

“Cars are driven by people. The guiding principle behind everything we make at Volvo, therefore, is – and must remain – safety.”

Assar Gabrielsson and Gustaf Larson, the founders of Volvo.

**VOLVO**  
Volvo Car Corporation

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**VOLVO**  
for life



VOLVO CAR CORPORATION  
**2003 POCKET GUIDE**

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**OUR VISION** TO BE THE WORLD'S MOST DESIRED AND SUCCESSFUL PREMIUM CAR BRAND.

**OUR MISSION** TO CREATE THE SAFEST AND MOST EXCITING CAR EXPERIENCE FOR MODERN FAMILIES.





## WELCOME TO VOLVO CARS

In 2002, Volvo Cars celebrated its 75th anniversary in a variety of ways, including a big party in Times Square, New York, and the competition of the world's toughest sailing race – the Volvo Ocean Race.

The next generation Sports Utility Vehicle, the Volvo XC90, has received a number of coveted awards. The entire year's production quota was soon filled. We have therefore increased the production target for 2003 from 50,000 to 60,000 Volvo XC90s. At the Paris Motor Show, the wraps were pulled off the Volvo S60 R and Volvo V70 R.

America's JD Power ranked Volvo as the best European car available in the US in terms of product quality.

Sales in 2002 dipped somewhat, primarily owing to the tougher competition in North America, while Volvo's market share increased in Europe. Our profitability has continued to show a positive trend.

Volvo Cars is the Center of Excellence for Ford Motor Company's safety-related work, and is the Center of Excellence for telematics within the Premier Automotive Group (PAG). In 2003, we will work hard to reach our two long-term goals to be number one in terms of customer satisfaction and by progressing further towards our long-term target of selling 600,000 cars.

**Hans-Olov Olsson**

President and CEO, Volvo Car Corporation

## VOLVO CAR CORPORATION WITHIN FORD MOTOR COMPANY

In March 1999, Ford Motor Company – the second-largest carmaker in the world – acquired Volvo Car Corporation from AB Volvo. This move gives Volvo Cars access to Ford Motor Company's resources in the fields of technology, purchasing, marketing, distribution and financing.

The accumulated synergies make it possible to raise volumes, cut costs, improve profitability and, not least, lead the development of new products.

For its part, Ford Motor Company (FMC) has gained access to the strong Volvo Cars brand name and to its advanced expertise in fields such as telematics, safety and environmental optimisation.

Alongside Jaguar, Land Rover and Aston Martin, Volvo is part of Ford's division for premium cars – the Premier Automotive Group (PAG). PAG is part of Ford's International Operations division together with Mazda Motor Company, Ford of Europe, Ford Asia Pacific, Ford South American Operations and Global Purchasing.

Volvo Cars is the "Center of Excellence for Safety" within the FMC and the "Center of Excellence for Telematics" within the PAG.

The Volvo trademark is owned by Volvo Trademark Holding AB, which is equally owned by AB Volvo and Volvo Car Corporation.





## VOLVO – A PROMISE

The promise of safety is what differentiates Volvo from other cars. Volvo's founders emphasised from the outset that the company's operations centred on consideration for the human being. Safety, quality and care for the environment are thus core values that permeate operations, products and behaviour at Volvo Cars.

Today, the Volvo brand name is also linked with an added dimension – of excitement, vitality and attractiveness. Volvo Cars is accordingly focusing increasingly on design, driving pleasure and the actual experience of car ownership.

The target group is "people the world over who want a balanced lifestyle and who wish for a family car offering rear driving pleasure."

The global brand tagline 'Volvo. for life' is closely linked to our heritage. It summarises the Soul of the Brand and captures the essence of our mission statement – "To create the safest and most exciting car experience for modern families."

**VOLVO**  
for life



## WORKING AT VOLVO CARS

Volvo Cars takes pride in its reputation as a company that listens to its customers. Through active support of diversity, we aim to support every person's right to equality. In 2002, we launched two projects aimed at giving newly arrived immigrants the chance of a job in one of our production plants, and at recruiting immigrants with an academic background.

The basic principles governing our way of working at Volvo Cars are participation and involvement, customer focus, a process of steady improvement, follow-up and constant feedback.

