

# spirit



## THE BIG ONE

Meet the next generation



50 YEARS  
VOLVO  
HAULERS 1966  
ARTICULATED 2016

# PROGRESS IS IN OUR DNA



Since unveiling the world's first articulated hauler in 1966 we have continued to lead the way. Over the last fifty years our customer-focussed, intelligent hauler technology has revolutionised transport operations in the construction sector. Our latest innovation comes in the shape of the ground-breaking Volvo A60H – the largest true articulated hauler on the market.

BEING THE FIRST KEEPING THE LEAD

Volvo Construction Equipment



VS69 EN



spirit  
ONLINE

[www.volvospiritmagazine.com](http://www.volvospiritmagazine.com)



Spirit – Volvo Construction Equipment Magazine



@VolvoCESpirit



Volvo Spirit Magazine



Volvo Spirit Magazine



GlobalVolvoCE

## From drawing board to job site

This has been an exciting year so far for Volvo Construction Equipment with the launch of a number of new machines, not least the A60H articulated hauler gracing the cover of this issue. It is our largest articulated hauler to date, and there is no doubt in anyone's mind here at Volvo CE that it is not only the biggest, but is also the best.

Building on what they have learned over the years in developing our award-winning hauler series, members of the cross-functional team of designers, engineers and software developers have surpassed themselves with a beautifully sculpted machine that perfectly meets our customers' bottom-line demands: low total cost of ownership and high profitability.

And that is also true of the two new crawler excavators – the EC750E and massive EC950E (see pages 12-13) – unveiled by Volvo CE earlier this year at the Bauma 2016 industry trade show in Munich.

According to Director of Design Sidney Levy, the design challenge in building bigger and better machines is coming up with the extreme proportions required while maintaining the balance, grace and purposeful confidence for which Volvo machines are renowned. "It is a labor of love between us and our engineering colleagues," he tells me.

It is evident from the testimonials we receive from construction industry professionals around the world that our customers appreciate the effort that goes into giving them what they ask for. Read what some of them have to say in the articles in these pages from job sites as far apart as China and the United Kingdom, and India and the United States.

As well as being published in 13 languages, *Spirit* can be read both online and digitally. We offer extra content in the form of video reports and more photographs on the website and the free *Spirit* app for phones and tablets, available for download from the App Store and Google play. You can also catch up with us and give us your feedback on Twitter and Facebook – we would love to hear from you.



**THORSTEN POSZWA**  
Global Director  
External Communications  
Volvo Construction Equipment

Thorsten Poszwa



# IN THIS ISSUE

3

**WELCOME LETTER**  
Cross-functional teamwork adds value for customers

6

**INSIDE TRACK**  
Interview with the chief project manager for development of Volvo CE's new A60H articulated hauler

14

**UNITED STATES**  
Volvo machines are used in the revival of dormant marble mines

20

**UNITED KINGDOM**  
The stratospheric growth of a Midlands-based construction company

26

**TECHNOLOGY**  
Using anything other than Genuine Volvo Filters is a false economy

30

**CHINA**  
Volvo machines working the country's largest modern open-pit phosphorus mining operation

34

**INDIA**  
Reviving investor confidence in the road and highways sector

38

**SWEDEN**  
Customer support from Volvo Financial Services

41

**ENVIRONMENT**  
Volvo CE's commitment to WWF Climate Savers

42

**NEW TECHNOLOGY**  
Touch screen technology will revolutionize life in the cab for operators

44

**NETHERLANDS**  
A Dutch customer buys his 75<sup>th</sup> Volvo machine

49

**OPERATOR CORNER**  
Test-driving Volvo CE's articulated haulers



## ON THE COVER

Volvo CE's new A60H is its largest articulated hauler to date  
© Gustav Mårtensson

## 10 JOINING THE FAMILY

Bigger, better, stronger and faster – a selection of this year's new machines from Volvo Construction Equipment



20



6



34



49

## VOLVO CE SPIRIT MAGAZINE

June/July/August 2016 ISSUE NUMBER: 59

PUBLISHED BY: **Volvo Construction Equipment SA**  
EDITOR-IN-CHIEF: **Thorsten Poszwa**

EDITORIAL PRODUCTION AND DESIGN: **CMDR sprl**  
www.cmdrcoms.com

CONTRIBUTORS: **Amy Crouse; Jim Gibbons; Nigel Griffiths; Patricia Kelly; Sanjay Pandey; Nathalie Rothschild; Michele Travieso**  
PHOTOGRAPHERS: **Jennifer Boyles; Amy Crouse; Sujanya Das; Gustav Mårtensson; Daniele Mattioli; Edward Moss; Jonathan Nackstrand; Juha Roininen**



Please send your editorial correspondence to Volvo CE Spirit Magazine, Volvo Construction Equipment, Hunderenveld 10, 1082 Brussels, Belgium or by email to [volvo.spirit@volvo.com](mailto:volvo.spirit@volvo.com)  
All rights reserved. No part of this publication (text, data or graphic) may be reproduced, stored in a data retrieval system or transmitted, in any form whatsoever or by any means, without obtaining Volvo CE's prior written consent. Volvo Construction Equipment does not necessarily endorse the views or factual accuracy of the articles in this issue. Four issues per year – printed on environmentally friendly paper



# SECRET SERVICE

The complexities of products and procedures make for a challenging but fun job

*by Nathalie Rothschild  
photographs by Gustav Mårtensson*

**N**iklas Staxhammar has managed a range of projects since joining Volvo in 2011, but for the past year his work at the Volvo CE articulated hauler facility in Braås, a small town in southern Sweden, has been shrouded in secrecy.

As chief project manager in charge of the confidential development of the A60H articulated hauler – the largest hauler of any brand ever to hit the market – Staxhammar has faced many challenges, but says that is what makes his job interesting and fun.

“The biggest challenge when developing this kind of complex product is that there are so many people with different roles involved and, in a cross-functional manner, you have to make sure you come up with the best solution to the right cost and at the right time,” says Staxhammar.

“In such a major project it is hard to predict the challenges that may arise and so you cannot really plan for every potential scenario. What’s important is to find the right fora and the right solutions together, in a collaborative manner, and then to implement those solutions in a timely fashion.”

## TRENDSETTER

The A60H articulated hauler was unveiled at the Bauma industry trade fair in Munich in April, and Staxhammar was certain from the outset that it would make a big splash in the industry and become a trendsetter product. →



## THERE IS A DEEP SENSE OF LOYALTY AMONG VOLVO CE EMPLOYEES



From left: Håkan Brat, Joacim Larsson, Kim Sandström, Markus Lundgren, Johan Kjellander, Johan Agnehamn, Robert Alexandersson, Stig Nilsson, Niklas Staxhammar, Jonas Johansson

"I'm confident that there is a need for this product," says Staxhammar. "Previously, the challenge was that the technology wasn't advanced enough for building such a large machine and it took a long time to develop the components. But now we've seen this project through and we managed to keep it under wraps throughout the process."

Keeping the development of the A60H confidential has not been a big problem, according to Staxhammar, and that is largely thanks to his colleagues – he says there is a deep sense of loyalty among Volvo CE employees at the Braås plant and beyond.

"Of course, in theory, staff members could take pictures and post them on social media or leak information to the press, but nobody has done so. They know they would break their contracts if they were to reveal any details, but it really hasn't been an issue and it's not something we've had to point out, either. It simply doesn't happen," says Staxhammar, adding that certain procedures still have to

be followed when products and components are moved between test sites and factories or when they are shown to clients.

### FAMILY MAN

So how does leading a confidential project affect private conversation? Is it hard for Staxhammar to talk about his working day at home with the family or at dinner parties?

"Yes, I've made my wife and kids sign a secrecy deal," Staxhammar deadpans, adding: "No, but seriously, these products are so particular and complex that there is no risk of my family spreading the information or contributing to it ending up in the wrong hands."

Staxhammar is a 47-year-old married father of two, a 12-year-old daughter and son, nine. The family lives in Växjö, a town with a population of roughly 88,000. Braås – where the Volvo CE plant is located – is part of Växjö but

has just 1,500 residents. Staxhammar moved there in 2000 but has lived all over Sweden as well as in Germany, his father's country of birth.

While his job involves quite a few domestic trips, he rarely travels abroad for work. However, his passion for the great outdoors and for skiing means he spends most winter breaks on different slopes around Europe.

"I love all forms of skiing, which is why winter trips are my favorite kind of vacations, but I also do a lot of running and cycling and I love motorcycles and boats," enthuses Staxhammar.

### EXPERIENCE

He has worked for a range of companies of different sizes since graduating from the civil engineering program at Chalmers University of Technology in Gothenburg in 1997. His credentials include posts as head of logistics at

Electrolux, CEO at floor manufacturer Rappgo, production manager at Getinge – a provider of disinfectors and sterilizers within healthcare and life sciences – and deputy CEO at Stena Aluminium.

