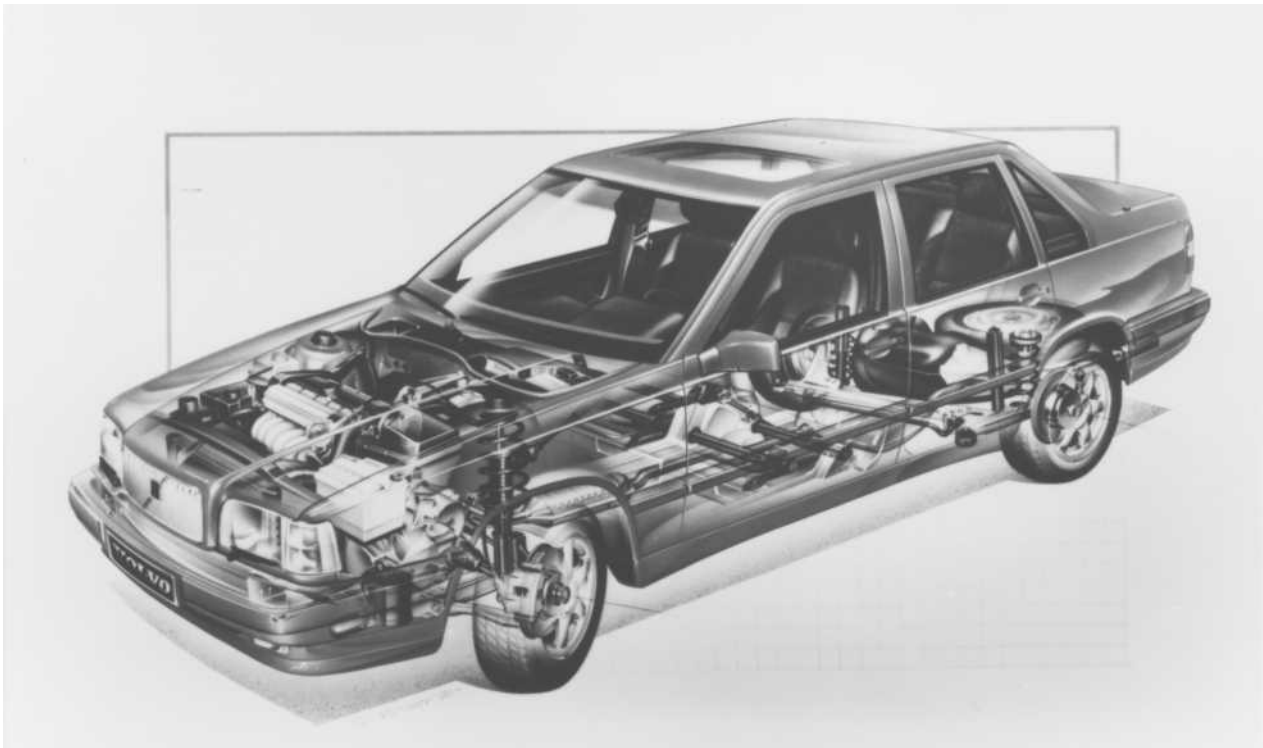
VOLVO 1993

INTRODUCING VOLVO'S SECRET WEAPON: THE ALL NEW 850 GLT

Designed for the driving enthusiast, the agile 850 GLT hides a radical new Volvo beneath its unmistakably Volvo lines. The sporty sedan has a transversely-mounted, 2.4 liter five-cylinder engine and a unique, semi-independent rear suspension. Its seemingly glued-to-the-road stability and crisp steering response bring a fun-to-drive quality to Volvo's first front-wheel-drive car. A long list of standards include driver's and front passenger's air bags, four-wheel disc brakes with ABS, power driver's seat, and separate climate controls for driver and front passenger. The new car features four Volvo-patented systems. (P3-1)



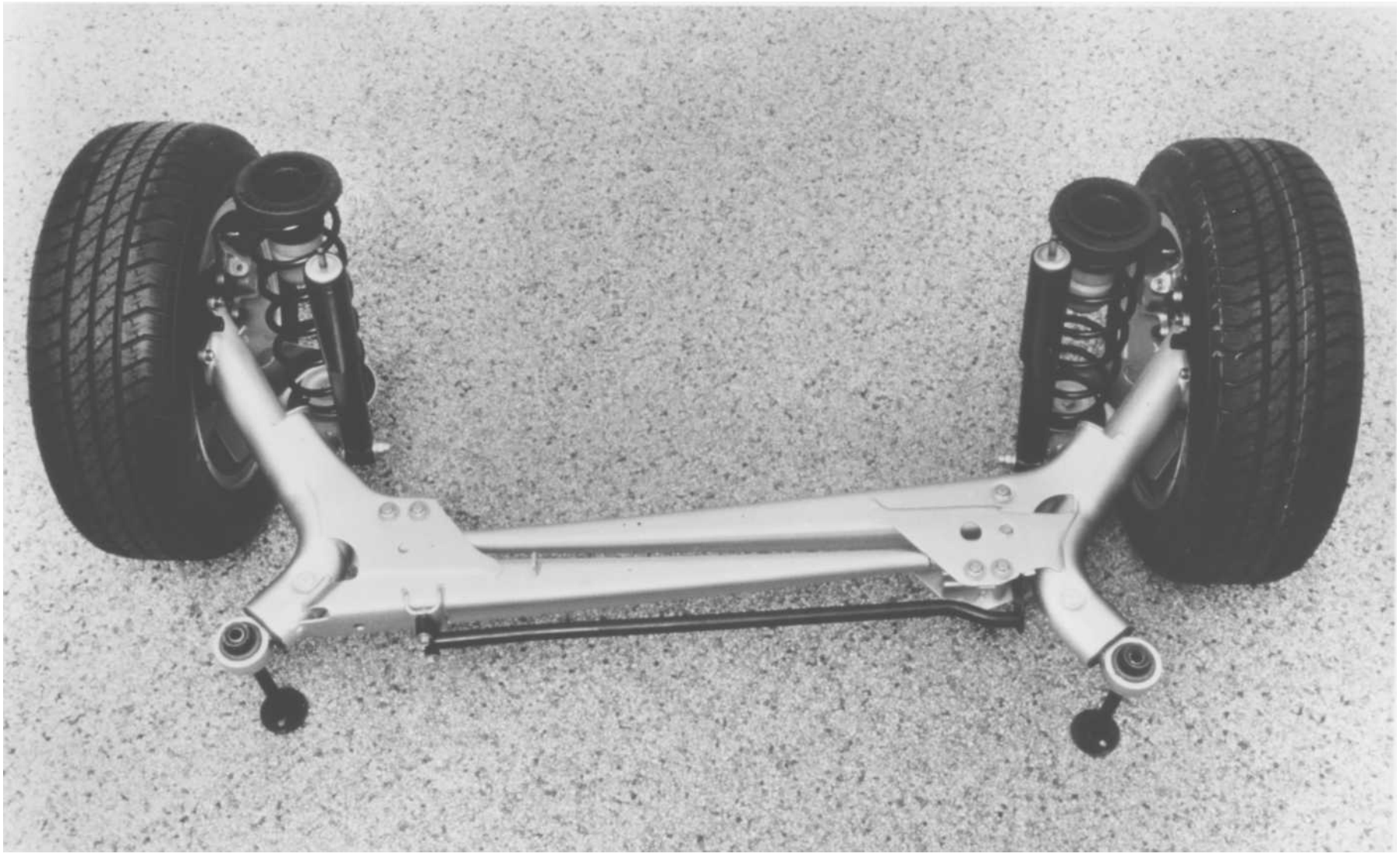
THE NEW VOLVO 850 GLT

VOLVO'S NEW 850 GLT INTERIOR: LOGICAL, FUNCTIONAL, COMFORTABLE

You expect comfortable, orthopedically-correct seats and an ergonomic dashboard layout from a Volvo. The interior of the all new 850 GLT surpasses even those high expectations. The front seats have generous side bolsters that hug you during brisk cornering. Power adjustments with 3-position memory are featured on the front driver's seat. The steering wheel adjusts for both height and tilt. Separate climate controls allow the driver and front passenger to agree to disagree. Clean, functional instrumentation is carefully positioned cockpit-style, slightly angled for the driver's convenience. Dual front air bags are standard, of course. (P3-3)

