VOLVO 242 244

Efficiency, a primary consideration for today, the future and for owning a Volvo.

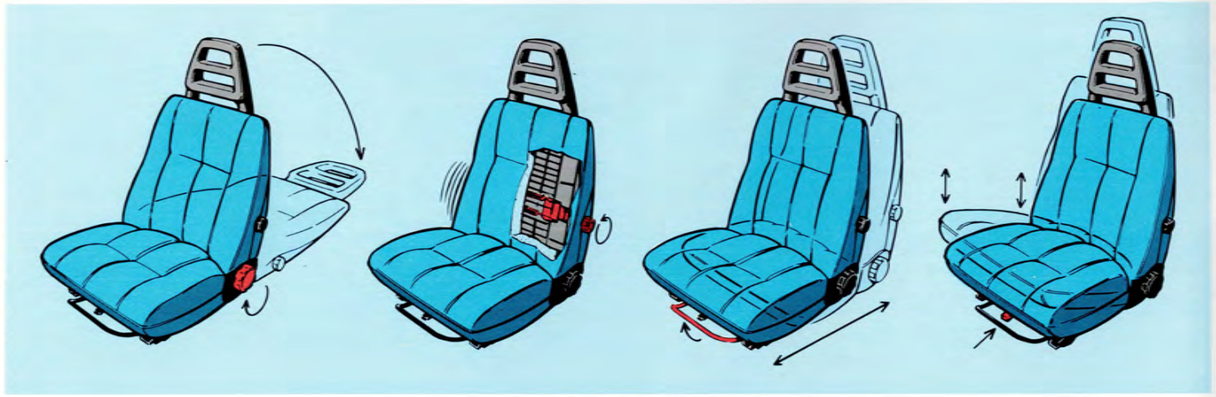
By anyone's yardstick, the interior dimensions of a Volvo 240 sedan are spacious. Yet the overall length of a 240 Series Volvo is only 193 inches – about three feet shorter than the average American-built full-sized sedan. How does Volvo do it?

Volvo's reflect painstaking engineering rather than merely style. That's why Volvo's don't come in a variety of sizes, just one, the size that Europeans have long considered full-size. And the size which is just now coming into vogue with domestic manufacturers.

Spacious dimensions are not the only feature which Volvo has engineered into its interiors.

Providing exceptional knee and leg room for four adults, five with the rear seat armrest folded, were just starting points for Volvo's interior designers. Volvo's reclining individual front seats were engineered in cooperation with orthopedic specialists. They feature an important lumbar support as well as a wide range of individual adjustments – the elevation and angle of the driver's seat base may be set in nine different positions. Aside from providing a "custom fit", a seat which supports the body completely reduces fatigue and, therefore, helps keep a driver in control.

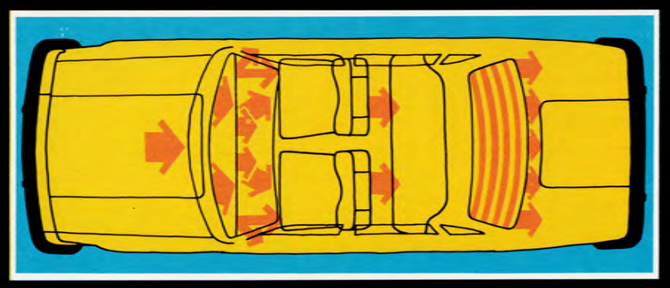
The rear seat is also carefully designed. The edges of the seatback wrap around to provide lateral support and the springing materials used in the cushion have been chosen to provide maximum comfort. Additionally, the seats of all 240 Volvo sedans are covered in a soft, napped fabric which is cool in summer and warm in winter. After being woven, the fibers of this material are specially treated to resist soiling.