Staxhammar joined Volvo CE around five years ago, first as a consultant and then, after a couple of years, as a permanent employee.

"The main difference between working at Volvo and other companies is that, here, I get to work with really impressive and complex products that demand deep knowledge shared by many different individuals. In a way, you are a small cog in the wheel that is Volvo CE and the projects tend to be large scale. So the challenge here is to find the right paths and figure out how these different people can work together in order to advance and see projects through."

As for the A60H articulated hauler, Staxhammar says: "This is a globally unique product and to be part of developing it has been both a great honor and great fun." ▯



# WORLD FIRST

Volvo Construction Equipment has launched its largest articulated hauler to date

*Photograph by Gustav Mårtensson*



The new Volvo A60H hauler starts production in November and, initially, the company plans to produce about 200 of them a year. In an industry where more than half of all articulated haulers sold globally by all manufacturers are within the Volvo A40 size class, the new 60-ton/55-tonne machine meets a growing demand for an articulated hauler with larger capacity. The machine's higher payload – a 40% increase on Volvo's A40 models – significantly lowers the cost-per-tonne ratio for hauler customers.

“When they see the machine they'll understand the need for it in the future,” says Stig Nilsson, Technical Product

Manager. “It is a fantastic product – we are very satisfied and excited with what we are delivering.”

Pride in the new hauler is palpable amongst employees at Volvo CE's 45,000m<sup>2</sup> carbon-neutral, articulated hauler facility in Braås, southern Sweden. To date, 15 prototypes have been taken through their paces on the all-terrain test track and customers are trying out the machine in the field and delivering feedback. It has been a long process.

Workshop Project Leader Johan Kjellander explains that a 16-strong team has been working on assembly of the prototype machine. “From the first prototype, from start to finish, it has taken us three years,” he says.

The development team has spent many hours in the test cabin overlooking Volvo CE's test track watching successive prototypes being put through their paces.

“The last time we did a new size machine [the A40] was 20 years ago. It's not so often this happens, so it has been really fun to be a part of it,” says Håkan Braf, Project Manager Engineering.

The new size is a viable alternative to rigid dump trucks and construction trucks operating on soft, uneven or steep roads, allowing loads to be shifted more quickly. Articulated haulers also reduce the level of maintenance on site roads, further improving profitability. These durable machines

are built to work hard and with long service intervals and minimal maintenance requirements, the A60H boasts many of the features of its predecessors.

“We have carried out all sorts of tests to make sure it will function across all the various ranges,” explains Ken Miller, Project Manager Verification. “Everything from hardware to software has been fully verified so that the machine works throughout all its different ranges and applications and under all conditions.”

The first articulated hauler known as Gravel Charlie was originally launched by Volvo in 1966 and celebrates its 50<sup>th</sup> birthday this year. →





## WINNING PERFORMANCE

The EC750E, Volvo CE's 75-tonne class crawler excavator, offers a perfect combination of power and stability to handle higher capacity for any application. The machine is designed to achieve maximum uptime, enabling almost non-stop production, even in the toughest of environments.

This crawler excavator boasts superior digging performance combined with the ability to access hard-to-reach areas. High system pressure and durable tracks ensure greater power and ease of handling when climbing gradients and traveling over unstable ground.


Compatible with a range of durable attachments, its innovative electro-hydraulic technology operates in harmony with Volvo's Tier 4 Final/Stage IV compliant D16 engine. An integrated work mode system enhances fuel efficiency and machine performance and allows operators to choose the best work mode for the task, ensuring the correct configuration for any job.

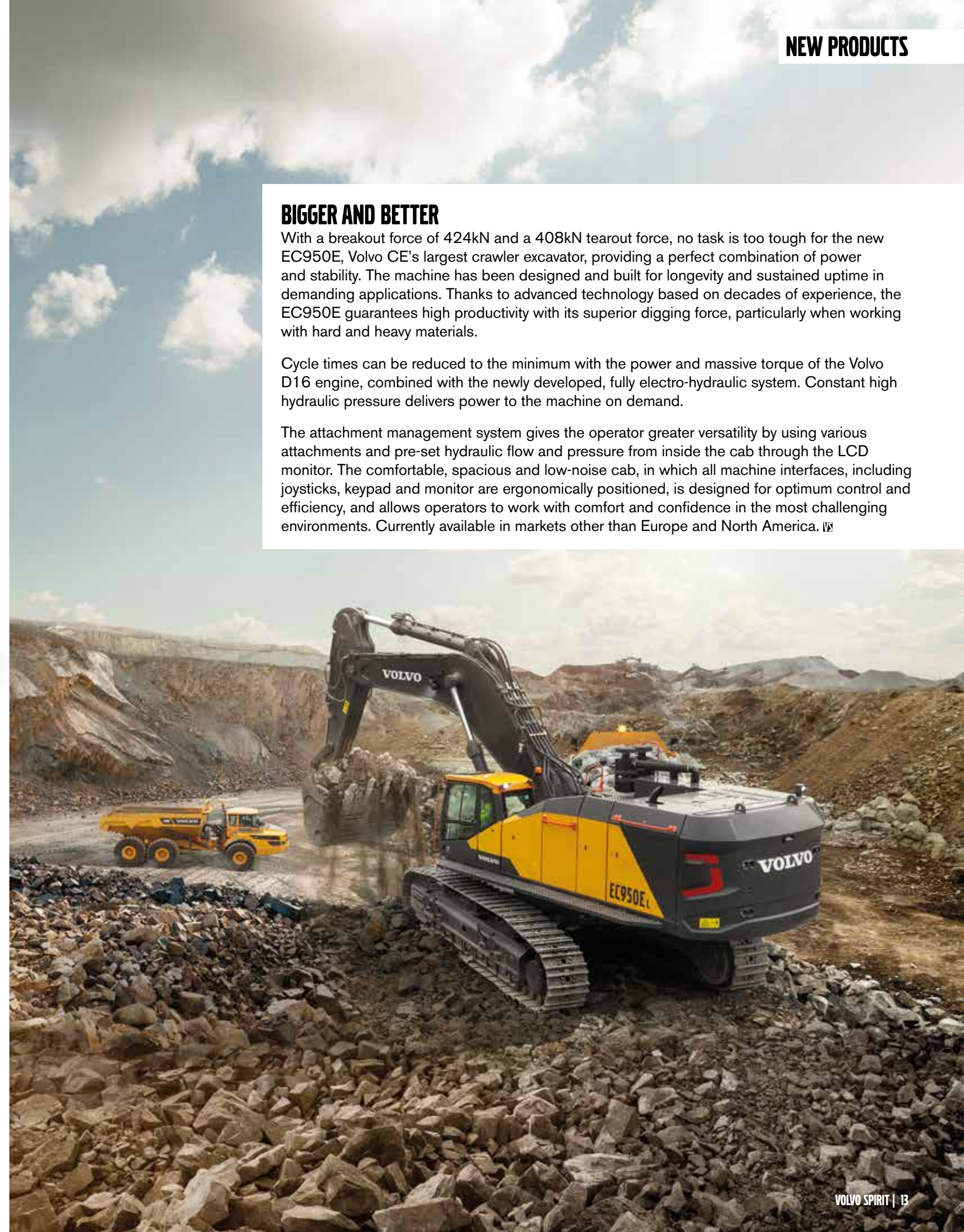
The spacious low-noise cab provides all-round visibility and has been built with the operator in mind. Designed to keep the driver alert and focused, features include ample storage and leg room, 12 air-conditioner vents and an adjustable seat.

## BIGGER AND BETTER

With a breakout force of 424kN and a 408kN tearout force, no task is too tough for the new EC950E, Volvo CE's largest crawler excavator, providing a perfect combination of power and stability. The machine has been designed and built for longevity and sustained uptime in demanding applications. Thanks to advanced technology based on decades of experience, the EC950E guarantees high productivity with its superior digging force, particularly when working with hard and heavy materials.

Cycle times can be reduced to the minimum with the power and massive torque of the Volvo D16 engine, combined with the newly developed, fully electro-hydraulic system. Constant high hydraulic pressure delivers power to the machine on demand.

The attachment management system gives the operator greater versatility by using various attachments and pre-set hydraulic flow and pressure from inside the cab through the LCD monitor. The comfortable, spacious and low-noise cab, in which all machine interfaces, including joysticks, keypad and monitor are ergonomically positioned, is designed for optimum control and efficiency, and allows operators to work with comfort and confidence in the most challenging environments. Currently available in markets other than Europe and North America. 





