

**VOLVO**

Volvo Car Corporation



Volvo V70

Press Information

**YOUR OWN**  
VOLVO V70 INSIDE

# VOLVO

Volvo Car Corporation

January 10, 2000

50220-bh

Dear Journalist,

## The toys in the box

Do you remember how it felt as a child when you got a present and found that the parcel contained the very same toy you had been looking at in the shop window? The red toy car? Or the pretty doll?

When I grew up in Sweden in the post-war years, it wasn't every day that my parents brought things like this home. But it happened from time to time, and perhaps it was just because it didn't happen so often that I can still remember the pleasure.

In my case, however, there were no dolls on my list - just toy cars, model trains and aeroplanes. One of my favourites was a wooden locomotive. Another was a model of a Ferrari made by Schuco of Germany. Revell assembly kits were also highly appreciated.

As life went on, my interests changed. In certain cases, this applied to toys as well. I have to pay for them myself these days, but I can still experience that feeling I had as a child. I don't know if everybody can, but it is a good feeling that everybody should have the chance to experience.

In my case, the same feeling was there during the years I drove Formula Ford. I experience it when I ride a motorcycle and, of course, when I engage in my latest passion - gliding. Racing cars, motorcycles and gliders all have one thing in common - they are all toys for grown boys. Nowadays, however, it is not the possession that brings pleasure, but the experience of using them.

Most of all, however, I love cars! I have enjoyed working on the new Volvo V70 and Volvo V70 XC perhaps more than anything else in my life.

The first thing I did when I received the assignment to create these new cars was to gather together a number of car enthusiasts in the company in order to draw up the guidelines. The car was to be spacious but not clumsy. It was to have sporty handling, but still be comfortable. It was to be both assertive and elegant. It was to be as secure as a strongbox. There had to be muscle beneath the bonnet, but it still had to be fuel-efficient.

In other words, the car we were to create was to be at least as good as all the others in the premium estate class. In every way. Except in certain areas, where it was to be better.

Since nobody told us about the impossibility of our project, we went ahead with our ideas. We searched for solutions, and I believe we found them. The answer was in the car's size.

At the same time as we studied our own ideas, another car project was in progress at Volvo Cars. This was the project that just over a year ago resulted in the Volvo S80 - absolutely the best four-door Volvo ever.

If we had adopted the normal approach, our car would have been a Volvo V80. But it wasn't. The reason, quite simply, was that our solution was closely linked with the size of the new estate.

Our measurements and computations showed that we could, in fact, build a car that was the same size on the inside as its competitors in this class. On the outside, however, it was almost ten centimetres shorter. We also found that even without these centimetres, this would be the safest estate Volvo Cars had ever built - probably the safest ever built at all.

This insight was a breakthrough. One might think that a few centimetres make little difference, but when it comes to a car they certainly do. Let me explain:

A shorter car means greater torsional rigidity. In turn, this means a dramatic increase in the ability to optimise the chassis in the direction of both sportiness and comfort. A smaller car also offers benefits in terms of fuel economy. Thanks to the more compact format, moreover, we could redistribute the weight - kilograms that would have been lost in a larger car could now be re-allocated in new and better safety solutions, as well as in features that enhance versatility and flexibility.

All this added up to a very interesting whole. I have had the pleasure to test-drive and study just about all the estates on the market. I feel that our new Volvo V70 and Volvo V70 XC represent a contribution to development. We have created cars that are not just being introduced in a new millennium but which also meet the demands that the owners of today and tomorrow are entitled to make.

Ever since the first Volvo estate was introduced almost fifty years ago, we have been designing cars that are functional, sensible, durable, safe, safer and safest. Our new Volvo V70 and Volvo V70 XC have all these attributes...

... And I hope that they bring yet another dimension - fun and feeling. Perhaps even happiness. In the midst of all this solid safety, the gleaming elegance and the robust quality, we have endeavoured to add a good measure of enjoyment. Nothing would make me happier than if others - apart from myself and my excellent co-workers in this project - discover this and say: Both cars are tremendous fun to drive, no doubt about it. Almost like toys. But for grown-ups, of course...

Yours,

VOLVO CAR CORPORATION



Lars Erik Lundin  
Vice President New Project



Volvo Car Corporation

January 10, 2000

50220bh

Dear Journalist,

Two new cars that show the way to the future

Volvo Car Corporation is entering the new millennium with great optimism. We have a strong product programme - and it is to be strengthened even more by two completely new estate cars. We have a strong owner in Ford Motor Company, which means that our Group has access both to technological know-how and to financial strength.

Volvo Car Corporation is the biggest company in Ford's Premier Automotive Group, PAG. This means that we play a major role in Ford's endeavour to make PAG the leader in the premium segment.

The two new cars that we are now unveiling play a significant role in these efforts. Not only because the Volvo V70 and the Volvo V70 XC are important to Volvo Car Corporation in terms of volumes - together they will account for a portion of the planned increase - but also because these cars clearly indicate the company's future direction and intentions in terms of developing versatile estate cars.

Estate cars are in themselves an important part of Volvo Cars' soul. The segment was originally created by Volvo and, for many years, we have been the leading manufacturer of estates in the premium segment. We intend to retain this position - and to advance it.

The new cars also show that Volvo Cars' values and objectives have not changed in conjunction with the change of ownership. In other words, both Ford Motor Company and our customers expect our car models to continue to have a distinct Swedish character. Elegant Scandinavian design is to be combined with safety, environmental care, quality, driving pleasure, comfort and versatility.

Now that we are displaying these new cars for the first time, we can note that the "Estate à la Volvo" recipe has been refined considerably in recent years - from a dependable and safe "transport vehicle" to an exciting and spacious premium car, still with world-class safety.

The new Volvo V70 and Volvo V70 XC are the latest contenders for the title of "World's Best Estate". They are not just the safest and most practical estates we have ever built - they are also the most exciting and versatile.

We are thus advancing our position in the five-door segment. In our view, none of our competitors can offer estates in the same class as ours.

During the initial year, we expect to be able to sell over 80,000 units of the new Volvo V70 and Volvo V70 XC, a figure that will then grow successively. We are already taking orders today, and the first new Volvo V70 cars will reach their buyers in the early spring.

When it comes to the new Volvo V70 XC, we feel that the future is particularly interesting. We created the Cross Country segment in 1997 and sales have risen beyond expectations, both in Europe and in the USA. We are convinced that our new Volvo V70 XC will give the segment an even clearer profile and that it will consequently lead to even greater sales.

To summarise, I therefore believe that Volvo Car Corporation has a very interesting future ahead. With two strong new family cars which are both firmly anchored in our core values - safety, quality and environmental care - we are in the best possible position to succeed.

Yours,

VOLVO CAR CORPORATION

A handwritten signature in black ink, appearing to read 'T. Johannesson', with a long horizontal stroke extending to the right.

Tuve Johannesson  
President and CEO



Volvo Car Corporation

January 10, 2000

50220bh

Dear Journalist,

The box office releases two new hits

Volvo wagons in North America are the quintessential family car. Today they represent a large segment to our business and of course create a very positive brand image. In fact when asked, consumers often equate Volvo to square, boxy 245 series wagons; legends are hard to live down. Perhaps building on our tradition of safety engineering or owing to Scandinavian form follows function philosophy, the wagon has always filled a unique niche for us here in the North America.

