

CAT MAGAZINE



DIAMONDS BY THE TRUCKLOAD

**MORE VERSATILITY FOR
NEW SMALL WHEEL LOADERS**

**OPERATOR TIPS TO
MAXIMISE PRODUCTIVITY**

JUMP.

One of just a few things a D-Series small excavator is unable to do.

With the extensive range of features available on the Cat® D-Series small excavators, you won't need to jump. Its boom and stick are designed for maximum digging capability amongst other features that make these new small excavators the most versatile of their category.

From lifting to digging and pipe-laying there isn't much a D-Series small excavator cannot do. With its 10 pre-programmable tool settings you can easily choose from the wide range of Cat work tools without leaving the comfort of the cab. Its hydraulic Quick Coupler allows the D-Series small excavator to release a tool and connect another one easily.

The D-Series also includes compact radius excavators which give you even more flexibility and safety in your work, being able to manoeuvre in any confined space. Thanks to your machine's versatility and ability to work anywhere you save time and meet your deadlines more easily.

Put it to the test today, contact your local dealer or visit : www.cat.com





DEAR READER,

It always fills me with great pride to see how our customers, our Cat® dealers and the Caterpillar® organisation work so closely together to constantly improve operations and customer productivity.

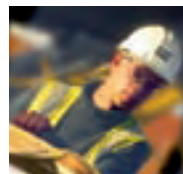
And this issue of Cat Magazine reports on several exciting stories where such close cooperation is central to the success of our customers. For example, the story about the Venetia diamond mine in South Africa, describes how the local Cat dealer is partnering with De Beers to continually improve machine availability and component life - using the latest technology and the inherent expertise of its people.

Another powerful example is the AccuGrade® solution provided by our Slovenian dealer. Working with the customer enabled a unique grading and paving project to be completed in just four months instead of the scheduled six.

And that's just the start. The following pages show many more examples of people working together to achieve great things. I hope you enjoy reading about them.

Best regards,

Paolo Fellin
Vice President
Caterpillar



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Above is just a taste of what's in this issue of Cat Magazine – there's plenty more news and views. If you would like to see additional subjects in the next issue contact our publishers on CatMagazine@cat.com.

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CAT IN BRIEF

THE ROUGH AND TOUGH GET CAT BACKING



Caterpillar has announced a five-year multi-million pound sponsorship deal with one of the United Kingdom's best loved rugby clubs: Leicester Tigers. The deal will help finance the club's stadium redevelopment, which will almost double the crowd capacity to 30,000.

Richard Cooper, managing director for Building Construction Products - Europe said, "We are delighted to be partnering with Leicester Tigers, the leading brand in club rugby. Our core business values of integrity, excellence, teamwork and commitment reflect that of the Tigers. And our heritage in the Leicester area makes this sponsorship an ideal platform to further support our business and community objectives."

SHIFTING THE DIRT CAT OPERATORS AND BIKERS SHOW

CAT NUMBER

7,000

That's how many new and reconditioned parts go into a Cat Certified Rebuild machine.

The machine is then put through more than 700 rigorous tests to ensure that it is as good as new. To date, there have been 4,000+ machines across the globe that have been re-created this way.

For Belgian earthmoving enthusiasts Orp-Le-Grand was the place to be last summer. Thanks to Cat dealer Bergerat Monnoyeur, during a weekend 2000+ visitors enjoyed the 10th National Cat Operator challenge on a specially built demo site on Saturday. On Sunday they turned their attention to the Belgian national motocross championship, held on the circuit right next door. The event featured top riders David Philipaerts, Joshua Coppins, Kevin Strijbos and Ken de Dycker – not to mention a Cat 966H wheel loader used to smooth the track between races!





AS RELIABLE AS A CAT

One of our customers in Austria, Alois Schönberger, is a model aircraft enthusiast who recently built this superb, fully-functional, scale model helicopter – perhaps one of the most difficult aircraft types to perfect. To ensure it performed well he spent more than 350 hours building it, he used Cat engine components and he then painted it in Caterpillar yellow. All that attention to detail seems to have paid off, because in the past two years he has made 150 take-offs and landings – all without failure. The model aircraft uses a Jet-Cat engine and runs on genuine aircraft kerosene. Alois Schönberger owns 14 Caterpillar machines and is an exclusive CAT customer.



100,000 MINI HYDRAULIC EXCAVATORS IN JUST TEN YEARS



From left: Andreas Höttler and Wolfgang Handt from Caterpillar customer Matthäi and Richard Cooper from Caterpillar.

Caterpillar recently celebrated a milestone event of the 100,000th mini hydraulic excavator sale worldwide by producing an exclusive silver mini hydraulic excavator. Richard Cooper, managing director for Building Construction Products - Europe said, "We have been building the machines for ten years and continually develop them to enhance their reliability, durability and ease of maintenance. We are delighted to have reached such a milestone and that Matthäi, our customer for the 100,000th machine, is helping to celebrate the event."