# TREASURE MOUNTAIN

Dormant marble quarries are revived to feed international demand →

*Text and photographs by Amy Crouse*



The towns of Carrara in Italy and Marble in Colorado are worlds apart in both distance and culture. Separated by 8,850km (5,500 miles), one is a Mediterranean port in the Tuscany region of northern Italy, the other a rustic outpost of cabins and stores set amid ponderosa pines and quaking aspen in the high-altitude Rocky Mountains.

The similarities take shape in the geology of the surrounding mountainsides. Stone originating from Carrara and Marble has been immortalized in history’s most iconic sculptures and monuments.

Carrara marble is known as the “stone of the masters” that Michelangelo carved into the statue of David and forms the Pantheon and Trajan’s Column in Rome. Yule marble from Colorado Stone Quarries, Inc was selected for the Lincoln Memorial and Tomb of the Unknown Soldier at Arlington National Cemetery.

Today, Colorado Stone Quarries is experiencing a renaissance ushered in by its parent company, Carrara-based R.E.D. Graniti. For nearly 50 years, the latter has been a global leader in discovering, extracting and marketing premium stone, operating quarries and block-processing facilities on four continents.

DISCOVERY

It assumed ownership of Colorado Stone Quarries in 2011 and holds all mineral rights to a 26-hectare section of the area known as Treasure Mountain. Within three years the company opened four additional marble galleries. “We calculate that we have 1.5 million cubic meters of marble remaining here,” says general manager Daniele Treves.

Treves and quarry master Stefano Mazzucchelli located a new vein of stone in the mountain, where a new quarry entrance has been opened and named Lincoln Gallery to honor the Italian/American connection. This new vein, Calacatta Lincoln, is now the top-selling stone worldwide for R.E.D. Graniti.

“Quarry experts know how to read the mountain and tell if the stone is good or not,” Treves explains. “We look at the cracks, the veining of the exposed stone. We can see if the stone is good or not. And sometimes, you just feel something...that you need to cut there,” he explains.

Mineral variations in marble cause colorations and veining – for example, pure limestone produces white marble, clay gives a reddish cast, and limonite a yellow/golden hue.

Colorado Yule marble, to which the nearby town of Marble with 100 inhabitants owes its name and reputation, was discovered in the 1870s and prized for its gold veining. The original entry is rimmed with primitive cuts and chiseled with the signatures of workers who sawed, loaded and hauled the massive blocks down the switchback dirt mountain road by railcar or mules. World War II brought the quarry to a

standstill, and it remained dormant for nearly 50 years. Colorado Stone Quarries employs a crew of 40 in its year-round operations and has a fleet of 30 machines that includes Volvo L350F, L330E, L120E and L90E wheel loaders, an ECR58D compact short swing radius excavator, EC340D and EC480D crawler excavators and an A35D articulated hauler.

ROUND THE CLOCK

Stone is extracted with precision cuts – there is no blasting at any stage of the process. Two Volvo L350F wheel loaders are the mine workhorses clocking up 10 hours a day.

“Both of the L350F loaders have the Volvo standard duty block handler kit and forks which can carry up to 65,000 pounds,” says Troy Langston, from the Volvo CE dealership Power Equipment Company based in Grand Junction, Colorado.

The L350F is the largest loader built by Volvo CE and is known for its high capacity and outstanding rim pull. The standard Volvo block handler kit boosts capacity for lifting and withstanding the rugged conditions of block handling. And because these loaders use the same linkage systems as standard machines they can easily be used as bucket handlers to load trucks, which is a distinct advantage over competitive machinery

equipped with shortened booms. Inside the portal, crews work on two levels. On the lower level, after the initial cuts are made, a Volvo EC340D or EC480D excavator slides deftly into place and uses its bucket teeth to coax the stones loose and gently flip them on to the gallery floor for load out by the L350F. Once the large blocks are removed, a Volvo L90E loader with pallet forks repositions the saw for the next round of cuts. On the second level, blocks are cleanly sliced from the face and extracted using the block forks on the L350F.

The by-product of water-cooled stone cutting is wet marble powder which turns into boggy mud. To beef up traction, each loader tire is wrapped in chains, which also come in handy when the L350Fs clear the mine access road after winter avalanches.

SELLING POINTS

Colorado Stone Quarries replaced the entire fleet of equipment when they purchased the mines. When the operations management reviewed bids, bottom line price was not the only factor taken into consideration. Total cost of ownership and dedicated dealer support influenced the decision to buy Volvo machines due to the heavy duty cycling work of the loaders and the remote location.

Langston adds that the Volvo 16-liter engine produces →

TWO VOLVO L350F  
WHEEL LOADERS  
ARE THE MINE  
WORKHORSES



Volvo excavators at work in the high-altitude Rocky Mountains





Each loader tire is wrapped in chains



Daniele Treves and Marco Pezzica



From left: Gary Senek, Daniele Treves, Troy Langston



The Volvo EC340D is part of a 30-strong machine fleet working the quarry



The Volvo EC480D coaxes the stones loose

higher torque at a low rpm. “On fuel costs alone, Colorado Stone Quarries can save US\$70,000 [€63,500] over four years on each L350F”, he says.

Fuel economy sold the loaders to management, but the Volvo cab wins over operators. According to David Porter, loader operator: “Basically, I move rock for 10 hours each day so I like the comfort of the Volvo wheel loader. My back doesn’t hurt and it is easy to steer with the joystick controls. I really enjoy running it. We are picking up blocks weighing more than 50,000 pounds and the power is still there.”

Two Power Equipment Company service technicians carry out preventive and routine maintenance on the Volvo units and other equipment, including the stone saws. “We chose Volvo equipment for the superior quality the machines deliver and the uptime support we receive from Power Equipment,” Treves adds.

Once the marble blocks are selected and carved from the face, they are washed and trimmed to size. Each block is inspected and approved, then loaded on to flatbed semi-trucks and hauled to a logistics stockyard in Delta, Colorado. From there, the majority are sent by rail to Norfolk, Virginia and transferred to containers ready for shipping to Italy.

When the stone arrives in Carrara it is sold to companies specializing in the supply of cut-to-size material for projects all over the world. Other blocks are processed into sized slabs and sold to wholesalers who market it to end-customers.

Fifty percent of Colorado marble is eventually imported back into the United States, while the rest is sold primarily to the Middle East. Russia, Mexico and India are growing markets for top-end marble, too.

R.E.D. Graniti’s marble expert Marco Pezzica travels to Colorado several times a year to inspect and cherry-pick the blocks that are eventually exported. “It’s very important that production matches the market request,” he says.

Three types of stone are found in the Colorado quarry. In addition to Calacatta Lincoln, Treasure Mountain also yields Statuario Colorado and Calacatta Golden. Pezzica describes a perfect example of Calacatta Lincoln as bold white with brown and gray veining and slight brownish fading of the surrounding veins. “This is what makes our material famous – and expensive – and the only place in the world we produce exactly the same type of stone as the original in Carrara is here in Colorado,” he says. ▮

## THE VOLVO 16-LITER ENGINE PRODUCES HIGHER TORQUE AT A LOW RPM

Visit the *Spirit* website or download the *Spirit* app for the video report



# GROUND-BREAKING BUSINESS

Mud, muck and machines: the stratospheric growth of a Midlands-based construction company →

*by Jim Gibbons / photographs by Edward Moss*





Dave Collins, MD, Collins Earthworks



UNITED KINGDOM

**WE LIKE THE PEOPLE WE'RE DEALING WITH AND WE LIKE THE PRODUCT**

The poet Hilaire Belloc once described the English Midlands as “sodden and unkind” and certainly nothing at Birch Coppice, near Tamworth, would have caused him to change his mind. On a massive construction site designated mainly for new commercial distribution centres, the Collins Earthworks team is busy treating waterlogged clay with lime to dry it out so that the construction machinery can operate. Even with a fleet of Volvo machines, the very wet winter has caused problems.

“Yes, it's been terrible, but we're getting there,” says Dave Collins, Managing Director of Collins Earthworks.

Collins' team is preparing the ground for two massive distribution centres on a former green-field site at Dordon, a one-time coal-mining village some 30km east of Birmingham. On one side of the site, two Volvo crawler excavators, an EC220D and an EC300EL, are breaking up massive boulders that will be crushed into small rocks for hardcore and mixed into the clay to help stabilize the ground for building.

It's not an easy task, Collins admits. “We've got lads processing the rock, crushing, breaking, riddling the muck out of it and making it a suitable fill while on the other side of the site we've got cohesive material being loaded into dump trucks and carried down to place in fill areas, ready for the building footprint to be completed.”

Collins Earthworks started out in the early 1990s but began its rapid expansion in the new millennium. Dave Collins, who started in the construction business as an operator, bought his first Volvo machine in 2004. Since

then, his fleet has soared to more than 60 and is still growing.

