



**VOLVO**



# 200,000 Volvo Hands

The hands of man are his first and most important tool. When "Jacob", the first Volvo, was made, it was hand-built. Skilful woodworkers shaved the wheel spokes for this, the very first of many great cars. Although machines have now taken over the heavy and boring jobs in the motor industry, Volvo products are still craftsman built since only professional ability and skill can give the particular quality and long service life for which Volvo products are justly famous. The machines are used to simplify the work involved.

The job done by the individual Volvo employee is the basis on which Volvo's production programme stands firm.

Volvo employees, whether they be in the Group Executive, within Purchasing or Sales, Marketing or

Economy, Finance or Research and Development, Service or Parts, Workshops or Proving Ground - all take part in the creation of a Volvo.

About four thousand million people populate the earth. Approximately two thirds live in what we call the developing countries where the business and economic life and the transport apparatus are just evolving.

Common to both the established industrial countries and the developing countries is the need of transportation. Transportation is needed to freight material to and from the factories, to carry foodstuffs to the consumers, to carry people to and from their places of work and their leisure activities.

The need of transportation is worldwide. The



tools of transport, whether they move by road, rail, air or sea, provide the communications without which no individual person could live and without which no community could be established or maintained. Volvo is a company which has its main interests in transportation. This makes Volvo an integral part of our present day community. The Volvo product programme encompasses a wealth of transport products with a scope which permits their participation in many phases of the development of society.

The society we live in is also dependent on the individual. It consists of individuals, functions through them and must be adapted to them.

We need to feel happy, to believe that we are doing something worthwhile in our work, to experience satisfaction. We need to work in an environment which is as humane as possible, which provides us with the best conditions for our work - both physically and psychologically.

There are no patented solutions. Each and every

place of work has its own unique problems, every product demands its answers. The organisation of the work and the technological solutions used must be adapted to the conditions prevailing in each specific place of work.

The Volvo Group is continually at work to create a good and fully acceptable work environment, to adapt machines to the people who are to operate them, to organise the work so that the individual in the workshop or the office has the possibility of having a say and an influence on his or her own work situation. The developments of work environment and technology within Volvo go hand in hand to create good working conditions, efficient, profitable production and products which serve our society.

Volvo believes that man and efficiency can be combined!

Carefully considered solutions, favourable working conditions and approximately 200,000 Volvo hands do the job!



# Products for our society

Ever since Volvo's rather inconspicuous birth in 1926 with a starting capital of 200,000 Swedish Kronor and its first products - the "Jacob" car and the first truck a year later - the fundamental principles of the Company's product development have been safety and quality.

Our products must be to the gain and pleasure of the individual and must never be to the detriment of our environment. Volvo quality implies that we are prepared to accept the responsibility for our products.

The demands Volvo makes on its sub-contractors are tough. The quality control procedures applying to all materials used in the Volvo production programme are very exacting and cover all stages of manufacture; from the sub-contractors' own inspections based on Volvo specifications, to reception control at Volvo and then the many further stages of inspection throughout production.

To this can be added the intensive research and

development in matters concerning safety, exhaust emissions, noise abatement and traffic environment. This work is carried out by the development facilities of the Volvo Group which include imposing laboratories at the Volvo Car Division headquarters in Gothenburg where approximately 1,000 technicians and researchers are busily at work in this special technical centre.

It was here, for example, that Volvo developed a series of experimental cars - VESC (Volvo Experimental Safety Car) - and much of the experience gained in this work is now put to use in the products of the Company. The Volvo cars of today can be truly said to be "production safety vehicles" - PSV, and include engineering features of both injury avoiding and accident avoiding nature.

Volvo today is a company with a very broad product programme. The car programme consists of the 240 and 260 Series, cars of a classic design where the accent has been more on the develop-



ment of function and safety, rather than on fashion and styling trends.

Volvo Car BV now gives the Group small car technology and the Volvo 66 and Volvo 343 with a unique automatic transmission which considerably simplifies driving and provides a continually variable ratio to suit any traffic situation.