## MEDARBETARSKAP

"Medarbetarskap is a uniquely Swedish word that means being active and constructive. We are not the victims of circumstance. We are instead involved and have the responsibility for and courage to influence and be influenced. Learning and development are part of our daily work. A knowledge of the business environment, the company and its business operations increases our potential for developing working methods."

## TEAMWORK

"Teamwork enables us to take advantage of one another's knowledge and experience. To obtain the best possible results, we harness the strength offered by diversity. When it comes to teamwork, we regard diversity in the form of knowledge, experience, age, gender and nationality as an asset."

## LEADERSHIP

"Leaders should shape strategies and goals, establish guidelines for ongoing work and in a stimulating way convey this to the employees. A good leader systematically follows up activities and results, duly notes and compliments good performance, initiates and encourages competence development, and ensures that all employees are given the necessary prerequisites for carrying out their duties."

(QUOTE FROM VOLVO CARS COMPANY PHILOSOPHY)

| NO. OF EMPLOYEES     | YEAR<br>2002 | YEAR<br>2001 |
|----------------------|--------------|--------------|
| SWEDEN               | 20,613       | 19,518       |
| BELGIUM (GHENT)      | 3,770        | 4,030        |
| MARKETING COMPANIES* | 3,607        | 3,867        |
| TOTAL                | 27,990       | 27,415       |

Number of employees in Sweden on 31 December 2002: Torslanda factory 5,115 (4,788), Göteborg other facilities 7,978 (7,893), Uddevalla 706 (743), Skövde 2,124 (1,793), Olofström 2,878 (2,898), Köping 1,491 (1,096) and Floby 321 (307).

\*Of whom employees in the assembly plants amount to; Thailand: 427, Malaysia: 302 and South Africa: 96 (3 VCC employees + 93 Ford employees who work only with Volvo products). VCC employees in the Born factory (NedCar) are also included.



## THE CARS



VOLVO S80



VOLVO S40



VOLVO C70



VOLVO XC70

Volvo Cars range encompasses the S-Range (saloons), V-Range (estate cars), XC-Range (all-wheel-drive vehicles) and C-Range (convertibles). The R designation stands for high-performance cars. The product strategy is based on using a number of shared technical solutions to offer a wide range of models tailored to suit different customer groups. The strategy took shape in conjunction with development of the Volvo S80, which was launched in 1998. The Volvo XC90 Sports Utility Vehicle (SUV) was unveiled in Detroit in January 2002.

Paris was the venue for taking the wraps off the high-performance models, the Volvo S60 R and Volvo V70 R.



VOLVO XC90



VOLVO V40



VOLVO S60



VOLVO V70

Volvo cars are among the safest in their class, with features such as DSTC (Dynamic Stability Control), the SIPS (Side Impact Protection system), IC (Inflatable Curtain), STC (Stability Traction Control) and WHIPS (Whiplash protection). Volvo recommends the safety belt to be used at all times.

Typical Volvo features are stable and well-balanced road properties, high comfort and tractable engines that are economical with fuel and meet tough international environmental requirements. For most markets, Volvo cars are built specifically to order.





VOLVO S60 R

This allows the buyer to combine engine, transmission, paint-work, upholstery and options to suit individual tastes and needs.



VOLVO V70 R

In order to make car ownership as convenient and economical as possible, Volvo Cars offers a wide range of services within financing, leasing, insurance, assistance and so on.



VOLVO S80 EXECUTIVE

Volvo has built many concept cars over the years. The aim of Volvo's concept cars is and always has been to look for and test new solutions for design and technology that function well in practice.

## OPTIONS

All Volvo cars' options and accessories are designed, developed and tested to ensure that they function impeccably together with the car. There is an ever-increasing range of equipment to cater for active recreation. All Volvo cars' options can be divided into three categories:

**Driver comfort** - options that enhance driver comfort and driving pleasure on long trips.

**For family and friends** - options that enhance the general comfort level for everyone in the car, encompassing Volvo's child-safety product range.

**Loading and towing** - options that make the car more versatile and space its load-carrying ability.

The range of options includes audio and entertainment systems that are among the foremost in the world, advanced equipment for navigation, telephony and communications, and equipment that provides greater protection against theft and boosts personal security.

2002 saw the launch of a theft-protected storage box, a safe made of high-tensile steel that is available as an option. Volvo On Call is a communications system that allows the driver to obtain up-to-date traffic information, directions to his or her destination and a tracing facility should the car be stolen. The system even automatically contacts the emergency service in the event of an accident or other emergency. Volvo On Call is now available in the USA and Sweden, and in 2003 the system will be launched in Germany and Britain.