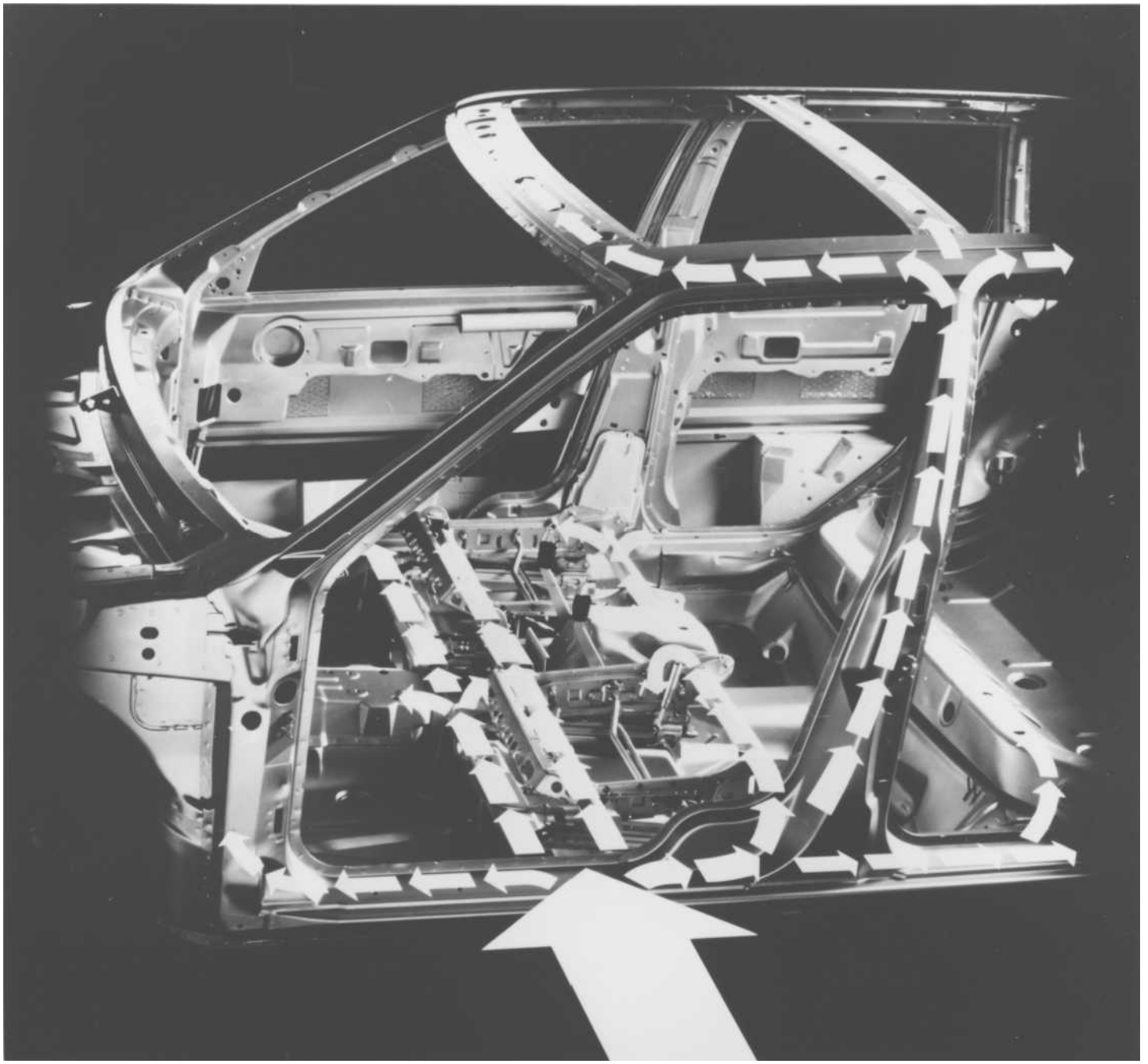
THE VOLVO 850 GLT 20-VALVE ENGINE: NEATNESS COUNTS

Designed and built exclusively by Volvo, the new 850 GLT's 2.4 liter B5254F engine is the world's first transversely-mounted in-line five-cylinder engine. Its compact design allows for easy access and a tight 33.5 foot (10.2 m) turning circle. The new 20-valve, DOHC, naturally aspirated engine has a Volvo variable intake system (V-VIS) which develops 90% of its maximum torque (162 lb./ft. @ 3300 rpm) between 2000 and 6300 rpm. It is rated at 168 hp @ 6200 rpm. Engine management is accomplished through microprocessor-controlled, Bosch LH Jetronic 3.2, multi-point, direct port fuel injection with Lambda Sond and Bosch EZ 192 K electronic ignition with a knock sensor. (P3-4)



VOLVO HAS PATENTED THE REAR SUSPENSION OF THE NEW 850 GLT

Volvo's unique, patented Delta-link semi-independent rear suspension combines the advantages of an independent semi-trailing suspension and a beam axle to provide the new Volvo 850 GLT with excellent road holding characteristics. Its innovative design helps provide efficient control over the angle of the wheels to the ground and helps maintain almost constant track width. The steering links (Delta-links) help provide neutral steering characteristics during cornering by counteracting lateral forces. This sophisticated design contributes both to the 850 GLT's crisp steering response and to its outstanding cornering stability.



THE VOLVO 850 GLT: SIDE IMPACT PROTECTION SYSTEM (SIPS)

The new Volvo 850 GLT's patented Side Impact Protection System is designed to help absorb lateral energy during side collisions. The principal components of the system include: (1) robust B-pillars connected to a strong roof arch; (2) two transverse tubular members inside each front seat cushion; (3) an energy-absorbing box structure between the seats designed to help absorb collision energy from the tubular seat members and transfer it to the other side of the car and downwards into the floorpan; (4) steel profiles in the floor; (5) floor members beneath the front and rear seats; and (6) an anti-submarining protection member in the rear seat.

VOLVO'S 1993 FLAGSHIP: THE FULLY-APPOINTED 960 SERIES

Volvo's elegant top-of-the-line 960 features a silky smooth, 2.9 liter, in-line six-cylinder engine producing over 200 horsepower. Four-speed automatic with lock up torque converter, SIPS (Side Impact Protection System), three-point seat belts and head restraints in all five seating positions, and locking differential are all standard. Amenities include electronic climate control, power-adjustable leather-clad front seats, power sunroof, and heated, power outside mirrors. New for 1993 are a passenger side air bag and an upgraded audio system.

THE VOLVO 960 SERIES

The well-appointed 960 series has received further refinements for 1993. Most notable is the addition of the passenger air bag hidden in a panel above the glove box. A new sound system with user-friendly, large format AM/FM stereo includes a full logic cassette and upgraded loudspeakers. The system also features CD-changer capability and an integral amplifier. Although hidden from view, the 1993 960s include environmentally kind CFC-free electronic climate control; plastic recyclable parts throughout the car are now clearly identified.

INTERIOR OF VOLVO 900 SERIES WAGONS REDESIGNED FOR 1993

Volvo's 960 and 940 wagons have a redesigned rear seat which includes an integrated child booster in the rear center armrest and all three rear seating positions now have three-point seat belts and head restraints. Volvo believes that these are the first station wagons to have a three-point seat belt for the center rear passenger. A 19.8 gallon fuel tank which increases the driving range of 900 series wagons by approximately 25% has also been added this year. The 2.3 liter 940 wagon shown above is dressed out in "Option Package 1" which includes 20-spoke alloy wheels, power sunroof, leather-faced upholstery, and a full-logic cassette deck. Optional roof rack also shown. (P3-9)

VOLVO HAS REDESIGNED THE REAR SEATS OF THE 900 SERIES WAGONS FOR 1993

Volvo has a well-deserved reputation for designing handsome, rugged, highly functional wagons. Continuing that tradition, Volvo's 1993 960 and 940 wagons have a 60/40 rear seat. Both outboard rear head restraints retract automatically when the seatback is lowered. A child booster cushion has been integrated into the center armrest. The seatback itself has been redesigned for increased comfort; the center position like the two outboard positions now has a three-point seat belt. Volvo believes that these are the first wagons to have a three-point seat belt for the center rear passenger.

VOLVO'S CLASSIC FAMILY SEDAN

The Volvo 240 sedan has been rated "one of the best overall values" in its class for five years straight by The Complete Car Cost Guide (Intellichoice, 1988 - 1992 editions). As the cornerstone of Volvo's line up, the 240 sedan and its companion wagon offer traditional Volvo values in a classic package. New for 1993 are CFC-free air conditioning, plastic component marking to facilitate recycling, an upgraded audio system (the wagons also have six-speakers), and power operated heated mirrors. ABS, driver's side air bag, metallic paint and a rugged 2.3 liter, 4-cylinder engine are all standard. The front foglights that are shown are optional.