The Volvo truck programme, from 6 to 60 ton gross vehicle weight, covers most types of transportation. Volvo's main endeavour in this field of operations is to build commercial vehicles which fulfil the customers' requirements with regard to design and equipment.

The truck driver spends his working day in the cab. Therefore, Volvo has paid considerable attention to creating a functional and safe working place, and a truck with built-in safety, not only for the driver but also for other road users.

Trucks which are built to be efficient in long-distance operation are too big and noisy for urban areas. Volvo has developed city tractor units which are powered by diesel engines, specially adapted for operation in sensitive environments - no sooty exhaust gases, very little exhaust smell and, more important, the toxic contents of the exhaust gases are considerably below the most stringent legislative requirements in force today. The noise level is

also considerably below all general and local requirements and the ancillaries of these vehicles are all designed for quiet operation.

The Volvo Bus Division specialises in the analysis of route networks, traffic control, communications, fare systems, etc., to arrange the most efficient utilisation of existing road networks. This to offer the customer the opportunity of investing in sensible, well-tried and tested projects instead of technical fantasies which imply radical changes to our existing environment.

Volvo has crash investigation teams for cars, trucks and buses. These teams work in close co-operation with the police and emergency services units to investigate the scenes and if possible the causes of accidents in which Volvo vehicles are involved. In this way, valuable information is gathered which can be used in the continuing work of making Volvo products yet safer.

One of the "heavies" of the Group is Volvo BM - one of Europe's leading manufacturers of earth-moving, agricultural and forestry machines. About half of the production of the Company is sold on export markets.

Volvo Flygmotor builds jet engines for the Viggen fighter aircraft. This company is also expanding vigorously on the civilian side of the business, particularly in hydraulic pumps and motors.

Volvo Penta industrial and marine engines power everything from pleasure boats to fishing fleets, generate electric power, are the heart of many an artificial irrigation project and also power various types of contracting equipment.

An addition to the programme is a range of outboards which make Volvo Penta the biggest manufacturer of this type of engine in Europe. The programme now includes ten different models with power outputs ranging from about 3 hp to 70 hp.

Through its subsidiaries, Volvo also manufactures and markets leisure products for both winter and summer use. This very comprehensive programme includes equipment for skiing, ice-hockey, sailing and camping.

The Volvo Group also has considerable experience in industrial working environment and the application of modern technologies. Volvo Engineering is a unit established within the Group and is responsible for marketing this know-how and can offer its customers the construction of complete industrial facilities and related projects.

Volvo's products are an integrated part of our modern society and in their various ways contribute to the communications which are so necessary to the development of our world

- people-moving, both private and public
- goods transportation
- earthmoving and contracting machines for the building of housing and industries
- fishing and shipping
- agriculture
- forestry
- industrial know-how

# Techniques for quality

The technological efficiency necessary to create products of first class quality and a good working environment are two of the cornerstones on which Volvo's development of its facilities in Sweden and abroad are based.

The requirements Volvo makes on its subcontractors are very demanding. Right from the very start, they are obliged to take into consideration Volvo's very specific requirements. Volvo's guiding principle is: machines adapted to people - not people to machines.

The equipment for Volvo facilities is carefully designed in consideration to noise levels, the risk of injury, the purification of possible wastes and all aspects of human engineering.

Volvo also creates new technologies to ensure the quality of the product and also the well-being and satisfaction of the individual. Examples of this include the final assembly plant at Kalmar, the engine plant at Skövde and the new Volvo BM facilities at Hällby on the outskirts of Eskilstuna. Each one of these facilities represents a stage in the evolution of new working methods, new production technology and new factory layouts.

Entirely new concepts are applied in these facilities. The production methods and transport techniques for material flow are revolutionary. The Kalmar and Skövde factories have self-propelled carriers which transport the chassis and engines from station to station throughout assembly. At



# environment for people

the Hällby factory, a new type of hover carrier is used which takes the hard work out of moving heavy goods.