## VOLVO CAR SPECIAL VEHICLES

Volvo Car Special Vehicles is a wholly-owned subsidiary of Volvo Car Corporation, with Karin Falck serving as President. The company manufactures and markets specially tailored vehicles throughout the world, based on Volvo's standard models. Some examples are the Volvo S80 Executive, police cars, taxis, service tenders, special models and anniversary versions of standard cars. About 10,000 special vehicles are sold a year.

Certain models are manufactured and marketed in co-operation with external partners. The Volvo S80 Limousine, Volvo S80 Hearse and Volvo S80 Ambulance are built under licence by Yngve Nilsson Karosserifabrik AB in Laholm.

## PRODUCT DEVELOPMENT AND DESIGN

Volvo Cars product strategy relies on a technical basis that makes it possible to utilise the same core concept to quickly produce a wide range of car models to meet the needs of different customer groups.

Crash safety, emissions, fuel consumption, durability, climate, aerodynamics and other parameters are all tested in specialised laboratories. A large proportion of the tests and the product design are carried out in virtual reality using sophisticated computers, which results in greater precision and cuts development time.

Today's car designers have the immense advantage of being able to progress from initial concept to complete car in just a few weeks, courtesy of the Alias supercomputer software. Yet these very same designers feel that car design may never be able to dispense with the more tactile intermediate phase of lead pencil and Styrofoam scale models.

Volvo Cars Pilot Plant builds preproduction series before full-scale production starts. Tests take place on Volvo's test-tracks in southern Sweden and in the far north of the country, as well as in Phoenix, Arizona. To minimise the environmental impact of the cars, use is made of the



**EPS (Environmental Priority Strategies)** analysis tool, which shows how a given component affects the environment throughout its lifetime. And in order to ensure quality at every stage, there is a product-development system based on various gates, through which every new-car project must pass before it can proceed to the next stage.

Product development takes place in system teams. The team members are grouped together by expertise, so for instance experts on electrical systems will develop their particular products for all the models in the entire range.

About 4,000 persons work on product development and process enhancement at Volvo Cars' technical centre in Göteborg.

Volvo Cars has three international design centres, with more than 200 employees at locations spread across the world, in Göteborg, Los Angeles and Barcelona.

Volvo Cars female reference group has played a prominent role in the development of the Volvo XC90.



BARCELONA DESIGN CENTRE



VOLVO CARS' FEMALE  
REFERENCE GROUP

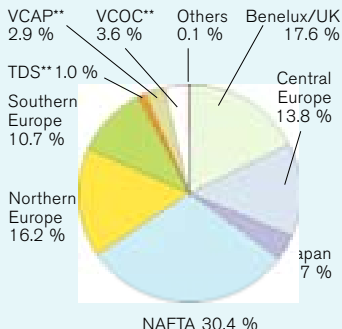
**"GOOD DESIGN** IS NOT ONLY A MATTER OF STYLING THE SURFACE. IT IS JUST AS IMPORTANT TO MAKE THE PRODUCT EASY TO UNDERSTAND AND USE. IF THE PRODUCT IS NOT FUNCTIONAL, IT CAN'T BE BEAUTIFUL." THE VOLVO DESIGN PHILOSOPHY.



## MARKETS AND SALES

Volvo Cars has a broad geographical spread, selling cars in just over one-hundred countries. Volvo Cars' sales\* in 2002 amounted to 406,695 cars.

**TOTAL SALES IN 2002  
(PER MARKET AREA) \***



**SALES IN 2002 ON THE TEN  
LARGEST MARKETS \***

|                 |         |
|-----------------|---------|
| USA             | 111,062 |
| SWEDEN          | 48,675  |
| GERMANY         | 41,045  |
| GREAT BRITAIN   | 40,580  |
| ITALY           | 18,134  |
| THE NETHERLANDS | 17,271  |
| JAPAN           | 15,242  |
| SPAIN           | 13,753  |
| BELGIUM         | 10,526  |
| CANADA          | 9,441   |