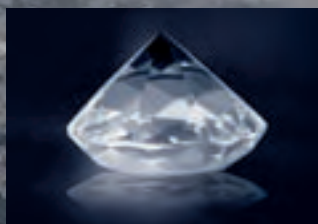
CUSTOMER GALLERY



"We can repair anything... nothing is impossible, but miracles do take a little longer," says Nick Walker of Walker Plant Hire in the United Kingdom. "We recently restored a Cat D7 4T. We heard that it was lying abandoned on a farm and thought it would be great to restore it back to its original condition, and then show it working at special customer demonstrations." The machine was originally a military tractor, possibly with a rope operated Le Tourneau blade attachment. It was built in 1944, but it's still going strong more than 65 years later.



DIAMONDS BY THE TRUCKLOAD WITH PERFECT TEAMWORK



More than 100 Cat machines will help excavate 1.5 billion tonnes of rock over the 36 year predicted lifetime of the Venetia diamond mine.

Deep in the heart of South Africa's bushland, just south of the Zimbabwean border is an enormous hole in the ground. Dug from solid rock, it spans three kilometres across and descends more than 400 metres. This is the Venetia diamond mine, one of the biggest and most productive diamond mines in the world. It currently yields 8.2 million carats (approximate value: €650 million) per year, and since its inception in 1992 the majority of precious diamonds have been transported by Cat off-highway trucks.

"Due to the nature of diamond deposits we have to excavate almost ten tonnes of rock to get just one tonne of diamond ore," says Brett Stevens, sales and after sales manager for Barloworld Equipment, the local Cat dealer. "It's a 24-hour, seven-day per week operation and the MARC (Maintenance and Repair Contract) agreement has been ongoing for close to 11 years. So not surprisingly, we've developed some highly advanced maintenance and repair strategies to keep machine availability as high as possible – up to 92 percent on average."

More ►

All of the 1,250 De Beers employees on the site are paid up to 15 percent more than the national average income.



A total of 47 Cat off-highway trucks are used to transport the excavated rock from the base of the open-cast mine, whilst another 45 Cat track-type tractors, loaders, and excavators support the operation. As with most open-cast mine operations, where all the plant and expertise remain in one place for several years, the Caterpillar dealer has been able to work extremely closely with the customer to constantly improve and perfect machine reliability and drive down the costs per tonne. In addition to a tailor-made MARC, there is an 87-strong team of Barloworld people: site managers, supervisors, and support staff. Representatives of this team meet daily with the mine's owners, the world famous De Beers, to discuss and plan machine and operator optimisation.

MUTUAL BENEFITS

"It's a genuine teamwork effort that's based on mutual trust," says Brett. "By focusing on condition monitoring, components are expected to last much longer and help strive towards achieving remarkable reliability targets. To this aim, we've deployed the latest service and maintenance systems such as Product Link, S-O-SSM (Scheduled Oil Sampling), the AQUILATM Drill System, CAES (the Computer Aided Earthmoving System), and MVRS (MineStarTM VIMS Remote System). All these advanced systems help us to manage, predict and optimise the almost 100 Cat machines on site. The result is that all this intensive technology has made the

Venetia mine one of the largest Caterpillar mining technology sites in South Africa."

It all adds up to a highly advanced machine health monitoring system, for example, the MVRS is a satellite-based monitoring system. It reports an average of 23,000 machine 'health' events

"Of the eight original trucks that started 11 years ago, seven are still in operation."

each month, which are prioritised by Barloworld's data centre based in Isando, Johannesburg. The results are relayed to the on-site analysts who then plan and implement preventative maintenance.

"In addition to the advanced machine health monitoring systems we also constantly implement new programmes, some of which we pilot ourselves," says Brett. "For example, we recently introduced a 'Kidney Looping System' that cleans and filters the hydraulic oil on board a machine. This is primarily to save on oil and extend machine component life. This is done by reducing the number of oil changes and potential contamination entry points, and filter out debris that in time would cause premature component failure. In some cases we found that filtered oil of 4,000 hours was surprisingly cleaner than

Venetia was the first ever diamond mine to achieve the ISO 9002 quality management certification.



brand new oil. We financed and ran the pilot system ourselves before sharing the savings with De Beers. They were so impressed with the potential savings that they invested €100,000 in more 'Kidney Looping Systems'. The systems' goal is to prolong component life as well as saving huge quantities of oil. Up to 41,000 litres were saved in the first eight months."

THE SMART PARTNERSHIP

It's that type of 'smart partnership' that runs throughout the Venetia operation. As can be seen by the state-of-the-art parts depot. Advanced management systems ensure that fast moving items do not stay on the shelf for more than seven days: it's the perfect balance between ensured availability and stock minimisation. Larger parts, such as engines, are stored centrally in Johannesburg, which makes them also available to other Barloworld customers across the region.

