

# CAT MAGAZINE

ON LOCATION: LUCCA, ITALY

## PASSION FOR PERFORMANCE

SPOTLIGHT ON A TECHNICAL COMMUNICATOR

SERVICE SPEEDS PROGRESS ON AFRICA'S  
BIGGEST HIGHWAY PROJECT

RETHINKING DEMOLITION

**Teknoxgroup**



# SAFETY – HOW WE BUILD IT IN

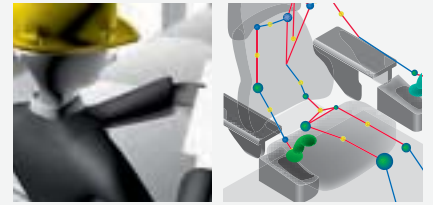
Health and safety is a cornerstone of Caterpillar's sustainable development programme. We provide leadership in the safety of people in, on and around our products. And we do this, in part, by providing our customers with products that are among the safest and most reliable in the marketplace.

We build in safety at the very earliest stages of new product development. Caterpillar research scientists use advanced computer 3D modelling to simulate how a new cab design, for example, will be experienced by an operator. They can test how different control panels and seat layouts will impact on biomechanical factors such as the operators' joint movements and muscle usage. This helps to identify and eliminate possible stress areas.

Comfort also has an important role in health and safety, it helps to keep the operator alert and error-free. And here too Caterpillar scientists use computer models with digital humans to look at how best they can optimise design features such as adjustability, reach, control and visibility. To ensure that Cat machines meet or exceed sound regulations many cabs are built with extra sound suppression technology.

But Cat cabs aren't just comfortable they are built for safety, with Roll Over Protection Systems, Falling Object Guards and Tip Over Protective Structures. Additional safety features are also available such as rear-view cameras, heated windows, and floor-to-ceiling windows. It all helps ensure a healthy and safe working environment.

And when your new Cat machine is built and delivered, your Cat dealer can help ensure it remains safe and productive throughout its life, with planned service and maintenance. ■



Advanced computer 3D modelling simulates how a new cab design, for example, will be experienced by an operator.

## DEDICATED SAFETY WEBSITE

To further promote health and safety Caterpillar has launched a new website. As the theme "Safely Home. Everyone. Every Day." suggests, it focuses on creating a culture where everybody works safely, so that they can all return home to their families at the end of the day.

Safety.Cat.com is available in English, French, Spanish and Portuguese. You can browse safety checklists and read special articles on the world of safety in motion. There are also videos on walk-around inspections and plenty of operating tips.

Take a look today – your family will thank you for it.

[www.safety.cat.com](http://www.safety.cat.com)

## ALGERIA, SETIF

Construction of Africa's biggest highway project



### Dear reader,

The past two years have been tough for us all. It's been essential to focus on how to stay profitable in difficult conditions, and on how best to take advantage as economic recovery kicks in.



Our focus is clear. Cat machines are built to provide superior performance and we back them with support that helps you meet the toughest challenges.

What can you expect from Caterpillar support? From swift parts supply with a global reach, to rapid onsite technical help, Cat dealers have solutions to keep your machines working efficiently and lower your costs. Lifecycle management services – Certified Rebuild, Certified Power Train, remanufacturing and others – are key to building the sustainability vital to success in tomorrow's world. In addition, operator training, contamination control and many other services also play a vital role.

Turn the page and you'll find stories that illustrate how Caterpillar support makes a difference. They are, I believe, a convincing demonstration of the wisdom of keeping our focus where it belongs – on you.

**Paolo Fellin,**  
Vice president Caterpillar

## ITALY, LUCCA

Turning the spotlight on a technical communicator



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## FRANCE, VILLENEUVE-SOUS-DAMMARTIN

The benefits of Caterpillar Certified Power Train (CPT)



Above is just a taste of what's in this issue – you'll find plenty more news and views inside. If you have an idea for a story for a future issue, contact our publishers on [CatMagazine@cat.com](mailto:CatMagazine@cat.com)

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# CAT SUPPORT SPEEDS PROGRESS

## IN AFRICA'S BIGGEST HIGHWAY PROJECT



When work began on the highway, this monument to its construction was erected and inaugurated by Algerian President Abdel Aziz Bouteflika in April 2007.