The prosperity of our society has never been as high nor its level of education better - two factors which mean that the demands we make on our working environment are also farreaching.

Job environment requirements and functional requirements go hand in hand from the very start of the planning work for new buildings and improvements.

Work environment, however, is not only a matter of the floors, walls and roof of a building or the colour schemes, ventilation, spaciousness or equipment. Work environment is also very much dependent on the people working together, the people who make up the close-knit environment in which they work.

We also have a need to feel we belong to an authentic team, to be able to communicate freely and to receive appreciation for the work we do. An employee must also be able to influence his or her own working situation and feel a sense of purpose and satisfaction.

Job participation being able to have a say in the working organisation - requires a sense of responsibility. At Volvo, "power sharing" and responsibility have been delegated to all levels, and work arrangements such as job rotation, job expansion and job enrichment are commonplace.

Job rotation means that the employees in one section of production can change jobs with each other once a day or possibly more often. In this way, every employee can develop multi-skills within his or her section. The physical and psychological conditions are improved.

Job expansion means that the individual is involved more deeply in the work, the work cycle is lengthened and monotony is lessened.

Job enrichment means that more responsibility is given to the individual, responsibility for things such as quality control, job planning, etc.

*Illus. 1. At the Kalmar Plant, assembly carriers incorporating a tilting mechanism considerably simplify work on the underbody of the car. The work stations are arranged along the outer walls of the buildings where there is plenty of daylight and good contact with the surrounding world.*

*Illus. 2. The petrol engine factory of the Skövde Plants is "different". Both the factory layout and the technology used are characterised by new-thinking. Electrically powered assembly carriers simplify operations and are controlled by the assembly workers themselves.*

*Illus. 3. Cheerful colour schemes at the Umeå factory contribute to a bright and pleasant work environment. High technical standards and consultation groups give the correct background for quality products.*

The consultation and information activities within Volvo are well developed. Matters of common interest within the Group are handled by the Corporate Works Council. Every Volvo company also has its Works Council as well as a number of sub-committees and consultation groups. In addition to this, there is an extensive amount of consultation between the employees and the company through project groups. The building of new facilities and any changes made to old plant are always planned in co-operation with the representatives of the employees.

Together, the employees and management work hand in hand to create an efficient production machine and a satisfactory working environment.



# Financing for growth

From the very start, one of the fundamental principles of Volvo has been to create the resources necessary for expansion within the Company.

A high level of liquidity is vital to any enterprise. Good liquidity brings independence, the ability to act independently and to invest for healthy growth.

The post-war period was the first in which Volvo invested intensively, the growing demand for Volvo products necessitated increased resources.

It was during this period that the Company was considerably restructured. The production apparatus was expanded, as was the service network.

In 1958 the Company acquired a land area on the outskirts of Gothenburg and it was here that the Torslanda Plant - Volvo's biggest assembly plant for cars - was opened in 1964. In 1965, Volvo built another plant for the manufacture of interior fittings and trim.

During the 1960's, the Group invested more than Skr. 1,400 million in facilities and machines including assembly plants for cars at Ghent and for trucks at Alsemberg in Belgium.

A Technical Centre was built for Skr. 220 million, and other examples of investments in the '70s include the assembly plant at Kalmar, the engine plant at Skövde, the Hällered proving grounds, new facilities for BM at Hällby and an assembly plant for cars in the USA.

In Belgium, Volvo has built a large central warehouse and an assembly plant for light trucks.

This high rate of investment demands large financial resources. To meet these requirements, the Volvo Group has negotiated financing through Swedish and foreign banks. Through support from the Volvo shareholders by subscribing new issues, through bond loans and through the introduction of Volvo shares on the stock exchanges in other countries, the Group will continue its growth and increase its sales.

In the toughening economic climate, the work of the financial and economy departments is extremely vital. They must keep a very watchful eye on the fluctuations in the international rates of exchange, the economic trends, the complexities of world events and also the corporate spending.