VOLVO

NEWS & INFORMATION

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For Immediate Release
September 11, 1992 V3-1

IT'S AN AGILE, EXCITING SPORTS SEDAN AND BY THE WAY, IT'S ALSO A VOLVO!

ROCKLEIGH, NJ -- Surveys show that when you ask the typical driver what words he associates with the name Volvo, they are safety, durability, and longevity. In the not-too-distant future, this vocabulary will be expanded. The introduction of the Volvo 850 GLT this fall is likely to evoke words like sporty, agile, exciting, and even fun to drive!

The 850 GLT is not simply a new Volvo, it is an entirely new kind of Volvo. It is new from bumper to bumper. And, it is also about eight inches shorter between those bumpers than its stable mate, the Volvo 960. It is front-wheel-drive and its responsive 168 horsepower, 5-cylinder engine is mounted transversely. The transverse mounting provides optimal weight distribution, safety, and plenty of interior space. In order to accomplish this, Volvo engineers were forced to design both an ultra short automatic and manual transmission. They rose to the challenge, producing a pair of innovative new designs. Even the rear suspension of the 850 is a patented Volvo design unlike anything else found in cars today. Its semi-independent design combines excellent ride characteristics with outstanding road holding and performance.

The 850 is definitely a very different kind of Volvo. Yet, its appearance masks some of its radical nature. As you walk towards it, there is no mistaking the fact that the 850 is a Volvo. But, it is noticeably smaller, sleeker, and more aggressive.

Volvo 1993 Sports Sedan

The characteristic Volvo grille is somewhat reduced in size and neatly integrated into the forward sweep of the hood. The bumpers are body colored and flow into the overall body design. An expansive glass area allows excellent visibility and keeps the car's appearance light and airy. The wheels and tires are mounted very close to the surface of the body adding to its taut appearance. Even the wheels for the 850 are new. Cast of aluminum alloy with a six-spoke design, they complement the other sporty elements of the 850's styling.

When you open the door to enter the 850, you will notice that the door skin is a one-piece stamping. It is smooth, solid, and very well finished. Sliding into the driver's position, you are greeted by one of Volvo's famous, orthopedically-designed front bucket seats, power operated, of course. Sitting in the driver's seat, one immediately notices the "cockpit like" feel of the interior. Large round gauges with white numerals on black backgrounds are well located and easy to read. All switches and controls fall easily to hand. One simple lever allows the tilt and telescope steering wheel to be positioned exactly where the driver wants it. The control for the power seat is easy to use and needs to be set only once. After that, your personal driving position may be entered into one of the seat's three memories.

Turning the key quickly brings the 5-cylinder, 20-valve, Volvo built engine to life. Its idle is smooth with extremely low levels of noise and vibration. From an engineering standpoint, an inline 5-cylinder design has much more in common with a 6-cylinder than it does with a four, this contributes significantly to its smooth operation. Volvo engineers have mounted their new engine on hydraulic engine mounts in a separate subframe to minimize the transmission of any vibration into the passenger compartment.

Press in the clutch and slip the 5-speed manual transmission into first gear, and you are ready to go. It's at this point, when the 850 starts to move, that you

know for sure you are in a very different kind of Volvo! Its acceleration is brisk and it pulls strongly through all of the gears. This is due in part to Volvo's variable inlet system which utilizes a dual path intake manifold to keep the engine's torque output relatively constant throughout an extremely wide range of engine speeds. The passenger compartment is not absolutely silent, but the sounds that enter are pleasant and muted.

Approaching a corner in the 850 is a joy. This is a car that wants to be driven. A light touch on the brake pedal quickly and effectively adjusts your speed thanks to four-wheel power-assisted disc brakes with ABS. The power-assisted rack and pinion steering provides precise road feel and keeps the steering effort under control. As you start to corner the 850, its unique Delta-link rear suspension system comes into play. The Delta-link system includes a pair of deformable, elastomeric linkages which allow the rear axle to shift in response to the cornering forces. This movement of the rear axle makes the car very willing to turn. Its effect is highest at the beginning of a turn and diminishes as the turn continues. It is not a complex four-wheel steering system, but rather a mechanically elegant design which simply and effectively gets the job done.

The ride quality of the 850 GLT has a notably European flavor. It is firm but not jarring and allows the driver to have a good feel for what is happening on the road. A fifteen minute drive in an 850 will convince anyone that this is a truly new Volvo. Its sporting character is unmistakable. For all of those people who believed that Volvos were dull and boring, a short ride in this car will remove those preconceived notions forever. One has to ask, however, what did Volvo give up to achieve this level of sportiness? Has the company traded away safety engineering, durability, reliability? The answer can be summed up in one word, no!

The 850 is without a doubt the most advanced safety vehicle Volvo has ever produced. In addition to energy-absorbing structures in the front and rear, the unit

body of the 850 was designed from its inception to include Volvo's Side Impact Protection System. SIPS helps to direct the energy of a side impact across as much of the car's body as possible, limiting passenger compartment intrusion and reducing the forces reaching the occupants. In the 850, two tubes run transversely through the front seat cushions. In the event of a side impact, these tubes transmit the force from the door across to a SIPS box located in the center of the car. This structure will absorb more of the crash forces. Depending upon the severity of the impact, the crash forces may then be transmitted across the opposite seat and out to the far door of the car. These transverse tubes in combination with the robust B-pillars and reinforced roof and doorsills provide a fully integrated side impact protection system. The 850 already meets the side impact protection standard which will be required in all cars sold in North America in 1997.

All 850s will be equipped with both driver and passenger side air bags, and front seat occupants will be restrained by three-point seat belts with pyrotechnic tensioners. Another unique development in the 850 is the B-pillar mounted seat belt retractor reel which automatically adjusts the shoulder belt height to suit the occupant. All three rear seat positions are equipped with three-point self-adjusting seat belts and head rests. The center seating position has an armrest which quickly converts into a booster cushion for children of 50 - 80 pounds.

You might ask why a front-wheel-drive Volvo? Volvo engineers asked the same question. When they developed the design parameters for a new Volvo, two of the key criteria were to build a smaller overall automobile and to give up no interior space. Virtually the only way to accomplish this is through the use of front-wheel drive. But Volvo engineers were not really front-wheel-drive enthusiasts. Over the years, they had developed a series of handling parameters which would allow cars to be very predictable. Volvo cars are designed to behave at the limit of their performance in very much the way they do during normal driving. While

Volvo engineers were well acquainted with achieving this in rear-wheel-drive cars, they wondered if it could be done with front-wheel drive? After a great deal of work, the answer turned out to be yes. When you drive an 850, it is likely that you won't be able to tell which end of the car is driving. The steering is light and responsive. There is virtually no torque steer. And the understeering characteristic associated with so many front-wheel-drive cars is not apparent in the 850.

You might ask, if the 850 is so different, who is likely to buy it? The sporty nature of the 850 will probably make it attractive to people who are somewhat younger than today's Volvo buyers. Its front-wheel drive should make it attractive to owners of Saabs, Audis, Acuras, and other front-wheel-drive cars. Also, Volvo's research indicates that the 850 should appeal to people older than today's Volvo customers. These people are the "empty nesters" who no longer need the roominess of a Volvo station wagon. It would appear that the 850 can really enhance Volvo's business base in North America.

The one element not mentioned thus far is price. Volvo intends to make the 850 GLT competitive in price as well as performance. At its introduction late in October, the 850 GLT will be priced in the mid-twenties, offering an exceptional value for the money.

Agile, exciting, sporty, and fun to drive? If you are still having trouble using these words in the same sentence with the word Volvo, it is time for a test drive. A trip to your Volvo dealer this October may provide the most interesting ride you can have outside of an amusement park!

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VOLVO

NEWS & INFORMATION

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For Immediate Release
September 1 V3-2

A FRONT-WHEEL DRIVE SPORTY SEDAN JOINS VOLVO'S STRONG LINE UP FOR 1993

ROCKLEIGH, NJ -- Exciting is not a word people normally associate with Volvo, a car company best know for safety, durability, and longevity. But, the new Volvo 850 GLT, a front-wheel-drive, mid-size sedan designed with the driving enthusiast in mind, will likely change all that.

Joseph L. Nicolato, President & CEO of Volvo Cars of North America, Inc., stated that the newest member of the Volvo product line would have a significant impact on the image of Volvo in North America when it arrives this fall.

"The lively performance and excellent handling of the 850 GLT will definitely bring new customers to Volvo showrooms," Nicolato explained. "The decidedly sporty character of the 850 GLT will appeal to a group of people who would never have considered a Volvo previously!"

