition is carried out by the painstaking application of the science of ergonomics to each feature of a Volvo. Ergonomics, put simply, means making man's use of machinery more efficient and more comfortable.

That's why Volvo chose a 23° angle steering wheel: because studies indicate that at that angle you will have both maximum knee room *and* a comfortable controllable grip on the wheel.

To reduce muscle tension and produce a more stable driving position, all Volvo models have a left foot rest so the driver's feet are on the same plane. And since the very act of sitting down puts more pressure on lower-back spinal discs, Volvos have orthopedically-designed front seats with adjustable lumbar supports.

To drive safely, you have to be able to see what's going on around you. That's why all Volvo sedans and wagons have better than 90% all-around visibility. The front roof pillars, for instance, are designed to be no wider than the distance between your eyes. So that you look around them-not through them.



EXHAUSTIVE TESTING IS CONDUCTED BOTH WITH PROFESSIONAL DRIVERS AND COMPUTER CONTROLLED CARS.



VOLVOS HAVE APPROXIMATELY 90% ALL-AROUND VISIBILITY FROM THE DRIVER'S SEAT.

It boils down to this: Volvo designs and builds its cars to fit *you*, rather than expecting you to fit designs selected for sheer styling at the expense of usefulness.

To achieve this utility of design, Volvo consulted many specialists. Their research went beyond the configuration of the seats and cockpit:

they also carefully studied the relationships between automobiles and drivers in terms of human reaction time, perception and behavior during "normal" and "crisis" situations. This information has proven invaluable in designing reliable, predictable cars.

For example, Volvo conducts driving tests with average drivers and professional rally drivers. Findings indicate that professional drivers are able to control many different types of cars during "normal" and "crisis" situations.

But that average drivers *cannot* control cars which change their handling characteristics during crisis situations. That's why *Volvos don't panic-even* if you do. They are designed to behave predictably.

Every detail has been carefully considered by Volvo. In a time when most other manufacturers are interested in *their economics*, isn't it comforting to know that Volvo spends its worrying over *your ergonomics*?

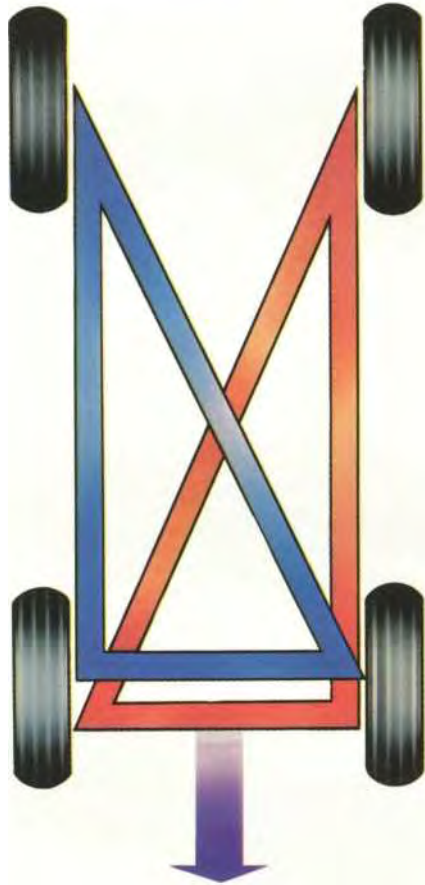
# VOLVO BELIEVES THAT THE DRIVER SHOULD ALWAYS BE IN CONTROL.

Active safety is at its peak when the relationship between what the driver does and how the car reacts is uncomplicated, natural *and* predictable-under *all driving conditions*. To achieve this consistent working relationship, Volvo has carefully studied and researched how to give drivers as much "road feel" and as much control over the car as possible.

To begin with, Volvo equips all its models with steel-belted radial tires to ensure good road holding and durability. They are mounted on wide-based rims to increase their efficiency, and the wheels themselves are centered on lathe-turned hubs. Most manufacturers rely on tapered nut or wheel bolts to center a wheel, a far less precise method.

All Volvos have a rack-and-pinion steering system: recognized by many automotive authorities as the most precise system available. It has fewer moving parts, fewer joints and much greater accuracy and steering response than other steering mechanisms. And in conjunction with Volvo's overall design, it provides Volvo cars with a tight, 32-foot, 2-inch turning circle. Most models feature a power-assist unit chosen by Volvo engineers because it reduces steering wheel effort without diluting the precision of the rack and pinion design.

Volvo's suspension is engineered to optimize both ride and handling. In front, each wheel is independently suspended by McPherson struts incorporating coil springs and



**TWO FRONT WHEELS AND ONE REAR WHEEL  
ARE CONTROLLED BY TWO INDEPENDENT  
CIRCUITS.**

shock absorbers. The shocks are encased within the strut housing to reduce wear from road grit and grime. The McPherson strut is a particularly ingenious design capable of good performance and a wide range of flexibility. This helps reduce the transmission of road shock to the body-unit mounting

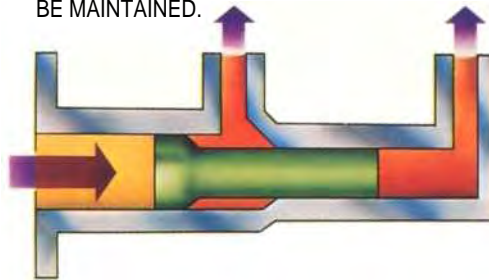
points. It also maintains excellent control of the wheels for more predictable handling and precise steering control. All models are also equipped with a front stabilizer bar designed to minimize body roll in cornering.

