

VOLVO PARTNER AD

V O L V O

VOLVO CONSTRUCTION EQUIPMENT MAGAZINE
NOVEMBER 2002

ISSUE 5

SPIRIT

SMALL PACKAGE BIG SURPRISE

THE NEW COMPACT LOADERS

L25B

PLUS

Inside Track:

Teamwork at the wheel loader assembly line

The Need for Speed:

Man's obsession with all things fast

The Cab that Cares:

Comfortable, safe, operator friendly

Also: Job reports, product information,
and much more...

VOLVO

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VOLVO SPIRIT

VOLVO CONSTRUCTION EQUIPMENT MAGAZINE

Dear Volvo Spirit Reader,

Welcome to our first birthday edition. Yes, Volvo Spirit Magazine is one year old this November! Since we launched last year, we have covered the globe in search of new and interesting stories to bring you. We have featured subjects as diverse as cement production in China, dairy farming in Saudi, marble production in Turkey, forestry in Brazil, a high speed rail link in Taiwan, a sand and gravel operation in Las Vegas and much more. In addition, we have spoken to many operators in the field and provided information on new products and launches.

As we keep saying, this magazine is yours. We rely on your information and feedback to produce it, so please keep sending us your creative ideas and great stories. I would also like to take this opportunity to thank those of you who have already sent us many encouraging emails and letters. May we have many more.

In this edition, one year on, you have the opportunity to tell us exactly what you think of us! We have provided a freepost survey on the magazine that I hope you will spare a moment to complete.

In this issue, Mikael Karlsson discovers teamwork is the way forward when he visits the Volvo wheel loader production line in Arvika, Sweden. In our regular feature, Globetrotting, we visit India, the world's largest democracy and a land of contrasts. We unveil the new compact wheel loaders and take a look at what's happening in the USA, Mauritius, Korea and Dubai.

As we blow out our first birthday candle we wish you happy reading!



Beatrice Cardon
Editor

B. Cardon

VOLVO SPIRIT

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Cover picture: The Volvo Compact Loader

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And much more...



Making the Grade

Volvo Construction Equipment has set new standards in motor grader design, engineering and performance capabilities with the introduction of its new B-series graders.

The B-series graders are powered by Volvo turbo-charged, low-emission diesel engines, perfectly matched to the proven Volvo 8400 transmission. These engines are unique in the grader industry, not only for their low-end torque and 'power through- capabilities', but also for their low noise levels and fuel efficiency.

The nerve center of the B-series grader operator environment is the Contronic Monitor System – a Volvo exclusive. This multi-function system tells the operator the status of all machine functions.

Volvo's new modular cooling system with its electronically controlled and hydraulically driven fan conserves valuable fuel and engine power while providing optimum cooling capability with fast system warm-up in cold environments.

The elimination of stacked cooling cores ensures each cooler operates at maximum efficiency. Access to cooling cores for cleaning and service is unmatched in the industry.

A new generation of machines designed and engineered to provide more power, more productivity and improved operator comfort. Volvo B-series motor graders... making the grade.



INSIDE TRACK

MIKAEL KARLSSON discovered real teamwork when he met **MARTIN ANDERSSON** and **KENT ROOM** at the Volvo Wheel Loader assembly line in Arvika, Sweden. Photography by Julian Cornish Trestrail.

**WE ARE BUSY CHANGING TO TWO SHIFTS
AND, IN ORDER TO MEET THE HIGH DEMAND
WE HAVE TO BUILD 37**

The beautiful forested area around Arvika may look like a tranquil place, but in the Volvo factory there, work has been going on at a frenetic pace. Demand for Volvo's mid-sized wheel loaders has risen sharply and the factory has also been in the process of switching to two shifts. Productivity has gone into overdrive and it is the collective effort of the whole 800-strong workforce that is energizing them to meet their tough schedules. It is a period of change and unprecedented workload but everyone is pulling in the same direction.

IN ORDER TO MEET THE HIGH DEMAND WE ARE BUSY CHANGING TO TWO SHIFTS AND HAVE TO BUILD 37 MACHINES A WEEK INSTEAD OF 30 PREVIOUSLY

"Good companionship and team spirit are important factors in the high production rate and quality that is required," says Martin Andersson, who started as a mechanic at the Arvikaverken production line in 1997 and now drives a forklift truck in the assembly area.

"Right now production is something awesome. We are busy changing to two shifts and have to build 37 machines a week instead of 30 previously, in order to meet the high demand," he adds.

Arvikaverken is the main factory for the production of the mid-sized wheel loaders, the Volvo L90D, L120E, L150E, L180E and L220E. It is also there that front and back frames, lift-arms and attachment brackets for the wheel loaders are manufactured.

"Much has happened in production since I started here," says Martin. "Even with this high pace it is less strenuous on the factory floor today thanks to more automation, cleaner air and less trying working positions."

"Since the turn of the year we assemble three machines instead of two on the same assembly line – L150E, L180E and L220E. It was a bit tricky in the beginning with the bigger line and increased number of stations, but with good cooperation among all involved, not least of whom the three truck driver colleagues, we have managed the switch-over with flying colors." For Martin his job involves a lot more than just driving his truck. It is essential that he has slick communication with his colleagues in the assembly area where they order the parts they need via a computer link to Martin's truck.



"Recurring disruptions and errors in the flow could affect everything and everybody in production. Therefore we help each other, support and learn from each other," says Martin, who started working in Assembly before transferring to truck driving.

Martin, who plays football for the local seventh division team, enjoys the truck driving but is keen to take advantage of Volvo's policy of training employees for other jobs at the factory. "At Arvikaverken there are possibilities to continue one's training and be transferred to other tasks," he adds.

Kent Room, who – just like Martin – studied motor engineering at senior high school, started working at Arvikaverken way back in 1976 as a welder. "At that time we did a lot of welding within Assembly. You had to know your job well before you were allowed to go out and work," Kent recalls.

Over the last 26 years Kent has had many different roles at the factory, including fitter, machine tester, prototype worker and instructor. "They called me when I had finished school and offered me a job with on-the-spot training here at Arvikaverken. And I remember thinking 'Well, I suppose I could stand working there for a year or two.' Not long ago I attended the 25-year jubilee – it's really quite unbelievable!" Kent laughs.

Today Kent has a vast knowledge of both the wheel loaders and the company as a whole, and with all his experience he was invited to participate in the prototype work when Volvo Wheel Loaders developed the L220 model.

"It was an enormous satisfaction and stimulation to be allowed to participate in the development of a completely new wheel loader from start to finish, to see the entirety in a development project," says Kent who currently works as the assistant to the foreman in Assembly.

“It is essential that all co-workers feel that they participate in the whole activity and can see the overall result of the efforts in their own personal work.”

“That is why we always give feedback regarding the work and quality efforts in manufacturing as soon as possible, without any nonsense. That’s the way we here in little Arvika feel that we are all producing machines that machine users around the world appreciate,” says Kent. Martin and Kent love living in small villages on the outskirts of the town. Martin lives with Anette who works at a shop in Arvika and they have two young children. Kent is married to Eli who works in Oslo, Norway

and is away during the week. Their two children are now grown up.