## SALES IN 2002 PER MODEL \*

**TOTAL 406,695 CARS**

### VOLVO S80 TOTAL 42,815

|               |        |
|---------------|--------|
| USA           | 15,168 |
| GREAT BRITAIN | 4,089  |
| GERMANY       | 3,431  |
| SWEDEN        | 3,144  |
| CHINA         | 1,661  |

### VOLVO S60 TOTAL 107,463

|               |        |
|---------------|--------|
| USA           | 38,068 |
| GREAT BRITAIN | 9,468  |
| SWEDEN        | 8,939  |
| GERMANY       | 7,579  |
| SPAIN         | 5,410  |

### VOLVO V70 TOTAL 94,729

|               |        |
|---------------|--------|
| SWEDEN        | 23,833 |
| GERMANY       | 16,793 |
| USA           | 10,581 |
| GREAT BRITAIN | 10,276 |
| JAPAN         | 7 717  |

### VOLVO XC70 TOTAL 35,320

|         |        |
|---------|--------|
| USA     | 19,356 |
| SWEDEN  | 2,740  |
| CANADA  | 1,976  |
| JAPAN   | 1,778  |
| GERMANY | 1,068  |

### VOLVO S40 TOTAL 51,388

|                 |        |
|-----------------|--------|
| USA             | 15,300 |
| GREAT BRITAIN   | 7,753  |
| SPAIN           | 3,308  |
| SWEDEN          | 3,180  |
| THE NETHERLANDS | 1,571  |

### VOLVO V40 TOTAL 61,475

|                 |        |
|-----------------|--------|
| GERMANY         | 10,499 |
| GREAT BRITAIN   | 8,470  |
| SWEDEN          | 6,124  |
| ITALY           | 5,591  |
| THE NETHERLANDS | 4,578  |

\* Sales = cars delivered to end-customer

\*\* VCAP = Volvo Car Asia Pacific, VCOC = Volvo Car Overseas Corporation, TDS = Tourist & Diplomat Sales

\* Sales = cars delivered to end-customer

## SALES IN 2002 PER MODEL \*

### VOLVO C70 COUPÉ TOTAL 2,208

|               |     |
|---------------|-----|
| USA           | 716 |
| GREAT BRITAIN | 581 |
| GERMANY       | 184 |
| SPAIN         | 121 |
| ITALY         | 89  |

### VOLVO C70 CONVERTIBLE TOTAL 6,148

|               |       |
|---------------|-------|
| USA           | 2,816 |
| GREAT BRITAIN | 1,317 |
| GERMANY       | 703   |
| JAPAN         | 225   |
| SWITZERLAND   | 140   |

### VOLVO XC90 TOTAL 5,040

|                                |       |
|--------------------------------|-------|
| USA                            | 4,331 |
| SWEDEN                         | 538   |
| CANADA                         | 67    |
| TDS (TOURIST & DIPLOMAT SALES) | 38    |
| SPAIN                          | 37    |

### OTHER PREVIOUS MODELS, TOTAL 109

\* Sales = cars delivered to end-customer



## DISTRIBUTION AND DEALER NETWORK

Volvo Cars' dealer network consists of about 2,400 dealerships and workshops throughout the world. About 1,500 of these are in Europe, roughly 400 in North America and the remainder are found in other parts of the world. Most of these facilities are owned by private entrepreneurs, although Volvo Car Corporation owns some itself, for instance in Finland and Japan.

Volvo Cars distribution strategy is to develop a joint dealer network together with Jaguar and Land Rover. Where appropriate, dealer development focuses on the very highest standards in customer satisfaction by offering a warm welcome, good service and quick fault-tracing.



## PRODUCTION

Since the inauguration of the company in 1927 and up to the end of 2002, Volvo Cars has manufactured 12,414,141 cars.

Production quality at Volvo Cars is of a very high standard. Materials and suppliers are selected with considerable care.

The entire process of component manufacture, steel pressing, body building, surface treatment and final assembly takes place through smooth interaction between advanced production technology and well-trained and highly motivated car builders.

Production is largely controlled by customer orders. This imposes considerable demands on flexibility but at the same time creates the best preconditions for the customer to be able to specify his or her car according to individual wishes.

Production flexibility allows several models to be built on the same production line. In order to avoid complex stock maintenance problems, sub-assemblies and individual components

are delivered on a just-in-time basis. In 2002, 398,631 Volvo cars (418,652 the year before) (excluding preproduction vehicles) were made at the plants in Torslanda (Göteborg, Sweden), Ghent (Belgium), Born (the Netherlands) and Uddevalla (Sweden). In addition, there are smaller assembly plants in Malaysia, Thailand and South Africa.