At the rear, Volvo's "live" axle helps maintain constant wheel-to-wheel track as well as constant toe-in, caster and camber angles. The axle is precisely located by five control arms and rods for exactly delineating wheel travel. Hefty coil springs and independent shock absorbers complement the control arms, and carefully selected rubber bushings make for a strong, good-riding rear suspension. All Volvos, except the GLE wagon, have a rear stabilizer bar for flat cornering. (The GLE wagon has an automatic leveling system in the rear instead of a stabilizer bar.) The GT has gas-filled shocks front and rear and heavier stabilizers which provide approximately 35 % higher roll stiffness than the standard models.

Volvo designed its suspension as an integral part of the automobile. It functions well in adverse weather conditions, at speed, or in accident avoidance maneuvers-which means Volvo's well-controlled chassis performs without surprises.

Because braking power and how a car behaves during braking are important handling features, Volvo puts disc brakes on all four wheels -not just in front. Disc brakes dissipate heat efficiently, making stopping power reliable and pre-

IN VOLVO'S UNIQUE "STEPPED BORE" MASTER BRAKE CYLINDER DESIGN, ONE CHAMBER COULD BE EMPTIED OF BRAKE FLUID, BUT THE SYSTEM PRESSURE WOULD BE MAINTAINED.



dictable even after long or repeated braking. Ventilated front discs on the GT and GLE models have even greater cooling efficiency. The standard power-assist unit multiplies pedal effort four times so that you can brake easily. Relief valves maintain proper front-to-rear braking pressure to help avoid gear-wheel lock-up during emergency braking conditions.

In Volvo's unique dual triangular split brake circuit system, each circuit controls two front brakes and one rear brake. Should one circuit fail, braking action on the remaining circuit maintains approximately 80% of normal braking effectiveness. Most secondary circuits protect only two wheels.

Volvo's brake system includes another unique feature which assists the driver in the event that a brake circuit failure occurs. It is called a "stepped-bore" master cylinder. In

this design, if one chamber is emptied of fluid, the other circuit maintains system pressure. This means the driver would use approximately the same brake pedal effort to stop the car as would be needed under normal conditions.



RACK AND PINION STEERING HAS FEWER MOVING PARTS AND GREATER ACCURACY AND STEERING RESPONSE THAN OTHER STEERING MECHANISMS.

THE FRONT SUSPENSION INCLUDES MCPHERSON STRUTS WHICH INCORPORATE COIL SPRINGS AND SHOCKS.

On a Volvo, the relationship between each system and the components within each system is carefully engineered. For example, Volvo's stable steering characteristics are produced by the car's weight distribution (somewhat heavier in front, hence a slight constant under-steer) and suspension-as well as the precise rack and pinion steering system. During a panic stop while taking a turn, Volvo's steering, braking and suspension work together to ensure a controlled stop/turn without severe rear end break-out or brake lock-up.

All of our testing and research has one purpose: to design an automobile that goes where you want it to go, when you want it to. To stop where you want it to, when you want it to. In other words, Volvo has engineered a car that doesn't drive you: *you* drive it. And we think that's the way it ought to be.

VOLVO'S "LIVE" REAR AXLE INSURES CONSTANT WHEEL-TO-WHEEL TRACK.



VENTILATED DISC BRAKES HAVE GREATER COOLING CAPACITY.



# WE DIDN'T KNOW WE WERE STARTING A TREND.

When we started crashing Volvos into walls, we wanted to know exactly what happened to the car *and* its occupants so that we could make design improvements. For a long time we were virtually alone in this pursuit; until the United States Government stepped in. That's when the National Highway Traffic Safety Administration started crashing Volvos into walls. The NHTSA declared the Volvo 244 sedan the car with the best potential for occupant protection of any car in its size and weight class-and then chose Volvo as the prototype for the U.S. Government's upcoming industry safety standards.

And that's just about the time domestic manufacturers started buying Volvos. We can only assume that *they're* crashing Volvos into walls now, too.

None of this is by accident. *Volvo believes that people are the most important things that go into a Volvo.* We've pioneered several important safety features; some of which have yet to appear on other cars:

- Volvo's "high-impact" laminated windshield, which because of its flexible construction, minimizes damage from flying stones and other road hazards. Impact tests with dummy passengers have proved the safety value of the laminated windshield. Volvo models had this as a standard feature in 1944.
- Three-point, inertia reel safety belts with Volvo's patented "slip-joint" coupling distributes force loads evenly between the upper and lower parts of the belt. In 1959, Volvo was the first manufacturer in



the world to introduce three-point belts as standard equipment.