The introduction of our two new wagons reaffirms Volvo Car Corporation's commitment to offer safe, family oriented transportation. Our wagons will continue to bridge the gap between a plethora of family transportation products and today's modern family needs. After all, with Volvo Cars, it's about family.

Our wagon sales in North America have always been at the core of our business since we first introduced the PV445 wagon in 1957. With our two new models, we intend to continue to dominate the luxury family car segment. It is interesting to note that while other car companies are coming back to the wagon segment, we have always been there for our customers.

Volvo family wagons traditionally represent a major sales segment for us. In fact, prior to the Volvo S80 sedan, half of all Volvo's sold in North America were wagons. Today, even accounting for strong Volvo S80 sales, wagons represent 30% of all Volvo's sold in our market. Furthermore, Volvo wagons actually account for about 60% of total sales within the European premium wagon segment.

We will start selling the new Volvo V70 on April 1st followed by the new Volvo V70 XC on August 1<sup>st</sup>. My sales projection for calendar year 2000 for both new wagons is about 24,000 units, which represents about 32% of total sales.

From a marketing point-of-view, we will use this new V line to enhance the emotional appeal of our brand by expanding the safety concept, and by broadening the versatility, performance and design appeal through our wagon segment. We also intend to use both models to strengthen our lead position in the midsize wagon segment. We know that many of our new customers are looking for an alternative to the mini-van; we will be there with the new Volvo V70. Furthermore, the new Volvo V70 XC cross country wagon will continue to pull customers from the SUV segment as we see today. In fact, about 46% of XC buyers considered an SUV.

Year 2000 will be a thrilling year for Volvo Cars and our customers. We will mark the end of our strategy to completely revamp the product range within 36 months and are poised to move our brand loyalty and recognition to new heights.

Yours,

VOLVO CAR. CORPORATION

A handwritten signature in black ink that reads "Hans-Olov Olsson". The signature is written in a cursive style with a prominent flourish at the end.

Hans-Olov Olsson  
President and CEO  
Volvo Cars of North America

# VOLVO

Volvo Car Corporation

January 10, 2000

50220bh

Dear Journalist,

Europe's new family favourite

The Volvo V70 is Europe's most popular premium estate car.

In 1999, Volvo Car Corporation sold more than 61,000 Volvo V70s in Europe and we are the market leaders in large estate cars in practically all European countries. In Sweden, for example, 55 per cent of all estates sold are Volvo V70s. The corresponding figure in the UK is 32 per cent and in the Netherlands it is 42 per cent.

In other words, Volvo Car Corporation is in an excellent position now that it is about to introduce an uncompromising estate for the first time.

By uncompromising, I mean that the new Volvo V70 is a unique model that is not based on a saloon.

Nor have we compromised when it comes to product content. The new Volvo V70 is rationally safe, flexible and spacious, at the same time as it is emotionally elegant and dynamically fun to drive.

By tradition, we know our European customers very well - and now that this estate has been developed without any of the constraints inherent in siblingship with a saloon, we have been able to refine all the properties of a family car more than ever before.

The new Volvo V70 will attract customers in all European countries. I should, however, like to stress that we have particular expectations on the two markets where we are not the biggest today - Germany and Italy.

In Germany, we are currently investing in a strategy of growth. The new Volvo V70 and Volvo V70 XC are important elements in this offensive. They have precisely the dynamic sophistication that German customers appreciate.

In Italy, the market for estates is trend-dependent - and since the new Volvo V70 has made tremendous strides in the emotional sphere, we believe that sales will grow here as well.

Other markets where we expect increased sales are the UK, Belgium and the Netherlands.

In the Nordic region, Volvo Cars already has such a strong position that we can not expect major sales increases. At the domestic level, it is more a matter of continuous growth with the help of our increasingly strong offers.

The new Volvo V70 is not just a new and exciting car. It will also be launched in a new way.



The same week that the Volvo V70 is unveiled at the auto shows in Detroit and Brussels, we are arranging a variety of customer activities all over Europe. This means that we will reach about 20,000 potential buyers directly. Naturally, this will give us a unique point of departure for utilising the special attraction of a new car model in conjunction with introduction.

On the marketing side, we are aiming at a consistent launch campaign throughout Europe. The theme is "Volvo V70 - another type of family car". An integrated campaign with a consistent message and graphic profile carries crucial weight, particularly in the context of the Internet and the increased proportion of international and pan-European media.

I should also like to take this opportunity to inform you that Volvo Cars now offers all customers in the EU member states a unique buyer's service on the Internet.

The new service makes it possible for the customer to specify a car step by step and see how each choice affects the price. A customer can also register and request a quote on the car he or she has specified. Information is also available about the nearest dealership. The buyer's service also includes `soft' products such as financing and leasing and a search engine for finding used Volvo cars on the market concerned.

The basic concept is to create an on-line system to support the customer throughout the purchase process. And this is exactly what we have done - by offering the possibility of choosing a car model, personalising it and getting an exact price.

Why not take a look - you will find the web site for your market at [www.car.volvo.se](http://www.car.volvo.se).

Yours,

VOLVO CAR CORPORATION

A handwritten signature in black ink, appearing to read 'Wolff Huber', written in a cursive style.

Wolff Huber  
President Market Area Europe

# VOLVO

Volvo Car Corporation

January 10, 2000

50220-bh

Dear journalist,

## Form, function and innovation

Volvo Car Corporation's new estate - the Volvo V70 - is the work of designers from many countries. In spite of this, it is a Swedish car, characteristically Scandinavian in terms of form and function. We have attempted to make it look both powerful, almost muscular, and timelessly elegant at the same time.

It is also functional and brings a whole new dimension to the concept of versatility.

The combination of form and function is nothing new in Sweden. It is a design heritage which dates back many generations. Exactly like the tradition of using light-coloured materials - often natural materials - in home furnishings and furniture, for example.

At Volvo Cars' design department, we have been working for a number of years to develop this heritage and adapt it to the needs of the future and the wishes of car buyers the world over. The introduction of the new Volvo V70 and Volvo V70XC represents an important step in this development process.

When it comes to the exterior, the aim has been to create an appearance that is both aerodynamic and powerful. That is not all, however. We also wanted to give the car a clear sense of direction - to create the impression that it aims straight ahead, almost like an arrow.

We have attempted to reinforce the new Volvo look but also to maintain the powerful heritage. One design feature that connects with our past is the V-shaped bonnet, which originated in the Volvo PV444 from the 1940s and to the Amazon from the 1950s. It re-appeared in the Volvo S40/V40 in the 1990s, in the Volvo S70, V70 and C70 and the shape was even more pronounced in the Volvo S80.

Another typical Volvo feature is the Volvo grille, standing vertically, almost proud, with its unmistakable diagonal cross-bar.

Another typical Volvo estate feature is the side windows, which have a single, simple line running along the top from front to rear. This shows that the car was designed to be an estate, not a converted saloon. As on every Volvo estate, the third side window is longer than the second, to show that the car is a true load carrier. At the very rear, in true Volvo fashion, the tailgate is vertical.

Designing this car involved designing a car with the front of a sports car and the rear of a van. The element that ties the two distinctly different halves together is the full-length shoulders, inherited from the Volvo S80 but also reminiscent of the mother of all modern estates - the Volvo 145/245, which shared the identical feature.