It is early morning near the town of Setif in northern Algeria. In the first dawn light a man appears at the edge of a brand new six-lane highway. He pauses, then walks unconcernedly across to the other side, apparently oblivious to the already frequent passage of trucks and cars.

That was not an uncommon sight when this particular section of the new trans-Algerian highway was completed and first began to carry traffic. Now, of course, things are different; the local people have quickly learned to adapt to the changed circumstances brought about by what they have come to call 'the principal road', and to appreciate the benefits it is already beginning to bring to them.

The highway will run 1200km across the north of the country from the border with Morocco in the west to the Tunisian border, passing through 24 provinces. That makes it the biggest highway project ever undertaken in Africa, as well as a landmark infrastructure investment for Algeria. In a country of nearly 36 million people, where 85 to 90 percent of vehicle traffic involves the movement of goods, it represents a major step towards easing congestion. Even more significantly, the new highway will create a profitable new socio-economic region expected to attract major international investment. It's a project so big and complex that close technical and managerial partnership between the local Cat dealer and the project contractor is essential for success.

[More ▶](#)

*A COJAAL operator shows pride in a job well done on a section of the highway – and contemplates work to come on the next section.*

Find out about our total support  
[www.mycatv.com/totalsupport](http://www.mycatv.com/totalsupport)





**KM 142**  
A PM200 paver at work



**KM 150**  
Levelling in progress with a 16H motor grader.



**KM 152**  
A hydraulic excavator moves stone into position ready for spreading.



**KM 155**  
Cat water truck



**SANO TAKANORI**

Director machinery and electrical construction, Camp 2 COJAAL

**TOUGH MACHINES BACKED BY EFFECTIVE LOGISTICS**

COJAAL (**CO**nsortium **JA**ponais Pour l’Autoroute **AL**gerienne) is responsible for building the highway’s eastern section – a 399km stretch running from Bordj-bou-Argeridj to the Tunisian border. Besides dealing with some of the most difficult terrain along the whole length of the route, their work involves earthworks running to around 110,611,000m<sup>3</sup> and placement of 1,925,000m<sup>3</sup> of concrete. And of course Cat machines are right there playing a vital role, all kept working at maximum productivity thanks to rigorously efficient parts and service support provided by local Cat dealer Bergerat Monnoyeur.

Work is split between seven site offices – or work camps – each responsible for building sections varying between 9km and 124km. Working from COJAAL headquarters, Mr Ueda Akiro directs the work of the mechanics and electricians at the camps. “Each camp has its own manager,” he says, “and there are around 300 electricians and mechanics at the camps. We have some 300 Cat machines in use along the route. Most were part of our existing fleet, shipped from Japan, but at the start of the project we bought another 68.”

Cat machines are doing essential jobs both along the highway and at COJAAL-operated quarries where stone is extracted and crushed ready for use. Motor graders are employed in both initial site clearing and finish grading. Cat wheel loaders and highway trucks operate in both locations, and there are even Cat trucks – modified to carry a sophisticated water system – at work cutting down the dust on haul roads.

“Caterpillar machines are a natural choice for us,” states Ueda Akiro. “After all, no one else competes with their worldwide reputation, global support and excellent resale value. And of course they’re tough and have a long working life. So what other choice could we make?”

Particularly important to Ueda Akiro and the COJAAL consortium are the maintenance and support available via Cat dealer Bergerat Monnoyeur: “Machines based at Camps 5, 6 and 7 in particular,” he says, “are working in very tough conditions. It’s no coincidence that half the machines based there are Cat machines. They are easy to use, easy to maintain, and Bergerat Monnoyeur are very supportive in keeping them working productively for us. Parts supply could have been a big problem, but thanks to the warehouse set up by BM Algeria, the situation has improved dramatically since we started working here.”