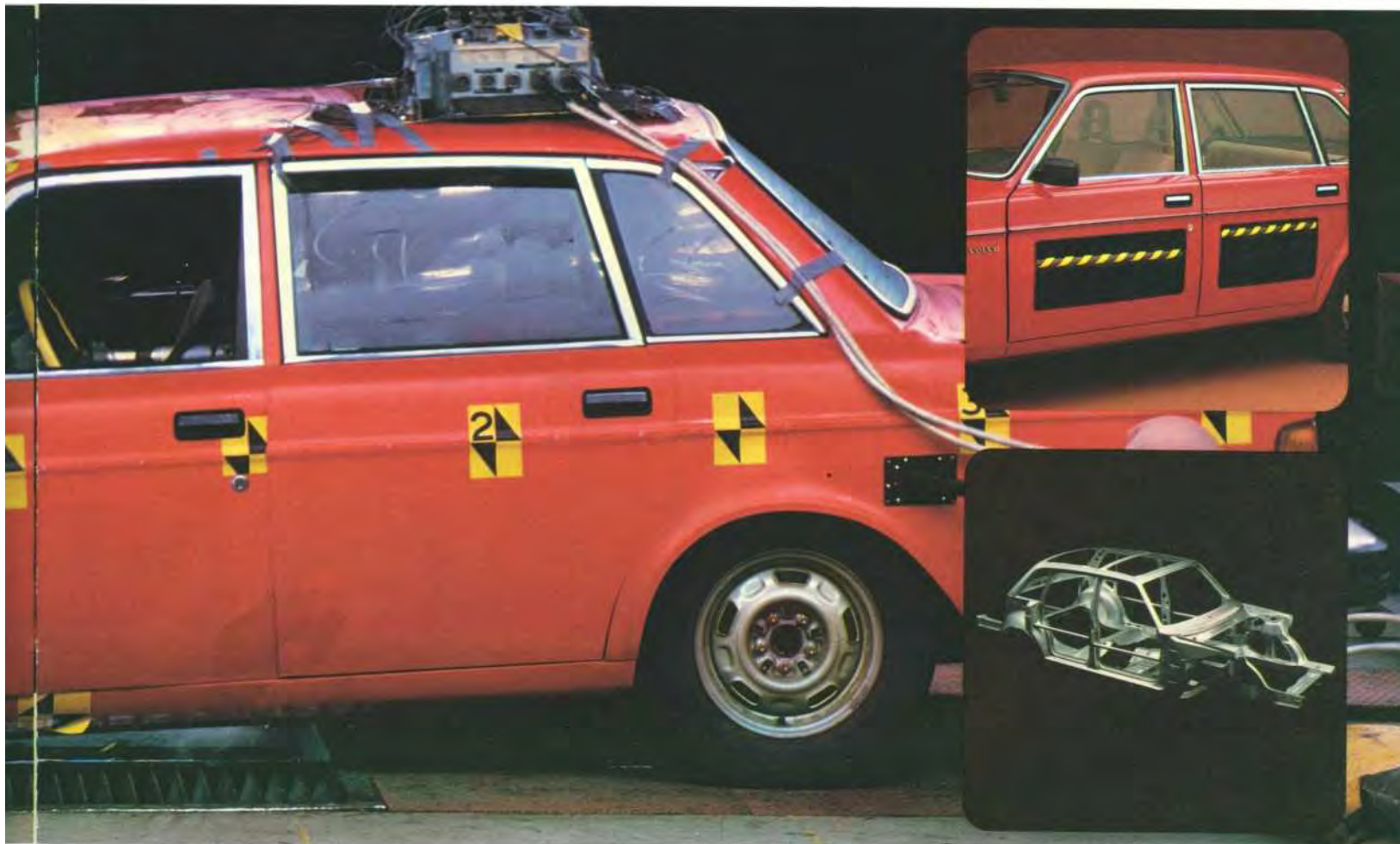
- High survivability of properly restrained occupants at higher speeds than is required by law. The current U.S. standard at which most tests are conducted is 30mph, but U.S. studies show that Volvos have a high degree of passenger survivability at 40mph barrier impacts-and that 10mph increase means that 79% more energy must be absorbed!

- Special, patented Volvo design side-door reinforcements.

- Firmly anchored seats which lock onto adjustment rails on *both* sides. They exceed all safety regulations. And remember, a seat belt's ability to restrain can only be as good as the seat's ability to stay put during a collision!

- Volvo's triangular-split dual brake circuit system was introduced in 1966. No other mass produced car has it. Each circuit controls both front and one opposing rear wheel.

- Volvo's stepped-bore master brake cylinder which was introduced in 1974 is still unique in the industry.



• Four-wheel disc brakes have been standard on Volvo models for a long time-yet they are still rare on most cars.

However, unlike many other manufacturers, Volvo doesn't simply meet regulations through passive safety features. Volvo believes that you should have an automobile that gives you every chance to *avoid* an accident in the first place. We call it *dynamic*, or active safety. And then, we give you the best possible crash protection should it become necessary.

**COLLAPSIBLE STEERING COLUMN:**  
(1) RETRACTABLE, TELESCOPING STEERING SHAFT, (2) SPLIT-JOINT MOUNTING, (3) CRUMPLE ZONE, (4) IMPACT-ABSORBING STEERING WHEEL, AND (5) ANGLED JOINT THAT FOLDS UNDER PRESSURE.