Seen from the front, the side windows begin with a very dynamic angled curvature, which is not exactly what you expect when creating the most efficient estate. However, towards the rear, the side windows pivot outwards, making them almost vertical when they reach the cargo area.

This blend of reminders from the past and up-to-the-minute design creates the natural successor in a long history of Volvo estates:

The interior is also very Volvo in character. It is roomy and airy. Our upholstery programme is dominated by light colours. The lines are clean, without being rigid or boring.

Another highly interesting area when it comes to the interior is all the refinements our inovators and engineers have developed and then integrated with our assistance in the car. Here are just a few examples.

Shopping bag holder: How often have you come home from the supermarket with oranges, apples and tins rolling around in the luggage compartment? We have now come up with a solution - which is only visible when it is actually needed. The new Volvo V70 can be fitted with a shopping bag holder that is hidden beneath the floor of the luggage compartment when not in use.

Rear-seat table: The car can also be fitted with a table for the rear seat. When not in use, it is hidden beneath the centre cushion. When the centre seat at the rear is not occupied, the table can be folded out, providing a useful surface for cups and so on.

Extra luggage space: Few things are more irritating than finding that something almost fits in the luggage compartment but not quite! You twist and turn it, but, no matter what you do, the few centimetres you need to enable the tailgate to shut are always missing. For this reason, the rear-seat backrest can be locked in two different positions - slightly more reclining to provide the best possible comfort for rear-seat passengers, somewhat more upright to create a few extra centimetres in the luggage compartment. A few centimetres may not sound like much, but, if they represent the difference between driving home with the tailgate open or shut, they mean a great deal.

Wastepaper basket: On the back of the tunnel console, a frame can be folded out. Together with an ordinary plastic or paper bag, it makes the ideal wastepaper basket - or holder for large plastic bottles.

Coathanger: Virtually every car has a hook somewhere to hang clothes on. However, how many cars have a hook that can be reached from the driver's seat? A jacket normally has to be hung somewhere on the rear seat - if you are lucky, somewhere where it does not obstruct visibility to the rear or sides. Regardless of this, it is always out of reach. So we have put a small button on the side of the passenger-seat head restraint. So incredibly obvious, it is almost child's play. So how come no one ever thought of it before? However, it now exists and the jacket is within reach without obstructing the driver's vision.

Storage space: You can never have enough good storage facilities, large and small alike. For this reason, the new Volvo V70 has a number of compartments and pockets for everyone travelling in the car. The one in the centre console, between the front seats, can also be adapted to suit individual needs - for CDs or small items of value, for example. If you look in the glove compartment, there are holders for a pen and petrol card. Not exactly revolutionary, but still very useful.

Integrated safety belts and cargo net: It should be possible to convert a good estate from a five-seater car to a roomy load carrier with a few quick turns of the wrist. The rear seat must be quick and easy to fold down, without causing problems with the safety belts or locking mechanisms. This explains why we have designed it the way we have, with the safety belts and cargo net integrated in the backrest.

The rear seat is, in fact, an excellent example of the Scandinavian approach. Designers are not the only people to have studied Scandinavian form and functionality and then created solutions. They have been joined by highly skilled engineers who have grown up with the same Swedish traditions.

Yours,

VOLVO CAR CORPORATION

A handwritten signature in black ink, appearing to read 'Peter Horbury', with a long horizontal line extending to the right.

Peter Horbury  
Design Director



Volvo Car Corporation

January 10, 2000

50220bh

Dear Journalist,

Advanced technology, but not for its own sake

At Volvo Car Corporation, our philosophy is that technology is worth having as long as it makes life simpler for the car buyer. We do not see technology as an end in itself.

This is why the new Volvo V70 and Volvo V70 XC incorporate a number of advanced systems that are fully automated - systems based on using modern technology to make the car more comfortable, safer, more entertaining, more practical and less complicated to use.

One good example that everybody is aware of nowadays is ABS brakes. The car automatically senses if one or more wheels lose their grip and lock. The braking power is adjusted accordingly. All the driver has to do is press the brake pedal and steer. This means that braking on slippery surfaces - which otherwise only a few expert drivers have full command of - has been simplified into something that every driver can do.

Our new cars contain several systems that have been designed along the same lines - some are electrical, some are purely mechanical. On the mechanical side, for example, one finds the body and the chassis. The new Volvo V70 and Volvo V70 XC have a simple and functional MacPherson-type front-suspension solution, while the rear suspension is a sophisticated Multi-link design. Together with the torsionally rigid body, these systems result in a consistent car with predictable handling.

Many automotive manufacturers can say this much about their products. We can go one step further, however. Our body and our chassis do not just display good handling in conjunction with normal driving. Even when the cars are heavily laden - as estates sometimes are - and when the driver is compelled to take sharp evasive action, they are reliable and consistent.

It is the interplay between MacPherson, Multi-link and body that is crucial. One inherent problem in five-door cars is torsional stiffness. At Volvo Cars, moreover, we make life a little harder for ourselves by insisting on having a vertical tailgate. Sloping it forwards as many other manufacturers do automatically results in greater rigidity, but since it also results in inferior luggage space, we are not prepared to compromise.

Our technical solution is therefore somewhat different. The joints between body panels are normally spot-welded. We have chosen bonding instead for critical areas. The bonding agent offers several advantages. They are also continuous, which is not the case with spot welding, and this gives significantly higher torsional stiffness. Another advantage is that the bonded joint uses much less space from areas such as the luggage compartment.

One of the foremost challenges has been to make the car as spacious as possible. In order to create space for the passengers without making the car longer, we have made the front more compact and have developed the front bumper member to absorb more energy in a shorter distance - in Volvo Cars' case this is not just a matter of finding place for everything but of ensuring that the solutions are the safest imaginable.

In order to keep the overall length of the car to a minimum, we have also done everything possible to ensure that the bumpers protrude as little as possible. This, in turn, has also resulted in unique solutions. At the front, for example, the radiator is suspended in elastic elements. This means that in a low-speed frontal collision, it can spring backwards without being damaged. Another small detail worth noting is the tailgate wiper shaft. It must not extend as long as to get in contact with the crash barrier in a low-speed rear impact. Our does just this, however, but is therefore yielding.

At Volvo Car Corporation, we believe that one of the things that distinguishes a good estate from a bad is the rear seat. It must be comfortable to sit on. It must be easy to fold down all or part of it. The luggage compartment floor must be flat once it is folded down. It should not be necessary to remove the head restraints and store them elsewhere.

The rear seat on our new Volvo V70 has been designed with all these aspects in mind. All three safety belts are integrated in the backrest. The safety net is also integrated. The entire construction is so strong, moreover, that it can withstand the stresses that might arise in an accident.

Noise - or, to be more precise, the lack of it - is another aspect that requires special attention in a five-door car. Since the passenger compartment and luggage compartment make up a single large "resonance chamber", special measures must be taken to deal with noise - both to shut it out and to muffle it. In order to achieve the best results, we have used absorbent materials, both in the interior and in the body.

We have even created a special "silencer" in the air outlet. When fresh air is pumped into the passenger compartment, the old air must be let out. This is done at the back of the car. In order to prevent noise entering the same way, we have created a labyrinth in which the air passes several noise absorbers.

Our new cars also include a number of technical solutions that may be very simple in themselves, but are interesting for that very reason. The shopping bag holder, for example, or the table and waste-paper basket in the rear seat. These are described in greater detail in the letter on form and function, but I still feel it is worth mentioning them here.