Inflation, new technology and expansion de-



mand investments, alter the rate of self generation of funds, increase borrowing and influence the ratio between equity and outside capital.

However important the question of finance, Volvo's most important asset in the continuation of development is the professional skill of its employees and the confidence its customers have in the quality of the Volvo products.

*Illus. 1: The establishment of Volvo plants in the rural areas of Sweden brings new jobs and attracts other industries. The Bengtsfors Plant produces the interior fittings for Volvo cars.*

*Illus. 2: Volvo BM's new facilities at Hällby on the outskirts of Eskilstuna feature "hovercraft" carriers which move on a cushion of air. This is typical of the investments made to lighten the work and improve the environment.*

*Illus. 3: The acquisition by Volvo of Ryds Industri AB added advanced small boat technology to the leisure products sector of the Group.*

*Illus. 4: The Volvo Torslanda Plant was one of Volvo's biggest investments during the 1960's. Improvements to the working environment are being made continually.*

*Illus. 5: Volvo's proving grounds at Hällered to the west of Gothenburg give the Group the facilities to test its products under real life conditions. This is the braking track and pad where brakes and handling are tested.*

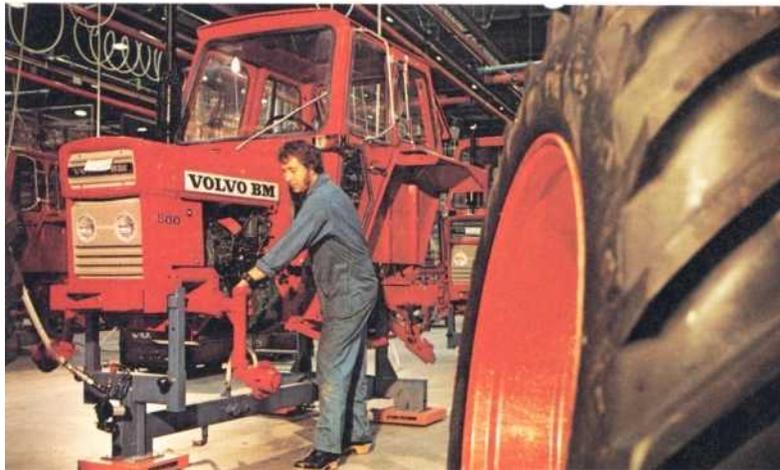
*Illus. 6: Volvo broadened its marine engine programme through the acquisition of an outboard production plant at Uppsala.*