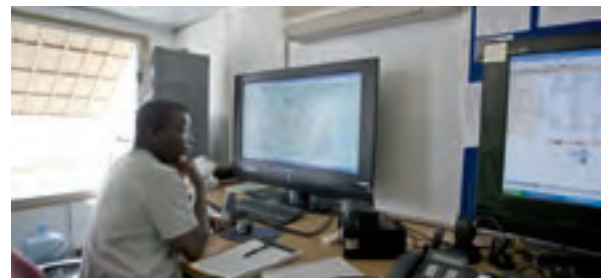


Another powerful example of this smart, problem-solving partnership is the increased life-times of the tyres used on the Cat earthmoving machines. "Three years ago we were getting an average of just 2,500 hours of service from our tyres," says Johnny Velloza, operations manager at Venetia. "Barloworld suggested that we install special analytical software in our trucks to monitor the various gradients, torsion stresses and turning radiuses on our access road. After a comprehensive analysis several stretches of road were redesigned and the machine operators were given extra training. We now have an average of 6,500 hours of service life from our tyres."

EVERYTHING IN SIGHT

A specially built control room overlooks the massive operation. Here huge flat screen monitors show pictograms of all machines currently in use. A colour coding system designates the status of each machine: BLUE pictograms show trucks returning for

a load, GREEN for fully loaded trucks, and RED for breakdowns. An automatic alarm system flashes problems such as a machine that hasn't moved for ten minutes. "We can see at a glance where each machine is, but we also have two-way communications with the operators so we can redirect pick-ups, for example, where necessary," says Mike Laboscartni, control room supervisor. "In addition to this real-time monitoring the control room generates valuable data such as tonnes per machine, per hour and even per shift. So it's also an excellent tool to identify operator training needs."



The entire Cat fleet of almost 100 machines is electronically monitored and managed in a specially built control room.

SOCIALLY RESPONSIBLE

As part of the De Beers commitment to the environment and local community, De Beers has established several far-sighted programmes, as Johnny explains: "All of our 1,250 directly employed workers are paid around 15 percent more than the national average. Importantly, we do not have any migrant workers, so everyone can go home at night to their families and friends. We've also established a 50,000 hectare game reserve around the 4,600 hectare mine site – this has helped create a much bigger transnational game reserve spanning Zimbabwe, Botswana and of course South Africa. And, we have minimised our water usage from the Limpopo river via an extensive water reservoir and recycling system."

In addition, as part of South Africa's BEE (Black Economic Empowerment) programme De Beers recently sold 26 percent of its South African division to a black-owned company: Ponahalo Holdings whose ownership is split 50/50 between De Beers staff and pensioners and a black investment firm called Ponahalo Capital. South Africa's BEE strategy is aimed at dispersing economic and political power among the country's black majority.

WHAT IS IT LIKE TO FIND A DIAMOND?

"You wouldn't recognise one even if it was in your hand," says Johnny. "The diamonds are embedded in kimberlite, and are only retrieved after extensive crushing and sorting. They are also extremely rare – on average you have to process a whole tonne of kimberlite to get just 250 milligrams of diamond, and to get that one tonne of kimberlite you have to excavate almost ten tonnes of rock. But it's still a great feeling when you see the daily shipments to the sorting centre, and it's great being part of this enormous operation and the people behind it. I recently visited a steel mine with my five-year old son. He said afterwards 'Dad, steel mining is OK but diamonds are cool.' I have to agree with him." ■

HARD FACTS:

- Diamond is the hardest natural substance known to man – 58 times harder than the next hardest mineral on earth.
- Only diamond can cut diamond.
- Every diamond is immensely old, formed long before dinosaurs roamed the earth. The youngest diamond is 900 million years old.
- The world's largest gem-quality diamond was found in South Africa in 1905 – uncut it weighed 3,106 carats (621 grams).
- If you were to gather all the diamonds ever polished, they would only fill one double-decker bus.
- Diamonds are composed of almost pure carbon – one of the earth's most common substances. But only in extremely rare circumstances and over billions of years does it manifest itself as the world's most precious gem.

The kimberlite looks like any ordinary piece of rock, but to the expert eye its slightly greenish colour means a sparkling treasure lies within.

The kimberlite is crushed, washed and sorted using x-ray fluorescence. Final hand sorting categorises the diamonds in terms of size, shape and colour.

Even before being polished diamonds have a unique quality. Throughout human history they have been worn by people as powerful symbols of love, devotion, pride and power.



*It takes big trucks to move
a billion tonnes of rock.*



MORE VERSATILITY FOR NEW SMALL WHEEL LOADERS

SO CUSTOMERS CAN DO A LOT MORE

The Caterpillar range of small wheel loaders leads the industry in operator comfort and performance. This, combined with a choice of two loader linkages and a selection of easily attachable work tools, ensures the versatility of this series of wheel loaders for a number of varied applications.