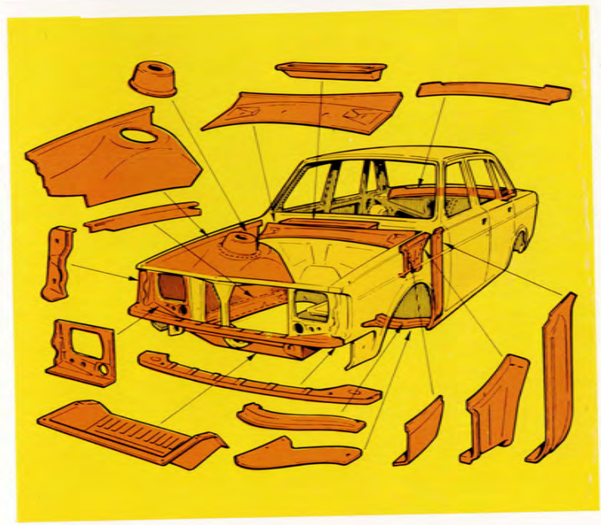


Controls are carefully designed and placed for safe, easy operation.

The safety steering wheel is angled to give the driver a clear view of Volvo's impressive instrument panel. In addition to the large, easy to read speedometer, temperature and fuel gauges and optional tachometer, Volvo provides the driver with a unique system of warning lights. There's a bulb integrity sensor – a lamp which lights if a low beam headlight, tail or brake light should fail. There are also lamps to signal brake system malfunctions, to remind the driver when the handbrake has not been released and when the electric rear-window defogger is on.

Beneath the central quartz clock is the console containing controls for Volvo's advanced thermostatically-controlled heating system, optional air conditioning and stereo radio or tape player. (All Volvo's have factory-installed stereo speakers in the front doors and are prewired to accept Volvo's wide range of audio systems). The heating and ventilation system provides ambient, warm or cool air through 12 outlets – two placed under the front seats for the comfort of rear seat passengers. Air nozzles directed at side windows help keep them free of moisture whenever the system's quiet three-speed fan is engaged. If Volvo air conditioning is installed, the system will function in the same manner as the advanced Combined Unit, standard in the luxury 264 GL.





Galvanized steel body components.

The 240 models reflect Volvo's attention to detail.