The natural beauty of the surrounding Värmland forests means a lot to both Martin and Kent, who have strong feelings about the importance of the environment on a local as well as global level. One of the reasons why they are happy to work for Volvo is the company’s strong, well-documented commitment to the protection of the environment.

Both also like to keep in shape, mainly by playing soccer. Martin plays in defense for Värmskogs SK while Kent is a mid-fielder for division seven rivals Älgå SK.

They both train twice a week and play a match once a week during the season. The two teams played each other recently and Martin was the happier of the two at the final whistle. “We won 2-1 — that’s something that deserves to be in the paper,” jokes Martin.

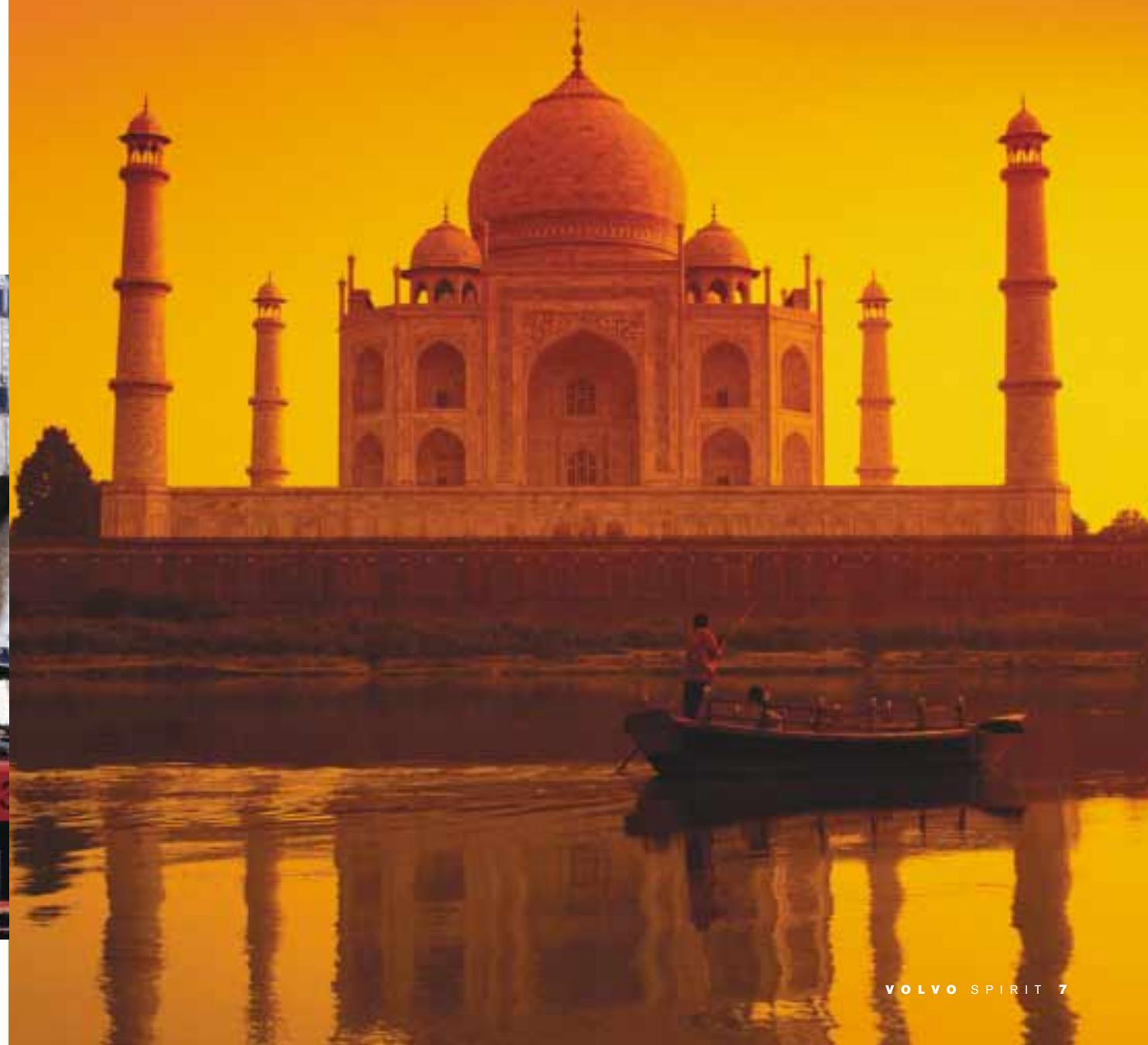
For these two Volvo workers and good friends, life is matter of teamwork on and off the field. 🏈



GLOBETROTTING

Digging deep to lay India’s new foundations

NIALL EDWORTHY and **SOHANJEET S. RANDHAWA** found out how





India, the world's largest democracy, is a land of great contrasts. There is both vast wealth and extreme poverty; there is wonderful natural beauty and a wealth of resources but also environmental degradation including deforestation, which has wiped out almost 90 percent of the country's original forest cover. The economy is extremely unbalanced with traditional village farming and handicrafts at one end and high-tech computer wizardry at the other. The weather reflects the great disparities that characterize the country. There is a tropical monsoon climate in the south and the frozen peaks of the Himalayas in the more temperate north, while droughts are as common as flash floods and severe thunderstorms.

India forms a sub-continent under the Himalayas and occupies an important strategic position in the region, bordering China, Pakistan, Bangladesh, Bhutan, Burma and Nepal. It is the second most populous country in the world after China with an estimated 1.1 billion people living in an area roughly one-third the size of the United States. The country, which gained independence from Britain in 1947, is largely Hindu (about 82 percent) but there are also over 100 million Muslims, 25 million Christians and 20 million Sikhs. Hindi is the official language but English is the lingua franca for national, political and commercial communication and there are 14 other national languages and 1683 officially registered "mother tongues".

India has recently made impressive gains in economic investment and output, particularly in the computer industry after ditching years of protectionism and opening up its markets and prompting a massive rise in foreign investment. Despite widespread unemployment, a large budget deficit and an underdeveloped infrastructure, the Indian economy can boast some enviable strengths with a massive domestic market of 800 million, cheap labor, an increasingly skilled workforce, a highly efficient textile sector and growing competitiveness in the world market.

Across the country, Volvo Construction Equipment has been quietly making its own contribution to the improvements to the Indian economy as the following snapshots of two companies illustrate.

Golden Quadrilateral Project

Across India, one of the most ambitious road-building projects in history is currently taking place. It is called the Golden Quadrilateral project and when it is completed in 2004, over 5,900 km of super-highways will criss-cross the entire country, vastly improving India's infra-structure and providing a huge boost to business.

TODAY, EVERY ONE OF OUR VOLVO WHEEL LOADERS REPLACES THREE OF THE CONVENTIONAL LOADERS

Som Dutt Builders are working on a long stretch near the city of Kanpur that will eventually link Delhi in the north to Calcutta in the east. Working to a tight deadline, the hard work is being done by a fleet of Volvo motor graders and other Volvo equipment including excavators and wheel loaders. Dr. Brahm Dutt, the company's vice-chairman, used Volvo equipment for a variety of infrastructure projects in the Middle East and came to admire its performance capabilities. Today he has over 30 Volvo machines working on the Kanpur super-highway project.