In Sweden Volvo Cars makes components in Skövde (engines), Olofström (body components), Köping (transmissions and chassis parts) and Floby (connecting rods and brake discs).

Production of the Volvo C70 Coupé ceased in August 2002, but the Volvo C70 Convertible is still being made.

|                   | CAR PRODUCTION<br>IN YEAR 2002 | VOLVO S80 | VOLVO S60 | VOLVO<br>V70 | VOLVO<br>XC70 | VOLVO<br>S40/V40           | VOLVO C70<br>COUPÉ/<br>CONVERTIBLE | VOLVO<br>XC90 | TOTAL<br>PRODUCTION |
|-------------------|--------------------------------|-----------|-----------|--------------|---------------|----------------------------|------------------------------------|---------------|---------------------|
| SWEDEN            | TORSLANDA                      | 40,149    |           | 43,954       | 33,577        |                            |                                    | 11,346        | 129,026             |
|                   | UDDEVALLA                      |           |           |              |               |                            | 7,773                              |               | 7,773               |
| OUTSIDE<br>SWEDEN | GHENT                          |           | 104,450   | 45,646       |               |                            |                                    |               | 150,096             |
|                   | BORN                           |           |           |              |               | S40: 47,075<br>V40: 60,941 |                                    |               | 108,016             |
|                   | SOUTH AFRICA                   |           |           |              |               | 1,584                      |                                    |               | 1,584               |
|                   | THAILAND                       | 576       | 408       | 240          | 120           | 216                        |                                    |               | 1,560               |
|                   | MALAYSIA                       |           |           | 528          |               |                            | 48                                 |               | 576                 |
|                   | <b>TOTAL PRODUCTION</b>        | 40,725    | 105,386   | 89,840       | 33,697        | 109,864                    | 7,773                              | 11,346        | <b>398,631</b>      |



## PURCHASING AND SUPPLIERS

About 25 per cent of a car's material in terms of value is made within Volvo Cars, including parts such as engines, manual gearboxes and body components. The remaining 75 per cent, consisting of such items as instrument panels, interior trim and electrical systems, is purchased from about 345 external suppliers located in twenty or so countries.

In order to cut development and production lead times, many suppliers are involved from the initial design and engineering stages. Effective cooperation and interaction with suppliers is an important competitive tool for Volvo Cars. Increasing numbers of suppliers are establishing operations close to the various Volvo Cars plants in order to cut transport times and reduce the need for stocks. A number of suppliers deliver their components in a precise sequence, with a maximum lead time of four hours. What is more, increasing numbers of components are supplied in complete sub-assemblies or systems, further cutting building time in the final-assembly process.

Volvo Cars imposes extremely stringent demands on quality, product development, cost efficiency, delivery precision and environmental care. For instance, all production-related suppliers' manufacturing facilities must be environmentally certified by a third party according to ISO14001 or EMAS.

In 2002, purchases by Volvo Cars amounted to just over USD 7 billion. At Volvo Cars, Euros are used to pay for 61 per cent of all transactions.

### THE BIGGEST SUPPLIER COUNTRIES, YEAR 2002. (PERCENTAGE PROPORTION OF TOTAL PURCHASES)

|                 |    |
|-----------------|----|
| SWEDEN          | 25 |
| GERMANY         | 25 |
| BELGIUM         | 10 |
| FRANCE          | 8  |
| JAPAN           | 6  |
| GREAT BRITAIN   | 4  |
| THE NETHERLANDS | 3  |
| USA             | 2  |
| POLAND          | 2  |
| OTHERS          | 15 |



## SAFETY

Volvo Cars **safety concept** is based on a holistic view.

We design cars that:

- first and foremost help the driver to avoid accidents in the first place.
- protect the car's occupants if an accident is unavoidable.
- provide enhanced personal security, to make break-ins and theft more difficult and give the car's occupants added protection in threatening situations.

The **operational** method can best be described using a circle that begins and ends in the real-life traffic situation – out on the roads.

We rely heavily on experience gained from our investigations of actual traffic accidents when we draw up requirement specifications, design and crash-test new models.

Since 1970, Volvo's Accident Research Commission has studied traffic accidents in Sweden involving newer Volvo cars.