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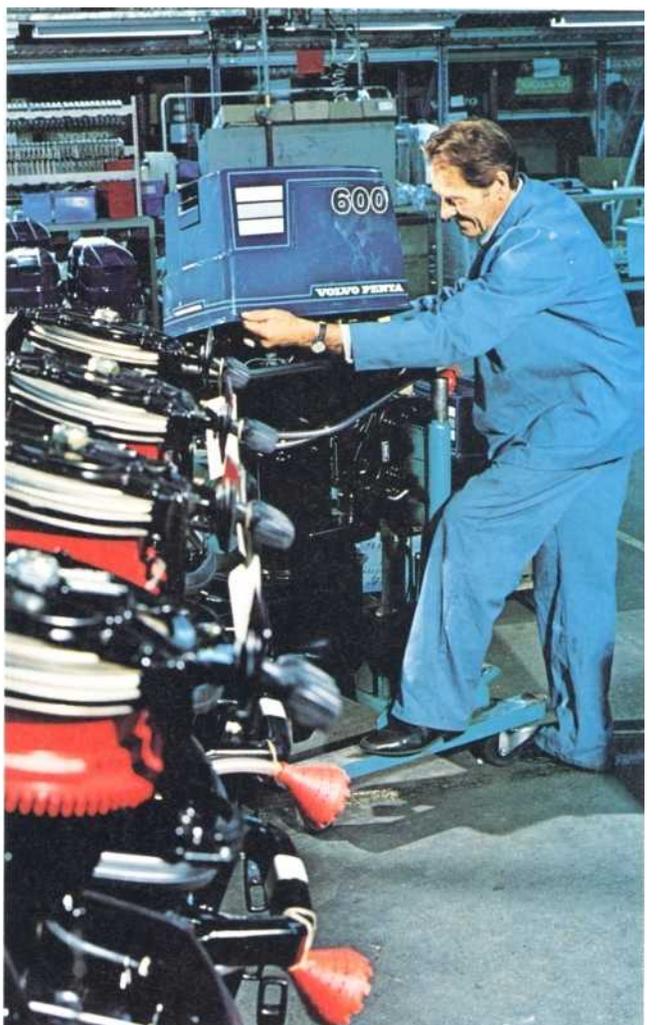
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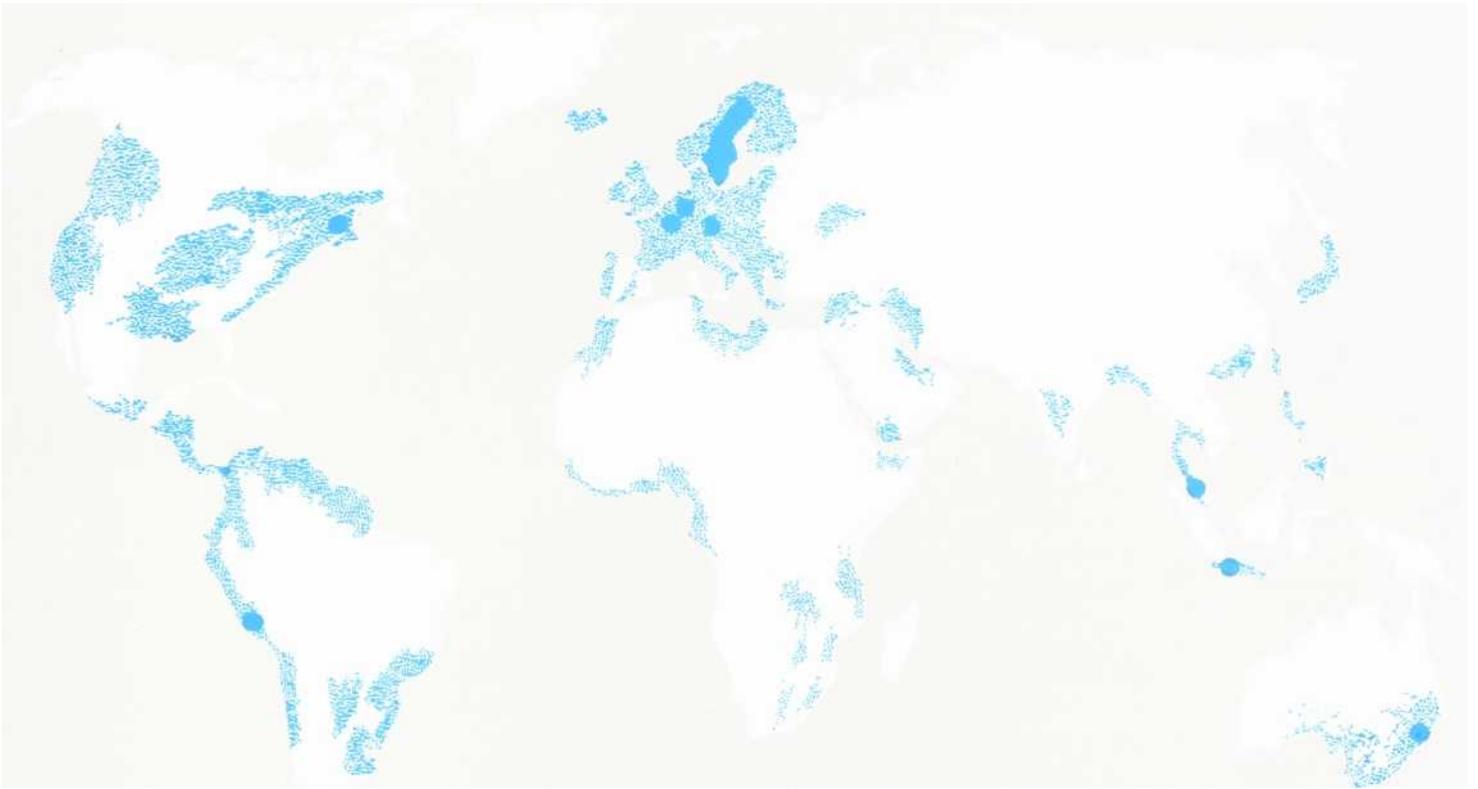
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# A Swedish company with international aims