The new H-Series includes ACERT® engines and meets all EU Stage IIIA controls, while also offering more power and torque. This performance ensures excellent machine productivity, allowing operators to get the job done with minimal effort. The engine also has features that allow for easy maintenance and increased uptime: an electric fuel priming pump is now standard and all regular service points are easily accessible from ground level.

FOUR NEW MODELS WITH EXCELLENT FLEXIBILITY

The four new models (924H, 924Hz, 928Hz and 930H) replace the highly popular G-Series machines.

The 924H and 930H feature the exclusive Cat VersaLink™ Loader Linkage, which combines integrated tool carrier versatility and parallel lift with superior cycle times. The High Lift VersaLink™ option is available for special applications that require more reach and lift height. A wide range of work tools, including light material/ multi-purpose buckets and a selection of forks can further add to the versatility of the machine. In addition, the 930H can be equipped with up to six hydraulic valves ensuring work tool control and therefore allowing the machine to be used in a wide range of applications.

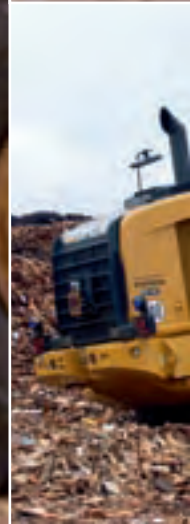
Alternatively, the 924Hz and 928Hz models both offer a single tilt Z-bar linkage. This linkage, when combined with a Caterpillar bucket, generates excellent breakout force and a good rack back angle for better bucket loading and load retention. The lift arms are solid steel, providing for superior strength with excellent front-end visibility. This linkage configuration offers excellent dump clearance and reach capabilities, both of which are crucial for efficient truck loading.

The entire H-Series of small wheel loaders features load-sensing steering pumps that provide outstanding response during both light and heavy operation. The 924Hz, 924H and 930H feature a load sensing variable flow system, which senses work demand and adjusts the pressure and flow to



"In the wood chip bay, the reversing fan is a must in those dusty conditions"

Colin Burch – site supervisor
Viridor Waste Management Foxhall Landfill



match the requirement. This system allows full hydraulic forces at any engine speed therefore improving both productivity and efficiency.

HEAVY-DUTY AXLES

Heavy-duty axles feature hardened gears and bearings for durable performance. The rear axle oscillates up to 12 degrees to help assure four-wheel ground contact for optimum traction and stability.

924H, 924Hz and 930H offer as standard the full locking front axle differentials that enable outstanding traction in poor underfoot conditions. This system complements the rear limited slip option and offers the advantage of delivering improved traction and reduced tyre wear. Operators can engage the differential lock on-the-go allowing them to be

in complete control of the machine regardless of underfoot conditions.

MORE PRODUCTIVITY

To further enhance productivity, the 930H is also available with the unique QuickSteer™ mode, requiring only 50 degrees of steering wheel deflection for full articulation. Added to this is the optional proportional control of the third valve from the main joystick, available on the 924H and 930H. These features greatly reduce operator effort, making them more efficient during their working day.

The new H-Series also offers improved safety with easier access to the cab and an unobstructed view to the front and rear, making visibility to critical areas such as the bucket corners easy. An optional colour rear video camera is also available to answer regional jobsite requirements. Also, as the service points are all grouped for ground level access, daily servicing is quick and effortless.

All four models can also be fitted with Product Link: Caterpillars' satellite-based equipment monitoring system. This uses wireless and satellite technology to gather and transmit multiple types of information about the machine's usage, location and service metre hours. This system is used to optimise asset utilisation, reduce security risks, improve maintenance management and implement before-failure repair strategies. The result is more up-time, lower operating costs and a higher overall return on the equipment investment.

GEARED TO BE GREEN

But it's not all just about versatility and performance. As a responsible corporate citizen committed

"Has a spacious comfortable cab, the smooth ride control really helps to reduce spillages"

Colin Burch

to minimising impact on the environment, Caterpillar introduces the new H-Series with optional fuel tank ecology drains, filtered engine breather, hydraulic bio-degradable oil and sound suppression packages.

IDEAL FOR WASTE HANDLING

Special waste handler configurations extend the range of guards and protection along with the optional reversing fan and wide fin spacing radiator. These allow safe machine operation in high airborne debris environments. ■



WITH A CAT QUICK COUPLER SYSTEM THE NEW H-SERIES CAN CHANGE THE FOLLOWING CAT WORK TOOLS IN SECONDS

- General purpose buckets
 - Penetration buckets
 - Light material buckets
 - Multi-purpose buckets
 - Carriage fits Cat and wide coupler
 - Offset forks for improved tip visibility
 - Material handling arm
 - Hydraulic brooms
-



938H WHEEL LOADER



***"You really can do everything
with the new 938H."***

Hans Lazarus, operator

TOUGHEST IN THEIR SIZE

MEET THE TWO NEW WHEEL LOADERS

Caterpillar has introduced two new wheel loaders that give operators an extra dimension of power, while retaining the small and highly versatile format. "Both the new 938H and the IT38H with integrated toolcarrier use a Cat C6.6 engine with ACERT® Technology," says Michel Jenny, Cat product specialist.