For Mr. Mathivanam, the chief mechanical engineer at the site, the greatest assets of the Volvo machines are their high levels of productivity, their operator 'friendliness', the standardization of parts and their easy serviceability.

"A good motor grader attracts good operators and that's important in this business because machine operators leave jobs at very short notice," says Mathivanam.

Coal

Coal is the backbone of India's energy economy, satisfying more than two-thirds of the country's energy needs. The country boasts the fourth largest coal reserves in the world, big enough to meet the level of today's demand for the next 250 years. Sindhu Trade Links, the largest transporter of coal for the giant South Eastern Coal Fields company, has recently taken delivery of three Volvo L120D wheel loaders to join its fleet of 10 Volvo FM7 8x4 tippers which are used to take the coal from the mines at Ghevera to the nearby crushing plant. Sindhu desperately needed loading machines that would match the capacities of their tippers and boost productivity.

After 30 days of trials, Sindhu placed orders for the Volvo L120D wheel loader with its 5.5m³ bucket, which can fill the tippers (26m³ capacity) in just three minutes. The benefits of such rapid filling are obvious. In addition to improving productivity, the wheel loaders are also more fuel-efficient and help to reduce the cost of production per ton.

"Today, every one of our Volvo wheel loaders replaces 3 of the conventional loaders", says Captain R.S. Sindhu, the owner of Sindhu Trade links. "The machines are operated over 20 hours a day and reach over 90% uptime. This is a key advantage."



SMALL PACKAGE, BIG SURPRISE

NIAL EDWORTHY asked JOHN MARSHALL for the details.



WITHOUT BLOWING THEIR OWN TRUMPET, VOLVO LIKE TO THINK THAT THEY HAVE CREATED A COMPACT WHEEL LOADER THAT GIVES THE CUSTOMER MORE FOR HIS MONEY THAN ANY OF THEIR COMPETITORS



If the biggest surprises arrive in small packages, then Volvo's new compact wheel loaders will come as something of a pleasant shock to those in the business. The beauty of the L20B and L25B lies in the balance between their compactness and low height on the one hand and their performance capabilities, power, versatility and spaciousness on the other.

Uniquely among its competitors, the L20B and L25B can operate in spaces with a vertical clearance as low as 2.5 metres and, if necessary, they can be made even lower if you take off the cab, a task that can be performed in approximately half an hour. This allows the loaders to work, for example, inside buildings.

Like all Volvo compact wheel loaders, the latest models come into their own in the most difficult working conditions. Their agility in confined spaces and mobility over rough terrain make them a pleasure to operate, increasing productivity at the same time. The wraparound counter-weight, which balances the load in the bucket, together with the oscillating/articulating joint, give the machines a reassuring stability.

A powerful Volvo in-line 4-cylinder, 4 stroke, direct injection oil/air cooled diesel engine supplies the power to these compact wheel loaders.

Furthermore, the 100% differential lock (on both axles) allows the operator to modify the machine according to the conditions, giving him superb traction on tough surfaces as well as low ground pressure on delicate ones. The models are effectively several machines in one as there are 60 different attachments, which the operator can fit with a hydraulic bracket in a matter of seconds without having to get out of his cab – Another feature, which enhances the rate of productivity.

Like a stocky Olympic weightlifter, the L20B and L25B can boast immense lifting power that belies their compactness. The L25B is capable of carrying two tons, exactly the right amount of power for handling a heavy load on the standard 'Euro' pallet, while the L20B can take 1.8 tons.

Users will also be surprised by the roominess and comfort of the cabs where the designers have squeezed in every last inch of space. There is plenty of headroom and the adjustable seat means that even very tall operators can work in comfort. The dashboard, positioned in the corner, gives an unobstructed view to the front while the ventilation outlets have been placed in front of the steering wheel, the most effective place for them. The layout of the dashboard and controls could not be simpler: all the features are clearly arranged and the warning lights provide all the information the operator requires.

The forward/reverse direction of the vehicle, as well as the hydraulic functions, are controlled by switches on the joystick to the operator's right. Large windows and narrow door posts provide an excellent all-round view which will improve safety on site. The cab also features a very wide door for easy access and exit, specially designed compartments for personal belongings and there is even a support for a mobile phone.

The designers of the L20B and L25B have done their utmost to take into account the needs of those who make a living out of operating these machines. The new models are as service-friendly as possible with all main components locked away under the raisable engine hood and are transverse-mounted (i.e. side-on) for easy access. Filters and batteries are easily replaceable while the tank's filler is wide enough for the fuel to be poured in straight from a spare fuel tank. Greasing

has become an even simpler task thanks to easily accessible lubrication points on the articulating, oscillating joint while warning lights and sight glasses keep the operator informed about the machine's essential components. Service personnel will also be heartened to discover that the service intervals have been considerably extended, saving time and money for the user. One central key for all locks makes life for the operators even less complicated.

Without blowing their own trumpet, Volvo like to think that they have created a compact wheel loader that gives the customer more for his money than any of their competitors. A highly attractive price, together with very low fuel consumption, the high quality performance and long machine service life make the new models leaders in their field. 🚧

THE NEED FOR SPEED

DAN WADDELL examines man's obsession with speed

LONG BEFORE THE UBIQUITY OF CARS, BOATS, PLANES AND TRAINS, THERE IS A STRONG CASE FOR RECOGNIZING A MAN NAMED SIMPLY MR. CORNISH – HIS CHRISTIAN NAME HAS BEEN LOST IN THE MISTS OF TIME – AS MANKIND'S FIRST SPEED FREAK.

You will find reference to Cornish in few record books, but in 1887 when the rest of the world was traveling sedately by horse, cart or bicycle, he was going faster than any other human being in the world. Head first. On a sledge.

For Cornish was the first man to tackle the infamous Cresta Run, 1212 meters (3976 ft) of unforgiving ice, winding perilously downhill from the picturesque alpine resort of St Moritz in Switzerland, head first, reaching speeds of up to 140 km/h (87mph) with his nose ten centimeters off the ground and nothing more to protect him than a pair of goggles.

Just as he triggered thousands of male imitators* who shed caution to attempt the Cresta Run every winter – and thus keep the accident and emergency department of St Moritz Hospital at full capacity during January and February – his daring, or plain recklessness – dependent on your point of view – set off a century in which man became obsessed with speed and the need to go faster.

Breaking land and water speed records are the Holy Grail of petrolheads. But speed has killed as well as thrilled. Most famous was the case of Englishman Donald Campbell, who died when his jetboat Bluebird flipped on Lake Coniston, England in 1964 while trying to break the 300mph barrier (482.8 km/h).

Campbell's death on the water failed to prevent the rise of powerboat racing, currently gaining popularity across the globe as rapidly as some of the boats travel, a number of which are powered by the Volvo Penta engines. The experience of riding a powerboat has been likened to gunning a Formula One car on slick tyres, and speeds of up to 233 km/h (145mph) have been achieved.