**FOR PROTECTION AGAINST SIDE IMPACTS, EACH DOOR IS REINFORCED WITH STRONG TUBULAR MEMBERS ATTACHED TO THE DOOR FRAMES BY A PATENTED VOLVO PROCESS.**

**A BUILT-IN SAFETY "CAGE" SURROUNDS THE PASSENGER COMPARTMENT.**

**THE GAS TANK IS LOCATED WELL FORWARD OF THE BUMPER, YET SAFELY SEPARATED FROM THE INTERIOR.**





**"SLIPSTREAM" VENTILATION HELPS KEEP MOISTURE FROM COLLECTING IN RUST-PRONE SPOTS SUCH AS DOOR SILLS.**



**AFTER BEING SPRAYED WITH A ZINC-PHOSPHATE SOLUTION, THE BODY IS SUBMERGED INTO A PRIMER BATH.**

# THE LONGER WE MAKE VOLVOS, THE LONGER THEY LAST.

Volvos are designed to last a long time, and to age gracefully. This requires quality, and quality isn't an easily acquired characteristic. You cannot simply bolt quality onto a car; it must be built in at every step of the manufacturing process.

When body joints rub against one another they tend to rust more easily. On a Volvo, thousands of spot welds aid in reducing this possibility by cutting down on the number of joints formed by bolts. Each spot weld is strong enough to support the weight of the entire body.

Another vital part of making an automobile last is the attention paid to the coating of its metal surfaces. After assembly, the body is sprayed with a zinc-phosphate solution. This forms a fine crystalline coating that cleans and etches the metal to ensure that the paint will adhere to the body properly.

Each Volvo is then dipped into a primer bath that covers the entire body, including the smallest internal cavities-places you never see. Oven baking, sanding and a thorough inspection follow. Insulating materials are applied to the floor, firewall, and other parts while joints are sealed by adhesives and special fillers. Then sheet metal below the belt line, the lower half of the doors and rocker panels are coated with a special stone-chip resistant paint, which consists of wet-on-wet layers of polyester.

A final layer goes over this prepared surface. The body is baked in a high-temperature oven again.

The entire surface of the car is wet-sanded for greater smoothness; another sealer coat is applied and oven-baked. And then the car is finally ready to be painted: in either thick, wet-on-wet enamel coats or enamel with aluminum flakes for metallic finishes. An additional clear finish coat seals in the metallic paint.



**FRONT WHEEL HOUSINGS HAVE PLASTIC LINERS DESIGNED TO KEEP OUT ROAD DIRT AND SALT.**

Naturally, primer, sealer and paint cannot insure durability by themselves. So Volvo goes below the surface. Various types of zinc coatings are used on important body parts and structural members because of their "self-healing" properties. A small scratch in a zinc coating is quickly filled in by migrating zinc molecules-thereby helping to stop rust formation. Volvo's method of hot-dipped galvanizing (a process which adds a zinc coating to both sides of steel) produces a zinc coat three times thicker than that achieved by the

more conventional electro-galvanizing method. Other vital parts receive zinc coatings and before assembly *all critical* joints are coated with a zinc primer. After assembly, rust preventive fluids are injected into nearly fifty body sections.

A Volvo's underside is as well protected. A plastic splash guard underneath the engine compartment and plastic liners in the front wheel housings are designed to keep out road dirt and salt. The exhaust system is partially aluminized; and brake lines are made of a special alloy which is more corrosion resistant than pure copper. Factory undercoating, a thick asphalt compound, is sprayed over the underside. The floor also gets a special abrasive-resistant paint, and rear wheel arches are covered with an "armed" bitumen coating on the wear surfaces.

Many of these measures have found their way into the assembly of a Volvo because Volvos are made in Sweden-which has a climate with particularly adverse weather conditions much of the year. Despite those conditions, Volvo's protective measures have paid off, year after year. The Swedish Motor Vehicle Inspection Company has proven that Volvos last longer than any other car on the road in Sweden. Since 1966, Volvo has had a steadily higher life expectancy there, reaching an average longevity of over 17.5 years in 1978-well ahead of Mercedes-Benz, BMW, Volkswagen, Peugeot and Audi.

# PERFORMANCE IS PART OF THE STANDARD EQUIPMENT.

Many automakers offer a huge variety of engines for each model they make, and at first that might seem like a good thing. But the closer you look at the problem of powering an automobile, the more you can see that, with a rational car, a rational engine makes the most sense. That's why Volvo doesn't offer you a bewildering selection of final-drive ratios, transmissions, or carburation systems. Just two economical, efficient engines: one is a new V-6 with increased capacity; the other is a four-cylinder that gets a little bit better with every passing year.