There are many clever design solutions in the 850 GLT, but three demand special attention -- the drivetrain, the rear suspension, and the safety systems. In each of these areas Volvo has pushed the envelope of automotive technology. In fact, the car has four patented design solutions.

The unique drivetrain of the 850 GLT was developed to satisfy performance and safety objectives. To achieve the best interior space utilization while reducing exterior dimensions, front-wheel drive was chosen. Mounting the alloy engine transversely produced a desirable 60/40 weight distribution, and allowed the engine

to help distribute the energy from an offset frontal crash across the entire width of the firewall.

To achieve the desired level of performance, a 2.4 liter 4-cylinder could easily be placed transversely in a front-wheel-drive car. But a 5-cylinder, 20-valve engine was considered by Volvo engineers to be superior in terms of output and smoothness. Volvo developed such an engine as a part of a modular light alloy engine family which included inline 4, 5, and 6-cylinder variants. The compact 5-cylinder powerplant produces 168 hp @ 6200 rpm. With the help of a variable inlet manifold, the engine has 90% of its maximum torque available from 2000 to 6000 rpm.

The transverse mounting of the engine posed other engineering challenges. The combination of the inline 5-cylinder engine and Volvo's demand for a short turning circle left little room for a transmission. So, the engineers set out to develop an ultra-short 5-speed manual and a similarly short 4-speed automatic transmission. The design solutions they came up with are unique in passenger cars. The manual transmission uses three main shafts instead of the traditional two. This design is employed in some exotic race cars because of its compactness and inherent strength. The 5-speed manual transmission is built by Volvo in their own factory and is patented. The electronically controlled 4-speed automatic also employs an extra shaft to achieve its compact dimensions. Equipped with sport, economy, and winter modes, the automatic is built in Japan by Aisin-Warner. The compact transmissions allowed the Volvo engineers to keep the turning circle down to 33.5 feet.

The Volvo engineers also wanted to eliminate "torque steer," an unpleasant characteristic found in many front-wheel-drive cars. It's that feeling that the steering wheel wants to return straight ahead as you accelerate hard. This goal was also attained thanks to the use of equal length outboard driveshafts. Most people driving an 850 GLT will not be able to tell it is front-wheel drive.

At the rear of the 850 GLT is another unique development, Volvo's patented Delta-link rear suspension. The name comes from the geometry of the two major components in the system, which resembles the Greek letter delta. The suspension system is semi-independent and combines the advantages of a live axle with those of an independent system. It is designed to be comfortable, quiet, and stable.

The 850 GLT's rear wheels are mounted on the ends of two long trailing arms which are joined at their forward end by two parallel transverse arms. Over bumps, the wheels can work independently with virtually no changes in camber. The anchorages for the trailing arms are two large rubber bushings which allow controlled movement of the axle in response to cornering forces. This gives a very responsive driving feel and excellent stability under hard driving conditions. In medium and high-speed cornering, the effect is similar to four-wheel steering without the complexity. An innovative and technically elegant solution from Volvo.

As in all Volvos, the 850 GLT's basic unit body is all welded steel with a robust safety cage surrounding the occupants and energy-absorbing structures front and rear. These systems are designed to help absorb or dissipate the forces of a crash while keeping the passenger compartment as intact as possible.

The 850 GLT has been designed from its inception to incorporate Volvo's patented Side Impact Protection System. This advanced design utilizes reinforced B-pillars, reinforced roof rails and doorsills, and tubes running through the front seat cushions to resist side impacts. When a side impact does occur, the crash forces are spread throughout the vehicle structure and passenger compartment intrusion is minimized.

All five seating positions in the Volvo 850 GLT are fitted with three-point seat belts. The front two are equipped with another unique and patented design, a self-adjusting reel which is located vertically in the B-pillar. Its spool is about twice as wide as the width of the belt, allowing the belt to automatically adjust to the height

and seat adjustment of the occupant. This means that the belt is comfortable, convenient, and effective. The 850 GLT will have pyrotechnic seat belt tensioners and air bags for both driver and front seat passenger.

"The most distinctive aspect of the new 850 GLT is the most difficult to describe on paper," according to Nicolato. "It's the way the car drives! You don't need to drive it very far to realize this is a truly exciting automobile. I believe it will appeal to many people who previously would never have considered a Volvo."

of course, Volvo's strong line up for 1993 offers a broad range of transportation choices beyond the new 850 GLT. From the elegant 960 flagship to the evergreen 240, Volvo's dedication to quality and to the continuous improvement of its products is again evident for 1993.

The 960 series, with its smooth running 201 hp inline 6-cylinder engine, debuted last year and received accolades from the major media. This year, Volvo has added a front passenger side air bag to the luxurious 960's long list of amenities and safety features. A new sound system has large easy to use controls for the AM/FM stereo cassette system, an integrated amplifier, and upgraded speakers.

The 940 series which was introduced in 1991 has been so well received that for 1993 it has completely replaced Volvo's 740 series. To accommodate a variety of tastes, Volvo has established two trim levels for the 1993 940 series in addition to the standard model. The first optional trim level contains appearance and convenience features such as 20-spoke alloy wheels, power sunroof, and a full logic cassette deck. For consumers desiring to personalize their 940 sedan or wagon with performance and sporty appearance features, Volvo offers a second trim level which includes an intercooled turbocharged engine, distinctive black grille, special tires, and all the amenities of trim level number one. Both 940 sedans and wagons have the larger 19.8 gallon fuel tank for 1993.

Volvo 1993 Line Up

The 900 wagons have perhaps the most innovative rear seat of any station wagon on the market today! To begin with it is unequally split (60/40) to provide load carrying versatility. Both seats can be lowered to extend the cargo area to its maximum 74.9 cu. ft. capacity or either of the split seats can be lowered to accommodate one or two passengers and a long piece of "cargo." The center position has a three-point seat belt, a head restraint, and a child booster cushion integrated into the center armrest. Volvo believes that it is the first car company to add a three-point belt to the center position of a wagon. Folding the seats is a snap: a strap on each of the seat cushions can be pulled to lift the cushion and swing it forward; seat releases are conveniently positioned on the top of the seats allowing the backs to be lowered while the outboard head restraints automatically retract; and the new center head restraint is lowered by simply pulling it forward and pushing down.

For those that want a truly extraordinary wagon, one that combines luxury features with cargo carrying versatility, Volvo offers the 960 wagon. Its 201 hp, 6-cylinder engine makes it the most powerful station wagon available in North America. On the highway, based on its EPA highway mileage of 25 mpg and its 19.8 gallon fuel tank, it has a cruising range of 495 miles. For stylish and practical family transport, the 960 wagon is without peer.

Last but far from least, Volvo's classic family 240 sedans and wagons have received their own list of new features for 1993. Included are: upgraded audio speakers (the wagon now has six speakers, power operated and heated outside mirrors, metallic paint as standard, and a power antenna on the sedan.

As a final note to Volvo's big news for 1993, all Volvo models have environmentally kind CFC-free air conditioning and climate control systems. That makes Volvo among the first manufacturers to completely eliminate ozone depleting

R12 freon as a refrigerant in its cars. In the same spirit, all plastic components on new Volvos are now clearly marked by type to help facilitate recycling.

VOLVO

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VOLVO'S INNOVATIVE 850 FEATURES FOUR NEW PATENTS

ROCKLEIGH, NJ -- Conceived as a fun-to-drive car for the 90s, the Volvo 850 GLT was designed from the proverbial clean sheet of paper. While it's a nimble car created specifically for driving enthusiasts, Volvo's philosophy of responsible car design shines through.

To meet their objectives, Volvo engineers came up with four new patented designs, two safety-related designs and two performance-related designs which contribute to the 850's excellent handling characteristics.

To maximize the packaging efficiency of the mid-size 850, Volvo engineers created a front-wheel-drive car with a transversely-mounted engine. To maintain the good maneuverability and tight turning circle Volvos are famous for, they needed an ultra short manual transmission that would fit transversely beside the new 5-cylinder inline engine. So Volvo designed, developed, built, and patented a 5-speed manual gearbox which uses three shafts instead of the usual two. The result is an extraordinarily short, smooth shifting, fun-to-use transmission that even has a fully synchronized reverse!

The innovative Delta-link semi-independent rear suspension is the second performance-related Volvo patented design on the 850 GLT. It combines the advantages of an independent semi-trailing suspension and a beam axle to provide excellent road holding characteristics. Delta-link is designed to provide passive rear steering, thanks to deformable rubber bushings which permit the rear axle to shift

slightly as cornering loads increase. This allows the 850 GLT to be very responsive to a driver's steering input and ads to the fun-to-drive nature of the car.