While the speed of light remains unbreakable, the sound barrier has been breached. RAF fighter pilot Andy Green and Richard Noble hit headlines across the world in October 1997 when they broke the sound barrier at MACH 1.002, achieving a landspeed record of 1288 km/h (763mph) on Black Rock Desert in their 'car' Thrust SSC.

If anything, our appetite for speed is on the increase. Formula One racing in Europe has never been more popular, or richer, with crowds of 150,000 flocking to tracks around the world to watch races, even though phenomenal German automaton Michael Schumacher invariably wins them all.

Rather less predictable but equally popular is NASCAR racing in North America, a contender for the dubious title of World's Most Dangerous Sport. In one tragic nine-month spell during the winter of 2000/2001 four drivers lost their lives in a string of horrific accidents, including legend Dale Earnhard Snr.

But despite, or even because of those dangers – and safety measures have been taken to prevent further tragedies – the prospects of cars with 800 horsepower being driven at speeds more than 322 km/h (200mph) will always attract fans and drivers for whom nothing is more stimulating than the visceral appeal of raw speed.

Like it or not, it is a modern obsession: From computer processors that process information in milliseconds, to microwave ovens that cook TV dinners in 30 seconds, to hurtling down three quarters of a mile of frictionless ice on a toboggan at 195 km/h (120mph) in a minute, the last century was defined by man's need for speed. 🏎️

*Women were banned from attempting the Cresta Run in 1929, after prevailing medical opinion deemed that the downward pressure on their breasts could contribute to the onset of cancer.



Cresta Run



Donald Campbell



Michael Schumacher

PHOTOGRAPH: CHRISTINNE MUSCHI/REUTERS/POPPERFOTO



Nascar



THE CAB THAT CARES

MIKAEL KARLSSON found out how

WHEN IT WAS LAUNCHED IN THE EARLY NINETIES, THE VOLVO CARE CAB WAS ALREADY A VERY UNIQUE WHEEL LOADER CAB. NEVER BEFORE HAD SO MUCH EFFORT BEEN PUT INTO CREATING A COMFORTABLE, SAFE AND OPERATOR-FRIENDLY CAB. TEN YEARS LATER THE CARE CAB IS STILL EXTREMELY COMPETITIVE.



Jonny Lindblom, responsible for cab design at Volvo Wheel Loaders explains:

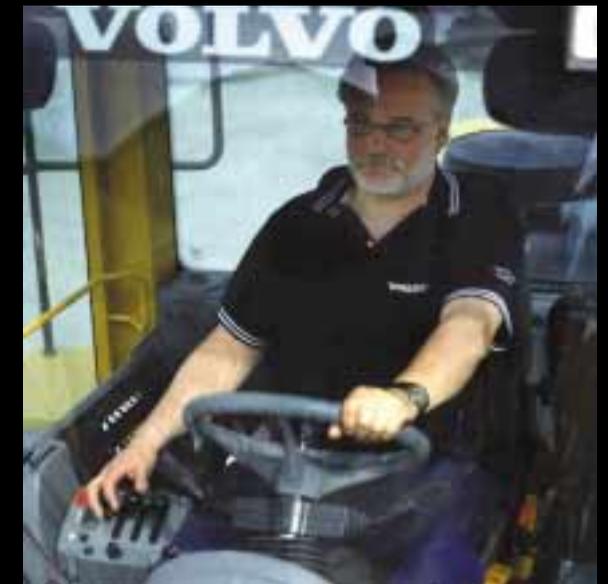
“One of the main reasons is the original, well-designed concept that gives maximum attention to the operators’ working environment.”

The development focus is, and has always been, based on the input and opinions of operators from around the globe. “We get important input from our test operators, and we visit all types of worksites to carefully study the various work situations of Volvo equipment operators. Together with ergonomics experts we video-tape and interview the operators, following a well-defined methodology,” Jonny says.

“It is important that we listen to the operators’ spontaneous comments, both on what they think is good and, more importantly, what they think could be further improved. We study operators in all kinds of applications with different patterns of body movement and behavior. The results form the basis for improvements that should exceed the operators’ expectations.”

An important contributor to the success of the Care Cab has been the high quality of the cross-fertilization between Volvo Wheel Loaders’ product development, marketing, service, production and procurement departments who all provide ideas and suggestions. An obvious example of a positive result is the excellent range of cabs for the Volvo loaders L50 to L330. The Care Cab offers the same exclusive cab interior in all machine models. This has enabled us to produce the cab in larger volumes with a high quality interior finish and low environmental impact.

WE STUDY OPERATORS IN ALL KINDS OF APPLICATIONS WITH DIFFERENT PATTERNS OF BODY MOVEMENT AND BEHAVIOR





THIS HIGH QUALITY RESULT COULD ONLY BE ACHIEVED THANKS TO THE CLOSE COOPERATION BETWEEN THE VOLVO WHEEL LOADER DEVELOPMENT TEAM AND OUR EXTERNAL EXPERTS

THE VOLVO CARE CAB HAS A NUMBER OF DISTINGUISHING FEATURES:

Entrance

The Care Cab entrance is centralized in front of a wide door opening. This, in combination with the entrance platform, the shape and design of the anti slip surface and ladder; make it easy, comfortable and safe to climb in and out of the cab.

Visibility

The Care Cab offers the operators the best panoramic view and visibility. The large windows and the smart placement of the exterior rear view mirrors in front of the cab posts allow a quick and safe rear visibility without any head turning. The very special design of the cab frame, in combination with the curved windshield, allows a unique visibility inside the Care Cab.

Seat

Volvo cooperates closely with some selected and leading seat manufacturers. Together, they developed robust, comfortable and well-fitted seats.

Levers and maneuvering

The design of the Care Cab attachment levers, steering wheel, Comfort Drive Control (CDC) and pedals have all been developed to adapt to the operator's specific needs and to the sophisticated hydraulic system and driveline performance.

The levers' well-tested response levels enable operators to operate the machine with utmost precision. They are also designed to offer various working patterns

so the operators do not accumulate strain on certain parts of the body.

Jonny Lindblom says. "We often hear operator's spontaneous impressions that 'this is really what distinguishes Volvo from the rest'.

Instruments

The central instruments are easy to read and understand. The instrument panels can be maneuvered without turning the head, even when driving in gloomy conditions. The control panel is designed like a roof with a ridge where the driver can put his hand. This enables him to move along the ridge and to easily find the right switch without looking.

Noise level

The Care Cab is very well isolated with vibration dampers, sound absorbent materials, a strong cab frame and the curved panoramic windshield that together reduce the external noise level and vibration to a minimum.

Climate control and filters

The climate control in the Care Cab can efficiently handle both extremely cold and warm weather. The optimized air distribution system enables a good distribution of the temperature and creates a draft-free environment.

The patented air filter system is one of the most efficient on the market. The fresh air coming into the cab is pre-filtered, and then passes through the main filter, providing an extremely clean cab environment.



Safety

The Care Cab has many features to prevent accidents and injuries and by far exceeds all existing safety regulations. As you would expect from any Volvo machine.