These are typical Volvo solutions. So simple, but at the same time so functional. We will never market them as advanced designs, but they provide good examples of what good technology can achieve for the customer's sake.

I would also like to take this opportunity to mention certain other things in the environmental field that my colleagues and I are working on at Volvo Cars and which will be introduced in the new cars.

Volvo Cars was the first car manufacturer in the world that introduced PremAir®. This means that the car's radiator is coated with a catalyst that "eats" ground-level ozone - what is otherwise commonly known as smog.

Tests have shown that up to 75 per cent of the ground-level ozone that passes through the radiator is converted into oxygen. The hotter and more polluted the air is, the more effective PremAir becomes. The technology has been developed by the American company Engelhard in together with Volvo Car Corporation.

The inside of the car is another area that our technicians have devoted attention to. The particle filter and ventilation system are both newly-developed and so effective that the air inside the car is always cleaner than it is outside.

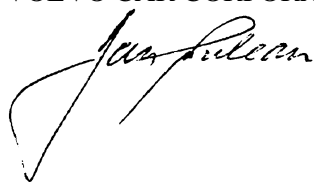
The ventilation system includes an active carbon filter and a gas sensor that monitors the air entering the car for substances such as toxic carbon monoxide. It closes the air intake if the levels become unhealthy - when driving behind trucks, for example, or in tailbacks and tunnels. This also spares the driver and passengers from the odour of petrol and diesel exhaust fumes, or oil and wiper fluid.

All the textiles in the new Volvo V70 meet the requirements of Öko-Tex Standard 100, the world's leading eco-labelling system. This means that they are all free from hazardous compounds and residual products - a tremendous step forward from the point of view of children and people who are hypersensitive.

Öko-Tex labelling also requires that no hazardous compounds be used in manufacture and handling. Finally, moreover, I should like to mention that the leather upholstery in the Volvo V70 is tanned in a process that only uses natural vegetable substances.

Yours,

VOLVO CAR CORPORATION

A handwritten signature in black ink, appearing to read 'Jan Vulcan', written in a cursive style.

Jan Vulcan  
Technical Director



Volvo Car Corporation

January 10, 2000

50220-bh

Dear Journalist,

Less fuel and cleaner air

Engine development at Volvo Car Corporation aims at more than just giving our cars higher performance and making them more fun to drive. We see it as a matter of combining the dynamic properties with pioneering environmental responsibility, in terms of fuel consumption and exhaust emissions alike.

How, then, have we succeeded in making the new Volvo V70 a true forerunner in terms of both the environment and of dynamic, exciting driving?

Few automotive manufacturers, if any, have a better grasp of the environmental factors than Volvo Cars. Every new car that we introduce is accompanied by an 'environmental declaration' that describes in detail how it affects the environment - in manufacture, driving and at end-of-life.

Only a company that is in control of its entire process can issue a declaration of this sort. In our case, it has also been reviewed and verified by Lloyd's Register in London.

In practice, the declaration provides a platform for our environmental efforts. In my case, this means that it has a bearing on engine development through the emphasis it places on reduced fuel consumption and low emissions. This does not mean that the declaration is simply a document that raises environmental awareness in theory - in the new Volvo V70, there are a number of new features that take the environment into account both inside and outside the car.

Our petrol engines have thus undergone far-reaching changes. We have undertaken to reduce fuel consumption by 25 per cent by the year 2008, taking the 1995 figures as our point of departure. With the introduction of the new Volvo V70, we have taken an important major step in the right direction. We have, for example, achieved cleaner emissions and lower fuel consumption when driving at speed, as a result of improved materials and changes that allow higher exhaust temperatures.

The high-performance version of the new Volvo V70 bears the designation of T5. Beneath the bonnet there is a five-cylinder 2.3-litre turbo. It develops 250 bhp (242 SAE) and a torque of 330 Nm. Fuel consumption is still as low as 9.3 litres/100 km according to the EU norm for mixed driving.



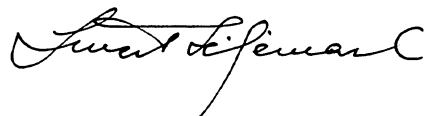
Initially, the new Volvo V70 will be available with a choice of four different engines. They are all five-cylinder units - in addition to the above-mentioned T5, there will be a 2.4-litre light-pressure turbo, a 2.0-litre turbo (only on certain markets) and a 2.5-litre direct-injection turbodiesel. The diesel engine will not be sold in the USA, however.

All these engines have good fuel consumption data. You will find all the figures you might need in the Technical Specifications folder in the press wallet.

Later on, five-cylinder normally-aspirated engines will be added to the range. These will also be characterised by outstanding driving characteristics, low fuel consumption and low emissions. One of them - a 170-bhp unit - will meet the American ULEV (Ultra Low Emission Vehicle) requirements. Both the 170-bhp and the 140-bhp engines meet the European emission requirements for the year 2005.

Yours,

VOLVO CAR CORPORATION

A handwritten signature in black ink, appearing to read 'Sivert Hiljemark', written in a cursive style.

Sivert Hiljemark  
Senior Vice President  
Engine Division



Volvo Car Corporation

January 10, 2000

50220-bh

Dear Journalist,

The new Volvo V70 - world-class safety goes without saying

The new Volvo V70 is the safest estate car that Volvo Car Corporation has ever made. Of course it is. Anything else would have been unthinkable.

At Volvo Car Corporation, our ambition is constantly to develop our approach to safety. To make cars even safer, in terms of active and passive safety alike. This is why our cars come out on top, year after year, in survey after survey.

In our case, it is not legislation that governs development, but our own personal commitment. Caring for families, for near and dear, is important to us. We believe we are unique in this respect. It is the combination of caring and of our knowledge of the risks of modern traffic that provides the impetus for our work and has resulted in Volvo Cars' in-house requirements often being more stringent than those of the law-makers.

Enclosed with this letter, you will find a list of individual safety systems that represent the very latest in the fields of active and passive safety and security.

This is a long and comprehensive list, but it is still not the entire foundation for our safety approach. Car safety, in our view, is not just a matter of including as many individual safety systems in the car as possible. Airbags, side-impact protection and ABS brakes are things that all manufacturers can equip their cars with sooner or later.

The thing that makes a Volvo car unique in safety terms is the holistic approach, the way in which safety is integrated in the basic design from the very start. For maximum protection, everything must work together, from the crumple properties of structural members to the function of the belt tensioners.

In this context, we do not just talk about passive safety - i.e. built-in safeguards if an accident should occur. We also devote a great deal of effort to active safety. A Volvo must be consistent, regardless of road surface or load. In this respect, I believe I can claim that the new Volvo V70 and Volvo V70 XC are at the cutting edge.

Both of our new estates are based on the same platform as the Volvo S80, the only car to have received the top score - 5+5 stars - in the NHTSA (the American traffic safety authority) side-impact tests. This is why the new Volvo V70 has the same well thought-out safety design as the S80. As well as all the innovative safety systems that were introduced with it, of course.

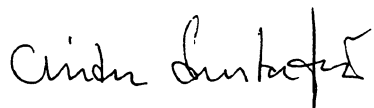
The purpose of our holistic approach is to build cars that can withstand all types of accidents. One might well find that there are other cars that can do just as well, or even better, than ours in individual tests. However, I find it difficult to believe that any other car would do as well in a long series of tests covering head-on impacts from different angles, different types of side impact, rear-end impacts, roll-overs and more.