The third Volvo-patented design is simple and imminently logical. The front seat belts of the 850 GLT each have a retractor reel positioned vertically inside the B-pillar. The opening in the pillar and the reel itself are both about twice as wide as the belt itself. This permits the belt to automatically adjust on the reel according to the shoulder height of the driver or front passenger. It is a mechanically elegant design and a truly comfortable solution.

Finally, there is the Side Impact Protection System (SIPS) which is designed to help absorb energy during side collisions. SIPS uses reinforced B-pillars, reinforced roof rails and doorsills, and tubular members in the front seat cushions to spread the energy of a side impact across as much of the car's structure as possible. This helps to reduce side intrusion and lower the acceleration forces acting on the occupants. Thanks to SIPS, the 850 already meets government standards required of all cars sold in North America in 1991, a full four years ahead of schedule.

The Volvo 850 GLT is not simply a new car. It embodies all of Volvo's newest thinking. It retains all of the values people have learned to expect from Volvo and adds some new dimensions that you will probably find very enjoyable.

VOLVO

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VOLVO'S 900 SERIES WAGONS EXEMPLIFY THE CARMAKER'S DESIGN PHILOSOPHY

ROCKLEIGH, NJ -- Decades of producing family workhorses with user-friendly interiors and crisp, predictable handling has earned Volvo a reputation for designing arguably the best station wagon line in the world. Indeed, the rugged, functional design of Volvo wagons has put them in a class by themselves. Today about one out of every three new Volvos sold is a wagon. Few manufacturers, if any, can match that statement.

"Every detail of our wagons is carefully researched and thought out," noted Joseph L. Nicolato, President and CEO of Volvo Cars of North America, Inc., "right down to the innovative design of the rear seat on our 900 series station wagons for 1993." "This may be considered the most unique rear seat of any station wagon on the market." The seatback is split unequally (60/40) so that one or both of the "halves" can be folded down to extend the cargo area. Folding the rear seat of a Volvo 900 series wagon is a surprisingly easy task.

You don't have to tangle with awkwardly placed seatback releases, unwieldy head rests, and heavy seat cushions. Folding the seats is a snap: a strap on each of the seat cushions can be pulled to swing it forward; seat releases are conveniently positioned on the top of the seats allowing the backs to be lowered while the outboard head restrains automatically retract. The new center head restraint is lowered by simply pulling it forward and pushing down. A generously sized center rear armrest has been ingeniously designed to add to both the flexibility

and safety of the rear seats. A child booster cushion has been integrated into the armrest. The built-in cushion is designed to position a child so that he or she can be properly restrained by the center three-point seat belt. Suitable for a child aged three years old or older, weighing between 50 and 80 pounds and between 46 and 54 inches in height, the cushion provides a measure of safety that is unique to Volvo. When the child cushion is not needed, the armrest can be restored by folding down the back of the child cushion. The armrest also retracts into the seatback when the central seating position is needed for an adult.

The most newsworthy aspect of this clever rear seat is the fact that there are head restraints and three-point seat belts in all three rear seating positions. To Volvo's knowledge no other wagon in the world offers both a three-point seat belt and a head rest for the center rear passenger. "It may seem like we have devoted an extraordinary amount of thought to refining an already fine product," Nicolato reflected, "but that is how Volvo earned its reputation for building great wagons.

VOLVO

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VOLVO 1993
TECH & SPEC

ROCKLEIGH, NJ -- The following pages contain technical information about Volvo's 1993 models designed for the U.S. market. This information is accurate as of September 11, 1992. However, the manufacturer reserves the right to alter specifications at any time without notice.

NEW MODEL FOR 1993

The 850 GLT is the first front-wheel-drive Volvo to be sold in North America. It is a mid-size sports sedan powered by a transversly-mounted 5-cylinder engine. The innovative 850 GLT features four new Volvo patents and is the most dramatically new Volvo since the first Volvo released off the assembly line in 1927.

NEW FEATURES FOR ALL MODELS

CFC-Free Air Conditioning -- All 1993 Volvos will feature air conditioning or electronic climate control as standard equipment and all of these systems will use a non-chlorofluorocarbon refrigerant. The new refrigerant, R134A, is a chlorine-free material which is believed to have virtually no ozone depleting potential. The introduction of R134A places Volvo among the first car companies to totally eliminate the use of R12 (freon) as a refrigerant.

ABS Brakes -- Anti-lock braking system (ABS) is again standard equipment on all new Volvo models sold in the U.S. The ABS feature complements the power-assisted four-wheel disc brake system which is also standard equipment.

Supplemental Restraint System -- Since model year 1990, 100% of all new Volvos sold in the U.S. have been equipped with a supplemental restraint system incorporating an air bag. Again for 1993, all U.S. Volvos will be equipped with SRS, the exact specification varying by model as follows:

240: driver's side air bag and knee bolster.

850: driver and passenger side air bag and knee bolster, driver and passenger side pyrotechnique seat belt tensioners.

940: driver's side air bag and knee bolster, driver and passenger side seat belt tensioner.

960: driver and passenger side air bag and knee bolster, driver and passenger side pyrotechnique seat belt tensioners.

Traction Control Systems -- Volvo offers several different traction control systems which vary by model. They include:

240: May be equipped from the factory with an automatic locking differential. This unit aids in initial acceleration under poor traction conditions. When one wheel starts to spin due to low friction, the differential "locks" sending driving torque to the opposite wheel as well. The system automatically "unlocks" as soon as normal traction returns or when the vehicle exceeds approximately 25 mph. This is a factory installed option.

850: In addition to the already fine traction quality inherent with front-wheel drive, Volvo offers as a factory option, "TRACS". This system which utilizes the ABS brake componentry, will apply the brake on a wheel which is spinning due to low traction during acceleration. Like the automatic locking differential, this system is designed to aid during initial acceleration and becomes inoperative at speeds over approximately 25 mph. TRACS is a factory-installed option.

850s equipped with automatic transmissions also benefit from the "W" mode in low traction environments. Placing the transmission in "W" locks out 1st and 2nd gear. Starting off in 3rd gear significantly reduces the torque available to produce wheel spin and consequently aids in poor traction start ups.

940: Both sedans and wagons are equipped with an automatic locking differential as standard equipment. It functions as described in the 240 paragraph above.

960: Both 960 sedans and wagons have an automatic locking differential as described in the 240 section. Additionally, the electronically controlled automatic transmission offers a "W" mode. This function is described in the 850 section above.

Anti-Theft Radios -- All Volvo audio systems in 1993 models will be equipped with anti-theft code protection.

Recycling -- Plastic components in all 1993 Volvos have been marked by type to facilitate easy recycling at the end of each vehicle's long and useful life.

SUMMARY OF CHANGES BY MODEL

240 Series -- Volvo's entry level 240 series receives numerous new features for 1993. One of the most interesting is the introduction of a totally CFC-free air conditioning system. The new refrigerant, R134A, is a freon-free material which has virtually no ozone-depleting potential.

740 Series -- Introduced in 1985, Volvo's proven 740 has been replaced for 1993 by the 940 series.

940 Series -- The 940 series will continue as Volvo's volume car for 1993. The big news this year is the streamlining of the 940 series car line. In order to allow for more efficient ordering, production and marketing, the 940 series will be available with three distinctive equipment levels.

The base level 940 series will be powered by Volvo's durable, inline 4-cylinder, fuel injected engine rated at 114 hp at 5400 rpm. Standard features for the base model include an automatic transmission, SRS, ABS, SIPS, all-season tires, automatic locking differential, power windows, central locking, and a manual CFC-free air conditioning system.

Option level #1 will include all the above base equipment, plus twenty-spoke alloy wheels, power operated sunroof, leather upholstery, and an upgraded audio system with a full logic cassette deck.

***Option level* #2** package consists of all of the option level #1 features, along with Volvo's powerful, inline 4-cylinder, turbocharged engine, rated at 162 hp at 4800 rpm. Additional equipment includes a distinctive turbo grille, front foglights, 195/65R15 tires and a turbo decklid/tailgate emblem.

The three option packages are available on both sedan and wagon models.

The 940 series wagon will feature a new rear seat which is likely to be the most sophisticated rear seat of any family car in the world. Volvo's new rear wagon seat incorporates a higher and more comfortable backrest and repositioned seatback lock controls, along with automatically retractable outboard head restraints. These changes provide easier folding of the rear seat. A three-point safety belt has been added to the center rear seating position, similar to the Volvo's 940 series sedan. For 1993, all 940 series models will feature a three-point safety belt and head rest for all five seating positions! Volvo appears to be the only car company in the world to offer the three-point safety belt and head rest combination for the center rear passenger of a wagon.