We should however never look at the cab without taking the machine into account. To develop the most comfortable seat, user friendly levers, excellent visibility, low noise level, etc., all cab functions must be developed and coordinated with many other vital wheel loader parts. "This high quality result could only be achieved thanks to the close cooperation between the Volvo Wheel Loader development team and our external experts," Jonny Lindblom concludes. 🚛

SAVE TIME WITH WASTE

PHIL MOUGHMER explains how

HISTORICALLY, WASTE DISPOSAL WAS A SIMPLE LOCAL PROCEDURE. REFUSE WAS COLLECTED AND THEN DUMPED AT A LANDFILL SITE ON THE OUTSKIRTS OF THE CITY. HOWEVER, THERE IS A PROBLEM: WE HAVE NEVER CREATED MORE WASTE THAN WE DO TODAY.





UNLIKE ITS RIVALS, VOLVO HAS BEEN FILLING A SIMILAR NEED FOR SEVERAL YEARS IN EUROPE, THROUGH ITS SPECIAL PRODUCTS GROUP



In major cities like New York, space is at a premium: landfill sites are non-existent and the cost of disposing of our refuse is becoming astronomical. More waste and less haste disposing of it has become a modern dilemma.

Faced with this problem, waste is now transported across great distances to landfill sites. But moving vast amounts of waste produces problems of its own, which is why one North American waste disposal company is using Volvo haulers as a solution.

Atlantic Waste Disposal of Waverley, Virginia, has managed to double its production and solve a number of logistical problems simply by adding modified Volvo A35D articulated haulers to its waste hauling system.

The company is involved with a project, run by Waste Management Inc. to remove all solid waste material created by the City of New York and take it to various landfill sites in the eastern US.

The Waste Management team had been pondering a problem: developing a high volume system for moving municipal solid waste from New York City to faraway landfill sites.

Specifically, the problem lay with transporting special 20-foot ISO containers from railroad cars to the dumpsite on top of the landfill cells.

At once, using Volvo A35C and A35D articulated haulers solved a swathe of problems: Hauling time was slashed by a half; maintenance costs were significantly reduced and cost per ton to transport waste was cut.

According to Billy Furcron, transportation and intermodal manager for Atlantic, the Volvo hauler has been the key to getting containers up the hill and their contents on to the ground.

Volvo haulers, with their wide based tires, can maintain a steady speed uphill, even in slippery, rainy conditions. At the dumpsite, the low ground pressure and either four or six wheel drive allow the haulers to back in closer at any point across the working face, placing the load where compactors need it most.

Another distinctive feature allows the front of the hauler to oscillate from side to side while the load is being dumped. This loosens the load, allowing it to slide faster out of the tightly packed container. Dumping usually takes less than a minute.

Given their quality unplanned maintenance work of the Volvo haulers, on the new haulers has been almost nonexistent. In contrast, highway tractor-trailer rigs constantly break drivelines and burn out clutches because they are not designed to push through soft ground like Volvo haulers.

Operator comfort is a major factor in producing steady, fast cycle times: air conditioning, a television back up system, isolation pads and ergonomic cab layout all create a well-appointed operating environment.

The solution is the result of the dedication of Billy Furcron, Tom Coleman, heavy equipment supervisor, and many others in the company who have spent the last seven years combining their expertise to try and develop the best method to handle an entire city's solid waste and transport it long distances. They went from trucks on highways and railroad boxcars unloaded by forklifts to various intermodal systems using available containers.

Recently they installed what they felt was the most efficient and cost-effective system. The company invested in its own fleet of specially designed ISO containers, 6m (20ft) by 3.6m (12ft) by 2.5m (8.5ft) with a top hinged rear-unloading door, two of which fit on each intermodal rail car.

Initially, the company started unloading these cars using standard highway trucks. The system worked but it was obviously not the best solution: maintenance was high, turn around time was long, and under the soft unloading conditions, truck stability was not up to scratch.

After much scratching of heads and deep hours of thought, Furcron and Coleman felt a better solution was the off-highway articulated hauler. These machines are designed to work on soft, unstable terrain of a construction site, which is very similar to the unloading area at the summit of a landfill cell.

Rather than buy a hauler with a construction box, several manufacturers were instead asked to table bids for producing an articulated hauler with a special frame for carrying and dumping an ISO container. The only company that responded with immediacy or enthusiasm was Volvo Construction Equipment and its local dealer, LB Smith Co.

Unlike its rivals, Volvo has been filling a similar need for several years in Europe, through its Special Products Group.

A Volvo A35C, fitted with an ISO frame made in Sweden, was integrated with the hauler at the LB Smith yard in Richmond, Virginia. Ted Dorin, the territory manager, oversaw some additions that were made during the installation: in particular, a beacon was added over the cab to indicate when the containers were locked into place on the hauler frame.

To improve stability and ensure the back door didn't hit the ground on opening, a 40-degree dump limit switch was installed. The operator has an override button, if needed, in the cab, while a container door-locking device was placed at the rear of the frame to hold the container door shut during transport and positioning at the dumpsite. 🚛

KING CANE

DAN WADDELL discovered the treasures of Mauritius and Basalt Products



ASK ANYONE TO NAME A PLACE WHERE THE BEACHES ARE SANDY WHITE, THE SEA IS DEEPEST BLUE AND THE PALMS SWAY GENTLY IN A SOFT TROPICAL BREEZE, AND PEOPLE WILL INSTINCTIVELY MENTION THE CARIBBEAN OR THE SOUTH PACIFIC. NOT FOR MUCH LONGER.



The Indian Ocean, or the Seventh Sea as people of a nautical bent know it, is rising in popularity and Mauritius is at the forefront of that ascent, providing a tropical paradise for those seeking a place where the track remains relatively untrodden.

It is famous for several reasons: over the centuries writers such as 'Heart of Darkness' author Joseph Conrad and the great American novelist Mark Twain, creator of Huck Finn and Tom Sawyer, both visited the island, fell in love and extolled its virtues in print.

But important as those literary garlands are, the real history of Mauritius is intrinsically linked with the production of sugar cane. This crop has traditionally dominated the Mauritius economy: more than 90% of the island's cultivated land is taken up with producing sugar and molasses.

Early Dutch settlers first introduced the plant into Mauritius in 1639, and by the mid-19th century, sugar production had reached 150,000 tons annually from a harvested area of just 52,000 hectares.

Initially, the industry used slaves brought in from Madagascar and East Africa. By the 19th century, slavery had been abolished and there was a chronic labor shortage in Mauritius. Since the Napoleonic wars the island had been a British colony and because of those ties, indentured laborers from British-owned India provided the answer to the expanding sugar industry's labor shortage.

Profits from the industry have allowed Mauritius to progress from a low-income agriculturally based economy to a middle-income nation. Sugar cane is now grown on 90% of the cultivated land area, accounting for 25% of export earnings, with a normal yearly production of between 600,000t and 650,000t.

WHAT IMPRESSED THE FIRM'S OPERATORS THE MOST WAS THE MACHINE'S BRAKING SYSTEM, ESPECIALLY THE LACK OF WEAR ON THE BRAKE PADS, TOGETHER WITH ITS EXCELLENT FUEL CONSUMPTION, EASY MAINTENANCE AND AIR-CONDITIONING

While the government's development strategy focuses on attracting foreign investment and building other industries such as textiles and tourism, King Cane still rules supreme, yet it has had to move with the times.