"This is essential for responsive power and low emissions. But what's really exciting about these two new models is that they also come with a differential lock system, load sensing hydraulics, and better lift and tilt forces. All for more powerful performance in digging and material handling while at the same time limiting engine emissions to meet EU Stage IIIA regulations."

BETTER MACHINE HEALTH

There's also an in-cab Messenger display to provide real-time machine performance, engine and diagnostic data. Additionally, the hydraulic and electrical service points are grouped for easy access at ground level. These two new features minimise service downtime, which maximises productivity as well as component life.

In addition, machine uptime is further maximised thanks to Cat Product Link: a system that gathers critical machine performance indicators and sends them wirelessly by satellite to your dealer who can then advise on preventative maintenance strategies. Product Link is standard on these new loaders for Europe and optional for the rest of the African and Middle East Region.

REDUCED FUEL CONSUMPTION

Both the 938H and IT38H have a new axle with either a 100 percent standard front differential lock or an optional (Caterpillar-exclusive) automatic differential lock for both front and rear. "This replaces limited slip and gives better traction," says Michel. "It also reduces fuel consumption and tyre wear. The automatic differential lock monitors machine operation and locks when tyres slip during the dig cycle. And, importantly, both manual and automatic differential lock can be engaged on the go." ■

WHAT THE OPERATORS SAY

HANS LAZARUS, OPERATOR AT ALT-NEUÖTTING GRAVEL, GERMANY:

"When you get out of the 938 at the end of the day, it's as if you've just got up from your sofa in your living room."

STIAN HOLTE, MACHINE OPERATOR AT ISAKSEN ENTREPRENOR, NORWAY:

"The IT38H's differential lock moves really well - I wouldn't be able to do the things that I do with the IT38H with any of the competitors' machines."

The IT38H has an integrated toolcarrier linkage – so one machine can do many different jobs using a variety of work tools, such as a bucket, pallet forks and a material handling arm.



OPERATOR TIPS

TO MAXIMISE PRODUCTIVITY
AND SAVE FUEL

In this article, the first in a series, we take a look at some of the essentials in using a wheel loader to fill a truck. These tips help to maximise productivity, while minimising fuel consumption and reducing component wear.



TIP 1 TRUCK AT 45 DEGREES

The loader operator should ensure that the truck is positioned at an angle of 45 degrees to the face of the material. This is the best possible position of material, truck and loader to ensure minimum loader movement, resulting in faster cycle times and less fuel consumption.

TIP 2 STRAIGHT-ON APPROACH

The loader should make a straight-on (square) approach to the face of the material. This ensures that both sides of the bucket hit the face at the same time for a full bucket. A straight on approach also minimises side forces on the machine – which can cause wear and tear in the long term.

TIP 3 FIRST GEAR

The loader approaches the face in first gear, at a steady speed. This low-gear, high torque provides optimised machine power for best material penetration.

TIP 4 MINIMISE GROUND CONTACT

The cutting edge of the bucket should not touch the ground more than 15 to 40 centimetres before the face of the material. This reduces bucket wear and material contamination. It also reduces fuel consumption since there is no unnecessary friction between bucket and ground.

TIP 5 KEEP IT PARALLEL

To get a full bucket, the cutting edge should remain parallel to the ground and just before curling the bucket, the operator should raise it a little. This avoids unnecessary bucket-material contact, prolonging bucket life and saving fuel due to less friction.

TIP 6 NO SPINNING

Wheel-spinning wears-out expensive tyres. It also burns fuel for nothing. Spinning is prevented when in first gear.

TIP 7 AVOID CHASING

Instead of chasing the load up the face, penetrate – lift – curl. This is the most fuel-efficient manoeuvre.

TIP 8 KEEP THE FLOOR CLEAN

This will help ensure the best speed and momentum when approaching the pile. It will also reduce material spillage when reversing with a full bucket. To help keep the floor clean avoid tyre spinning and avoid losing material with brutal manoeuvres. This will also reduce your fuel consumption.

IN SUMMARY

At all times in loading the principle is simple: minimise speed, maximise accuracy.

ACCUGRADE SAVES TIME AND MONEY IN SLOVENIA

Primorje d.d., Slovenia's largest general construction group, operates 35 Cat machines and undertakes major projects both in Slovenia and throughout Central Europe. Last year, needing to grade and pave an artificial lake under construction in the north-east of the country, Primorje turned to local Cat dealer Teknox Group for the most cost-effective solution.

Primorje project manager Andrej Matekovic explains: "The Avče Pumped-Storage Hydroelectric Powerplant consists of a two million cubic metre storage lake, connected via a two kilometre-long pipeline to a power station 550 metres below, alongside the Soče river. Water is pumped up to the lake at night when electricity prices are low and flows down to the power station's turbine to generate electricity at times of peak demand."