According to Paul King, Volvo CE's Area Business Manager, Collins' decision to go with Volvo CE followed disappointment with a competing product. “He called us in and said this machine had been a little unreliable, could we help,” King explains. “On the back of that Dave got his first 20-tonne excavator, a Volvo EC210B, which was the first machine I ever sold to him.”

## FIRM FAVORITE

King visited the Dordon construction site, along with Volvo's Regional Business Manager for Region East, Ryan Hollebhone, to mark the purchase of Collins' 50<sup>th</sup> Volvo machine, a milestone he passed in late 2015. They presented him with a scale model of a modern Volvo crawler excavator in a bottle, complete with customer signage and miniature operators.

However, it is clear from the ongoing growth of the company that Collins will soon be buying more full-sized machines. “We're up to £30 million [€38m/US\$43m] a year now, with a very good client base,” he explains.

What's more, future prospects are bright. “We're currently running about 200 people between the companies. There's a liming company, transport, training and the earth-moving side. I like to think we're successful. We're good at what we do. We have a good reputation.”

Collins Earthworks is based near Nottingham, but the company is engaged in construction projects all over the

United Kingdom. And wherever Collins Earthworks goes, its fleet of Volvo machines goes with it. “We teamed up with Volvo and it's 100% Volvo on the excavators and the dump trucks, and it works,” says Collins.

At the Dordon site, Collins Earthworks is constructing two distribution centres, one of 70,000m<sup>2</sup>, another of 40,000m<sup>2</sup>, plus an access road for the buses that will provide transport for the estimated 3,000 to 4,000 people who will work in the facilities when they are completed.

On another part of the site, two crawler excavators are loading a line of massive articulated haulers as another area is levelled, ready for building. As each hauler is filled and driven away, the next one takes its place. An EC480E is joined by the EC700C and there is also an EC700B to load massive buckets of earth into an A25F and several A30G articulated haulers.

## MILESTONE

King points out that Volvo's manufacture of articulated haulers has reached a milestone. “We're actually celebrating 50 years this year since the first articulated dump truck, known as Gravel Charlie, was produced by Volvo.” The original is now in the Volvo museum in Eskilstuna, Sweden (*see Spirit issue 58*), but these mighty new machines represent a massive step forward.

Of course, Volvo's construction machinery has to keep evolving to meet changing needs and regulations. From 2020, the engines powering non-road machinery will have to

meet the European Union's Tier 5 emission standards as the momentum for ever-cleaner engines gathers pace. For Volvo, the answer is continuous ongoing research and development, wherever the technology leads.

“There's talk of hybrids, hydrogen cells and everything else”, says Hollebhone. “The future is a little unknown, but Volvo CE is very well known for being at the forefront of technology. One of our core values is environmental care, so anything that comes along technology-wise that points towards lower emissions is very much a must for us and we're proud to usually be the first to release it on the market.”

## TOP MAN

One of the stars in the Collins Earthworks team is Phil Port who has been an operator for 12 years. He can handle any of the machines but confesses to a preference for excavators, claiming they are “easy” to drive. He has been a finalist three times in the UK heats for the Operators' Club trials for construction machine operators, winning twice and also representing the UK in the European finals, which he hopes to win himself one day. “Basically, the competitions are just challenges. It's all about your skill level. They usually get you to drive around the course and pick balls off posts and put them on other posts.”

All in a day's work for Port. And you might think that he would have had enough of mud by the time he gets home, but his main hobby suggests otherwise. “I do →





All of the company's excavators and articulated haulers are from Volvo CE



Paul King, Volvo CE



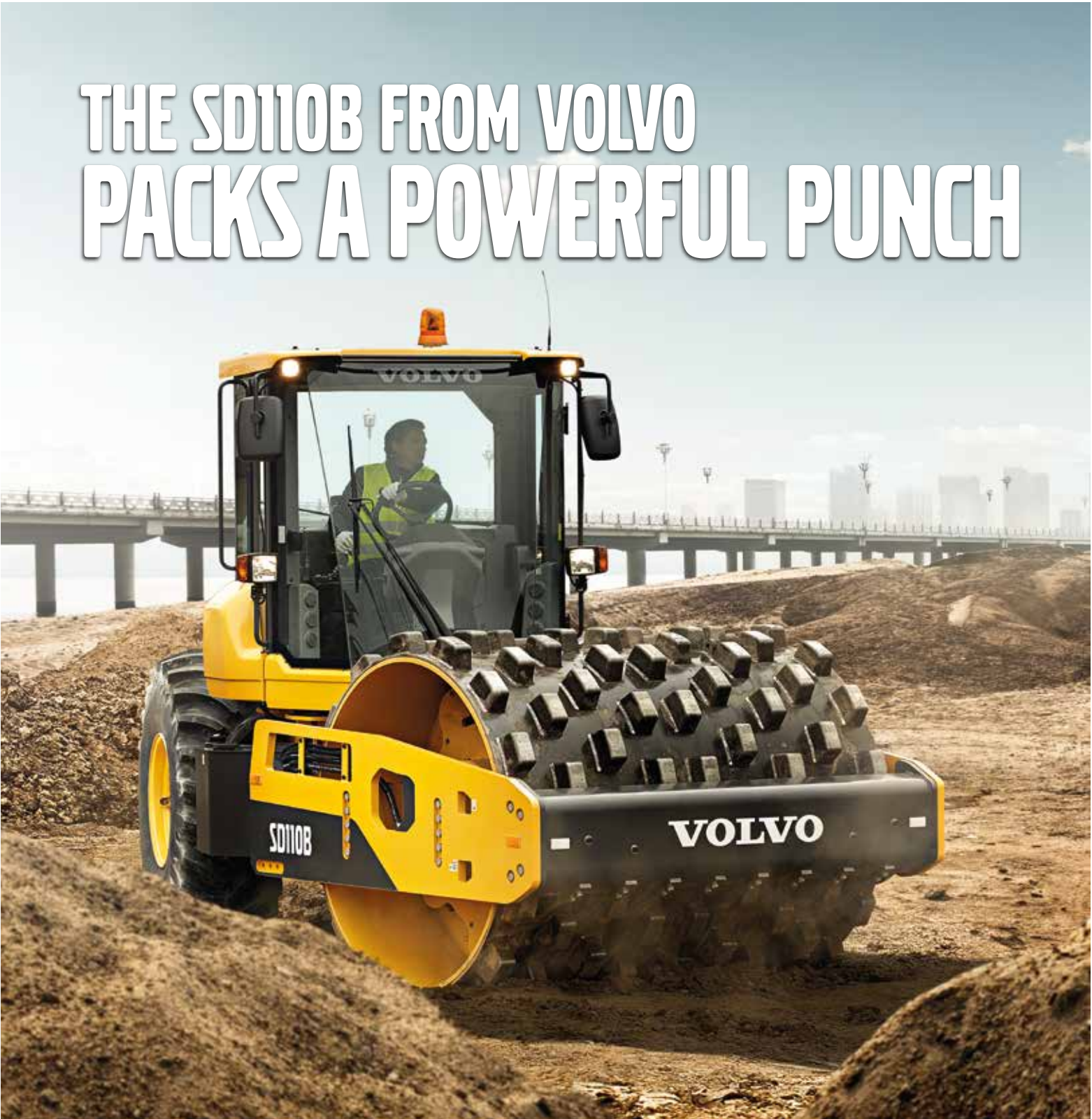
Operator Phil Port

a bit of mountain biking", he says, "although with the construction industry so busy at the moment I have been spending a lot of time at work."

That is why a comfortable work environment is important, and Volvo CE prides itself on the comfort of its cabs, where operators may spend up to eight hours a day. King says comfort is of key concern for operators. "It's a place where you want to feel comfortable and safe – all-round visibility and low noise levels are a big thing. The cab of a Volvo machine is second to none so at the end of the day the operators feel comfortable, safe and happy – and a happy employee is a good employee."

That is a view Port supports. "Volvo does seem to have got it right with what they produce and make. They're very good, efficient and comfy machines." Collins agrees. As a former operator, he knows how important safety and comfort are, although they are but a few of his reasons for sticking with Volvo CE. "We like the people we're dealing with and we like the product. The operators like the product. Resale values, purchase price - everything works. It's a nice easy one-stop shop for excavators, so we've always stuck with them."