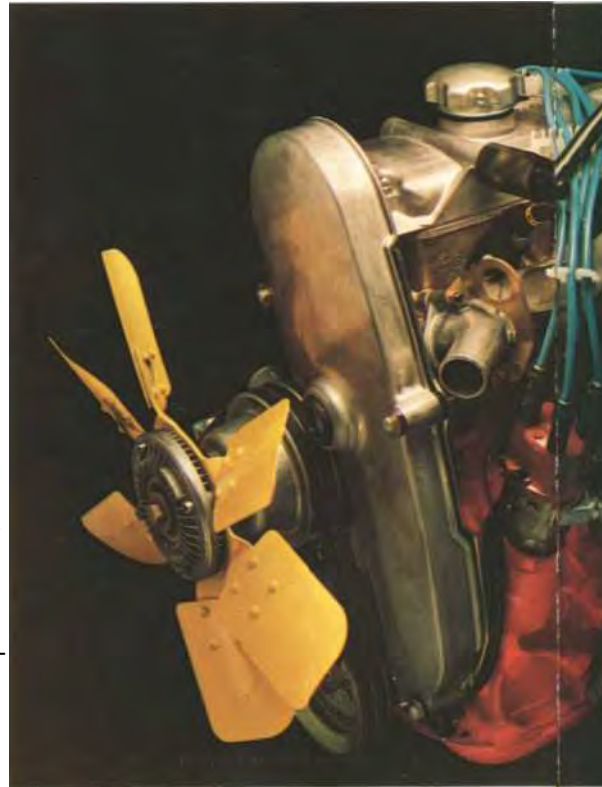
The B21 F is a tough 2.1 litre engine-standard on Volvo's DL, GL and GT models-with an output of 107 horsepower. (S.A.E.) It has an in-line four configuration with a belt-driven overhead camshaft-a design which eliminates pushrods and rocker arms for quieter operation and fewer adjustments. The B21 F also has Continuous Flow fuel injection and cross-flow intake and exhaust ports that allow good engine "breathing". The ignition system is breakerless and solid state for reliable, safe operation under any conditions. And this year Volvo's exclusive Lambda Sond<sup>o</sup> emission control system is standard on all models, in every market. This system senses the amount of unburned oxygen in the exhaust and regulates the fuel injected accordingly-which means the engine runs more cleanly and more efficiently.

GLE sedans and wagons and the Bertone Coupe are powered by Volvo's new 2.8 liter B28F engine. Its increased cylinder capacity pumps out 130 horsepower (S.A.E.). The B28F is a light-alloy overhead camshaft V-6 with Continuous Flow fuel injection and Lambda Sond<sup>o</sup> emission control. As in the case of the B21 F, it's designed for excellent low-speed torque, or pulling power.

Volvo's engines have been subjected to exhaustive road research, with millions of miles of test driving in the hot, arid wastes of Asia and Death Valley and in the cold climate of Canada. They are built to last.

Of course, power and reliability aren't all that Volvo puts into its engines. Each is scrupulously assembled to meet the strictest environmental demands. Volvo did its work so well that its emission control system has won widespread acclaim-including the "Award of Excellence in Air Pollution Control" by the National Environmental Industries Council.

Test drive a new Volvo. We think you'll agree that Volvo has done an outstanding job of balancing all the diverse requirements demanded of engines in today's world: performance, reliability, economy and clean emissions. We know you expect nothing less than Volvo's traditional excellence.



**SOLID STATE IGNITION PROVIDES A HIGH QUALITY IGNITION PULSE AND EXACT TIMING FOR EFFICIENT COMBUSTION.**

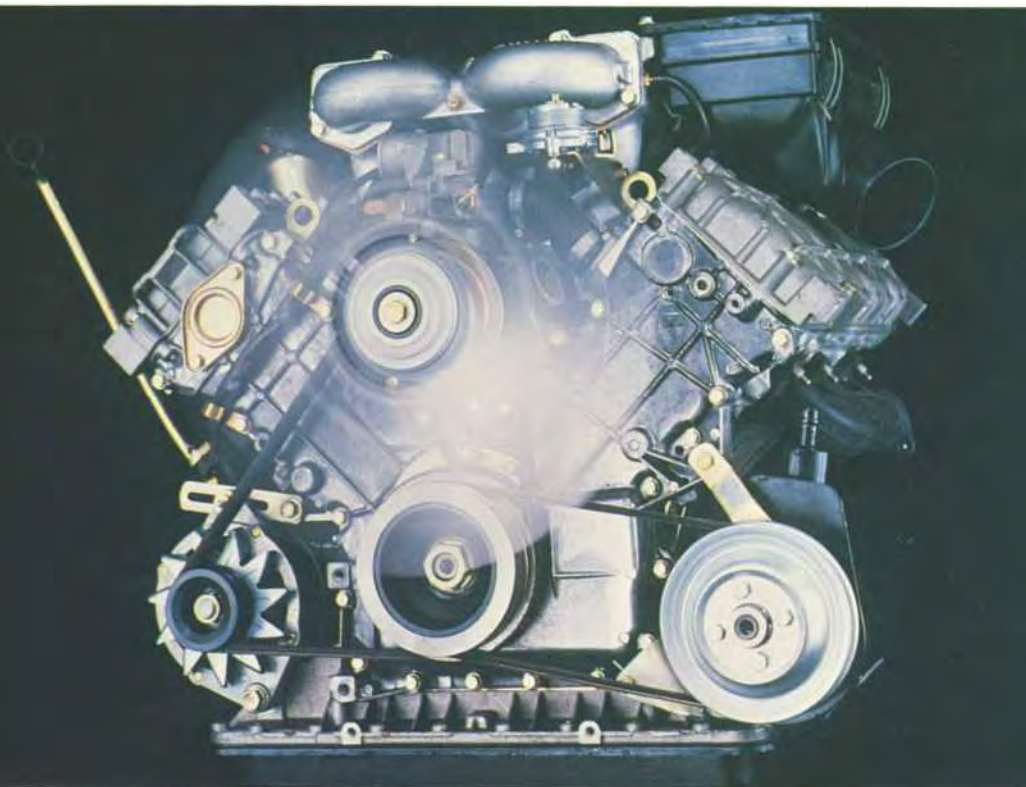


VOLVO'S THREE-SPEED AUTOMATIC TRANSMISSION IS FLOOR MOUNTED. SHIFTING CAN BE DONE AUTOMATICALLY OR MANUALLY.