Integrated into the 940 series wagons' rear seat is Volvo's unique child booster cushion, which is located in the center armrest. This integrated child booster cushion was introduced in the 940 series sedan in 1991.

The 940 series sedan and wagon will receive a larger 19.8 gallon fuel tank, which increases the cruising range by 25 percent.

960 Series -- Volvo's flagship 960 series, which was introduced in 1992, has received overwhelmingly positive reviews by the North American automotive press.

The 960 series receives a passenger side supplemental restraint system (SRS), which consists of an air bag and knee bolster for 1993. Additional interior changes include a new AM/FM stereo cassette with large easy to use controls. It is also pre-wired for a compact disc changer. To complement the new stereo, the 960 series receives upgraded stereo speakers.

The major change to the interior of the 960 series wagon is its sophisticated rear seat, which features a three-point safety belt and head restraint for the center rear passenger. The new rear seat incorporates a higher and more comfortable backrest, along with repositioned seat controls for easier folding of the seat. It also features Volvo's unique integrated child booster cushion which is located in the rear seat armrest. Introduced in the 960 series sedan last year, the child booster cushion is designed for children who weigh between 50 and 80 pounds.

Truly a distinctive car, the 960 wagon with its 201 hp, six-cylinder engine is the most powerful station wagon available in North America. With its new 19.8 gallon tank and its EPA highway mileage of 25 mpg, it could conceivably carry a family almost 500 miles between fill ups. The 960 is a wagon in a class by itself.

VOLVO

1993 SPECIFICATIONS

240 SERIES

ENGINE - B-230F	
Type	In-line 4-cyl. SOHC
HP (SAE Net)	114 @ 5400
Torque	136 @ 2750
Cylinder Block	Cast iron
Cylinder Head	Aluminum
Bore & Stroke	96/80 mm
Displacement	2316 cc (141 cu. in.)
Compression ratio	9.8:1
Fuel Requirements	87 (R+M) /2 or higher
Ignition	Breakerless, solid state
Fuel Injection	LH Lambda (Electronic)
Main Bearings	5-shell type
Valve	Overhead cam
Operations	direct acting
Battery/Alternator	450/80 amp
Crankcase Capacity (incl filter)	4.7 U.S. qts.
Fuel Tank Capacity	15.8 U.S. gallons
Max. Engine Speed	6100

DRIVETRAIN

Transmissions

Manual: M-47	five speed
Automatic: AW-70	4 speed automatic

Transmission ratios

Manual	4.03/2.16/1.37/1.0/0.83
Automatic	2.45/1.45/1.0/0.69
Final Drive Ratio	Manual: 3.31:1 Auto. 3.73:1

CHASSIS and SUSPENSION

Suspension

Front -- MacPherson strut with eccentrically mounted coil springs, stabilizer bar, and hydraulic shock absorbers

Rear -- Four-link, live axle, panhard rod, coil springs, stabilizer bars and hydraulic shock absorbers

Steering

Type -- Power assisted rack and pinion

Ratio	17.3:1
Turns, lock-to-lock	3.5
Turning circle	32.2 ft.

Brakes

System -- Four-wheel disc, Anti-lock Braking System

Front -- Vented discs, 263 x 24 mm, fixed calipers

Rear -- Solid discs, 281 x 9.6 mm, fixed calipers, drum type parking brake mechanically operated

Swept area: 398 sq. in.

Wheels

5.5 x 14 Black Paint Steel; Full Wheel Covers

Tires

Sedan	185/70R14T
Wagon	185/R 14T

EQUIPMENT	Sedan	Wagon
Anti-roll bars F/R (mm)	21/19	21/16
SRS Drivers Air Bag	S	S

EQUIPMENT (continued)	Sedan	Wagon
Air Conditioning	S	S
Cruise Control	X	X
Anti-lock Braking System	S	S
Power Windows	S	S
TD-613 AM/FM Anti-Theft Radio/Cassette	S	S
Front/Rear Door Speakers	S	S
Sunroof	N/A	N/A
3-position int. dome light with delay	S	S
Heated front seats	O	O
Instrumentation		
120 m/200 k speedometer	S	S
4-digit trip meter	S	S
fuel & coolant temp gauges	S	S
large diameter clock	S	S
Manual Remote Controlled Outside Mirrors	S	S
Central locking	S	S
Upholstery: Trico Plush	S	S
Vinyl	N/A	O
Leather	O	O
Head Restraints, front/rear	S	S
Paint: Solid	S	S
Metallic + Clear	S	S

Key:

S = Standard	X = Avail. at extra cost
N/A = Not Available	O = Optional

DIMENSIONS & CAPACITIES	Sedan	Wagon
Wheelbase (in.)	104.3	104.3
Track, front (in.)	56.3	56.3
Track, rear (in.)	53.5	53.5
Overall length (in.)	189.9	190.7
Overall width (in.)	67.3	67.7
Overall height (in.)	56.3	57.5
Leg room, front (in.)	40.1	40.1
Leg room, rear (in.)	36.4	36.4
Head room, front (in.)	37.9	37.9
Head room, rear (in.)	36.1	36.8
Int. vol (EPA cu. ft.) Total	104.3	132.8
(EPA cu. ft.) Front	49.2	49.9
(EPA cu. ft.) Rear	41.1	41.1
Trunk cap (cu. ft.)	14.0	N.A.
Cargo cap, seat up (cu. ft.)	N.A.	41.7
Cargo cap, seat down (cu. ft.)	N.A.	76.0
Cargo area,max. width (in.)	61.0	55.9
max. length (in.)	44.5	74.0
max. depth (in.)	19.7	32.7
Ground clear. (fully loaded) (in)	4.3	4.7
Front overhang (in.)	36.9	36.9
Rear overhang (in.)	47.0	47.8
Aver. curb wt (lbs)	2919-2954	3051-3084
Wt. distribution, F/R (%)	53/47	51/49

EPA Mileage: Adj. MPG	Sedan Man/Auto		Wagon Man/Auto	
City	21	20	21	20
Highway	28	25	27	25
Single Est.	24	22	23	22

VOLVO 1993 SPECIFICATIONS

850 GLT SEDAN

ENGINE	
Type	In-line 5-cyl. DOHC
HP (SAE Net)	168 @ 6200
Torque	162 @ 3300
Cylinder Block	Die- Cast Aluminum
Cylinder Head	Die- Cast Aluminum
Bore & Stroke	83 X 90 mm
Displacement	2435 cc
Compression ratio	10.5:1
Fuel Requirements	87 (R + M) /2 or higher
Ignition	Bosch EZ129K w/knock sensor
Fuel Injection	Bosch LH 3.2
Main Bearings	6-shell type
Valve	Direct acting, twin camshaft
Operations	hydraulic tappets
Battery/Alternator	520/100 amp
Crankcase Capacity (incl filter)	
Fuel Tank Capacity	19.3 U.S. gallons
Max. Engine Speed	6300 rpm

DRIVETRAIN	
Transmissions	
Manual -- M56 3.38:1, 1.90:1, 1.19::1 0.87:1, 0.70:1 (Rev 3.30:1) 3.77:1 final drive	
Automatic -- AW-42 three mode, elect. control	
Transmission ratios	
Automatic -- 3.61:1, 2.06:1, 1.37:1 0.98:1 (3.95:1 rev.)	
Final Drive Ratio	2.74:1

CHASSIS and SUSPENSION	
Chassis - Pressed steel unit body construction	
Suspension	
MacPherson struts with asymmetrically mounted coil springs, hydraulic shock absorbers, aluminum lower A frames, and sway bar.	
Rear -- Volvo patented delta-link semi-individual coil springs, gas shock absorbers and sway bar.	
Steering	
Type -- Power assisted rack and pinion	
Ratio	16.8:1
Turns, lock-to-lock	3.2
Turning circle	33.5 ft.
Brakes	
System -- Four-wheel disc vacuum power assist, 3-channel ABS.	
Front -- 11.0" ventilated disc with sliding caliper	
Rear -- 11.5" solid disc with sliding calipers and rear proportioning valve.	
Swept area:	
Wheels	6.5 X 15
Alloy	
Tires	
Sedan	195/6015

EQUIPMENT	Sedan
Sway Bars, F/R (mm)	20/19.5
SRS Drivers & Front Passenger Side Air Bag	S