As with agriculture the world over, the harvesting of sugar cane in Mauritius is moving gradually towards mechanization. More than half of the island's fields are now harvested and watered by machine, a figure rising every year.

Mauritius, however, has had a unique problem to contend with: the island's volcanic and rocky surface, which makes it almost impossible for mechanical harvesters to operate.

Consequently, every year the fields are cleared of surface rocks prior to planting.

In the past, these rocks were piled up on plantation boundaries, eventually forming giant pyramid-shaped hills that grew higher every year.

Over the past few years companies involved in the production of aggregates have started clearing the fields of basalt rock for a price. In return, the plantations not only get their fields cleared; they also receive a percentage of aggregate profits.

For example, one such company is United Basalt Products, Mauritius' largest building materials supplier, who have been using Volvo construction equipment in their work.

For field clearing operations, UBP uses a fleet of excavators to rip up boulders and hammer them into 800 mm to 1000 mm rocks before loading them



onto trucks for delivery to their crushing plants. Many of these excavators are sub-contracted from small contractors, and include a number of Volvo EC240 machines. These 24t units have proven to be very popular with operators for this task.

In August last year, UBP took delivery of their first Volvo wheel loader, an L120D, for their La Mecque crushing facility where it works six days a week for 10 hours a day. The L120D is primarily used for loading crushed products into stockpiles. What impressed the firm's operators the most was the machine's braking system, especially the lack of wear on the brake pads, together with its excellent fuel consumption, easy maintenance and air-conditioning, a feature that is always required in tropical climates.

As a result of the work being carried out, and aided by Volvo construction equipment, most of the island's basalt pyramids have all but disappeared as a source of aggregates. Estimates vary as to how long it will take to clear all Mauritius sugar cane fields, but ten years is the general consensus. 🌱

LIFE THROUGH A LENS

BILL BAILEY met **PENG YANG** Model Maker Extraordinaire.
Photographs by **JULIAN CORNISH TRESTRAIL**

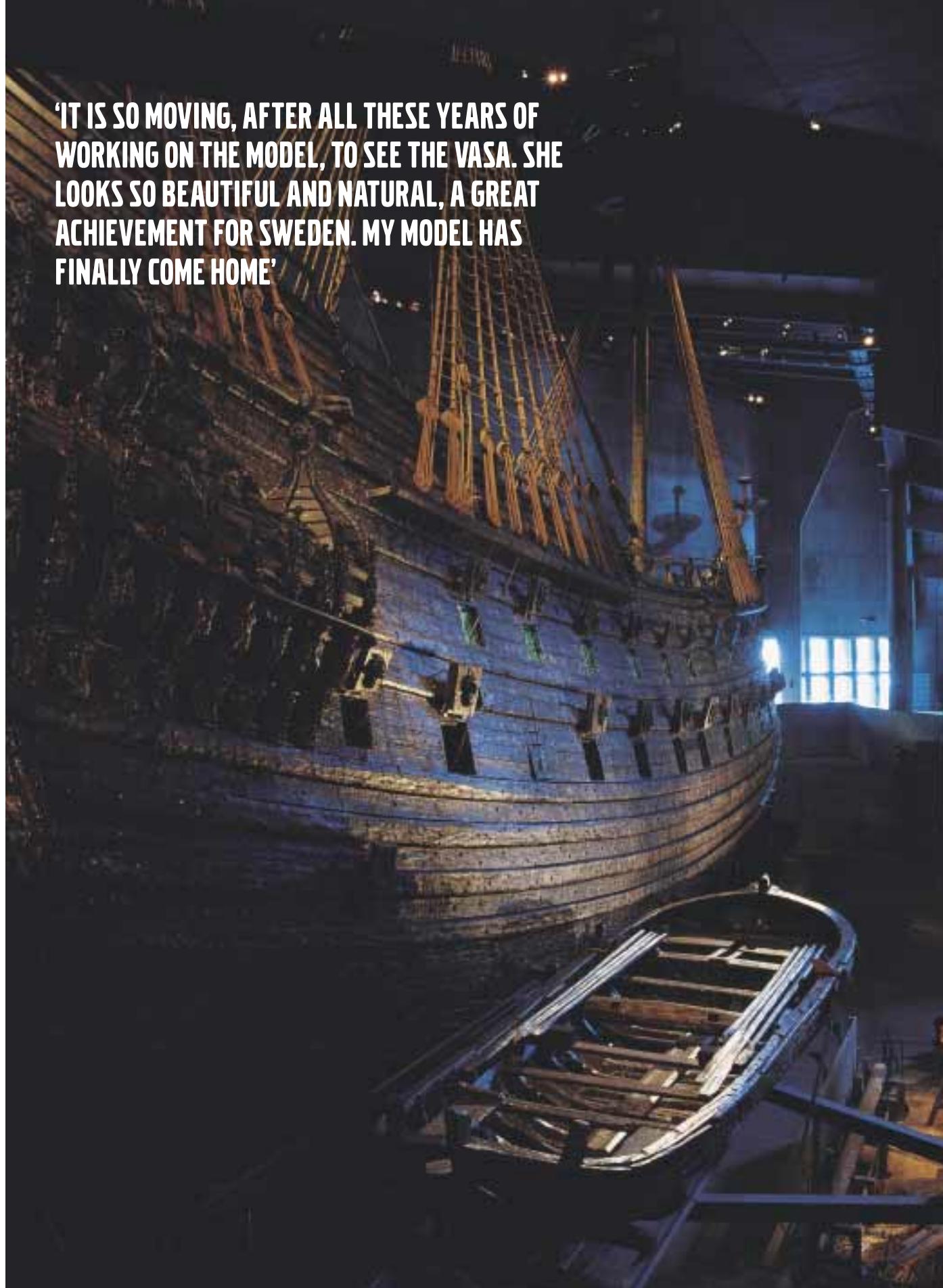
Peng Yang is a chemical engineer by day and a boat builder by night. Since the age of 12, Peng Yang, from Yin Chuan in China, has been constructing exact replicas of famous boats in exquisite detail. Now aged 35, his latest labor of love is a model of the Swedish warship *Vasa*, the only surviving, intact 17th century ship in the world. After spotting him on Chinese television, Volvo arranged for Peng Yang to travel to Sweden in June 2002 to fulfil his dream of handing over the model to the *Vasa* museum. The cargo was so special that the airline dedicated two seats to the precious model.

The model took over three years to build. Remarkably, Peng Yang's inspiration came from a children's textbook. 'I came across the book at a friend's house and was fascinated by the pictures of the ship. I really sensed the national pride in the enterprise. From that moment, I knew I had to make the model'.



Unable to read English, Peng Yang relied entirely on the watercolor illustrations to judge the scale and dimensions of the ship while using sketches of the original construction process to guide him. If you look closely at the extraordinary result, it is just possible to see that the hull is made up of hundreds of miniature planks, in best Chinese hardwood, all held in place with tiny iron bolts. The ship's ornate sculptures and carvings are copied beautifully, right down to the texture of a mermaid's hair. The figurines took a year and a half to reproduce, modeled in clay and painted in an exact match to the blazing colors of the originals.