"The storage lake needed an asphalt lining due to the karst limestone terrain, which meant that the lake bed and sides, some 140,000 square metres, had to be precision graded.

When conventional surveying methods are used this is a slow process and we needed to work quickly. We knew about AccuGrade from a presentation given by Caterpillar in Morocco that we had attended at the invitation of our local Cat dealer. So we rented the Cat AccuGrade system, mounted on a D6K track-type tractor from the Teknox Group, initially for a two-week trial."

More ►







From surveying to final paving in just four months, thanks to AccuGrade.

"We are convinced that the system could find a place in a wide range of our larger civil engineering projects, especially where inclines are involved, where the quality of work currently depends totally on the operator's skill. AccuGrade allows any competent operator to achieve outstanding results quickly and cost-effectively." ■

"After only a few hours of working with the system we realised that it was the ideal solution."



"After only a few hours of working with the system we realised that it was the ideal solution. Surveying and grading work on the 22 degree slope that would take a day using conventional methods took just a couple of hours with AccuGrade – even with an operator who had never used the system before. So we extended the rental period for another month. Using AccuGrade meant that we could release three people and a motor grader to work on other tasks and still we saved time and money, finishing the grading and paving in just four months instead of the scheduled six."

THE BIG QUESTION

Does Primorje see a place for AccuGrade in future operations? Group purchasing manager Miran Lavrenčič supplies the answer: "We have been using Cat machines since 1965, so we know you can always rely on Caterpillar – the machines offer high quality and reliability. We are the first company in Slovenia to have used AccuGrade. We have already seen the advantages it brings for track-type tractors and we would like to test it with backhoe loaders, as well as with paver-finishers and compactors, which would surely be very interesting."

NOW SMALLER MACHINES HAVE THE REMAN ADVANTAGE

Your Caterpillar dealer now offers remanufactured engines for smaller machines, in addition to the larger ones. Among the machines that can benefit from reman are wheeled excavators, small and compact wheel loaders, small and medium hydraulic excavators, skid steer loaders, multi terrain loaders and small track-type tractors and loaders.

This is great news for owners of smaller machines because now they can extend the life of their investment with an engine that is 'as-good-as-new' and comes with the same 'new parts warranty' but at only 75 percent of the cost.

What sets Caterpillar reman products apart is that the original new parts were designed to be remanufactured. What's more they are remanufactured in the same factory environment where the new parts are made using the same strict quality procedures and manufacturing technology.

All Caterpillar remanufactured engines are built to include the latest technology and features, so you receive products that are of the same quality and to the same specifications as the latest factory-new parts. That's why they can come with the same warranty as our new products.

BASED ON EXCHANGE

The Cat reman option operates on an exchange basis: you bring in your old, used engine and in return you get a remanufactured one. Depending on the condition of your old engine you get a cash credit that is subtracted from the cost of the reman. The better the condition of your returned core, the greater the core credit – so it's best to exchange before failure.

GOOD FOR YOUR GREEN CREDENTIALS

Recycling engine cores is not only beneficial to the environment, it's good for your business. Not only can you cost-effectively enhance your product performance with the latest technology you can also increase fuel efficiency. And you can tell your customers about the resultant reduced emissions and recycling practices. ■



CAT REMANUFACTURING:

- More than a simple repair
- More extensive than just rebuilding
- Uses state-of-the-art factory cleaning, salvage and manufacturing processes
- Combines new and salvaged parts
- Upgrades to the latest specifications
- Uses 100 percent genuine Cat parts
- Offers a "Same As New Parts Warranty"



WHY A SMALL PROBLEM MADE THEM SO HAPPY

A Customer Support Agreement (or CSA for short) is a proven way to minimise your machine's operating costs. It does this by using your dealer's technical expertise to service and maintain your Cat and non-Cat equipment, and it includes thorough equipment condition monitoring that helps to avoid catastrophic failures and unnecessary downtime.

Most customers who have a CSA say that it dramatically increases their machines' availability and that they are happy with the peace of mind that it brings. One such customer is Mohamed Abd El-Fattah, production manager at CEMEX in Egypt – one of the largest ready-mix cement producers in the world.

"It quite literally saved us €4,600," he says. "Thanks to the regular oil testing that is part of our CSA, our Cat dealer – Mantrac – discovered an accelerated engine wear in one of our wheel loaders. It was only a small problem but it was bound to get progressively worse and would eventually cause a complete breakdown."

That's when Mantrac suggested a Before Failure Rebuild Option: something that costs €4,600 less than a rebuild after failure.

EVEN MORE COST SAVINGS OF €2,650

Normally a failed engine can take up to three weeks to rebuild. But with the Before Failure Rebuild Option, that lead time was slashed to just seven days. "That's because we can plan our engineers' time and our repair shop facilities, and reserve the required resources," says Amr Ismail, of Mantrac. "We can also pre-order all the parts – while the machine is still working." All of which means CEMEX only needed a rented wheel loader for one week instead of three. And with daily rental costs in Egypt of about €190

per day that's an additional saving of €2,650.