FOUR-SPEED MANUAL TRANSMISSION IS AVAILABLE WITH AN ELECTRICALLY-ACTIVATED OVERDRIVE WHICH REDUCES FOURTH-GEAR ENGINE SPEEDS BY 20%.



THE B21 F IS A 2.1 LITER IN-LINE FOUR WITH AN OVERHEAD CAM AND FUEL INJECTION.



THE NEW 2.8 LITER B28F IS A FUEL-INJECTED, OVERHEAD CAM V6.



THE DISTRIBUTOR TRANSMITS HIGH VOLTAGE TO THE CORRECT SPARK PLUG.

# VOLVO INTERIOR DESIGN: COMFORTABLE AND FUNCTIONAL.

Many automobile manufacturers spend the bulk of their design time on a car's exterior. And too often, when the buyers become drivers, they discover shortcomings all through the car's interior.

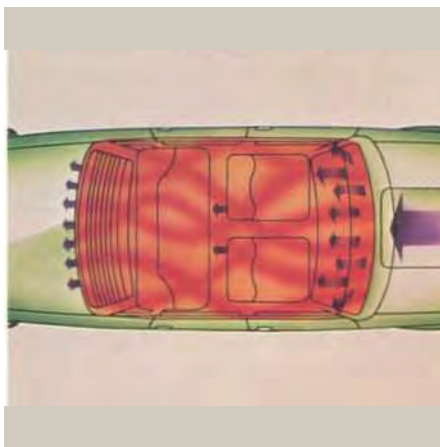
Volvos are different. The interior, that part of the car that the owner sees most often, has received the same if not more attention.

Volvo's engineers thoroughly researched their task. They began with the human eye, analyzing its movements while a car was under way. They then substantially reduced fatigue by locating key instruments at convenient places in the instrument panel and giving them easily legible faces.

The designers chose a resilient, non-glare material that aids occupant safety and resists cracking and discoloration. All the controls are right where the biotechnicians said they should be for optimum use; easy to find, easy to use. This thoughtful design extends even to the door handles, window winders and seat-belt fasteners.

Tall, wide-angle opening doors and exceptional shoulder and legroom help make Volvo's interior a comfortable, hospitable place. Even the seats are orthopedically designed to ensure that you will be comfortable-mile after mile.

The backrests are dished for excellent lateral support of your upper body, so that you don't have to push against the seat in cornering to stay in place. The lower seat cushions are designed to insure proper thigh support without putting pressure on the wrong places and causing restricted blood flow. And, of



course, the adjustable lumbar support in the backrest-another pioneering Volvo design, helps keep your spine properly cushioned.

Two mounting rails are welded to the floor platform for a firm anchorage. The seat frame is bolted to two glide rails that fit securely into the mounting rails. At the front of the seat cushion, a moveable bar is connected to both glide rails so that by raising the glide bar, you can easily slide the seat back and forth.

Underneath the driver's seat cushion (and the passenger seat on the Bertone Coupe), two levers (one in front and one at the rear) allow you to adjust the height levels. On all Volvo models, the passenger seat can be similarly adjusted, except that you'll have to reset a few bolts.

A set of strong, flexible wires, called pullmaflex insures that the cold-formed polyurethane foam cushions will retain their shape for many years.

All of these appointments combine with Volvo's finely engineered chassis and suspension to offer a superb, quiet ride- making Volvo a car you will enjoy even more when you are seated inside its "living room" than when you are outside admiring its classic lines.

EXCELLENT ACCESSIBILITY: VOLVO'S TAIL, WIDE-ANGLE OPENING DOORS.

THE FAMOUS VOLVO SEAT ADJUSTS NINE WAYS.

THE 12-OUTLET VENTILATION SYSTEM HAS SIDE WINDOW DEMISTERS, EXHAUST VENTS UNDER THE REAR WINDOW AND SEPARATE REAR AIR CHANNELS.



**THE INTERIOR HAS EXCEPTIONAL FRONT  
AND REAR LEG AND SHOULDER ROOM.**



**VOLVO'S ERGONOMICALLY DESIGNED  
INSTRUMENTATION AND INFORMATION  
DISPLAY PROVIDE THE DRIVER WITH EASY  
TO READ DIALS AND FINGERTIP CONTROL.**

# A VOLVO IS EASY TO LIVE WITH.

A curious thing happens to many new Volvo owners after they've driven a Volvo for awhile. They find themselves appreciating little details about the car that they hadn't noticed before. There are many examples.

To improve all-around visibility, Volvo models have been designed to cut down the glare on your eyes with tinted glass, a darker tint band on the top of the windshield, a day/night rear view mirror and dual anti-dazzle outside mirrors that filter out headlights at night. For an unobstructed view of the rear, a special rear window defroster clears ice or mist quickly. Even the headrests are "see-through."