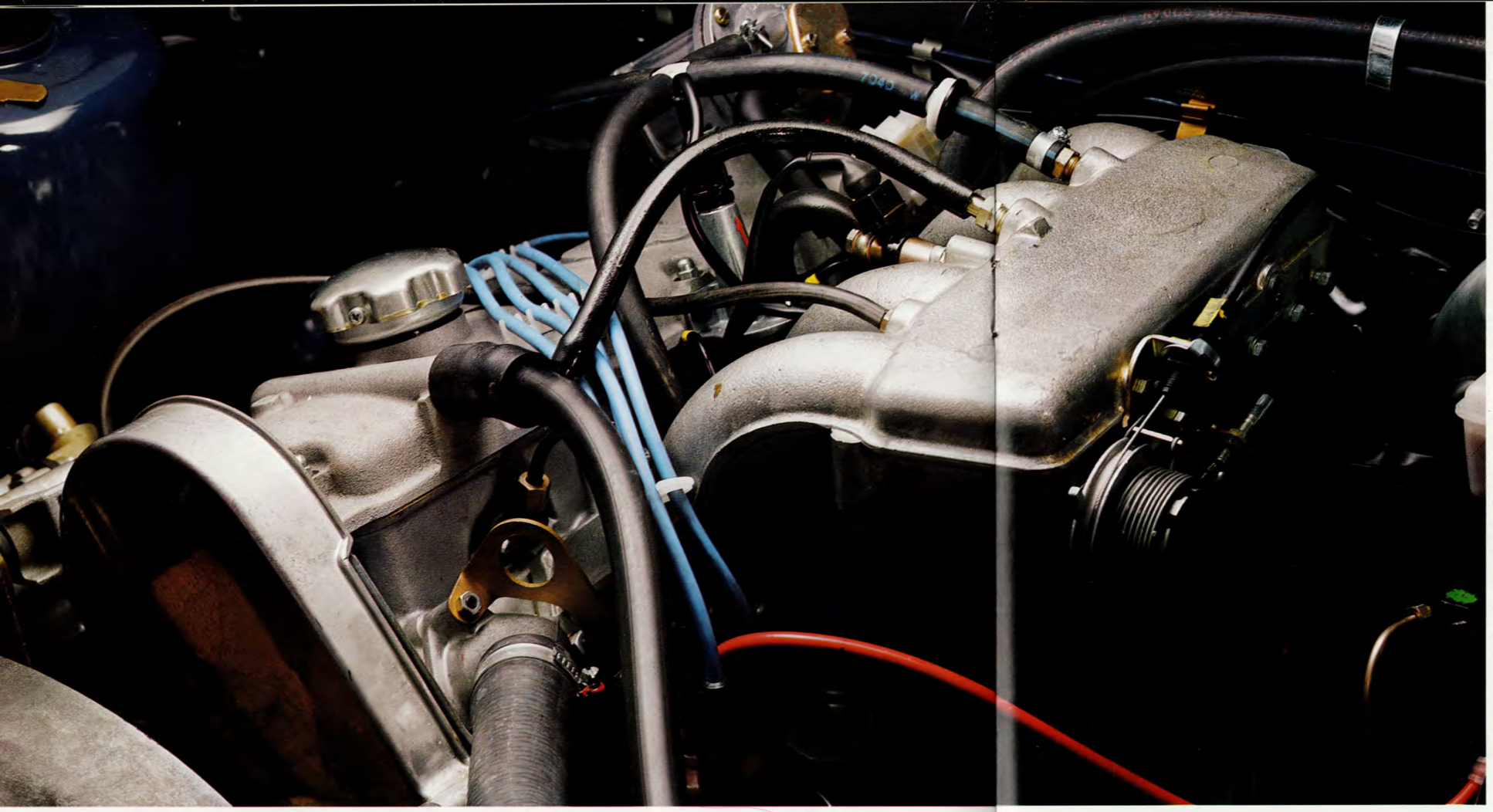
Lightly tinted glass, all around, is standard. Tinting reduces glare and the amount of heat transmitted to the interior. The large glass area provides 90 % all-around visibility for driver and passengers. But thanks to the exceptionally strong, box-section pillars, there is well-proven structural strength. The rear window of all 240 models has a defrosting circuit printed on its surface to clear ice, snow or mist in minutes. And Volvo's rear-view mirrors utilize "interference optics" principles to produce an automatic dimming effect.

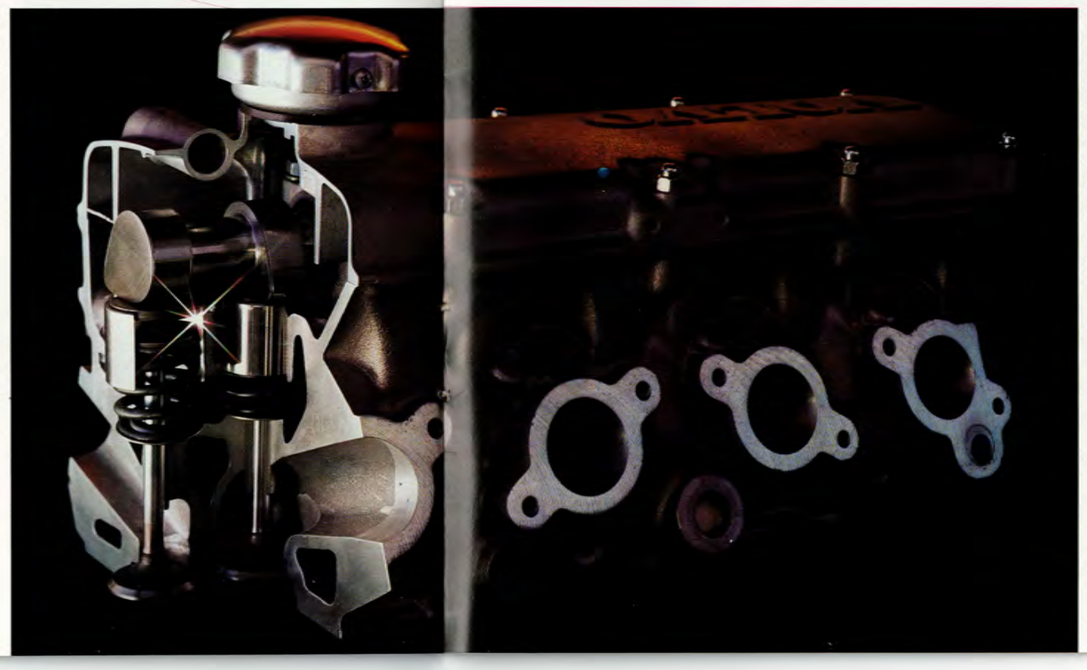
Then there's the Volvo trunk which is designed to provide maximum usuable storage space. Seems simple enough, but there aren't many cars that can boast 13.8 cubic feet of luggage space. The trunk is exceptionally deep and most luggage can be stored vertically, so one piece can be removed without removing others. The spare tire is also positioned vertically at the side.