Volvo is a Swedish company. Its headquarters and roots are in Sweden. But Sweden and Scandinavia are a limited domestic market. In this respect, Volvo is unique. Most automotive manufacturing companies have very large domestic markets.

The major part of Volvo's production is based in Sweden, but the largest sales potential lies abroad.

This is why Volvo activities abroad are expanding but since the major components are still manufactured in Sweden, Volvo is investing in and considerably strengthening its production apparatus in the home country.

Volvo's relative smallness, seen from an international point of view, is an advantage in that it gives us considerable flexibility and the possibility of growth on foreign markets.

Volvo's possibilities of expansion are very large. The four thousand million people on this earth are concentrated to limited parts of its surface. This implies enormous potential through the expansion of transport systems, road networks, housing and construction, forestry and agriculture, etc.

Volvo has wholly-owned or part-owned plants in countries including Belgium, the Netherlands, Canada, Peru, Iran, Malaysia, Thailand, Austria and Australia.

The largest of the Volvo assembly companies abroad include Volvo Europa, which is situated within the EEC block and incorporates car and

truck assembly plants at Ghent and Alseberg in Belgium; Volvo Car BV, with plants at Born and Oss in the Netherlands and also at St Truiden in Belgium. Volvo Car BV is also responsible for the development and marketing of its products.

One weakness of a relatively small company like Volvo is that the resources for investments and the development work necessary to be able to successfully compete and grow are limited.

In order to keep development costs down, Volvo has entered co-operative agreements with other companies without in any way offering any of its independence.

*The Far East is a growing market for Volvo cars.*





*Volvo BM products can be found in construction work in North Africa.*

Agreements concerning light commercial vehicles have been made with KHD of Germany, DAF of Holland and Saviem of France. Another example is the co-operative engine project for passenger cars undertaken with Peugeot and Renault.

The various divisions of the Group have similar agreements, these including, for example, Volvo BM's agreement with International Harvester, Klaas and Poclair.

It is vital for Volvo to maintain its ties in Sweden. It is here that the Company has its most loyal support, it is here that the Company's headquarters, executive management and production of

the major components are. It is not Volvo's policy to establish operations abroad to keep production costs down nor solely to export its products from that country. Volvo establishments abroad are made to safeguard the Group's long-term existence in the hosting country, to develop a technology which is adapted to the environment in question - to provide a basis for our own growth and to provide employment.

As a company, Volvo is Swedish, but as a product, Volvo is international and synonymous with quality, long service life and good economy.

*In New York, Volvo trucks are used for short haul work.*



*Japan is an important market for the Volvo Penta range of engines and Aquamatic outboard drives.*



# The Volvo Group in Sweden

## Corporate Executive and Headquarters

- Gothenburg

## Volvo Torslanda Plant

- ① Gothenburg: Car assembly

## Lundby Plant

- ② Gothenburg: Assembly of trucks and bus chassis

## Volvo Penta

- ③ Gothenburg: Marine and industrial engines, generating sets powered by Volvo engines.