Visit the *Spirit* website or download the *Spirit* app for the video report



# THE SD110B FROM VOLVO PACKS A POWERFUL PUNCH



VIDEO

[http://opn.to/a/SP\\_SD110B\\_A](http://opn.to/a/SP_SD110B_A)

Built for heavy-duty work, the SD110B single drum compactor from Volvo Construction Equipment packs a powerful punch – combining safety and comfort with performance, versatility and serviceability. Powered by Volvo's premium engine, the SD110B delivers superior drum performance and high quality compaction without compromising emissions. Boasting all-round visibility and high-performance features, the ROPS/FOPS certified Volvo cab is designed to make the job easier, safer and more comfortable, while the new padfoot drum adapts to varying ground conditions for ultimate productivity. Find out how the Volvo SD110B can power up your profitability.  
**[www.volvocem.com](http://www.volvocem.com)**





# PERFORMING PARTS

Top-quality machines demand top-quality parts

by Jim Gibbons / photographs by Gustav Mårtensson

To keep the human body working as well as possible, it is important to keep fit, breathe clean air and eat healthy, contaminant-free food. The same is true of construction machines. They often have to work in dirty or dusty environments, in the hot sun or the chill of sub-zero night-time temperatures, performing difficult tasks that require huge physical strength.

That is why Volvo engineers devote untold time, ingenuity and energy to designing and manufacturing filters to ensure that the air, fuel, lubricants and hydraulic fluid used are in perfect order to keep engines working at absolute peak performance.

And that applies to the operator environment, too: another filter ensures that the air circulating in the cab is also perfectly pure, providing a healthy working atmosphere. According to Saeid Hatefipour, Senior Climate System Engineer at Volvo Construction Equipment, a lot of effort goes into ensuring clean air in the cabin.

“The four key design specifications for cabin air filtration are the occupational exposure limit, the required air flow rate, the dust concentration and type, and the service interval and knowing them helps find the three main filter requirements – the amount of dust transferred, the pressure drop by filtration and the dust-holding capacity,” Hatefipour explains. But it would be ineffective to favor one of those conditions at the expense of another. “The important thing is the intersection of these three – the filtration efficiency class.” In other words, the point at which these attributes intersect is the perfect balance for maximum air-quality protection.

## MULTITASKING

A large construction vehicle needs several filters apart from the one keeping the cabin atmosphere safe and healthy: one to clean the engine oil, one to separate out water from the fuel system, one to remove other impurities from the fuel, →



**USING ANYTHING OTHER THAN GENUINE VOLVO FILTERS IS A FALSE ECONOMY**





Patrick Larsson removes a filter from an engine



Saeid Hatefipour: a large construction vehicle needs several filters



Mats Fredsson: filters have three different tasks

and another to keep the hydraulic fluid clean. All of them must work perfectly if the machine owner is to avoid costly repairs and lost working time.

“It’s important because the filters have three different tasks,” explains Mats Fredsson, Volvo CE’s Global Product Manager for Genuine Volvo Filters. “They have to filter out dust, and retain the dirt so that it can’t go around the system. It’s also important that they do this without any loss of flow, which could damage the engine or transmission, the hydraulic system or fuel system.”

Fredsson makes his point with the aid of an L150H wheel loader, its range of vital filters gathered conveniently side-by-side under a hinged cover. All the filters are important on a machine designed to work in all climates. “It is always a risk in tropical climates where fuel cannot be stored in the best way,” says Fredsson, referring to the perennial tropical issue of high condensation in fuel tanks and elsewhere. “That’s why it is extra important to have a good water separator.”

## FALSE ECONOMY

Fredsson displays two products, seemingly identical, both bearing the Volvo brand. However, only one is genuine. The one that was suspiciously cheap on an Internet site is a counterfeit and certainly not up to the task it must perform – using it could cause massive damage to the engine.

A persistent problem is the ready availability of

counterfeits or low-quality, non-Volvo alternatives openly on sale on the web or from back-street traders. They are a little cheaper, of course, but generally poorly made and unable to offer the protection required by a complex piece of earth-moving machinery.

“Anyone who buys a cheap filter on the Internet doesn’t know the source or the quality,” warns Fredsson. “They’re playing a lethal game of chance with their machine.” Operators, too, risk contracting serious diseases if the air in their cab is not adequately filtered.

Volvo devotes infinite research time and resources ensuring its filters are up to the difficult job they have to do and that they last between service intervals when clogged filters should be changed. A few years ago, investigation of a malfunctioning air-conditioning system and failed compressor on a Volvo machine revealed that the cab filters had been replaced with cheaper non-Volvo alternatives.

“Both the pre-filter and the main filter were completely clogged,” Hatefipour explains. “With a clogged air filter there is no air through the heat exchanger and evaporator which in turn affects the compressor cycle, so the oil inside the system becomes trapped.” The incident led to a major repair job and the conclusion that using anything other than a genuine Volvo filter is a false economy, leading to downtime and extensive repair costs.

Patrick Larsson, a design engineer at Volvo’s Engine Auxiliary Systems division, demonstrates the double security

method used for the engine air-intake system: two large cylindrical filters, one inside the other. “All the air going through the engine air intakes goes through this paper media,” he says, holding the larger outer air filter, “and all the particles and pollution get stuck in the media. But when the machine is serviced, or if this big one breaks, there is a safety element inside.” He puts the large cylinder beside the slimmer one, which fits inside it. “This big filter removes all the pollution and all the particles, but if it breaks – or when it is serviced – there is still a safety filter inside.”

If all this sounds somewhat obsessional, it is: members of Volvo CE’s technical team are utterly convinced that only the real deal will keep the company’s machines in the peak of health.

## SPOT THE DIFFERENCE

Take the fuel filters, for instance. Fredsson demonstrates two, one a genuine Volvo product, the other an inferior, low-quality filter. Pointing to the real one, he explains: “This is the one that will work until the next service interval.” He turns to the fake in his other hand: “This one probably won’t. It may cause the engine to stop, leading to down time.”

The two filters look disconcertingly alike at first glance:

yellow on one side and white on the other. In the genuine Volvo filter, the two coloured layers have a function. “The white surface takes care of the bigger particles and the yellow surface takes care of the smaller particles, which increases the dirt-holding capacity,” Fredsson explains.

In the low-quality version, there is only one layer: the white side is just a color wash over a yellow filter of indeterminate quality – but the customer cannot tell from

the outside and would have to cut the filter can open to see the difference. “I don’t know the price difference but I guess it’s a couple of dollars or so – I can’t understand why anyone would jeopardise their machine to save a couple of dollars.”

The Volvo team stress that genuine Volvo filters are the result of years of research to produce filters that perfectly protect the Volvo engine, the hydraulic

system and the operator. To go for cheaper alternatives puts both machine and operator at risk.

Quite apart from operator health, contractors could end up facing massive repair bills. And a broken-down machine is one that is not working and paying for its keep, which causes delays and could damage a contractor’s reputation. And that is something that is notoriously hard to repair. ▯

## VOLVO FILTERS ARE THE RESULT OF YEARS OF RESEARCH

Visit the *Spirit* website or download the *Spirit* app for the video report



# ESSENTIAL ELEMENTS

China is digging deep to feed its population

by Michele Traverso / photographs by Daniele Mattioli



The pace is fast and furious at the Jinning phosphate mine. A procession of haulers ride up and down the hill to the mine entrance on the oxygen-starved air of a plateau near Kunming, Yunnan, a beautiful mountainous region in south-western China. Everywhere, the earth is a deep red hue. At its highest part, the mine reaches an altitude of 2,450 meters, but the turbocharged engines in the endless line of Volvo A40 articulated haulers do not falter in their performance.

Phosphate is a pillar of modern agricultural practices. Most of the global production of phosphate is used in fertilizers, which are essential for sustainable agricultural production,

particularly in developing countries. While Morocco is home to 85% of global reserves, China and India – with teeming populations to feed – are becoming important players in both mining and consuming it. China's state-owned Yunnan Yuntianhua Company Ltd was created in 1965 for exactly this reason.

The Jinning mine is one of four open-pit mines owned by the Yunnan Phosphate Chemical Group Company, itself a subsidiary of Yunnan Yuntianhua. Together, these four mines make up China's largest modern open-pit phosphorus mining operation. With a fleet of 40 Volvo A40 machines – a combination of D, E and F series – the operators appear

to be moving huge quantities of earth, although with production of about six million cubic meters per year, this is still considered to be a medium-sized operation.

Production is relatively simple. First, explosives break up the terrain, and then the haulers take the aggregate to a collection site where it is ground down. Finally, a 13km conveyor belt delivers the mineral to a refining site.

## DONE DEAL

On the ground, the entire mining operation relies on a large fleet of articulated haulers working in tandem with a



Machine down time is low



Li Yao Ji, Yunnan Phosphate Chemical Group Company General Manager

few excavators. Purchasing decisions are made by Yunnan Yuntianhua with input from operators working at the mine. They all agree: "We choose Volvo – mainly for efficiency and safety."

In the past, the company invested in other local brands but says this resulted in numerous maintenance issues, which were considered to put the safety of operators at risk. A tendency for those machines to tip over was blamed for accidents, which have on occasion proved fatal at this and similar mines. One of the main challenges for drivers is maneuvering around the tight uphill and downhill bends. It is not hard to imagine the consequences of fully-loaded ➔





Stiven Duan, of Volvo CE dealer Centec



The haulers run 18 hours a day



There is a rapid turnaround of maintenance parts

haulers working in close proximity coming into contact with each other on the wind-blown, steep gravel road leading to the top of the mine.