Since Volvo's are designed to last, bodies are protected in a number of ways. Galvanizing and the application of rust proofing fluids and compounds is used extensively. Volvo has also designed its bodies without unnecessary enclosures and cavities where moisture might collect. Finishing begins with phosphating (etching) for best possible paint adhesion, after which the entire body is immersed in an electro-primer bath which "plates" the metal with paint. After baking, bodies are sanded, given a spray coat of primer, baked and sanded again, before the enamel finish is applied.

Volvo's innovative design and research are expressed in refined systems.

Every feature of the 240 Series has been rigorously tested and evaluated, both in Volvo's laboratories and under actual driving conditions around the world. Before being put into production, Volvo makes sure that each component of every system is compatible with the four most important points of Volvo's design philosophy: quality, durability, strength and safety.





Contrary to current trends, Volvo introduces a new engine with increased performance and economy.

The aim of Volvo's engine designers has always been towards efficiency – power and acceleration across the broad range of driving speeds, as well as reliability and durability under the most adverse conditions. These goals, coincidentally, are shared by designers of competition, or racing, engines. And although Volvo engineers have never deliberately sought to build "competition" engines, their exhaustive quest for efficiency and durability has now produced an entirely new engine with an undeniable sporting character.

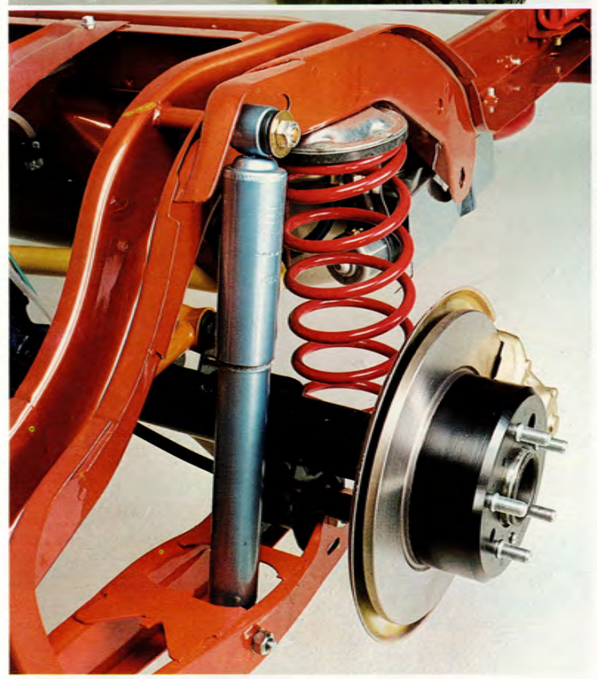
The 2.1-liter Four has a light-alloy cylinder head of a cross-flow design. This design, which puts intake on one side of the head and exhaust on the other, is an efficient layout – since the fuel system is isolated from the exhaust heat. The new 240 Series engine also features a belt-driven overhead camshaft, which is also highly efficient. No pushrods or rocker arms are employed which means quiet running and fewer adjustments.

The engine also benefits from Volvo's considerable experience with fuel-injection. Like the luxury 264, the 240 is equipped with Volvo's Continuous Injection system which provides very good fuel economy and performance under any condition. Additionally, all are equipped with solid-state ignition systems which assist in getting top performance and mileage with minimum maintenance. The result is that new 240 Series models have faster acceleration and get better fuel economy, with some assistance from either of two new transmissions.