## CHILD SAFETY

Volvo has immense knowledge about cars and children. From the unborn onwards.

In 2002, Volvo developed the world's first virtual 'pregnant' crash-test dummy. It helps both us and medical teams to understand how an accident affects the pregnant mother and the unborn baby.

Volvo Cars produced the world's first rearward-facing child seat back in 1972, and has always maintained that children should travel facing the rear at least until the age of three. Older children sit most safely with safety belts on integrated or separate booster cushions, at least until they are 140 centimetres tall.

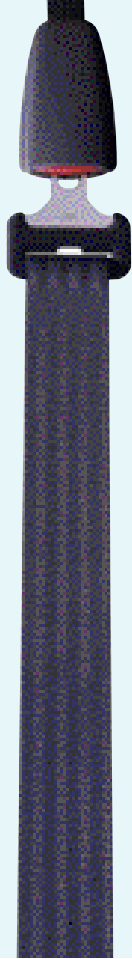
## VOLVO XC90

Volvo unveiled the XC90 – its first-ever SUV – in 2002.

The Volvo XC90 features RSC (Roll Stability Control), a stability-enhancing system that helps keep the car upright in severe avoidance manoeuvres, for instance. However, if the car nonetheless rolls over, all the safety belts are fitted with belt tensioners that help keep the seat occupants firmly in place. Furthermore, the roof is reinforced with extremely strong boron steel.

There is a low-mounted front cross-member in the car's nose. It is designed and positioned to activate the smaller car's passenger-protection systems in a frontal collision.





## MORE THAN 50 YEARS OF SAFETY

|      |   |      |  |
|------|---|------|--|
| 1944 | Safety cage   | 1986 | Three-point safety belt, rear seat middle                        |
| 1944 | Laminated windscreen  | 1987 | Belt tensioners  |
| 1959 | Three-point safety belts, front                                     | 1987 | Airbag, driver   |
| 1960 | Padded dashboard  | 1990 | Integrated child safety booster cushion                          |
| 1964 | First rearward-facing child safety seat prototype tested in a Volvo | 1991 | SIPS, Volvo's Side Impact Protection System                      |
| 1966 | Dual-circuit, triangle-split brake system                           | 1991 | Automatic height adjustment for front safety belts               |
| 1966 | Energy-absorbing crumple zones, front and rear                      | 1993 | Three-point inertia-reel safety belts on all seats               |
| 1967 | Safety belts, rear  | 1994 | SIPS, side-impact airbags  |
| 1968 | Head restraints, front  | 1997 | ROPS – Volvo's roll-over protection system                       |
| 1969 | Three-point inertia-reel safety belts, front                        | 1998 | WHIPS, Volvo's Whiplash Protection System                        |
| 1972 | Three-point safety belts, rear                                      | 1998 | IC, Volvo's Inflatable Curtain                                   |
| 1972 | Rearward-facing child safety seat and childproof locks              | 2000 | Volvo Cars Safety Centre in Göteborg inaugurated on 29 March     |
| 1972 | Volvo Experimental Safety Car (VESC)                                | 2000 | ISOFIX attachment system for rearward-facing child safety seats  |
| 1973 | Impact-absorbing steering column                                    | 2000 | Dual-stage airbag  |
| 1974 | Energy-absorbing bumpers  | 2000 | Volvo On Call – communication system                             |
| 1974 | Fuel tank safely located ahead of rear axle                         | 2001 | Volvo Safety Concept Car (SCC)                                   |
| 1978 | Child safety booster cushion  | 2002 | RSC (Roll Stability Control) active stability-enhancement system |
| 1982 | Anti-submarining protection in front and rear seats                 | 2002 | Extended roll-over protection system (ROPS)                      |
| 1982 | Wide-angle rear-view mirror   | 2002 | Lower front cross-member – protection system for oncoming cars   |
| 1984 | ABS anti-locking brakes   | 2002 | "Virtual pregnant" crash-test dummy developed                    |
| 1986 | Eye-level brake lamp  |      |  |



## QUALITY

Volvo Cars' customers have high expectations – and rightly so. All quality assurance is accordingly aimed at keeping our customers satisfied. The goal is to be number one in terms of customer satisfaction by 2004 compared to our competitors in the premium segment of the automotive industry.