"We bought the CSA because the predictive maintenance was very appealing. We now think it's fantastic."

Mohamed Abd El-Fattah, production manager

"But quite honestly, that's just only a small part of what we've saved, when you think of all the downtime our CSA saves us," concluded Mohamed.

Please contact your local dealer to find the best customer Support Agreement that will fit your needs. ■

Mohamed (left) and his plant foreman Abo El-Makarem now have the peace of mind that comes with a CSA.

BATTLE OF THE BEST

They came from all corners of Europe, and some from as far away as Russia and Mongolia. They had proven they were the champions in their region, and now they were eager to do battle in Spain, to be crowned Best of the Best.



This was the finals of the Caterpillar Operator Challenge 2008. And 48 of the world's best operators, from 20 different countries, had gathered to compete. They faced eight highly-demanding tasks, each one designed to test their skills on speed, accuracy and safety awareness.

Throughout the competition's 11-year history it has proven its reputation as 'The Toughest Competition on Earth'. And this time it was particularly tough. It demanded more intricate manoeuvres, with more punishing penalties, and it used a wider range of equipment: from mini excavators and multi terrain loaders all the way to large wheel loaders and off-highway trucks.

It took three exhausting days and a whole lot of sweat. But one clear winner emerged: Sebastian Behr from Germany, followed by Timo Honkaniemi from Finland and Peter Van Schaik, the defending champion, from the Netherlands. Alongside the individual title, the country-teams finished with Finland, the Netherlands and Germany in first, second and third places. ■



Congratulations, Peter Van Schaik, Sebastian Behr and Timo Honkaniemi (pictured left to right) the top three in 'The Toughest Competition on Earth'.



The family-run business is headed by brother and sister team Franz-Josef and Eva-Maria. The company currently employs 145 people.

"I can see everything at-a-glance... where the machine is, how much fuel it's using, and exactly when it needs the next service... all from my desk."

Franz-Josef Stöckl

BROTHER AND SISTER SEE SO MUCH MORE

When Franz-Josef Stöckl first equipped one of his machines with Caterpillar's telemetric monitoring system 'Product Link', he did so more out of curiosity than with an expectation of increased business performance. "We are in general a modern company and are usually open to new ideas," he says. "So when my Cat dealer Zeppelin asked if we wanted to try Product Link, my feeling was what's to lose? That was two years ago and I've now installed it on 10 of my machines... because it really does reduce downtime, even eliminating unexpected downtime."

Product Link is an advanced telemetric on-board monitoring system that gathers and relays a multitude of machine performance information: from machine location and service meter hours to overall machine health and fuel data. That information is then accessible via a password-protected Internet portal. Users can select the information they need to plan servicing and implement repair-before-failure strategies.

The result is more up-time, lower operating costs and a higher overall return on investment.

"We used to rely on our operators to report when they thought a machine needed servicing," says Franz-Josef. "Now we can see well in advance when service and maintenance is needed, and I can organise a dealer service van to visit when it best suits my workload schedule. I also find the fuel consumption figures particularly useful – especially now that diesel prices are so high. I can track which machines and which operators are being wasteful and take appropriate action."

Product Link is obviously perfect for all Cat machines, but it has also been designed

to work on other manufacturers' machines – so almost anyone can benefit.

"I suppose that it's only a matter of time before I'll have Product Link on all of my 80 construction machines," concludes Franz-Josef. ■

Essential data such as fuel consumption and service hours are automatically reported daily direct from the excavators to Franz-Josef's desk top.



PANAMA CANAL GETS EXTENDED

WITH THE HELP OF CAT MACHINES

More than 90 years after the first ship sailed through the Panama Canal, Caterpillar machines are on the cutting edge of extending this world-famous waterway. A new single-lane, three-step lock system will allow vessels that are currently too big to take advantage of this short-cut, one that reduces the east-west journey by 10,000 kilometres.



EIGHT YEARS IN THE MAKING

The Panama Canal Authority (ACP) estimates that the eight-year project will cost about €3.4 billion and involve moving about 80 million cubic metres of material. However, the expense should be worth it as the payoff is huge: an estimated toll revenue of €3.85 billion per year.

Each end of the canal will feature locks of 427 metres long, 55 metres wide and 18 metres deep. These represent 70 percent of the project budget and construction will start in 2009. Until then, the land is busy with Cat machines doing the earthworks.

AHEAD OF SCHEDULE

Cat customer Constructora Urbana (CUSA) of Panama began the initial phase of dry excavation in September 2007. "We're currently ahead of schedule and a big part of that is the high productivity we've been able to get from our Cat machines," said Roberto Muschett, operations manager for CUSA.