This is our strength. Decades of safety work have taught us how a car must be built to provide the best possible protection in different situation. We have learned from laboratory tests, as well as through tens of thousands of studies of real accidents. All this know-how is integrated into the cars we are launching now.

Drive carefully!

Yours,

VOLVO CAR CORPORATION

A handwritten signature in black ink, appearing to read "Christer Gustafsson". The signature is fluid and cursive, with a prominent vertical stroke at the end.

Christer Gustafsson  
Senior Engineer  
Volvo Cars Safety Centre

### Examples of safety systems which represent the very latest in passive and active safety and security

The new Volvo V70 and new Volvo V70 XC are equipped with the WHIPS whiplash protection system. This is a new seat concept that restrains the upper body and head in a gentle, balanced fashion in a rear-end impact, thus reducing the risk of whiplash injury.

The Inflatable Curtain (IC) is also standard. This unique side-impact curtain is fitted in the headliner and inflates instantaneously to catch the occupant's head before it hits the inside of the car or the object that the car has collided with. The IC protects both the front seat and rear seat passengers.

A new safety system in the new Volvo V70 is the Dual Stage Airbag, which represents a further refinement of the interplay between safety belt and airbag. A sensor registers the severity of an impact and adapts the airbag inflation accordingly - at the same time as coordinating it with the safety belt. If the impact is less severe - but still enough to cause potential injury - the dual stage airbag only inflates to 70 per cent of its capacity. This means that occupants - particularly those sitting close to the steering wheel or the dashboard - are protected in a safer and gentler manner. If the impact is more severe, the airbag inflates at full capacity.

At the same time, the safety belt makes its contribution. At the instant of impact, the tensioner eliminates all slack in the belt as effectively as possible. The belt then gives a little in order to restrain the occupant gently before, finally, the airbag takes over to complete the safety sequence.

The new Volvo V70 is also fitted with ISOFIX attachment points - the international standard for installation of child safety seats. Volvo Cars is also introducing the world's first rearward facing child safety seat with ISOFIX attachments.

The new child safety seat is really two in one:

- A smaller seat for babies up to the age of nine months, with a carrier handle that makes it easy to lift it out of the car to take with you.
- A larger seat for children aged between nine months and three years. It has an improved buckle for easy belt adjustment and a special comfort position for when the child is sleeping. For legal reasons, the comfort position is not available on seats sold in the USA.

Both seats are anchored in a frame that is, in turn, secured using the car's ISOFIX attachment points. Swift and simple - just the way we parents like it. The biggest advantage of ISOFIX is that it reduces the risk of the seat being installed incorrectly.

It goes without saying for us at Volvo Car Corporation that the seat is fitted facing to the rear. On the smallest children, below the age of three, the head is relatively large and the neck is not fully developed. This means that there is a substantial risk of injury or death if the child sits facing forwards. I know that rearward facing seats are under discussion in some parts of the world. However, I have seen far too many small children hurt in accidents, so I have no doubt that children up to the age of three should sit facing to the rear.

It is important to stress that safety is not just a matter of minimising injuries when an accident has occurred, however. It is also a matter of preventing an accident happening at all. This is what we call active safety.

The new Volvo V70 is therefore a very consistent and well-balance car. This means that - in swift evasive action, for example - it behaves exactly as the driver expects. No surprises, no sudden swerving, even when the car is fully loaded.

There are also systems that further improve active safety - the new Volvo V70 can, for example, be fitted with the DSTC (Dynamic Stability & Traction Control) anti-skid system. DSTC is like an invisible hand that keeps the car on the road even in very slippery conditions. A giro sensor registers when the steering-wheel movements fail to agree with the car's course - i.e. when the car is going into a slide. The system brakes one or more wheels as necessary to correct the course. DSTC is particularly valuable when the driver is compelled to brake sharply while taking evasive action. The system helps the driver to maintain control over the car and still avoid the obstacle.

Seeing and being seen is another important aspect of active safety. Here too, we are constantly improving. The new Volvo V70 can, for example, be fitted with rain sensors which automatically activate the windscreen wipers when it starts to rain.

Safety can also be the security of being protected from theft and assault. So a large number of personal security systems have been incorporated in the new Volvo V70. Some examples:

**Approach light.** A touch of the remote control activates the inside lights and a number of outside light sources, including lamps in the lower edges of the rear-view mirrors, to light up the area around the car.

**Home Safe Lighting.** This means that the area around the car remains lit up for about 90 seconds after you leave it.

**Anti-theft windows** prevent smash and grab situations. The laminated glass in the side windows is very difficult to shatter.

**Remote control** to your garage door, gate, lights, etc. This system is called HomeLink and is controlled from a keypad inside the car. This is only available in the USA for the time being.



Volvo Car Corporation

January 10, 2000

50220-bh

Dear Journalist,

The new leader in the Cross Country segment

Our Volvo V70 XC (Cross Country) has dominated the market segment that bears its name ever since the model was introduced in 1997.

Not for much longer, however. Its successor, the completely new Volvo V70 XC, which is now on display for the first time, is to take its place.

The new Volvo V70 XC is more self confident, safer, higher and more robust and flexible than its predecessor. But it is still a car - primarily intended for on-road driving but with outstanding properties on all possible surfaces - thanks, among other things, to AwD.

If one assumes that there are two types of vehicles - cars and SUVs (Sports Utility Vehicles) - then Cross Country falls somewhere in between. It is based on a car, but looks like an SUV. One might therefore regard it as a hybrid.

At Volvo Car Corporation, however, we have never viewed it in this light. Instead, we based our approach on our knowledge of what certain customers in the premium segment want, i.e. the best of both worlds. This made it self-evident to take the car as our point of departure when we built our first Volvo V70 XC. It was equally self-evident to continue according to the same principle now.

What, then, is the best of both worlds? We defined it as follows - and our definition became our guiding light in our work on the new car: SUVs have identity and attitude. The interpretation of the identity is naturally up to the individual. Personally, I associate the SUV design with leisure, outdoor activities, nature and versatility. Despite this, I know that most of these cars are never driven on any surface other than asphalt and that the worst obstacles they ever face are potholes or kerbs in the streets. They are capable of much more, however. They are robust and can overcome major obstacles - and it is this awareness that makes them interesting.

Cars represent something else. They are elegant and comfortable. They can have superb driving characteristics. They can be driven fast. They are smooth and they are also more fuel-efficient.

It is these two sides that we wanted to combine. By starting with a car platform, we had the good sides of a car. The new Volvo V70 XC is spacious and comfortable. It is good on the road, in terms of performance and road-holding alike. So good that it will probably astonish most people who take it for a test drive.

We have created the car's character by giving it a design that in many ways is reminiscent of an SUV. At the same time, we have been careful not to make a car that just looks confident and robust without actually being so. Our new Volvo V70 XC lives up to its appearance. It has Volvo Cars' renowned fully automatic all-wheel drive system. It has TRACS on all wheels, which is a guarantee of being able to get around. It has large, wide 215/165 16" wheels and a ground clearance of 200 mm, which is good even in comparison with pure SUVs.