EQUIPMENT (continued)	Sedan
Air Conditioning climate contr.	S
Cruise Control	S
Anti-lock Braking System	S
Power Windows	S
SC810 8 speaker anti-theft AM/FM cassette /radio CD compat.	S
Dash, Front/Rear Door Hatshelf Speakers	S
Sunroof, Glass	O
Dome light with front map lights and delay	S
Heated front seats	S
Power driver seat (w/ 3-position memory	S
Instrumentation	
140 m/220 k speedometer	S
4-digit trip meter	S
fuel & coolant temp gauges	S
digital clock & ambient temp gauge	S
Remote Controlled Outside Mirrors	S
Visor Vanity Mirrors (Pass/driver.)	S
Central locking	S
Upholstery: Trico plush	S
Leather	O
Head Restraints - front, rear, center rear	S
Paint: Solid	S
Metallic + Clear	S

Key:
S = Standard X = Avail. at extra cost
N/A = Not Available O = Optional

DIMENSIONS & CAPACITIES	Sedan
Wheelbase (in.)	104.9
Track, front (in.)	59.8
Track, rear (in.)	57.9
Overall length (in.)	183.5
Overall width (in.)	69.3
Overall height (in.)	55.1
Leg room, front (in.)	42.5
Leg room, rear (in.)	35.1
Head room, front (in.)	38.0
Head room, rear (in.)	37.2
Int. vol (EPA cu. ft.) Total	97.0
(EPA cu. ft.) Front	N/A
(EPA cu. ft.) Rear	N/A
Trunk cap (cu. ft.)	14.7
Cargo cap, seat up (cu. ft.)	14.7
Cargo cap, seat down (cu. ft.)	33.2
Cargo area, max. width (in.)	N/A
max. length (in.)	N/A
max. depth (in.)	N/A
Ground clear. (fully loaded) (in)	6.1
Front overhang (in.)	N/A
Rear overhang (in.)	N/A
Aver. curb wt (lbs)	3187
Wt. distribution, F/R (%)	60/40

EPA Mileage: Adj. MPG (49 State Estimate)

	Auto	Manual
City	20	21
Highway	28	30
Single Est.	23	24

VOLVO

1993 SPECIFICATIONS

940 SERIES

BASE MODEL AND OPTION PACKAGE 1

ENGINE - B-230FT GENERATION 3	
Type -- In-line 4-cyl. SOHC	
HP (SAE Net)	114 @ 5400
Torque	136 @ 2150
Cylinder Block	Cast iron
Cylinder Head	Aluminum
Bore & Stroke	96/80 mm
Displacement	2316 cc (141 cu. in.)
Compression ratio	9.8:1
Fuel Requirements	87 (R + M) /2 or higher
Ignition	Breakerless, solid state
Fuel Injection	Regina
Main Bearings	5-shell type
Valve	Overhead cam
Operations	direct acting
Battery/Alternator	510/100 amp
Crankcase Capacity (incl filter)	4.7 U.S. qts.
Fuel Tank Capacity	19.8 U.S. gallons
Max. Engine Speed	6100 rpm

DRIVETRAIN

Transmissions

Automatic: AW-71	4 speed automatic

Transmission ratios

Automatic	2.45/1.45/1.0/0.69
Final Drive Ratio	Auto. 4.10:1
Automatic Locking Differential	

CHASSIS and SUSPENSION

Suspension

Front -- MacPherson strut with eccentrically mounted coil springs, stabilizer bar, and hydraulic shock absorbers

Rear -- Constant track: linkage consisting of live axle, two trailing arms, wishbone sub-frame, Panhard rod, coil springs, stabilizer bars (4-door only) and gas shock absorbers

Steering

Type -- Power assisted rack and pinion	
Ratio	16.9:1
Turns, lock-to-lock	3.5
Turning circle	32.2 ft.

Brakes

System -- Four-wheel disc with vacuum assist ABS2; Bosch Anti-Lock Braking System with electronic sensors front & rear brake circuits.

Front -- Vented discs, 280 x 26 mm, sliding calipers,

Rear -- Solid discs, 281 x 9.6 mm, fixed calipers, drum type parking brake mechanically operated

Swept area	421 sq. in.
Wheels	6 .5 x 16 swept 5-spoke alloy
Tires	
Sedan and Wagon	195/65R15

EQUIPMENT	Sedan	Wagon
Sway Bars, F/R (mm)	21/16	21/0
SRS Drivers Air Bag	S	S
SIPS (Side Impact Protection System)	S	S
Air Conditioning climate contr.	S	S
Cruise Control	S	S
Anti-lock Braking System	S	S
Power Windows	S	S

EQUIPMENT (continued)	Sedan	Wagon
CR-814 4 speaker anti-theft AM/ FM cassette /radio CD compat.	S	S
Dash Front/Rear Door Speakers	S	S
Sunroof	S	S
Dome light with front map lights and delay	S	S
Heated front seats	S	S
Power Driver seat	S	S
Instrumentation		
120 m/200 k speedometer	S	S
4-digit trip meter	S	S
fuel & coolant temp gauges	S	S
large diameter clock	S	S
Voltmeter	S	S
Power Remote Controlled Outside Mirrors	S	S
Automatic Locking Differential	S	S
Visor Vanity Mirror (Pass.)	S	S
Central Locking	S	S
Upholstery: Leather	S	S
Head Restraints, front/rear	S	S
Paint: Solid	S	S
Metallic + Clear	X	X
Option Package 2:		
Alloy Wheels	S	S
Power Sunroof	S	S
Leather Upholstery	S	S
Full Logic Cassette Deck	S	S

Key:

S = Standard X = Avail. at extra cost

N/A = Not Available O = Optional

DIMENSIONS & CAPACITIES	Sedan	Wagon
Wheelbase (in.)	109.1	109.1
Track, front (in.)	57.9	57.9
Track, rear (in.)	57.5	57.5
Overall length (in.)	191.7	189.3
Overall width (in.)	69.3	69.3
Overall height (in.)	55.5	56.5
Leg room, front (in.)	41.0	41.0
Leg room, rear (in.)	34.7	34.7
Head room, front (in.)	38.6	38.6
Head room, rear (in.)	37.1	37.6
Int. vol (EPA cu. ft.) Total	110.7	134.7
(EPA cu. ft.) Front	51.9	52.7
(EPA cu. ft.) Rear	42.0	42.6
Trunk cap (cu. ft.)	16.8	N.A.
Cargo cap, seat up (cu. ft.)	N.A.	39.3
Cargo cap, seat down (cu. ft.)	N.A.	74.9
Cargo area, max. width (in.)	63.0	59.4
max. length (in.)	41.6	71.5
max. depth (in.)	19.6	32.4
Ground clear. (fully loaded) (in.)	4.1	4.1
Front overhang (in.)	36.2	36.2
Rear overhang (in.)	43.1	43.1
Aver. curb wt (lbs)	3067-3073	3177-3194
Wt. distribution, F/R (%)	57/43	51/49
EPA Mileage: Adj. MPG	**Sedan Auto only**	**Wagon Auto only**
City	19	19
Highway	27	27
Single Est.	22	22

VOLVO

1993 SPECIFICATIONS
940 SERIES
OPTION PACKAGE 2

ENGINE - B-230FT GENERATION 3	
Type -- In-line 4-cyl. SOHC; water cooled turbo with intercooler	
HP (SAE Net)	162 @ 4800
Torque	195 @ 3450
Cylinder Block	Cast iron
Cylinder Head	Aluminum
Bore & Stroke	96/80 mm
Displacement	2316 cc (141 cu. in.)
Compression ratio	8.7:1
Fuel Requirements	87 (R + M) /2 or higher
Ignition	Breakerless, solid state
Fuel Injection	LH Lambda (Electronic)
Main Bearings	5-shell type
Valve	Overhead cam
Operations	direct acting
Battery/Alternator	510/100 amp
Crankcase Capacity (incl filter)	4.7 U.S. qts.
Fuel Tank Capacity	19.8 U.S. gallons
Max. Engine Speed	6100 rpm

DRIVETRAIN	
Transmissions	
Automatic: AW-71	4 speed automatic
Transmission ratios	
Automatic	2.45/1.45/1.0/0.69
Final Drive Ratio	Auto. 3.73:1
Automatic Locking Differential	