## DEALERSHIP

The number of serious accidents drastically diminished when the Volvo articulated haulers arrived on the scene, assisted by training developed in tandem with the Volvo CE dealer Beijing Century Development Technology Inc Co Ltd (Centec).

The dealership has a newly built maintenance center situated between the mine and the city, which means a rapid turnaround of maintenance parts. Centec president Stiven Duan says that although the Volvo machines come with a higher price tag than some other brands, they end up saving their owners money.

“These haulers will pay for themselves relatively quickly because they consume less fuel and have less down time and fewer breakages than the machines they were using before,” he explains.

Li Yao Ji, Yunnan Phosphate Chemical Group Company General Manager, agrees: “In the past 10 years, since we

started to use Volvo equipment and training, the gain in efficiency has been around 20-30%,” he says.

There are usually around 25 haulers operating on any given day. Nevertheless, the haulers run for 18 hours a day, spread over three shifts, which means that on average they cover 270km each day, 365 days a year. With an average of 2.5km between collection sites, the machines rack up the mileage very quickly.

Naturally, the figures fall significantly during the wet season, between June and October, as does productivity at the mine. Outside the makeshift office perched on top of the hill, a gigantic mound of slippery mud on the plateau illustrates why this is considered to be the harshest of Jinning's mines.

The company has also acquired three EC700BL excavators to explore the bottom of the pit. The aim is to determine whether or not the vein of phosphate is present at that depth.

“The demand for most raw materials has plummeted in the past few months due to the slowdown in the economy,” explains Duan, “But demand in this sector remains stable because of the ongoing need for phosphate in agriculture.”

**THE GAIN IN EFFICIENCY HAS BEEN AROUND 20-30%**



# ALL IN GOOD TIME

Laying down India's road to development →

*by Sanjay Pandey / photographs by Sujanya Das*







Bharat Vanijya's Gokul Agarwal

The government in India has recently introduced a number of measures to expedite stalled or lagging construction projects, and to revive investor confidence in the road and highways sector. The country's road and transport ministry has set up a review committee that meets every month to take stock of progress.

With government plans to increase the pace of road construction to 30km a day, as against the previous rate of just 2km, construction companies are under pressure to finish projects on time or even before the deadline.

This is where the company Bharat Vanijya, headquartered in Kolkata, India's second largest city, is making a name for itself. "Early completion of a project allows us to go ahead with another project while improving company turnover and sales figures at the same time," says company director Gokul Agarwal.

He acknowledges the major role played by Volvo Construction Equipment in the company's success. "Thanks to our Volvo machines, our increased capacity helps us to complete projects on time," says Agarwal. "Over the past decade, we have used numerous competing brands of equipment on various worksites. However, experience has taught us that Volvo's high productivity and efficiency contribute to our timely completion of projects which is always well appreciated by our clients," he explains.

## FLAWLESS

Although the capital cost of a Volvo CE purchase may be slightly higher than some other machinery brands, Agarwal says the company tends to look more closely at fuel efficiency and productivity and weigh up the benefits.

"We compare all the figures, including depreciation, capital cost, investment cost and maintenance, and expenditure is quickly recovered thanks to Volvo's flawless performance."

There are currently 11 ongoing World Bank-funded projects across India's road network. Bharat Vanijya is working an 84km stretch from Bankura to Purulia, the only such project in the state of West Bengal in eastern India, extending across two impoverished districts. With connectivity being a basic tool of development, projects such as these have a socio-economic impact and are designed to foster a better economic and business environment.

"We were given 30 months to complete the work, using a fleet of Volvo machines," says Agarwal, who forecasts the



## EXPENDITURE IS QUICKLY RECOVERED THANKS TO VOLVO'S FLAWLESS PERFORMANCE

project will be finished within 22 months, saving almost eight months. This is no idle boast: the company has already completed three major projects in the same district in less than half the time allocated.

"Early completion not only helps improve the company's image, but also helps it to save a considerable sum of money," says Agarwal.

## TEAMWORK

The company's equipment includes 16 Volvo EC210B excavators, 7 SD110 soil compactors, and 3 DD100 asphalt compactors. The Volvo fleet is completed by a PTR220 pneumatic tire roller, an HB22 rock breaker, a P4370B wheeled paver and a P5320B asphalt paver.

As Bharat Vanijya builds its Volvo machine fleet, its confidence in Volvo CE also grows and Agarwal points to the reasons being superior service, efficiency and productivity.

With 52 people on the engineering team, including seven mechanical engineers, the project began in September 2015. In total, around 470 people are working around the clock on the carriageway, plus an additional 250 unskilled and semi-skilled laborers also hard at work.

Agarwal estimates that Bharat Vanijya almost doubled its target for the beginning of March, thanks to the combined efforts of the company's team and machines working closely together. "Client satisfaction comes with progress and quality – we have achieved that in the past and are doing it again with this project."

The existing two-lane road is 5.5m wide and crosses numerous waterways via seven major bridges and approximately 84 small cross-drainage structures.

The task involves construction of a flexible pavement of up to 10m wide in some places.

For road projects such as this, having built up the company's fleet of Volvo machines over several years, Bharat Vanijya has worked closely with Volvo CE to train its operators.

"Volvo has got a very good plan of action," says Agarwal. "When they sell the machines they also train the operators to use them. For example, paving machines have sophisticated sensors and require trained operators to use them properly - Volvo has set up a program to train paver operators."

The Volvo machines, checked over once or twice a week as recommended, continue to run smoothly in spite of being



Here and above: Volvo EC210B excavators at work

put to work daily for up to 15-hour stretches at a time.

"Another machine brand might require servicing after 250 hours, but with Volvo it might be 400-500 hours," says Agarwal. "A 14-15 hour a day with another brand, means the service time might come within 15 days, whereas for Volvo it would be more like 25 days." ▯

Visit the *Spirit* website or download the *Spirit* app for the video report





## SIMPLY SUPERIOR TO ALL OTHER EXCAVATORS

Christer Ohlsson cuts a trim business figure in his brown leather shoes, slacks and navy jacket. A handkerchief is carefully tucked into his breast pocket. The machine entrepreneur, whose company covers transport, contracting and sanitation, employs 370 people across southern Sweden, making him a key employer in the region.

The sun shines brightly into the large windows of Ohlsson's spacious top-floor office at his eponymous company headquarters in Landskrona, a late-medieval town with a population of roughly 33,000. Although Landskrona has just suffered days of relentless wind and sleet, the office windows are spotless, as are the rest of the sparkling premises.

"I grew up in this industry," says Ohlsson, "and I'm privileged to be able to work with what I like the most. I've been part-owner of a haulage firm since the age of 22 and I started this company in 1998."

Thirty of his company's 50-strong construction machine fleet bear the Volvo brand, while on the trucks side the figure is 80 out of 240 vehicles. To date Volvo Financial Services Nordic has financed 45 of them.

The partnership between Ohlssons and VFS goes back a decade, and about a year ago, VFS began to finance Ohlssons' construction equipment acquisitions in addition to trucks.

"The biggest advantage with Volvo machines is that they are secure and reliable," says Ohlsson. "We seldom have unplanned interruptions in our work and that of course makes life easier for our machine operators, who also feel a sense of pride in working with modern equipment of a quality brand."

That sense of pride is in evidence by employees posing for each other's cameras next to three shiny new Volvo L70H wheel loaders that have just been delivered to the headquarters.

## JUST THE BEST

One operator, Håkan Friman, has been with Ohlssons for more than a decade. Currently, he is working a site in Landskrona where 11,000 new homes are to be built. It is early stages yet and the land is still being excavated. Friman, 55, describes the Volvo EC220DL excavator he uses as a flexible, smooth and easily operated machine.

"It's simply superior to all other excavators I've worked with," says Friman who adds that he thinks the best aspects of his job are the "good people" and the company's "excellent fleet of machines".

Site manager Thomas Nilsson – who has been with the company since the start – says he has an excellent rapport with the workers and no day is the same in his job. As for the Volvo excavators, Nilsson believes the operators are so pleased with them partly because of the low noise level.

"They are quiet machines and that is significant. The construction workers like that and it seems they're not alone," says Nilsson. "The site where the new homes are being built is in a residential area and we've not had any complaints. It's a good sign when nobody gets in touch!"