In other words, the new Volvo V70 XC is a true lifestyle vehicle, even if you mostly drive it in town - and with 200 mm of ground clearance, you can naturally go out and drive off road. Though I would like to emphasise that our all-wheel drive system is primarily developed to keep you and your family on the road even when conditions put you to the test.

With this car, we want to reach car buyers who are attracted by the SUV concept but want something more sophisticated at the same time.

With the new Volvo V70 XC, Volvo Car Corporation is consolidating its position as the leader in the estate segment. This car offers safety and security and makes it possible to enjoy nature, outdoor activities and other things that are closely associated with the Volvo brand.

When it comes to safety, the new Cross Country is no exception from Volvo Cars' rules. It is just as safe as its estate-car sister, the Volvo V70.


The new Volvo V70 XC will be sold with a five-cylinder 2.4-litre engine light-pressure turbo engine. The power output is 200 bhp (147 kW) at 6,000 rpm and the torque is 285 Nm between 1,800 and 5,000 rpm. The engine is an upgraded version of the 193-bhp light-pressure turbo in the previous Volvo V70. However, I should like to point out that the difference between these engines is substantially more than seven horsepower. Our engineers have succeeded in making the engine livelier, more responsive and much more fuel-efficient.

Sales of the new Volvo V70 XC will begin during the summer. The USA will be the first market to deliver these cars to customers, starting in August. Other markets will follow as the autumn progresses.

In addition to a manual gearbox, we will also be able to offer two different automatic transmissions. Both are five-speed and one has Geartronic (i.e. the ability to shift manually). Regardless of which version you choose, you can look forward to an interesting and quite astonishing experience.

Yours,

VOLVO CAR CORPORATION

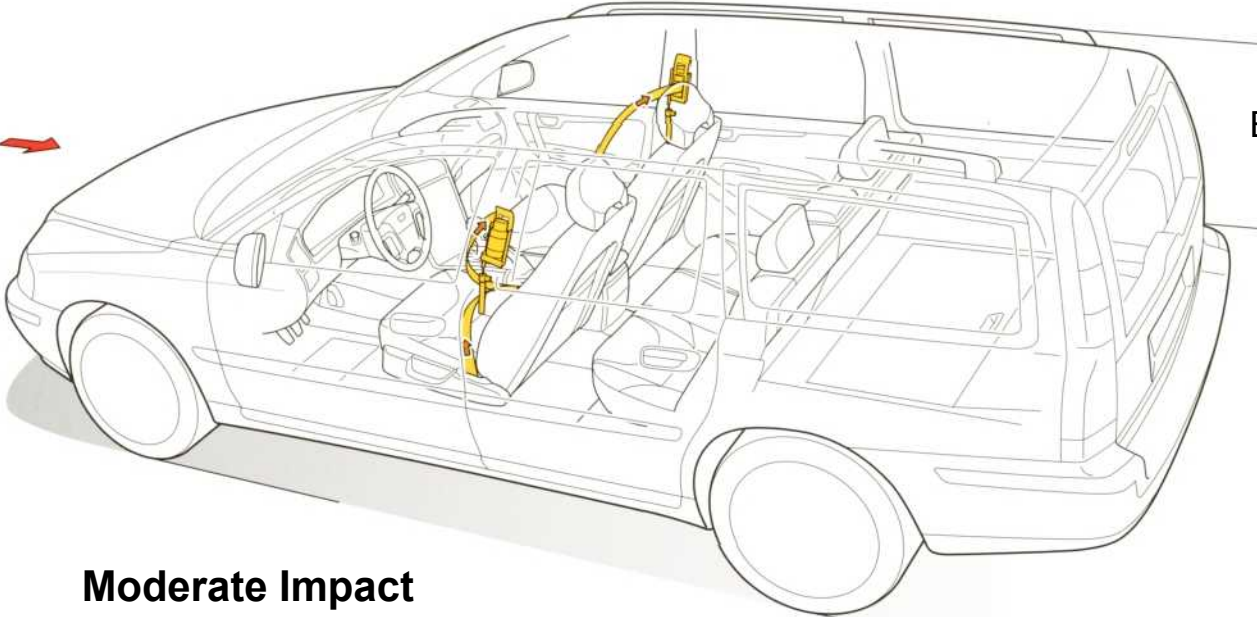


Silvia Güllsdorf  
Technical Director

# Dual Stage Airbag

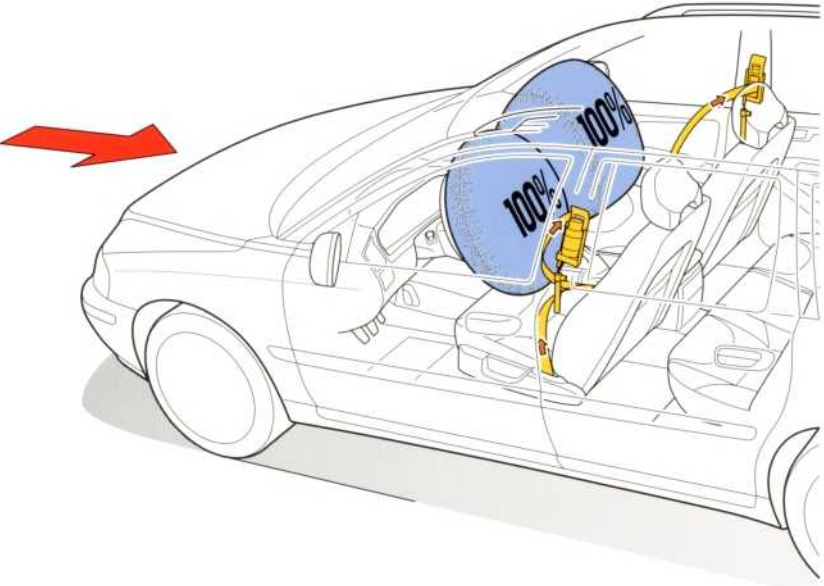
## Minor Impact

Belt Tensioners Activated  
Airbags not Activated



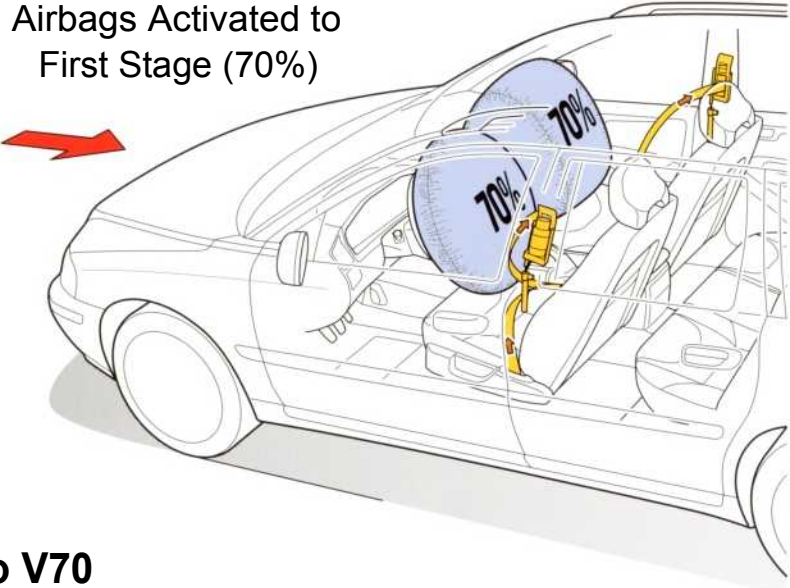
## Severe Impact

Belt Tensioners Activated  
Airbags Activated to  
Second Stage (100%)