Sano Takanori, director of the machinery and electrical section at Camp 2, which covers the largest – 104km – portion of the highway, agrees: “Machine reliability and high residual values were important factors when it came to choosing the right machines for the job here. That’s part of the reason we went for Cat machines. But the most important factor of all is logistics. How can we be sure that we have rapid access to all the parts, service facilities and technical support we need to keep our machines working? That’s where Caterpillar and Bergerat Monnoyeur have really scored.”

That’s also the view of his Camp 2 colleague, machine maintenance manager Asano Sachiya: “Easy maintenance certainly counts. So does the fact that



**ASANO SACHIYASU**

Machine maintenance manager, Camp 2 COJAAL



**KM 156**

A D7R spreads stone transported from a COJAAL quarry.

A 773 off-highway truck at a quarry 20km near Camp 2 moves stone to the crusher.

A 966H lifts crushed stone at the COJAAL quarry.

operators tend to be familiar with Cat machines. Getting skilled operators is difficult, so having Cat machines makes a difference. From those points of view it would be a dream to be able to work only with Caterpillar machines. Operators like them because they are easy to operate, and because air conditioning makes them comfortable throughout a long, hot day."

**TECHNICAL EXPERTISE WHERE IT COUNTS**

Commenting on some of the challenges that face the Camp 2 team, Sano Takanori states: "With over 100 technicians based here – half of them local and half from other countries – communication is sometimes a

*"It would be a dream to be able to work only with Caterpillar machines."*

challenge, but luckily we have a very good project leader from Bergerat Monnoyeur who has given a lot of valuable advice and has trained technicians and operators."

Parts and service support manager Bernard Griser is the man in question. A work history including positions as technical manager in several northern African countries made him the ideal choice. It's also a good example of Bergerat Monnoyeur's dedication to providing support measures up to the severe demands made by the project. Thanks to his work, 80 percent of the machines needing attention at Camp 2 are now repaired directly on-site, with only 20 percent sent to the workshop located at the camp."

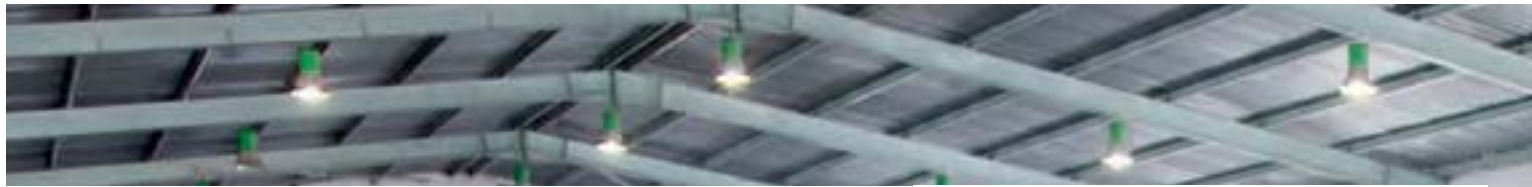


The COJAAL machine maintenance management team.



**BERNARD GRISER**  
Bergerat Monnoyeur parts and service support manager for COJAAL.

More ▶



**PHILIPPE LEROY**

Bergerat Monnoyeur logistic and distribution manager dedicated to the COJAAL camps.



#### SUPPORT IN DEPTH

Founded in 1981 as an offshore-only Caterpillar authorized dealer, Bergerat Monnoyeur Algeria now caters for customers from all over the world. From 120 in 2007, the number of staff has now grown to 230, with a significant part of that increase driven

*“Trust and confidence count. Our customer now knows that we will always find solutions.”*

by the demands of the highway project. In 2009 the company opened an office in Setif specifically to support COJAAL. In the project’s first year, some COJAAL Cat machines clocked up 4000 operating hours and many have now recorded over 10,000. Consequently the Algiers workshop, 4\* and 5\* contamination control certified, is vital to making sure that these machines continue to be serviced to the highest standards. Scheduled Oil Sampling (S.O.S.) is also carried out here, as are the Cat Certified Rebuild and Certified Power Train – now likely to play an increasing role.