'IT IS SO MOVING, AFTER ALL THESE YEARS OF WORKING ON THE MODEL, TO SEE THE VASA. SHE LOOKS SO BEAUTIFUL AND NATURAL, A GREAT ACHIEVEMENT FOR SWEDEN. MY MODEL HAS FINALLY COME HOME'



Peng Yang is a perfectionist: it took seventeen attempts before he felt satisfied that he had done the *Vasa* justice. 'The painting was a tense time. Having spent months building the model, it could all have been ruined at the stroke of a brush. I had to warn myself not to rush, to be patient, to experiment with the colors and with the layering of the paint.' He smiles ruefully as he admits to many disasters along the way – the quest for a stable type of wood that would not warp and his despair at losing microscopic pieces. Nothing, however, could match the disaster of the *Vasa* itself.

In 1625, at a time when Sweden was at war with Poland, the Swedish king Gustavus Adolphus ordered new warships. The *Vasa* was built at the Stockholm shipyard and was to be the mightiest warship in the world, armed with 64 guns on two gun decks, nearly 70m (233ft) long and over 50m (166ft) high.

In 1628 the ship was ready. The beaches around Stockholm were filled with spectators to watch her maiden voyage. The launch was to be an act of propaganda, showing off the power and supremacy of the Swedish fleet. The *Vasa* set sail and fired a salute. But after just a few minutes the ship began to keel over. Water started to gush in through the open gunports and, to everyone's horror, the glorious warship suddenly sank!

At the royal inquest, recriminations abounded. Eventually, it was concluded that the ship was well built - but badly proportioned. 333 years later and at the end of a five-year salvage mission, the *Vasa*

wreck once again floated in Stockholm's harbor. On the day the *Vasa* broke surface in 1961, Sweden stood still. Live television – rare in those times – broadcast the story to the world.

Over the following years, the *Vasa* has been painstakingly restored. The ship is now housed in the *Vasa* Museum, Scandinavia's most popular visitor attraction, located in Stockholm. It is an absolutely stunning sight, the *Vasa* looming majestically above as one enters the vast ship hall.

The trip organized by Volvo was the first time that Peng Yang came face to face with the *Vasa*. 'It is so moving, after all these years of working on the model, to see the *Vasa*. She looks so beautiful and natural, a great achievement for Sweden. My model has finally come home.'

At the handing over ceremony with the museum's director, Peng Yang was asked whether he had ever tested the boat in water. 'Oh no, I would never do that. Just imagine if it sank!' he joked.

Now Peng Yang is turning his energies to the future. With the help of his seven-year-old son, he is embarking on a life time project to build a model fleet of boats from Chinese history. 'My wife and son are very supportive. Model making has become a passion. We have models all over the place at home. I used to have time for other things, such as shooting for the amateur youth team, but not any more.' It is Peng Yang's keen eye and steady determination that is the hallmark of his success. It won't be long before he needs a museum of his own. 🐼

EXTREME VOLVO

DAN WADDELL went in search of Dubai's Leisure Island

THERE ARE MANY WAYS OF PUTTING YOUR COUNTRY ON THE MAP: HOSTING A POLITICAL SUMMIT IS ONE FAVORED METHOD, OR PERHAPS A MAJOR SPORTING EVENT, THE WORLD CUP FOR EXAMPLE.

The United Arab Emirates have taken the phrase more literally, however: by building two islands off the coast of Dubai, shaped like palm trees, each of them visible from the moon.



As ambition goes, it takes some beating. Palm Island will consist of two man-made, tree-shaped islands, six km in diameter (3.7 miles) and surrounded by crescent-shaped, protective barrier reefs. The island will be shaped like the fronds of a palm tree – seventeen in all – and a five-km (3.1 mile) causeway constructed from the shoreline of Dubai will represent the tree's trunk.

No detail has been spared: each 'frond' will be an artificial reef with a beach on either side, maximizing the length of coastline. They will

also feature an individual, distinctive architectural style. For the mega-rich, many of the villas will enjoy private beaches and yacht mooring facilities. Each island will have two marinas, each providing berths for 150 yachts and 50 super yachts.

The environment, claim the creators, will be similar to that of island oases such as Bahamas or Mauritius and be home to 82 luxury hotels, 4,000 residential villas, shopping malls, cinemas and the region's first marine park featuring whales and dolphins. In all, it will cost 3 billion US\$.

It is a huge project, which has been four years in the planning. At the forefront will be Volvo Construction Equipment, working in extreme temperatures of around 40°C (104°F) to help complete the three phases of construction: the delivery of 13 million tons of rock over the next 14 months to build the islands; secondly, the construction of infrastructure like roads and marinas, estimated to take a further 18 months; finally, there is the construction of hotels and villas and other commercial facilities. By 2006 it is hoped that the islands will be ready to receive their first visitors, who will be offered 'the last word in luxury'. For 3 billion US\$, one would expect the whole sentence.

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Al-Futtaim Auto and Machinery Co's Kamal Husain, responsible for Volvo Construction Equipment sales in the Emirates, expects Volvo units to be actively involved in all phases of construction from day one. "We are already supplying equipment to many of the companies providing rock and aggregates for the early preparation of Phase 1," he said.

Greek contractor Archirodon, for example, has won a key contract to stockpile and ferry rock by barges from neighboring Emirate, Ajman. It has taken delivery of two Volvo L150D's for stockpiling and loading duties.

The whole concept was conceived and announced by Dubai's Crown Prince, General Sheikh Mohammed bin Rashid Al Maktoum. Sultan bin Sulayem, Chairman of Dubai Palm Developers, managers for

the project, has reported that the initiative for the project is to fill a need for more tourist beaches in Dubai.

The United Arab Emirates is known as the 'Land of Contrasts'. For years it has tried to live up to the cliché, offering duty free shopping in contrast to Bedouin markets, and camel racing alongside the world's most prestigious horse-race meetings. Now, by building a luxury island next to the sweltering heat of the desert, the phrase seems more fitting than ever. 🌴

If you have Volvo construction equipment working in extreme conditions, let us at Volvo Spirit know. Maybe we can write about it in a future issue.



OPERATORS CORNER

SHIN SUNGEUN and NIAL EDWORTHY discovered a business for all the family

In 1990, Kim Soo-yeol took a career gamble and started an excavator rental business. He had just one machine on his books and one man to operate it – himself. It was a hard struggle at first, but Kim persevered and his enterprise has since been going from strength to strength. The business, called Dae Sung Heavy Machinery and based in Gwangyang city, currently boasts a fleet of seven state-of-the-art excavators and a team of seven experienced operators. Kim jokes that he does not know whom to thank first for his success: Volvo Construction Equipment or his wife Gui-ja! Both, he says, have played a significant role in helping the business grow from scratch. And now even his six-year-old boy is trying to get in on the act...

He can laugh about it today but Kim admits that he found launching his own company a stressful business. "Everything was very tough at the beginning," he recalls. "I actually started the business with just one excavator and I was doing an operator's job as well. "I had to learn basic knowledge on the excavators first and then quickly figure out what kind of excavator can meet different customer demands. Without my wife's encouragement behind the scenes, I wouldn't have been able to build up my business like it is today", he adds.