The fact that we are on the right quality track can be seen in the American JD Power rankings for 2002. When it comes to product quality, JD Power ranked Volvo as the best European car available in the USA.

Delivering quality requires the company to fully understand and appreciate its customers' needs and expectations. In order to obtain information from its customers, Volvo Cars uses a combination of internal and external sources such as the independent rankings produced by experts such as "New Car Buyers" and JD Power. These quality measurements are analysed at executive management level and then processed in a range of Quality Forums, which are responsible for monitoring the results, identifying areas for improvement and deciding upon appropriate strategies and plans of action.

6-Sigma is a complex and efficient quality-enhancement tool that identifies the core sources of quality problems. Volvo Cars began using this tool in 2000.

## THE ENVIRONMENT

Volvo Cars philosophy is to develop cars that combine high safety with low environmental impact.

As an option there is a sophisticated air-filtration system that makes the air inside the car cleaner than the outside air. Textiles and leather upholstery meet Öko-Tex Standard 100, the world's leading eco-labelling norm for fabrics and leather. Exhaust filtering eliminates 98 per cent of the carbon monoxide and hydrocarbons emitted. Most Volvo car engines already meet the extremely stringent exhaust emission standards scheduled for Europe in 2005.

In 2002, Volvo Cars launched an engine in the US that meets the California PZEV requirements, the toughest emission standards in the world. This has been made possible thanks both to new techniques for heating up the catalytic converter in cold starts and to zero evaporation. The engine is so far only available in California.

The PremAir® radiator coating converts harmful ground-level ozone into oxygen as the car is driven.

The Volvo S80, V70, S60, S40 and V40 are also available with a Bi-Fuel engine that runs on gas (methane or LPG) with petrol as the backup fuel.

Volvo cars are among the most economical in their class. One of the company's environmental goals is to reduce average fuel consumption by 25 per cent by the year 2008, compared with 1995.

Want to find out more about Volvos with the Environmental Product Declaration? [www.epd.volvocars.se](http://www.epd.volvocars.se)

# Leaders of Tomorrow





Every Volvo car must be able to be at least 85 per cent recyclable. Volvo was the first manufacturer to introduce an Environmental Product Declaration (EPD).

The Environmental Product Declaration, which is verified by Lloyd's Register Quality Assurance (LRQA), provides a uniquely comprehensive picture of the car's environmental profile throughout its lifetime.

Volvo Cars is also involved in several environmental projects – from awarding Volvo's Environmental Prize to organising the Volvo Ocean Adventure, an environment-enhancement educational programme for schools throughout the world.

## VOLVO'S PRO-ENVIRONMENTAL TRADITION

**1972** Global eco-conference in Stockholm: Volvo sponsors a critical discussion on the car's role in society

**1974** Introduction of the oxidising catalyst, the predecessor to today's catalytic converters

**1976** Introduction of the three-way catalytic converter, which cuts harmful emissions by 90 percent

**1982** The Torslanda factory is heated using residual heat from the local oil refinery

**1987** The Torslanda factory's water purification plant removes 90 percent of all harmful substances

**1988** Volvo adopts an aggressive new pro-environmental policy

**1989** Volvo demonstrates technology for alcohol power: the cleanest car ever tested

**1989** Internal environmental audits implemented

**1989** Plastic materials in Volvo cars marked for recycling

**1990** Asbestos removed from car production

**1991** The world's cleanest paintshop – in the Torslanda factory

**1992** Volvo ECC unveiled – a trendsetter for tomorrow's environment

**1993** Quicksilver deleted from car production

**1993** Chlorofluorocarbons (CFCs) deleted from cooling systems in new Volvo cars

**1994** Lifecycle analysis for new car projects introduced

**1994** ECRIS, a new research facility for eco-optimised recycling

**1995** Volvo Bi-Fuel, Volvo's first-generation car with methanol gas power

**1996** Volvo Dialogue on the Environment starts, eco-training for all employees

**1997** Volvo modifies its diesel cars to run on biodiesel

**1998** Volvo launches PremAir®, which filters harmful ozone from the surrounding city air

**1999** New equipment for cleaner cabin air as an option

**1999** Volvo's Environmental Prize is awarded for the tenth year

**2000** ULEV engines available globally

**2001** New Bi-Fuel cars introduced

**2002** Volvo Young Environmentalist Award

**2002** PZEV engine introduced in California (the cleanest petrol engine on the market)

## CORPORATE CITIZENSHIP

**“THE GOAL IS TO SHOW RESPECT FOR THE INDIVIDUAL, FOR CUSTOMERS, BUSINESS CONTACTS AND SOCIETY IN GENERAL”.**

Sustainable social development is based on cooperation between the company and the society in which it operates. The company's organisation, products and employees should be regarded as assets for society. The interplay between company and society should be characterised by openness, honesty and flexibility. The company should be an active partner and must always meet legal requirements.