For your convenience, there are storage compartments in the front doors for maps and such; a glove-box with depressions in the door for holding coffee cups-and a vanity mirror. Our new outside mirrors are remotely controlled from inside and, of course, they're electrically controlled on GLE's and the Bertone Coupe. There's also a comfortable rear armrest; grab handles over the doors; intermittent windshield wipers; a trunk light and a trip odometer. A new central locking system is now standard on all models except the two-door DL and the GT. But if you buy a two-door model, your rear passengers won't get hung up on the front seat belts when they get in and out-because we've tucked them out of the way.

If you choose a Volvo wagon, you will discover many other functional features: the gas-filled cylinders which make the lifting and lowering

of the tailgate almost effortless; the hidden storage area underneath the cargo floor; the tie-down points for securing large loads; and the rear washer/wiper-with controls mounted on the steering wheel. You'll find that you can lower the newly designed rear seat by yourself -without mumbling! And perhaps best of all that your wagon handles like a Volvo sedan.

Most Volvo models also have a spare which is mounted upright in the trunk (or cargo area)-so you won't have to remove everything



inside to wrestle the tire out. The highbeam headlight control is on the steering wheel-no fumbling around on the floor to find a button.

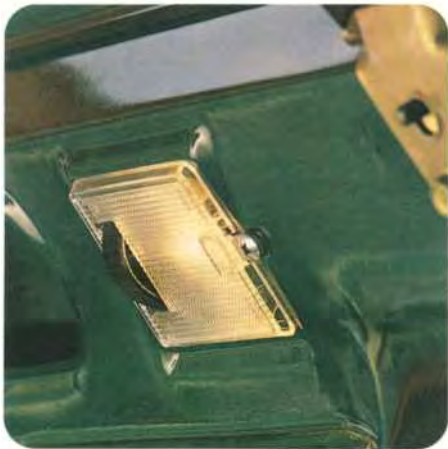
Volvos also have ...

The list could go on and on. And Volvo GLE models and the Bertone Coupe have even more features. But we think that you can discover the true value of a Volvo best by taking one home. We're sure that you'll find your Volvo easy to live with.

GOOD VISIBILITY IS ENSURED BY VOLVO'S REAR WASHER/WIPER ON WAGONS.

CARGO CAPACITY: 76 CU. FT. (S.A.E.); A SIX-FOOT SOFA FITS WITH EASE.

NEW DUAL REMOTE-CONTROLLED MIRRORS FILTER OUT HEADLIGHTS AT NIGHT. ELECTRICALLY-CONTROLLED MIRRORS ARE STANDARD ON GLE MODELS AND THE BERTONE COUPE.



A TRUNK LIGHT IS STANDARD.

FRONT WIPERS ARE CONTROLLED BY A STEERING-WHEEL MOUNTED STALK. REAR WIPERS ON THE WAGONS ARE CONTROLLED BY THE SAME STALK.

DEEP, BOX-LIKE TRUNK ALLOWS SUITCASES TO BE STORED UPRIGHT.

ALL-AROUND TINTED GLASS WITH A DARK TINT BAND ON THE WINDSHIELD.

REAR CENTER ARMREST IS NOW STANDARD ON ALL MODELS.



SPECIAL DEMISTING HEATING ELEMENTS ARE BURNED INTO THE REAR-WINDOW GLASS.

THE LIGHTED GLOVE BOX HAS A VANITY MIRROR AND DEPRESSIONS IN THE DOOR FOR BEVERAGES.



# THE 1980 VOLVOS AT A GLANCE

## DIMENSIONS AND WEIGHTS

Wheelbase	104.0 in.
Overall Length	192.5 in.
Overall Width	67.3 in.
Overall Height,	
Sedans	56.3 in.
Wagons	57.5 in.
Coupe	53.9 in.
Legroom, Front, All	40.7 in.
Coupe	40.2 in.
Legroom, Rear, Sedans	36.6 in.
Wagon	36.4 in.
Coupe	33.5 in.
Trunk Capacity, Sedans	13.9 cu. ft.
Coupe	13.7 cu. ft.
Cargo Capacity, Wagons	41.1 cu. ft.
Rear Seat Down	76.0 cu. ft.
Approx. Curb Weights	
DL, GT and GL Sedans	2891-3065 lbs.
GLE Sedans	3120-3149 lbs.
Coupe	3111-3123 lbs.
DL Wagons	3129-3162 lbs.
GLE Wagons	3230-3263 lbs.

## BODY

Unitized. Central passenger safety cage with energy absorbing front and rear ends. Rustproofing includes use of galvanized steel in susceptible areas; anticorrosive coating inside doors, rocker panels, etc.; extensive undercoating and special stone chip resistant paint. Aluminum tailpipe and muffler.

## B28F ENGINE: COUPE, GLE MODELS

Fuel injected V-6 with light-alloy cylinder heads and block; wet steel cylinder liners. Overhead camshafts. Lambda Sond® emission control.

Compression ratio: 8.8:1

Displacement: 2849cc

Horsepower: 130 @ 5500 (S.A.E.)

Torque: 153 @ 2750

Sealed cooling system: 11.5 qts.