Ohlssons has purchased a large number of its Volvo fleet – both trucks and construction equipment – with →

# DEALS ON WHEELS

There is a strong partnership between Volvo's financing arm  
and its leading equipment brands

*by Nathalie Rothschild / photographs by Jonathan Nackstrand*





Ohlssons site manager  
Thomas Nilsson



Entrepreneur and company  
owner Christer Ohlsson



Per-Olof Olsson, VFS Nordic



Thomas Svärd, Swecon

support from VFS. The two first linked up in 2006 when VFS helped the company buy a number of Volvo trucks. In 2015, VFS stepped in again to help finance Volvo machines provided by dealership Swecon, a move which VFS Nordic sales manager Per-Olof Olsson describes as signifying a unique “synergy effect”.

“It goes to show that there is great potential for us to accommodate the purchase of both trucks and construction equipment by Volvo.”

Christer Ohlsson agrees: “By becoming a Volvo client we also got the opportunity to implement a broad deal with regards to buying and financing equipment using a quick and smooth process. As a buyer, it’s always a good thing to secure the financing through the manufacturer. It gives us a certain security. If something were to go wrong, then we have an additional lifeline, so to speak.”

## GOOD CONDITIONS

VFS has helped his company grow by “offering good conditions at a reasonable price”, he says.

“The idea is that when Christer buys a Volvo product, we should be able to provide a financial solution that he feels satisfied with. It’s about offering to deliver the hardware and the financial services in a single package,” VFS’s Per-Olof Olsson explains.

Ohlssons is also in the fortunate position of receiving significant service from Swecon, which has between

10 and 15 service vehicles in circulation in southern Sweden. “This gives Ohlssons a sense of security,” says Swecon’s Thomas Svärd.

“We focus on proactive service with built-in surveillance systems in the machines. The operators will be aware of when the time for service is getting near. That way, site managers can call us up and make the appointment in good time and avoid having inactive vehicles,” Svärd explains.

## GREEN CREDENTIALS

He adds that Swecon has launched eco-drive courses for machine operators who are then awarded a certificate as

proof they have undergone the training. That, says Svärd, boosts the status of the profession, and Ohlsson agrees, pointing out that as a company that works a lot in the environment sector it is important to be as green as possible.

“We recently purchased these three L70H wheel loaders with financial assistance from VFS and the low noise level is striking.

Moreover, they are equipped with the most up-to-date technology, with emission control devices and AdBlue, which means that the CO<sub>2</sub> emissions are virtually non-existent today.”

In terms of energy saving, Volvo is unbeatable, Ohlsson concludes: “I’ve been in this business my whole life and I can guarantee that when it comes to low hourly running costs, nothing beats Volvo wheel loaders.” ☐

## MODERN EQUIPMENT WITH A QUALITY BRAND

# THE VALUE OF GOING GREEN

Driving down CO<sub>2</sub> emissions

Innovations in the wheel loader product platform are delivering significant reductions in the company’s overall carbon dioxide (CO<sub>2</sub>) output, helping Volvo Construction Equipment meet its commitment to the WWF Climate Savers program.

Volvo CE’s partnership with the WWF’s Climate Savers program is designed to reduce emissions both from production and products, consequently helping cut CO<sub>2</sub> emissions across the entire transport sector.

This commitment is more than just good intentions – Volvo CE is putting both its brain- and horsepower into initiatives to drastically reduce particle and NO<sub>x</sub> emissions, as well as CO<sub>2</sub>, while increasing fuel efficiency.

“These good results derive from new engine technology and the use of the OptiShift system, a lock-up converter combined with the Volvo CE RBB [reverse by braking], with advanced controls on top of that,” says Anders Torssell, Volvo CE’s Eskilstuna-based business planning manager for wheel loaders.

“The main difference in our latest generation of wheel loaders is the new engine,” he continues. “Obviously the engines have improved over time because of legislation, but the latest models have made big reductions in emissions possible with increased fuel efficiency.”

## MORE FOR LESS

According to Torssell, further improvements to the transmission and how the machine operates during different applications have also increased fuel efficiency, machine efficiency and productivity. “This means we can move a lot more material for a lot less effort,” he says.

“With a typical machine, such as an L120H, fuel efficiency has improved by 5-20% depending on the application and

specification of the machine. With an average use of 2,000 hours per year and around 12 liters of diesel per hour, this reduces emissions significantly,” he explains.

OptiShift, for example, has been designed to increase operator comfort and machine durability, while optimizing fuel savings by up to 15% in applications such as load-and-carry.

Combined with the RBB system and the new torque converter with lock-up and free-wheel stator, the result is increased fuel efficiency and durability, higher productivity and better hill-climbing performance.

“The biggest benefit to our customers is in total cost of ownership, fuel efficiency, productivity and operability. But, most important is the environmental impact of reducing emissions and improving fuel efficiency,” says Anders.

“For Volvo, this means staying ahead of the competition by improving our machines’ efficiency and productivity, while having a positive impact on the environment, which ultimately benefits us, our customers and the planet,” he continues.

“These improvements allow Volvo CE dealers to put together a more comprehensive and complete package for their customers which offers them real benefits.”

Volvo CE’s wheel loader production facilities in Sweden, the US, Brazil, Germany

and China are constantly being upgraded with the most efficient production methods to help reduce their environmental impact.

“We’re continually looking at new materials and components that require less energy to produce, are more environmental friendly and can reduce our environmental footprint,” Anders says. All of which ties in perfectly with the Volvo’s core values of quality, safety and environmental care. ☐

## VOLVO’S CORE VALUES ARE QUALITY, SAFETY AND ENVIRONMENTAL CARE





Photo © Juha Roininen

Jeroen Snoeck

# FRONT-LINE REVOLUTION

The future has arrived for machine operators

by Nigel Griffiths

Unveiled by Volvo Construction Equipment at this year's Bauma trade fair in Munich, Germany, was a compact Android touch screen – the Volvo Co-Pilot – designed to revolutionize life in the cab for operators.

The cab of a modern construction machine has become a busy place with a wealth of important digital and visual information directed at the operator from sensors positioned around the machine.

Volvo CE has come to the rescue with a single programmable 10" touch screen which replaces many consoles with just one, greatly improving productivity and reducing stress.

"For operators, Volvo Co-Pilot means fewer displays in the cab and a focus on the key information they need to work safely and most productively," says Jeroen Snoeck, Director, Business Platform Solutions, who participated in the project.

Many of today's construction machines are fully GPS enabled and equipped with a number of sensors which help monitor parameters such as bucket depth, load weight, and a myriad of other crucial functions.

"By using Co-Pilot the operator can fully control the information being fed to the cab. This will help boost productivity, uptime, fuel efficiency and safety," Snoeck explains.

The Co-Pilot and its applications have been designed using an iterative process that allowed Volvo CE to observe how different types of customer are using the system.

"This collaborative way of working gave us a deep understanding of customer requirements as well as uncovering needs that were not foreseen when the project started," explains Volvo CE's Director of Design Sidney Levy.

The apps are intuitive enough to operate with minimal training. Just as a smartphone can be customized, the Co-Pilot console can be loaded with a series of dedicated Volvo apps. Leading the way will be Pave Assist, Compact Assist, Load Assist and Dig Assist, with many more planned for the future.

"Solutions such as load weighing and machine control are normally retrofitted by third parties, which can lead to problems," says Snoeck.

Levy adds: "By developing the Co-Pilot solutions in-house we can make sure that we are delivering a best-in-class design by creating a consistent experience for the user in both digital and physical activities."

## PLATFORM CHANGE

The Volvo CE Service Store will be a one-stop shop for these apps. The Volvo suite of Assist applications and associated features have only just come into play and represent a relatively low investment in return for increased efficiency and profitability.

The 10" in-cab display is the visible part of a smart platform that will provide access to a whole range of apps dedicated to specific construction activities. "We are now leading the industry with the platform idea," Snoeck enthuses. "The younger generation of operators will love it." As with a regular smartphone, operators can tap, pinch or drag, and customize functions and settings in seconds.

The data gathered by Co-Pilot is also important for fleet managers. Instantly available information on volume shifted, time taken, etc. can lead to quicker billing for owners and the tracking of stockpiles. The stored data is easily exported, and detailed information about machine performance and productivity can be extracted and analyzed to identify areas requiring improvement.

## VISION 2020

The Volvo Co-Pilot is one outcome of Volvo's Vision 2020 initiative and will initially be launched through a group of dealers in Germany, Austria and Switzerland. It has taken just 30 months to develop the Android console and the custom apps.

Dealers have an important role to play in training customers to use the Co-Pilot applications and are being brought up to speed on the new technology and its potential.

"Our dealers will be on the front line and the direct interface for advising their customers on these operating aids and training them where necessary. This will enhance the service offered by dealers to their customers," says Snoeck.