Gui-ja helps Kim with the business and he is grateful for her cool head and common sense, which counterbalance his more cavalier business instincts. When Kim grandly announces he wants to buy new equipment and expand the business, Gui-ja will sit down and calmly scrutinize the details of the investment plan before they make a decision. Together they make a potent business combination.

'I MUST ADMIT THAT I MANAGE THIS BUSINESS MOSTLY FROM MY INTUITION RATHER THAN CAREFUL ANALYSIS, BUT GUI-JA BRINGS OTHER QUALITIES: PRUDENCE IN PURCHASING AND ACCURACY IN FINANCIAL MATTERS. THAT'S WHY WE ARE THE BEST BUSINESS PARTNERS AT WORK'

"I must admit that I manage this business mostly from my intuition rather than careful analysis, but Gui-ja brings other qualities: prudence in purchasing and accuracy in financial matters. That's why we are the best business partners at work," he says. "We have had our disagreements when, for instance, we have had to decide the best time to purchase new equipment or when we have had to allocate rental equipment at short notice."

Gui-ja believes that their decisiveness, particularly in terms of determining which equipment should go to which job sites, has been key to the success of their enterprise. "If we were not good at this, we would run the risk of losing the confidence of customers," she says.

Kim says that he and his wife have long since settled into a comfortable business routine, each knowing what the other's role is. "Everything gets started when Gui-ja answers the phone call from a customer. She draws up the schedules for all the equipment and allocates the operators. I will have a meeting with the operators if necessary and check the

equipment thoroughly to see whether it needs any maintenance before it starts the job."

Kim and Gui-ja have two sons and a daughter and the business is very much a family affair. All young boys enjoy playing with toy cars and machines but Kim's youngest son Chang-min was playing on the real thing at the age of four. Two years on, Chang-min has learned to operate an excavator – although not quite to the standard of his father's employees! (Incidentally, Chang-min's favorite is the Volvo Compact Excavator EC55.) "Like any other inquisitive youngster he wanted to experience the machines and today I allow him to operate the excavator without worrying because I completely trust the safety and quality of Volvo excavators. I guess this is why our neighbors call us 'The Volvo family!' 🐾"



VOLVO AROUND THE WORLD

Volvo Penta has secured an order from Saudi Arabia for a total of 900 diesel engines. The total value of the order is approximately US \$21million.

The engines for Saudi Arabia will be used for various industrial applications, primarily in irrigation plants. Delivery of the engines, all of which will be manufactured at the Volvo engine plant in Skövde, Sweden, will take place during the autumn of 2002. This order consolidates Volvo Penta's strong growth as a supplier of industrial engines in recent years.

U.S. Xpress Enterprises, Inc., has ordered 500 of Volvo's new VN highway tractors from **Volvo Trucks** North America, Inc. Delivery of the VNL780 models will begin in the second quarter of 2003, and is expected to extend over a twelve-month period. One hundred of the vehicles will be equipped with Volvo VE D12 engines; the remainder will be equipped with Cummins ISX engines.

Volvo Bus Corporation's Joint Venture for city buses in China - Shanghai Sunwin Bus Corporation - marked a major breakthrough with the signing of an order for 500 Volvo city buses with one of the leading Shanghai operators, the Shanghai Ba-shi (Group) Industrial Co. Ltd. The order is valued at approximately US \$53million. The agreement includes an option on an additional 500 Volvo buses, with deliveries scheduled during the second half of 2003 and 2004.

The total deliveries of Volvo buses and coaches to China including Hong Kong will thereby this year reach more than 1,000 vehicles. The market for heavy-duty buses and coaches in China is around 12,000 units per year, making it one of the largest markets in the world. The demand for modern, clean and efficient buses and coaches is expected to grow in the coming years.

Volvo Buses de Mexico has received an order for 340 first-class and luxury coaches in Mexico from one of the leading operators of intercity traffic; the ADO Group. The new deal is a confirmation of Volvo as one of the selected suppliers to ADO as they again chose Volvo for their premium services. The value of the order amounts to approximately USD 70 million. More than 95% of all intercity passenger transportation in Mexico is done by bus or coach, which equals over 2,5 billion passengers per year. The ADO Group plays a very important role in the intercity passenger transportation in Mexico, mainly in the southern part of the country. The total operation covers a distance of nearly 700 million kilometres per year.

Volvo Trucks has unveiled an entirely new truck range for the North American market.

Volvo is the only manufacturer to have developed an all-new truck to meet the tougher EPA 02 demands that come into force in the USA on 1 October. The project represents a total investment amounting to 190 MUSD. "By utilizing our global platform, we have developed a holistic solution in which we were able to optimize each and every component to meet the ambitious new emissions requirements - while continuing to maintain the excellent transport economy that haulage operators have come to expect," says Jorma Halonen, President of Volvo Trucks.



A **Volvo Wheel Loader** as part of a work of art. A sculpture entitled "Sortir de l'eau. Passer par l'engin. Être au Calme" by Denis Poudruel was exhibited at a contemporary art event at the Chamber of Commerce and Industry in Paris. It was described as a shape escaping from the lake, growing larger as it opens up at the wheel loader ending in a safe shelter. The exhibition ran from 17th to 29th May.

YOUR VIEW

Dear Editor,

I work as a freelance salesman for a Volvo dealer in the city of Rosario, Argentina. I've had the pleasure of being able to read a couple of editions of Volvo Spirit Magazine. I thought they were very good with extremely interesting information, as a result I would like to receive them regularly and keep up to date with what's going on at Volvo.

Regards,

Jorge E Bayo
Santa Fé, Argentina

Dear Editor :

Thanks for sending me issues 2 and 3 of Volvo Spirit. I have really enjoyed reading this magazine and acquiring valuable technical knowledge about your products. These articles are very informative and useful to me. I am very curious to receive more such information about the construction industry and I will be very happy to read more this type of article in future issues.

Regards,

D. Kumar
Ahmedabad, India

Dear Editor,

I am an automotive journalist in my country. I have read the second issue of your magazine Volvo Spirit and have learnt a great deal. Congratulations, I would love to have a magazine of the same quality for Volvo cars. Please could you possibly send me issue one, or the first issue you published.

Kind regards,

Javier Suárez Salazar
Cronisa de Automóviles
La Paz, Bolivia

Dear Volvo Spirit,

I am a dealer of Volvo Construction Equipment in India. It was great to know about the launch of your backhoe loader. I am sure that like all other Volvo equipment, the backhoe loader will also be the best in its class.

I am now looking forward to the launch in India.

Saibal Bagchi
Calcutta, India

Dear Editor,

I am the head of an important construction company in Argentina and I have just received the third issue of your magazine. I would like to congratulate the people who designed the backhoe loader via yourselves. As a mechanical engineer I know how hard yet gratifying and fulfilling such a task can be.

Our company currently has many pieces of construction equipment, most of them CAT, but I would like to congratulate you again for the product you have managed to develop and I hope that in the near future some of these machines can be working in our company.

Kind Regards,

Miguel Angel Rizzi, Mechanical Engineer
Buenos Aires, Argentina

If you would like to give us Your View, we'll be glad to hear from you. Send your letter to

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