Safety Fuel tank: 15.8 gallons, unleaded 91RON

## B21F ENGINE: DL, GT, GL MODELS

Fuel injected in-line four, cast iron block with light-alloy "cross-flow" cylinder head. Overhead camshaft. Lambda Sond® emission control.

Displacement: 2127cc

Compression ratio: 9.3:1

Horsepower: 107 @ 5250 (S.A.E.)

Torque: 114 @ 2500

Sealed Cooling System: 9.9 qts.

Safety Fuel tank: 15.8 gallons, unleaded 91RON

## ELECTRICAL SYSTEM

12V, solid state ignition. 55 Amp. alternator, 70 amp hour battery (60 amp on 4-cylinder models). Starter motor output 1.1 hp.

## DRIVETRAIN

*Manual:* Four-speed fully synchronized

transmission. Electrically-operated overdrive is standard on certain models. Gear ratios: 1st 3.71:1, 2nd 2.16:1, 3rd 1.37:1, 4th 1.00:1, Overdrive 0.80:1. Final drive ratio: 4 cylinder 3.91:1; 6-cylinder 3.73:1.

*Automatic:* Three-speed with a floor-mounted shift lever, with an illuminated PRND21 pattern. Final drive ratio: 4-cylinder 3.73:1; 6-cylinder 3.54:1.

## STEERING SYSTEM

Rack-and-pinion gear. Servo-assist is standard on all models except DL sedans with manual transmission without overdrive. Turning circle 32'2". Turns lock to lock: 3.5 (4.3 without power-assist).

## SUSPENSION SYSTEM

*Front:* McPherson struts incorporating coil springs and telescopic shock absorbers. Stabilizer bar. GT has a heavier stabilizer and gas-filled shocks.

*Rear:* Rigid "live" axle located by longitudinal control arms and torque rods. Lateral location by track rod. Coil springs and telescopic shock absorbers. Stabilizer bar. GT has a heavier stabilizer. The GT, GLE sedan and the coupe have gas-filled shocks. GLE wagon has an automatic rear load leveler instead of a stabilizer.

*Tires:* Steel-belted radials. Size: DL sedans 175SR14; GL, GLE sedan and coupe 185/70SR14; DL and GLE wagons 185SR14; GT 195/60HR15.

## BRAKE SYSTEM

Self-adjusting disc brakes on all four wheels. Tandem type power-assist. Ventilated front discs are standard on the GT and GLE models. Each circuit of the dual triangular-split hydraulic brake system connects both front wheels and one rear wheel. Stepped-bore master cylinder maintains near-normal pedal effort should one circuit fail. Handbrake operates mechanically on separate rear wheel drums.

## STANDARD EQUIPMENT:

### DL SEDANS AND WAGONS

Cloth upholstery; tinted glass; 12-outlet heating and ventilation system; intermittent windshield wipers; dual outside mirrors with remote control levers; electric rear window defroster; full interior and trunk carpeting; reclining front bucket seats with lumbar support and height adjustment; four three-point, self-adjusting safety belts (one rear lap safety belt); childproof rear door locks; quartz crystal clock; vanity mirror; day/night rearview mirror; trip meter; light integrity sensor; rear seat center armrest; warning buzzer for key, headlights and safety belts; luggage compartment light; stereo door speakers; radio antenna and central door locking (except on the 2 door).

Wagons have in addition: vinyl upholstery; electric rear window wiper/washer; twin tailgate gas cylinders and a storage space under the cargo area floor. The tailgate is controlled by central locking.

## STANDARD EQUIPMENT:

### GT

DL Series equipment plus: Special exterior trim and Mystic Silver metallic paint; custom interior upholstery and trim; grille-mounted fog lights; front spoiler; sliding steel sunroof available; GT suspension/handling package; engine compartment light; electric tachometer; GT steering wheel; special Pirelli P6 tires on light-alloy GT rims. No central door locking.

## STANDARD EQUIPMENT:

### GL SEDAN

DL Series equipment plus: metallic paint (and selected enamel colors); plush velour upholstery; sliding steel sunroof; tachometer; air conditioner; power windows and heated driver's seat.

## STANDARD EQUIPMENT:

### GLE SEDANS AND WAGONS

DL Series equipment plus: sliding steel sunroof on sedans; metallic paint (and selected enamel colors); distinctive light alloy wheels on sedans; leather-faced color-coordinated interiors; heated driver's seat; tachometer; map pockets on front seat backs; delayed switch off of dome light; power windows; power remote-controlled rear view mirrors; air conditioning and engine compartment light. Volvo's special Diplomat Black GLE sedan has in addition: grey velour upholstery; power antenna; rear headrest; front and rear headrest covers; AM/FM stereo radio and rear speakers.

Wagons have in addition: Twin tailgate gas cylinders; electric rear window wiper/washer; automatic load leveler in the rear and a storage space under the cargo area floor.

## STANDARD EQUIPMENT:

### BERTONE COUPE

GLE equipment plus: custom leather and genuine elmwood panel interior by Bertone; cruise control; heated passenger seat; deluxe interior map lights and power antenna. No sunroof.

## VOLVO

The factory reserves the right to make changes at any time, without notice, to prices, colors, materials, standard equipment, specifications and models and also to discontinue models. Hub caps on all DL models have changed from those appearing in this publication.