In 2002, Volvo Cars worked actively to improve strategic progress in this important field through internal training in the purchasing department and among managers, among others. The company has adopted diversity as a strategic issue for various internal and external projects, including an EU project in cooperation with five suppliers. We continue to work with knowhow exchange in society and in 2002 we made an award for the best global pro-environmental effort. This took place within the framework of the Volvo Ocean Adventure,



with the award going to a school in Bangalore, India, where the students focused on replacing plastic shopping bags with reusable textile bags.

Volvo Cars has the aim of presenting an annual report on the steps it has taken to support corporate responsibility. We work within seven areas: safety, quality and the environment, along with relations with customers, employees, business partners and society in general. The report presents key figures in areas such as the environment and social issues.



## SPONSORSHIP, MOTOR SHOWS AND MOTOR SPORT

### SPONSORSHIP

At Volvo Cars sponsorship is a powerful means of reinforcing customer relationships and boosting the brand image. Volvo has had a long tradition ever since the 1970s of sponsoring regular international sports and cultural events.

Together with the Volvo Group, Volvo Cars is the main sponsor of Volvo Ocean Race (formerly Whitbread Round the World Race). In May 2002, the eight boats crossed the finishing line with the German vessel Illbruck securing the winner's trophy. The next race is scheduled for 2005.

In 2002, Volvo sponsored the Volvo Scandinavian Masters golf tournament, the Volvo Youth Sailing championship and the Volvo/Cannondale MTB Team. In addition, Volvo takes part in several national and regional sponsorship projects.



Photo: Göteborgsoperan "La Traviata".

### MOTOR SHOWS 2003

| Open for:   | Press     | General public | Press     | General public         |
|-------------|-----------|----------------|-----------|------------------------|
| Los Angeles | 2-3 Jan   | 4-12 Jan       | Seoul     | 1 May 2-10 May         |
| Detroit     | 5-7 Jan   | 11-20 Jan      | Brno      | 5-6 Jun 7-12 Jun       |
| Amsterdam   | 6 Feb     | 7-16 Feb       | Moscow    | - August               |
| Chicago     | 12-13 Feb | 14-23 Feb      | Frankfurt | 9-10 Sep 13-21 Sep     |
| Brisbane    | 6 Feb     | 7-16 Feb       | Sydney    | 11 Oct 12-21 Oct       |
| Toronto     | 12-13 Feb | 14-23 Feb      | London    | 16 Oct 17-28 Oct       |
| Melbourne   | 27 Feb    | 28 Feb-10 Mar  | Tokyo     | 22-23 Oct 25 Oct-5 Nov |
| Geneva      | 4 Mar     | 6-16 Mar       | Athens    | 7 Nov 8-16 Nov         |
| Bangkok     | 27 Mar    | 28 Mar-6 Apr   | Dubai     | 8 Nov 9-12 Nov         |
| Stockholm   | 3 Apr     | 4-13 Apr       | Osaka     | 28 Nov 28 Nov-1 Dec    |
| New York    | 16-17 Apr | 18-27 Apr      | Bangkok   | 29 Nov 1-11 Dec        |
| Shanghai    | 20 Apr    | 21-27 Apr      | Bologna   | 5 Dec 6-16 Dec         |
| Istanbul    | 24 Apr    | 25 Apr-4 May   | Taipei    | 24 Dec 25 Dec-4 Jan-04 |
| Barcelona   | 25 Apr    | 26 Apr-4 May   |           |                        |

### MOTOR SPORT

2003 will see Volvo Cars continuing its active participation in the Swedish S60 Challenge racing class that was launched in 2002.

Volvo Cars is also engaged in motor sport with its own team, Volvo S40 Racing, in the STCC (Swedish Touring Car Championship).

In 2002, Volvo Cars entered two teams in the ETCC (European Touring Car Championship).