## Volvo Skövde Plants

- ④ Skövde: Petrol and diesel engines
- ⑤ Floby: Brake discs, brake drums, hubs and driveshafts
- ⑥ Flen: Marine diesel engines and reconditioning work
- ⑦ Arvika (foundry): Diesel castings
- ⑧ Vara: Diesel engine plant. Production start-up late 1976

## Volvo Bergslagen Plants

- Köping: Gearboxes, rear axles and front wheel suspensions for cars. Gearboxes and front axles for trucks and buses. Transmissions for Aquamatic outboard drives.
- ⑩ Arvika (forge): Forged blanks for Volvo automotive production.
- ⑪ Lindesberg: Final drives for trucks and buses. Tractor differentials.
- ⑫ Uppsala: Outboard engines.

## Volvo Dalsland Plants

- ⑬ Färgelanda: Interior fittings for cars, mostly plastics
- ⑭ Bengtsfors: Car upholsteries
- ⑮ Tanumshede: Door and side panels for cars

## Volvo Umeå Plant

- ⑯ Umeå: Truck cabs, air, fuel and vacuum tanks. Brackets for tanks and running boards. Bonnet hinges for cars.

## Volvo Olofström Plants

- ⑰ Olofström: Body sections, body pressings, pressing tools and assembly equipment
- ⑱ Konga: Final drive casings, frame members and other larger parts for trucks and also fans.

## Volvo BM

- ⑲ Eskilstuna: Detail production for earthmoving, forestry and agricultural machines
- ⑳ Hällby: Assembly tractors and forestry machines
- ㉑ Arvika: Loading machines, road graders and tract vehicles
- ㉒ Hallsberg: Light combine harvesters
- ㉓ Braås: Dumper vehicles

## Volvo Flygmotor

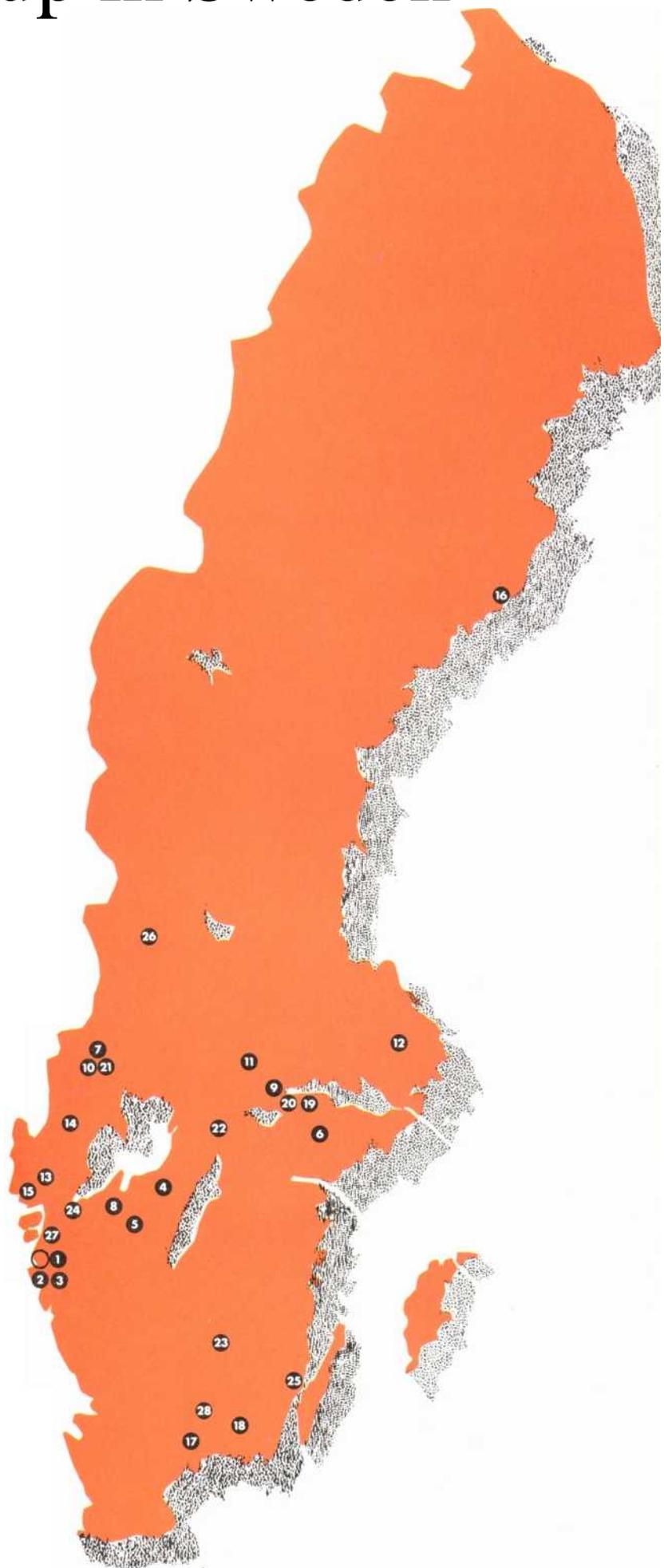
- ㉔ Trollhättan: Jet engines, hydraulic machines, industrial waste gas destruction units, diesel engine components and steering gear.