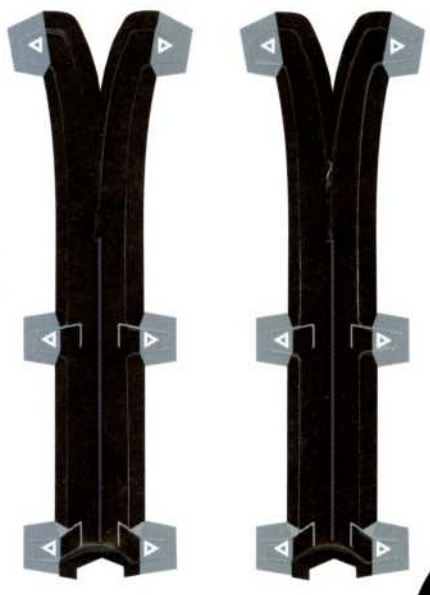


## Moderate Impact

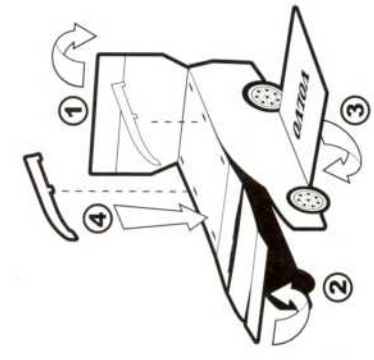
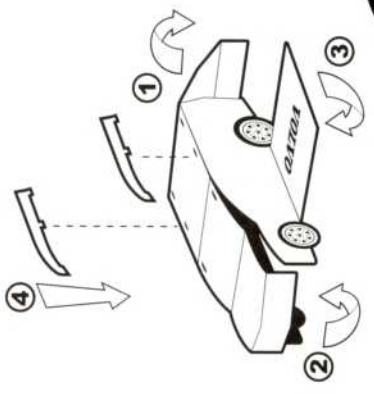
Belt Tensioners Activated  
Airbags Activated to  
First Stage (70%)







**VOLVO**  
for life

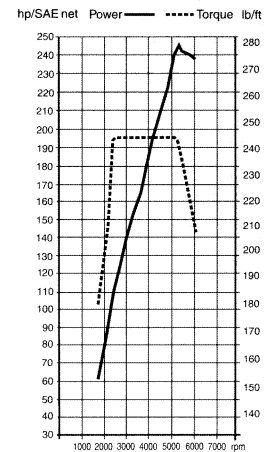
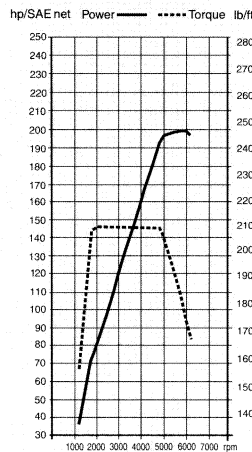


**ENGINES**

	<b>B5244T3</b>	<b>B5234T3</b>
Type, In-line 5 cylinder	Light pressure turbo	High pressure turbo
Configuration	Front wheel drive/All wheel drive	Front wheel drive
Displacement, cm <sup>3</sup>	2435	2319
Engine cylinder block material	Aluminium	Aluminium
Cylinderhead material	Aluminium	Aluminium
Combustion chamber type	Pent-roof	Pent-roof
Compression ratio	9.0:1	9.5:1
Valves, no/cylinder	4	4
Camshafts	2	2
Engine management system	Microprocessor controlled fuel and ignition with self-diagnostics	
Ignition sequence	1-2-4-5-3	1-2-4-5-3
Engine idling speed	670	670
Fuel, rec. octane	95RON(min91)	95RON(min91)
Max output, hp(SAE net)	197/6000	242/5200
Max torque, lb/ft/rpm	210/1800-5000	243/2400-5200

**TRANSMISSIONS**

Ratio	M56L	AW 55-50
First	3.39:1	4.77:1
Second	1.91:1	3.00:1
Third	1.19:1	1.96:1
Fourth	0.87:1	1.32:1
Fifth	0.70:1	1.02:1
Reverse	3.30:1	3.23:1



Manual gearbox/final drive	-	M56L/4.00:1
Automatic transmission/final drive	AW55-50/2.44:1	AW55-50/2.44:1

**PERFORMANCE**

Gearbox	Manual	Automatic	Manual	Automatic
Acceleration, 0-60 mph (sec)	-	7.8/8.2 <sup>1</sup>	6.7	7.1
Top speed, mph	-	130 <sup>2</sup>	130 <sup>2</sup>	130 <sup>2</sup>
EPA Fuel economy city <sup>2</sup>	-	21/20 <sup>1</sup>	22	21
EPA Fuel economy highway <sup>2</sup>	-	27/25 <sup>1</sup>	30	27
EPA Fuel economy comb <sup>2</sup>	-	23/22 <sup>1</sup>	25	23

<sup>1</sup> AWD <sup>2</sup> Max speed limited to 130 mph <sup>3</sup> Preliminary figures

**CHASSIS**

Suspension	front	Spring-strut, lower link, anti-roll bar
	rear	Individual Multi-link suspension, anti-roll bar
Steering	Rack and pinion, power assisted	
Turning circle, ft	35.8 (39.0 with 16" or 17" wheels)	
Turns of steering wheel lock to lock	3.0 (2.8 with 16" or 17" wheels)	
Braking system	ABS system with EBD. Ventilated discs front, discs rear	
Brake disc diameter (front/rear), inch	For engine B5244T3 11.3/11.3 / For engine B5234T3 12.0/11.3	

# MEASUREMENTS AND VOLUMES

Exterior measurements (inch)	V70	V70 AWD	V70 XC
Length	185.4	185.4	186.3
Width	71.0	71.0	73.2
Height	58.6 <sup>2</sup>	59.6 <sup>2</sup>	61.5 <sup>2</sup>
Wheelbase	108.5	108.5	108.8
Track, front	61.4 <sup>1</sup> /61.1	61.1	63.4
Track, rear	61.5 <sup>1</sup> /60.9	60.9	60.9
Ground clearance	5.3	5.8	7.9
<b>Weights/Miscellaneous</b>			
EPA Size Class: Mid-Size			
Weight/lbs min.	3,366	3,533	3,533
Fuel tank, US gallons	21.1	18.5	18.5
Max. trailer weight, lbs	3,300	3,300	3,300
Drag coefficient	0.30	0.30	n.a.

<sup>1</sup> Track with 15" wheels. <sup>2</sup> Including rails.