The precise four-speed, with or without the optional overdrive which operates on fourth gear, is new for '76. The electrically-activated overdrive is like a fifth gear, but to engage it you've only to flick a switch. The overdrive reduces engine speed by 20 % and can substantially improve fuel economy in highway driving. The new four-speed is extremely rugged, as a matter of fact, Volvo fits the overdrive version to its six-cylinder 264 GL.

The optional three-speed automatic transmission is also new. Its operation is smooth and quick, and it too is rugged enough for Volvo's potent 260 Series V–6. This automatic will kick-down into low at speeds as high as 40 mph. This is of considerable advantage when driving in hilly terrain and around town when there's a need for quick acceleration.

Light-alloy cylinder head features a camshaft over the valves. The intake air/fuel mixture enters from the near side, exhaust gases are released to the far side.



Both front (top) and rear suspension (bottom) are engineered for a comfortable, controlled ride. Volvo selectively installs rubber bushings at strategic points to insulate against road shock, noise and vibration.

Expertly designed from the ground up to be a pleasure to drive.

Most automotive experts agree that steel-belted radial tires are the safest, longest-lasting type of tire available – steel-belted radial whitewall tires are standard on the 240 Series.

Experts also tend to agree that the most precise and responsive type of steering mechanism is rack-and-pinion. So it shouldn't be surprising that the nimble 1976 Volvos have rack-and-pinion steering. And with the power-assist unit (standard with automatic transmission) Volvo 240 sedans become even easier to maneuver – whether parking or navigating a twisting road. Radial tires and rack-and-pinion steering, working with Volvo's well-engineered suspension give 240s fine road manners at all times.

Each front wheel is independently suspended by a coil-spring/strut unit. Inside each strut is a double-acting shock absorber. These units are extremely rugged, yet compact. Thus, the front suspension takes little space away from the engine compartment. To minimize body roll, the front suspension is equipped with a stabilizer bar.

The rear suspension is also by coil springs with double-acting shock absorbers. The "live" rear axle is well located by two support arms, a track rod and a traction bar or "torque arm", plus there is a rear stabilizer bar, which complements the front bar to control body roll.

At both ends of the 240's unitized body are zones designed to absorb impacts before they get to the central or "first" zone – the passenger compartment. The initial zones of protection are Volvo's shock absorbing bumpers. Next are parts of the body which have been stamped with special patterns to enable them to crumple at a controlled rate.

150 watts flow through the electric circuit printed on the surface of the rear window which clears mist, ice or snow in minutes.

The roof is supported by six box-shaped pillars that provide exceptional strength and narrow profiles, thus permitting maximum glass area.

Box-section rocker panels add to side-impact protection and are ventilated, which helps prevent corrosion, since moisture will not be trapped.

Inner-fenders, shock-strut towers and other highly exposed body and structural parts are zinc-coated (galvanized) to resist corrosion.

After phosphating (etching) the entire body is emersed in an electro-primer bath to assure even coating and bonding of paint.

Volvo bumpers are made of thick zirconium alloy – exceptionally strong and resistant to corrosion. They're backed by gas-filled impact absorbers.

Rack-and-pinion steering provides precise response and is well-matched to the geometry of Volvo's spring-strut front suspension.

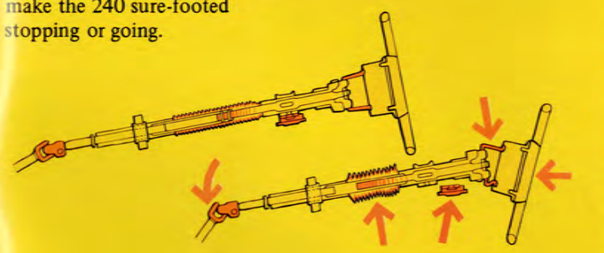
The passenger protection "cage" is uniquely strong, in tests it has supported the weight of six Volvos.

To minimize body roll and improve road holding, front and rear stabilizer bars are fitted to all Volvo sedans.