## Volvo Kalmar Plant

- ㉕ Kalmar: Assembly of cars

## Jofa-Företagen

- ㉖ Malung: Tents, ice-hockey articles, skiing sticks, ski bindings, boats and life jackets
- ㉗ Kungälv: Sailing boats, boat assembly
- ㉘ Ryd: Boats



# From an Idea to a World Wide Company

1924 - Assar Gabrielsson and Gustaf Larson decide to start a Swedish motor industry.

1926 - The Board of SKF invests Skr. 200,000 in the project and AB Volvo is born.

1927 - The first Volvo rolls out of the plant in Gothenburg.

1930 - Share majority in Penta plant at Skövde acquired.

1935 - AB Volvo introduced on Stockholm Bourse  
- takes over AB Penta in Gothenburg converting Volvo engines for marine and industrial use.

1941 - Share majority in Köpings Mekaniska Verkstads AB acquired.

1950 - Share majority in AB Bolinder Munktell, now Volvo BM, acquired.

1956 - Gunnar Engellau takes over as Managing Director after Assar Gabrielsson.

1964 - Torlsanda Plant for car assembly inaugurated. Umeå Plant acquired in same year. New facilities built in Ghent, Belgium.

1965 - Bengtsfors facilities inaugurated. Assembly of cars in Ghent, Belgium. Assembly of trucks and buses in Lima, Peru.

1967 - Assembly of cars, Halifax in Canada.  
- Assembly of cars, trucks, buses, in Kuala Lumpur, Malaysia.

1969 - Olofström AB acquired



1971 - Gunnar Engellau is succeeded by Pehr Gustaf Gyllenhammar as Managing Director

1972 - Volvo's new Technical Centre inaugurated, costing Skr. 220 million.

- the VESC safety car is presented  
- the new central parts warehouse is opened in Belgium

- new truck plant built in Australia  
- new plants built at Skövde and Kalmar  
- acquisition of Ailsa Trucks in Glasgow, Scotland  
- co-operation opened with DAF in Holland  
- Volvo shares introduced on London Bourse

1973 - Approval for car assembly plant in USA.

- Volvo acquires Jofa AB - thereby enters the leisure sector.

- acquisition of MCB's outboard engine operations.  
- Area Andino established.  
- co-operative agreement with International Harvester (BM).

1974 - Acquisition of Ryds Industri AB south of Växjö, Sweden.

- establishment of import and marketing company for Volvo in Japan with Japanese company Teijin Ltd.

- introduction of Volvo shares on West German Bourses.

- Volvo co-operation with DAF extended, Volvo acquires 75 % of share capital.  
- engine manufacture started in Douvrin, France

1975 - land procured on outskirts of Gothenburg for commercial vehicle expansion.

- authorisation of new plant at Trollhättan, Sweden, for hydraulic machines.

- building work starts on new diesel engine plant at Vara for Volvo Skövde Plants, Sweden.

- co-operative agreement with Poclair S.A. Indonesia.

- assembly of trucks in Ghent, Belgium.

She is safe !