Interior measurements (inch)	
EPA Size Class: Mid-Size	
Headroom with sunroof (front/rear)	39.3/38.9
Headroom without sunroof (front/rear)	39.3/38.9
Passenger compartment width at shoulder height (front/rear)	56.2/55.9
Luggage volume, cu.ft (SAE V10 comfort position/ SAE V10 loading position/ SAEV2)	35.9/37.4/71.4
Load length	42.7
Load length with rear seat folded down	72.8
Load length with rear seat and front passenger seat folded down	111.1
Height of luggage compartment	31.8
Width of luggage compartment between wheel arches	44.5

# **VOLVO**

Volvo Car Corporation

## **Press Information**

### **Volvo station wagons: It all started on the 4th of July**

**The year was 1953.**

**Les Paul and Mary Ford had a big hit with "Vaya Con Dios". On the silver screen, "From Here to Eternity" with Deborah Kerr and Burt Lancaster was the film everybody had to see. Dwight D. Eisenhower was sworn in as president.**

**In Sweden, Volvo delivered its very first station wagon. On Independence Day - after all, station wagons are expressions of independence.**

Over the years premium station wagons have become the Volvo Car Corporation's most important segment. During the past ten-year period, from 1989 to 1998, Volvo accounted for an average of 33 percent of large station wagons sales in Europe - more than any other manufacturer.

In the USA, the corresponding figure for the Volvo Car Corporation averaged 23 per cent (1998: 50 per cent), while reaching 18 per cent in Japan. In the light of the Volvo Car Corporation's approximately 1 per cent share of the world market, this clearly demonstrates the importance of our station wagons.

In the early fifties, no one could have guessed that the Volvo station wagon was to become such a success. On the contrary, chassis made by Volvo and sold to other body manufacturers to become vans and light pick up trucks did not sell well at all - which meant that Volvo had 1,500 car chassis in stock in the spring of 1952.

"We have to get rid of them. We have to build a van of our own." said Assar Gabrielsson - one of the Volvo's founders - and the decision was taken.

A budget of SEK 1 million was set aside for the development work and the time frame to completion was set to one year. The result was a car with the same basic shape, wheelbase, track, engine and transmission as the sedan PV444, but with a separate frame which made superstructures possible.

On the 4 July 1953 the very first Volvo PV445 was delivered to Gabrielsson.

PV445 was the official name of the car. But hardly anybody called it that. Instead, the car became known as the "Duett". The nickname referred to the fact that the car was two in one; a flexible and nippy van during working hours and a spacious, comfortable passenger car during leisure time.

The Volvo Duett was a great success. And Assar Gabrielsson's short-term business solution - aimed at selling 1,500 chassis - became the start of Volvo's successful station wagon history instead.

The Volvo PV 445 Duett was manufactured between 1953 and 1969 in a total of 90,000 units.

### **Volvo P220 - the Amazon Station Wagon (1962-1969)**

Volvo P220 represented the Volvo Car Corporation's first step towards a five-door sedan. The car, with its modern construction and unibody design, was launched at the 1962 Stockholm Motor Show.

The Amazon Station Wagon was a true station wagon rather than a van. It had the sedan styling, which had been carefully retained and transferred to the station wagon version. This was characterised by a very large cargo area without sacrificing interior dimensions.

### **Volvo 145 (1967-1974)**

The Volvo 145 represented yet another step towards the five-door sedan. Technically, the sedan and the station wagon were identical, apart from the reinforced rear suspension on the station wagon.

Compared with the Duett and the Amazon, the 145 handled a slightly lower payload, an indication that it was more of a five-door sedan than a load carrier. On the other hand, the useful volume was enormous.

Between 1967 and 1974, the Volvo Car Corporation produced 270,000 units of the Volvo 145.

### **Volvo 245 (1974-1993)**

It was perfectly logical for the Volvo 140 to be succeeded in 1974 by the Volvo 240. The station wagon version bore the designation 245 and was launched at the same time as the sedan.

But even more interesting was the Volvo 265, Volvo's first luxury station wagon - which came in 1975. This car included more luxury features than many sedans at the time including a six-cylinder engine and it gave Volvo's station wagon range a new and exciting dimension that has been further developed over the years.

In the early 1980s, the Volvo Car Corporation became the largest manufacturer of station wagons in Europe in its market segment.

To underline its leading position, Volvo Cars launched the world's first mass-manufactured station wagon with a turbocharged petrol engine in 1981. The Volvo Car Corporation's first "sports station wagon" heralded the disappearance of the distinction between sedan and station wagon in terms of driving characteristics and comfort.

Between 1974 and 1993, the Volvo Car Corporation produced 1,000,000 units of the Volvo 245/265.

### **Volvo 740/760, 940/960 Station Wagon and V90 (1985-1998)**

A further stride forward in the station wagon concept was taken in 1985 with the introduction of a five-door version of the Volvo 740/760, which radiated total harmony and well-thought-out design solutions. In fact, the Volvo 740/760 was designed as a station wagon from the very start, and then converted into a sedan.

This station wagon focused more than its predecessors had done on contemporary lifestyle and leisure. The rear seat was split one-third of the way along to allow its capacity to be used to the full. The entire cargo area was carpet-lined and a great deal of effort had gone into road-noise insulation.

When it was launched in 1985, the Volvo 740 Turbo station wagon was the only station wagon on the market that could reach 100 km/h from standstill in 8.5 seconds, turn around in 9.9 metres, tow 1,800 kg and swallow 2.12 cubic metres of cargo - while offering luxury car comfort at the same time.

With the Volvo 740, the Volvo Car Corporation set a new standard for the modern station wagon concept by erasing the distinction between four and five-door cars once and for all.

Between 1985-1998, 675,000 station wagons were produced.

### **Volvo 850 (1993-1996)**

With the introduction of the Volvo 850 Station Wagon in February 1993, the station wagon concept took on yet another dimension in terms of passenger safety and comfort, driving characteristics and styling.

The Volvo 850 was a different kind of station wagon, perhaps more of a sporty five-door sedan, with its daring tail-lamp arrangement and a rear compartment that few or no other station wagons on the market could equal in terms of safety, smartness, comfort and versatility.

With the Volvo 850, the Volvo Car Corporation proved on the racing track that there is no contradiction between a family car and true driving pleasure. The Volvo 850 Station Wagon created racing history by being the first station wagon ever and Volvo Cars' first car entry in the prestigious BTCC, the British Touring Car Championship.

Accordingly, the Volvo 850 Station Wagon became the standard in the business and the model followed the evolution of the Volvo 850 into new areas of performance, traction and excitement with the T-5, the T-5R, the R, the All Wheel Drive and the TDI.

### **Volvo V40 1995-**

In the midst of the Volvo 850 Station Wagon evolution, a new and exciting car saw the light of the day at the Bologna Motor Show in 1995. The Volvo V40, the second model in the new compact series, became the first Volvo to carry the designation of V for versatility.

Slightly smaller than its sibling, the Volvo V40 is just as much fun to drive, just as comfortable and versatile and is perhaps also the safest car in its market segment.

**Volvo V70 1996--**

In November 1996, the next logical step ensued in the process of refinement when the Volvo Car Corporation introduced the Volvo V70 on the basis of the Volvo 850 Station Wagon. Modified both under the skin and on the outside, the new generation of Volvo station wagons continued to attract customers all over the world, thanks to their high level of occupant protection, extreme usefulness, sophisticated behaviour and wide range of variants and options.

The Volvo V70 XC, which was launched in 1997, was positioned between traditional Sports Utility Vehicles (SUV) and passenger cars. It was used to create awareness of Volvo station wagons and to boost AWD sales. It was the Volvo Car Corporation's first entry in this upper part of the car market - the "Cross Country Segment".

**The new station wagon**

When the new generation of Volvo station wagons enter the market now, they will be even more safe, practical, comfortable and exciting to drive. The Volvo station wagon development process is a continuous process, striving for perfection in a car type that the Volvo Car Corporation has made very much its own.

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