CLOSE WORKING RELATIONSHIP

Aided by Caterpillar's integrated solutions, CUSA has little to worry about other than getting the job done. Roberto points to the close relationship CUSA has with the local Cat dealer Cardoze & Lindo as a big advantage. "When we have a problem, we've always had a great response from our local Cat dealer," Roberto said. "We're confident that the high productivity achieved through our machines will continue through the entire contract."

Caterpillar's integrated solutions for this project include financial assistance, complete CSAs, support and site presence 24/7, machine support, operator training, service technician training, and parts inventory management.

It all helps make such a huge project plain sailing. ■

TO ACCOMPLISH THE EARTHWORKS TASK, CUSA BOUGHT EIGHT 777F OFF-HIGHWAY TRUCKS AND IS USING:

- Six excavators (Cat 345s, 330s, and a 320)
- 14 track-type tractors (D9Ts, D8Ts, D6Rs)
- 13 articulated trucks (740 and 730)
- Six soil compactors (CP-663, CP-533E)
- One motor grader
- Two Terex front shovel excavators that are powered by Cat engines

PEOPLE

MEET CATERPILLAR'S MR. PRODUCTIVITY

As a senior demonstrator/instructor, Siegbert Jeschke – Siggys to people who know him – spends the majority of his working life at the Cat Malaga Demonstration and Learning Center (MDLC) in Spain. But another aspect of his work takes him out and about round Europe. Cat Magazine caught up with him at the Dutch seaport of Vlissingen.



SIEGBERT JESCHKE

WHY ARE YOU IN VLISSINGEN TODAY?

It's part of my job to undertake production analyses for Cat customers. The aim is to investigate how efficiently customers' Cat machines are performing for them on-site, and to make suggestions as to how they can be used even more efficiently. Here in Vlissingen I'm analysing the performance of two machines, a 988G and a 988H, assessing fuel use against the load carried. I'm here for two days and at the end of the visit I'll produce a report for the customer, together with recommendations to raise operating efficiency even higher.

HOW MANY ANALYSES DO YOU DO A YEAR?

It varies, of course, but on average perhaps ten a year. Now we have a new specialist truck, kitted out with all the measuring equipment and computers we need to conduct an analysis, so we can offer customers a more thorough analysis and the workload may change. But currently I spend around 30 percent of my time doing this work, with the other 70 percent spent demonstrating Cat machines and training operators at the MDLC.

HOW LONG HAVE YOU BEEN WITH CATERPILLAR?

For two years now, which isn't very long. Originally I'm from the German city of Leipzig, but for 16 years before joining the Caterpillar team in Malaga I worked for Zeppelin, the Munich-based Cat dealer for Germany. After 16 years I fancied a change and becoming a demonstrator and instructor for Caterpillar was an opportunity not to be missed.

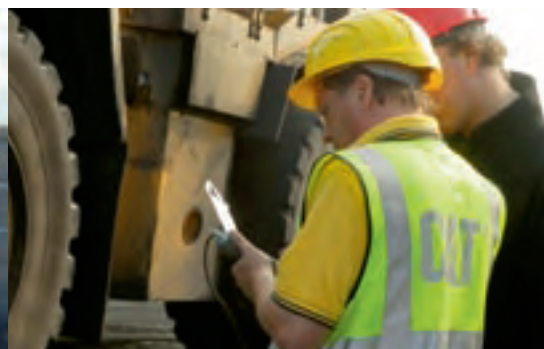
WHAT DO YOU LIKE ABOUT YOUR JOB?

The variety, particularly. I get to demonstrate virtually the whole range of Cat machines, and to meet and train operators from all over Europe. Then there's the travelling, through which I get to see different countries and meet Cat dealers and their customers from all over Europe. I also thoroughly enjoy being involved in the Operator Challenge every year, and of course it's nice to be based in a country that has more sunshine than Germany, particularly in winter.

OF ALL YOUR ACTIVITIES, WHAT IS YOUR FIRST LOVE?

First and foremost I'm an operator, always have been and always will be. And not just an operator, but a Cat operator. For me these machines are the ultimate, and I enjoy every minute of my work with them. ■

"I spend about 30 percent of my time analysing customers' machines to make them more productive."





1970

CAT FLASHBACK

In 1970 Caterpillar's first off-highway truck, the 769, was setting the latest industry standards. It included non-fade braking with oil-cooled brakes, pneumatic oil independent wheel suspension and automatic power shift.

Photo courtesy of Caterpillar Inc. Corporate Archives.

Other notable events of 1970



The Aswan Dam in Egypt is completed. Soon afterwards, it was supplying more than half the country's total electricity needs.



Arguably the greatest ever football team – Brazil's 1970 line-up including the legend Pelé – beat Italy in the world cup final in Mexico City.



Faster than the speed of sound, Concorde makes its first supersonic flight: 1127 km/h. It stayed in service for the next 35 years.

SPOT THE 29-TONNE MACHINE



The CAT® 325D excavator is and always will be a 29-tonne machine.
Just as the CAT® 330D is 36 tonnes. Now everyone knows.

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