CHASSIS and SUSPENSION	
Suspension	
Front -- MacPherson strut with eccentrically mounted coil springs, stabilizer bar, and hydraulic shock absorbers	
Rear -- Constant track: linkage consisting of live axle, two trailing arms, wishbone sub-frame, Panhard rod, coil springs, stabilizer bars (4-door only) and gas shock absorbers	
Steering	
Type -- Power assisted rack and pinion	
Ratio	16.9:1
Turns, lock-to-lock	3.5
Turning circle	32.2 ft.
Brakes	
System -- Four-wheel disc with vacuum assist ABS2; Bosch Anti-Lock Braking System with electronic sensors front & rear brake circuits.	
Front -- Vented discs, 280 x 26 mm, sliding calipers,	
Rear -- Solid discs, 281 x 9.6 mm, fixed calipers, drum type parking brake mechanically operated	
Swept area	421 sq. in.
Wheels	6 .5 x 16 swept 5-spoke alloy
Tires	
Sedan and Wagon	195/65R15

EQUIPMENT	Sedan	Wagon
Sway Bars, F/R (mm)	21/16	21/0
SRS Drivers Air Bag	S	S
SIPS (Side Impact Protection System)	S	S

EQUIPMENT (continued)	Sedan	Wagon
Air Conditioning climate contr.	S	S
Cruise Control	S	S
Anti-lock Braking System	S	S
Power Windows	S	S
CR-814 4 speaker anti-theft AM/ FM cassette /radio CD compat.	S	S
Dash Front/Rear Door Speakers	S	S
Power Sunroof	S	S
Dome light with front map lights and delay	S	S
Heated front seats	S	S
Power Driver seat (leather only)	O	O
Instrumentation		
120 m/200 k speedometer	S	S
4-digit trip meter	S	S
fuel & coolant temp gauges	S	S
large diameter clock	S	S
Voltmeter	S	S
Turbo Boost Gauge	S	S
Power Remote Controlled Outside Mirrors	S	S
Automatic Locking Differential	S	S
Visor Vanity Mirror (Pass.)	S	S
Central locking	S	S
Upholstery: Leather	S	S
Head Restraints, front/rear	S	S
Paint: Solid	S	S
Metallic + Clear	X	X

Key:
S = Standard X = Avail. at extra cost
N/A = Not Available O = Optional

DIMENSIONS & CAPACITIES	Sedan	Wagon
Wheelbase (in.)	109.1	109.1
Track, front (in.)	57.9	57.9
Track, rear (in.)	57.5	57.5
Overall length (in.)	191.7	189.3
Overall width (in.)	69.3	69.3
Overall height (in.)	55.5	56.5
Leg room, front (in.)	41.0	41.0
Leg room, rear (in.)	34.7	34.7
Head room, front (in.)	38.6	38.6
Head room, rear (in.)	37.1	37.6
Int. vol (EPA cu. ft.) Total	110.7	134.7
(EPA cu. ft.) Front	51.9	52.7
(EPA cu. ft.) Rear	42.0	42.6
Trunk cap (cu. ft.)	16.8	N.A.
Cargo cap, seat up (cu. ft.)	N.A.	39.3
Cargo cap, seat down (cu. ft.)	N.A.	74.9
Cargo area, max. width (in.)	63.0	59.4
max. length (in.)	41.6	71.5
max. depth (in.)	19.6	32.4
Ground clear. (fully loaded) (in)	4.1	4.1
Front overhang (in.)	36.2	36.2
Rear overhang (in.)	43.1	43.1
Aver. curb wt (lbs)	3067-3073	3177-3194
Wt. distribution, F/R (%)	57/43	51/49
EPA Mileage: Adj. MPG	**Sedan Auto only**	**Wagon Auto only**
City	19	19
Highway	23	23
Single Est.	21	21

VOLVO 1993 SPECIFICATIONS 960

ENGINE (B-6304F)

Type -- In-line 6-cyl. all aluminum with cast in iron liners, DOHC, 24 valves, pent-roof combustion chambers.

HP (SAE Net)	201 @ 6000
Torque	197 ft lbs @ 4300
Cylinder Block	Aluminum
Cylinder Head	Aluminum
Bore & Stroke	83 X 90 mm
Displacement	2922 cc (178 cu. in.)
Compression Ratio	10.7:1
Fuel Requirements	87 (R + M) /2 or higher
Ignition	Electronic, microprocessor controlled, direct ignition coils
Fuel Injection	Motronic (Electronic)
Main Bearings	7-shell type
Valve	Overhead cam
Operations	direct acting
Battery/Alternator	600/120 amp
Crankcase Capacity (incl filter)	6.0 U.S. qts.
Fuel Tank Capacity	21.8 U.S. gallons (4-door) 19.8 U.S. gallons (5-door)
Max. Engine Speed	6200 rpm

DRIVETRAIN

Transmissions

AW-40 -- electronically-controlled,4-speed automatic with 3-selective gear-change programs (sport, economy, winter)

Transmission Ratios

Automatic	2.80:1/1.53/1.00/0.70/2.35
Final Drive Ratio	3.31:1
Automatic Locking Differential	

CHASSIS and SUSPENSION

Chassis - SIPS (Side Impact Protection System)

Suspension

Front -- MacPherson strut with eccentrically mounted coil springs, stabilizer bar, and hydraulic shock absorbers

Rear -- 4-door: Volvo multi-link: individually sprung wheels with lower trailing arm, upper wishbone, lower link and track rod, single coil spring per side and self-leveling shock absorbers and sway bar. 5-doors: constant track: linkage consisting of live axle, two trailing arms, wishbone sub-frame, panhard rod, coil springs, and self-leveling shock absorbers

Steering

Type -- Power assisted rack and pinion

Ratio	16.9:1
Turns, lock-to-lock	3.5
Turning circle	32.2 ft.

Brakes

System -- Four-wheel disc with vacuum assist ABS2; Bosch Anti-Lock Braking System with electronic sensors front & rear brake circuits.

Front -- Vented discs, 280 x 26 mm, sliding calipers.

Rear -- Solid discs, 281 x 9.6 mm, fixed calipers, drum type parking brake mechanically operated

Swept area: 421 sq. in.

Wheels	6 x 15 s 20-spoke alloy
Tires	195/65 R15V

EQUIPMENT	Sedan	Wagon
Sway Bars, F/R (mm)	24/18	21/0
SRS Drivers Air Bag	S	S
Passenger Side Air Bag	S	S
Electronic Climate Control	S	S
Cruise Control	S	S
Anti-lock Braking System	S	S
Power Windows	S	S
SC-810 6 speaker anti-theft AM/FM cassette /radio CD compat.	S	S
Dash Front/Rear Door Speakers	S	S
Sunroof	S	S
Dome light with front map lights and delay	S	S
8-way power controlled 3-way programmable dri ver seat)	S	S
Heated Front Seats	S	S
Instrumentation:		
140 m/240 k speedometer	S	S
4-digit trip meter	S	S
fuel & coolant temp gauges	S	S
large diameter clock	S	S
Power Remote Controlled Outside Mirrors	S	S
Automatic Locking Differential	S	S
Visor Vanity Mirrors	S	S
Central locking	S	S
Upholstery: Leather	S	S
Head Restraints, front/rear	S	S
Paint: Solid, Metallic, Clear	S	S

Key:

S = Standard	X = Avail. at extra cost
N/A = Not Available	O = Optional

DIMENSIONS & CAPACITIES	Sedan	Wagon
Wheelbase (in.)	109.1	109.1
Track, front (in.)	57.9	57.9
Track, rear (in.)	59.8	57.5
Overall length (in.)	191.7	189.3
Overall width (in.)	69.3	69.3
Overall height (in.)	55.5	56.5
Leg room, front (in.)	41.0	41.0
Leg room, rear (in.)	34.7	34.7
Head room, front (in.)	38.6	38.6
Head room, rear (in.)	37.1	37.6
Int. vol (EPA cu. ft.) Total	110.7	134.7
(EPA cu. ft.) Front	51.7	52.7
(EPA cu. ft.) Rear	42.0	42.6
Trunk cap (cu. ft.)	16.6	N.A.
Cargo cap, seat. up (cu. ft.)	N.A.	39.3
Cargo cap, seat down (cu. ft.)	N.A.	74.9
Cargo area, max. width (in.)	63.0	59.4
max. length (in.)	41.6	71.5
max. depth (in.)	19.6	32.4
Ground clear. (fully loaded) (in)	4.1	4.1
Front overhang (in.)	36.2	36.2
Rear overhang (in.)	43.1	43.1
Aver. curb wt (lbs)	3460	3370
Wt. distribution, F/R (%)	53/47	52/48

EPA Mileage: Adj. MPG Automatic Only	Sedan	Wagon
City	17	17
Highway	25	25
Single Est.	20	20