# FIRM ALLEGIANCE

A loyal fan of Volvo articulated haulers is repaid with steadfast service →

*By Nigel Griffiths / photographs by Jennifer Boyles*







Day-to-day maintenance is undertaken on site



Cabs are personalized by operators



Gerard den Hartog (left) with Bernhard Zoutewelle of Kuiken

Earlier this year the Dutch earth-moving contractor Gebroeders Den Hartog took delivery of a Volvo A30G – the company’s 75<sup>th</sup> Volvo articulated hauler.

Based in Andelst in the eastern Netherlands, the company has been in business for more than 50 years and a customer of Volvo dealership Kuiken for some 42 of those. With a reputation for flexibility and hard work, Den Hartog is a family concern owned by four brothers and a nephew that started out in farming with their fathers before diversifying into construction equipment in the 1970s, offering its customers a 24/7 service.

The majority of the Volvo machines bought by Den Hartog over the years have been articulated haulers. “We have chosen Volvo machines based on quality, trust and service,” says company CEO Gerard den Hartog. “Price is also important, as is the outstanding maneuverability of the machines for the operators. “The A30G we received in January is the best size for the Dutch market, given the tire size, floor clearance and fuel consumption.”

The company’s current fleet includes five A30G articulated haulers, six A30Fs, an A25G, an A25D and L110H and L90F wheel loaders.

The machines are on the road across the Netherlands every day to support road and rail projects, the construction of water defences, landfill and even golf courses.

Getting quickly from site to site is no problem for the

Volvo A30 range. Whether empty or full, the haulers travel rapidly and safely and ensure optimize production time.

The Volvo dealership is justly proud of its long and productive relationship with Den Hartog, says Bernhard Zoutewelle of Kuiken. “We have a historic relationship with Gerard den Hartog based on trust. The company needed an integrated solution provider offering a 24/7 service, a role that Kuiken could fulfill. And after buying 75 machines from us, the company has evidently been satisfied with our performance,” says Zoutewelle.

It is a two-way relationship with the Kuiken dealership, which draws on Gerard den Hartog’s experience to test out new developments and concepts – as an experienced owner he is valued highly for his feedback.

“Gerard knows everything about his market and the different types of machines. He thinks Volvo are the best articulated haulers and that’s why he has chosen Volvo time and time again,” says Zoutewelle.

## LOADED

Launched in 1966, the articulated-hauler concept was pioneered by Volvo, which revolutionized the hauler by developing an independently driven trailer, designing it without an axle and introducing hydraulic articulated steering. The original was known as Gravel Charlie,

and Volvo CE remains the industry leader.

Today in its 50<sup>th</sup> year, Volvo CE’s articulated hauler collection now features seven models ranging in capacity up to 60 tons (*see the **Spirit** cover story p.10 about the new A60H*). The new G-series haulers incorporate state-of-the-art technology and innovative features to enable them to safely maneuver, travel, pick up and dump the load efficiently and safely. The machine features automatic self-leveling, is stable at high speed, and offers fast dump cycles.

Constructed of HB400 steel, the hauler’s body has the strength to withstand years of impact loading. It is easy to load using any loading equipment. The hauler’s dumping system includes a long-tailed chute and high tipping joint, making it possible to place the load in exactly the right position, even on downhill grades, into a hopper, or over an edge.

“The Volvo A25G and A30G articulated trucks are highly flexible machines able to work in a wide range of applications,” says den Hartog.

Particularly appreciated by the company’s operators in the new G-series are the outstanding machine control, precision and stability. Visibility from the cab scores highly with operators who are able to work at speed and with a high degree of safety.

The G-Series features two reverse gears, which set it apart from competitors, allowing operators to reverse fully loaded up inclines with power, speed and precision. Given the

notoriously heavy Dutch clay these machines frequently have to shift, power is an important factor.

## HOME SWEET HOME

Den Hartog says that his operators treat their haulers like a home-from-home: they respect and love the machines they work with every day and often give them the personal touch. Many are personalized by the operators with carpet and

other interior decoration.

He gives them full responsibility for their machines, monitoring performance and maintenance. And the reward for good work, he says, can often be a new machine.

Day-to-day maintenance of the fleet of machines is undertaken on site. Using solely

Volvo machines simplifies the stockage of maintenance parts.

“Working as we do 24/7, if we have a technical problem, it is vital we have Kuiken at the end of the phone to jump into their vans and bring us the solution,” says den Hartog. As a hands-on manager, he constantly discusses machine performance and productivity with his 15-strong team.

“I know what the operators want,” he says. “Comfort and visibility are important to the operator. While my personal focus is on the total cost of ownership, I know that a happy operator means better productivity.”

## A HAPPY OPERATOR MEANS BETTER PRODUCTIVITY

Visit the *Spirit* website or download the *Spirit* app for the video report





# 100% VOLVO

**KEEP  
YOUR VOLVO  
A VOLVO**



Genuine Volvo Maintenance Parts are designed to increase machine longevity and decrease the cost of ownership. They maintain the high quality of all Volvo machines and offer optimized service intervals to maximize uptime and increase productivity.

[www.volvoce.com](http://www.volvoce.com)

**GENUINE VOLVO MAINTENANCE PARTS**

**Volvo Construction Equipment**



## THE TEST PILOT

All Volvo machines sold are fully tested by professionals

*by Patricia Kelly / photographs by Gustav Mårtensson*

Just about every machine operator in the world has someone like Johan Agnehamn to thank for keeping them safe. Agnehamn, 32, a mechanic in the development workshop of Volvo CE's articulated hauler facility in Braås, southern Sweden, has the enviable task of test-driving Volvo's articulated haulers.

"It's better that we test them and break them than our customers," he says with a self-effacing shrug.

After spending many hours behind the wheel of Volvo CE's new A60H articulated hauler, the largest of any brand on the market, Agnehamn says he thinks the machine will definitely prove a popular choice with operators.

Having helped put together the first A60H prototype for the purposes of internal research and development, Agnehamn has been operating the new machine right from the start. "The A60H is the most mature prototype I have driven," he says. "What makes it different is that it is bigger and we have full suspension on the tractor part. It's comfortable for the driver and I think it moves faster

compared to the A40 – of course it does because it has more torque and horsepower – but if you look at it loaded compared to a loaded A40 I think it has more power."

### ABOVE STANDARD

With a centrally-positioned seat, superior steering, excellent suspension, and ample space and visibility, Volvo articulated haulers are renowned for providing some of the most comfortable and productive operator environments in the industry. The industry-leading Volvo Care Cab system ensures operators feel safe and in control. The system's features meet all international standards and go even further with lower noise and vibration levels, and a market-leading cab climate-control and air-filter system.

Developing what amounts to a world first comes with its responsibilities – Agnehamn says his opinion about the new machine's performance when he puts it through its paces is valued by Volvo CE and taken seriously by the company. →





“As a test-driver you are influential in the development. I’ve been involved with plenty of testing of the transmission and the gearbox and a lot of my feedback has gone into the software, so I think my part matters,” he says. “It is quite remarkable to have the opportunity to test-drive it and give your opinion to construction and management so that we can give our customers the best options and possibilities. I am very happy and pleased with the job we have done so far.”

## TEST RESULTS

Agnehamn started his career with Volvo CE in assembly ten years ago and then moved to the control section. “Every hauler that leaves here has a scheduled drive for an hour or maybe two so I have checked many haulers

before they were shipped out,” he explains.

Five years ago, he moved to the development section.

## THE A60H IS THE MOST MATURE PROTOTYPE I HAVE DRIVEN

“That was when we developed the G model range – A25G to A40G. Before that I had a chance to drive a mock-up for the E model and then I drove the prototypes for the F and then the G models and now the A60H – we do a lot of testing,” he says.

Volvo CE developed the new hauler in response to a growing demand for haulers with larger payloads.

“We have seen the need for a bigger machine for some time and now we will give the world what it wants,” says Agnehamn. And his recommendation? “Buy it!”

Visit the *Spirit* website or download the *Spirit* app for the video report

# WANT MORE?

Now there are multiple ways to enjoy *Spirit*



Available on all Android and iOS devices. Download the app or see the website for extra content including exclusive video

ON YOUR DESKTOP • ON YOUR PHONE • ON YOUR TABLET

# volvospiritmagazine.com



# WELCOME TO THE CONSTRUCTION INDUSTRY CLIMATE INITIATIVE

The Construction Climate Challenge is hosted by Volvo CE to promote environmental awareness in the construction industry. We aim to create a dialogue between industry representatives, academics and politicians, as well as providing funding for new research and sharing existing knowledge and resources to help the industry make a difference for generations to come.

Volvo CE has long been committed to reducing harmful emissions from its products and facilities. But climate change is too big of an issue to be dealt with through the resources of one company alone. As summed up in 1972 by former Volvo Group President and CEO Pehr G. Gyllenhammar: "We are part of the problem – but we are also part of the solution."

Read more about the Construction Climate Challenge here: [constructionclimatechallenge.com](https://www.constructionclimatechallenge.com)