The gas tank is positioned well forward, close to the rear axle, to protect it in the event of a rear end collision.

Protecting interior occupants from side impacts are rugged tubular profiles built into each door.

Four-wheel power disc brakes and steel-belted radial, whitewall tires make the 240 sure-footed stopping or going.



The Volvo steering column offers several stages of protection. First the padded, deformable wheel. Next, there's the column itself, designed to collapse in two stages. Finally, a universal joint in the lower section of the column allows it to fold like a pen-knife under severe impact.

A greater margin of safety than is required by law.

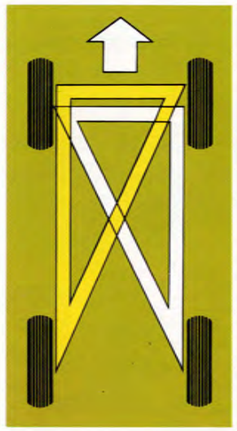
The safety features of an automobile may be divided into two main groups: those which are aimed at accident avoidance or "Active" and, those which prevent injury once an automobile is involved in an accident – these are called "Passive" systems.

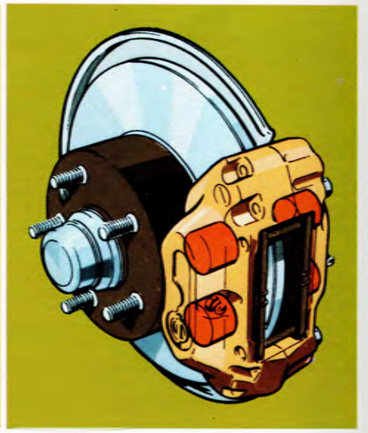
Under the Active heading are all the features which make Volvo 240 sedans maneuverable, responsive and therefore, contribute to safety. Accurate steering, precise suspension, responsive engine and good visibility figure as prominently in accident avoidance as do Volvo's improved four-wheel power disc brakes.

Volvo's comprehensive Passive safety systems are equally impressive and engineered to provide exceptionally high levels of protection.

Surprisingly, the stylish body is actually a safety feature. It is designed with special energy absorbing zones so impacts can be cushioned and the effect on passengers minimized. The passenger cabin is surrounded by a strong "cage" which can withstand considerable impact, even if the car turns over. Steering column design, the instrument panel, fuel tank location and even seats are other important safety features.

Study the cutaway and you'll see there's a lot more to Volvo safety than its comfortable self-adjusting three-point seat belts.





With Volvo's triangle-split dual circuit brake system, both front wheels and one rear are served by two independent systems. Should one system fail, a Volvo will still retain about 80 % of its full braking power (the highest U.S. legislative requirement is only 50 %). And due to the "stepped-bore" design master cylinder, little more than normal pedal pressure is required to bring a 240 to a safe, straight stop.

Specifications 242/244

Engine
Overhead camshaft, cross-flow engine, Model B21F featuring a continuous injection fuel delivery system. 130 cubic inches. Compression ratio 8.5:1.

Fuel System
15.8 gallon tank with expansion chamber for evaporation control.
Electric fuel pump. Gas filler on models with catalytic converter designed for unleaded gasoline.

Cooling System
Sealed system holds 9.9 quarts of antifreeze coolant. Fitted with a transparent expansion tank.

Electrical System
12-volt system features transistorized ignition, a 55A rated alternator and 60 amp hour battery. Starter motor output 1.1 hp.

Transmissions
Manual: Four-speed, fully-synchronized transmission has remote linkage and a floor-mounted gear shift. Optional electrically-operated overdrive with a shift lever switch. Ratios: 1st 3.71:1, 2nd 2.16:1, 3rd 1.37:1, 4th 1.00:1, reverse 3.68:1. Overdrive 0.797:1. Final drive ratio 4.10:1, 3.91:1 for California (except overdrive).

Automatic: Optional three-speed automatic has a floor-mounted shift lever and an illuminated quadrant with a PRND21 pattern. Final drive ratio 4.10:1, 3.91:1 for California.

Steering System
Rack-and-pinion type with a safety column. Power-assist standard on all models with automatic transmission. Ratio 17.1:1. Turns lock to lock 3.5. Turning circle 32′2″.

Suspension
Front: Spring-strut type incorporating coil springs and telescopic shock absorbers. Stabilizer bar.

Rear: Rigid axle carried by longitudinal control arms and torque rods. Lateral location by track rod. Coil springs and telescopic shock absorbers, plus a stabilizer bar.

Wheels and Tires
Steel-belted, white sidewall radial tires fitted on 5.5″ Jx14″ pressed steel wheels. Tire size – CR 78–14.

Brake system
Self-adjusting disc brakes on all four wheels. Tandem type 4:1 power assist. Pressure relief valves on rear brakes. Dual hydraulic system, with stepped-bore master cylinder to maintain low pedal effort even if one circuit fails, connects both front wheels and one rear wheel on each circuit. Center handbrake operates mechanically on separate rear wheel drums.

Body
Unit construction with energy absorbing front and rear ends. Galvanized steel panels in rust susceptible areas. Two separate undercoats. Partly aluminized exhaust system.

Instrumentation and Operating Controls
Dashboard: Speedometer with six-digit odometer and separate tripmeter. Fuel and coolant temperature gauges. Warning lights for alternator charging, oil pressure, high beams, overdrive, parking brake, foot brake failure, and to inform if a low beam, brake or tail light burns out. Audible and visible signals for turn indicators. Fully padded dashboard has four adjustable fresh air outlets and front door window defogging outlets. Electronic clock. Illuminated, locking glove compartment.

Steering Column: Combined levers for high and low beam operation, turn and lane changing signals, windshield wipers and washer.

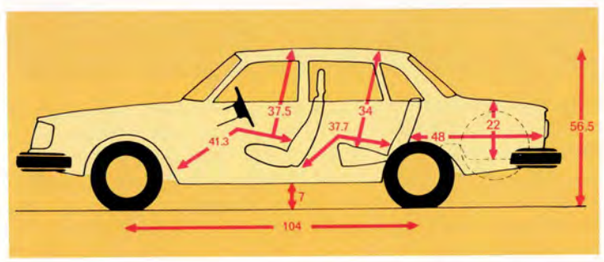
Center Console: Switches for the electrically-heated rear window and four-way hazard warning lamps. Temperature and fan speed controls for the heating and optional air conditioning system. Cigarette lighter and ashtray. Radio location. Rheostat switch for instrument and controls lighting.

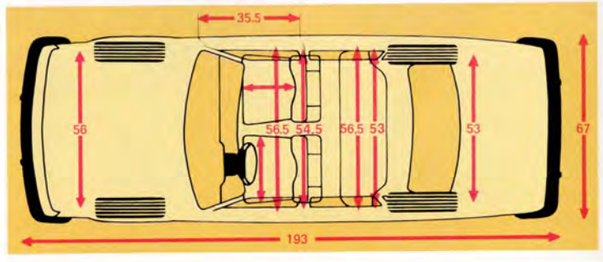
Heating and Ventilation System
Fully-integrated system for fresh or heated air through 12 outlets to the windshield, front door windows, front and rear floors and along the dashboard. Two-stage, three-speed fan. Optional air conditioning uses the same outlets and fans and has recirculation and dehumidifying features. Optional sliding steel sunroof.

Seating
Reclining bucket seats with adjustable lumbar support in front, a bench seat with a fold-down armrest in the rear. Driver's seat has levers for front and rear height adjustment. Upholstery is washable, stitched cloth.

Other Standard Equipment
Three-point self-adjusting safety belts with illuminated center mount. Rear seat has two three-point belts and a lap belt. Rear seat lighting and ashtray. Tinted glass. Radio antenna built into windshield. Front stereo door speakers. Day/night position rearview mirror. Storage pockets in front doors. Towing points front and rear.

The factory reserves the right to make changes at any time, without notice, to prices, colors, materials, equipment, specifications and models and also to discontinue models.





Volvo has a wide variety of accessories to tailor-make a Volvo to your individual requirements. Ask your dealer for a brochure.

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