Equally important is the work of the BM parts store. With more than more than 5,500 different part references held, between 65 and 75 percent of requests are supplied direct from stock, as expected by COJAAL. Demand – now 20 percent of the total – runs to between 200 and 250 per week, delivered via a dedicated weekly van service to Camps 1, 2, 5 and 7. Parts in constant demand include filters, ground engaging tools and tracks.

Where parts need to be sourced elsewhere, substitutes can be provided from other parts warehouses in Algeria in order to keep machines working while new parts are shipped from Caterpillar’s Grimbergen warehouse in Belgium, via Marseille to the port of Algiers. Because customs clearance can be a challenge, BM Algeria have set up a special customs free stock for COJAAL, ensuring that parts which are not needed can be returned to Grimbergen. And to ensure parts are always available in advance, Bergerat Monnoyeur conducts constant field checks on part wear during use. As a result, advanced delivery schedules are available and

parts delivery times have been reduced – with one week saved at Grimbergen, another in customs clearance, and yet another internally at BM.

From the beginning, in fact, a dedicated team has handled every aspect of day to day communication, parts handling and problem solving, including training and on-site visits by technicians to fix problems. And for the first year of the project a BM technician was based permanently at Camp 2, repairing machines and conducting parts stock control.

“The key,” claims Philippe Le Roy, Algiers based logistic and distribution manager dedicated to COJAAL Camps “is that we have passionate and talented people who go beyond the limits of their day-to-day job. Our capacity to help behind the scenes is very important. Since the start of the project we’ve built trust and confidence with our customer – and proven the kind of capability we have to support him. They now know that we will always find solutions.”

But for Bergerat Monnoyeur, as for the man crossing the new highway at dawn, meeting today’s new challenges is only the beginning. Each year since 2002 has seen an increase of around 30 percent in the country’s business activity. And with a budget of \$15 billion dollars earmarked by the Algerian government for expanding the country’s railway and road transport infrastructure over the coming five years, the story is set to get even more exciting. ■

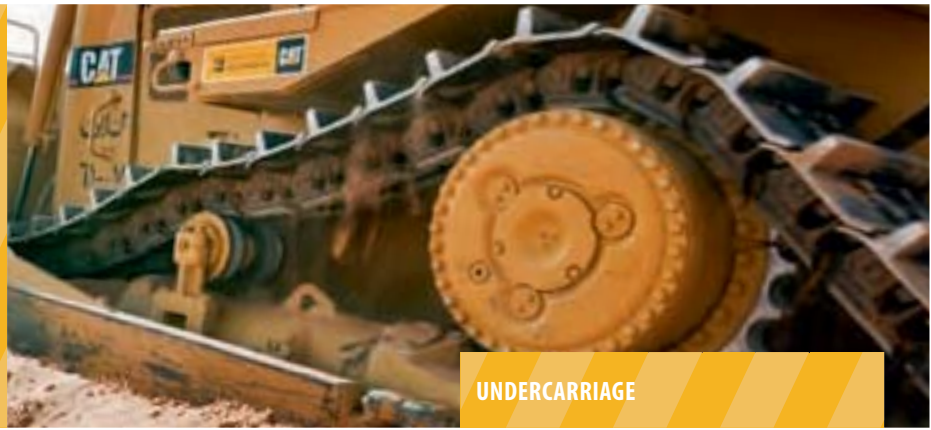


The Bergerat Monnoyeur Algiers support shop (above). Its 17 team members (right) keep the COJAAL project supplied with up to 250 different parts per week.





# MAINTENANCE AND OPERATOR TIPS



## UNDERCARRIAGE

Did you know that on a track-type tractor, the undercarriage can represent as much as 50 percent of machine maintenance costs? Here we outline conditions and situations affecting the undercarriage and highlight ways to help you slow or reduce wear.

### OPERATING TIPS

#### 1. RUN THE RIGHT SHOE WIDTH FOR THE CONDITIONS

Always use the narrowest shoe possible to achieve optimal machine flotation in the specific application in order to minimise stress on bushings and sprockets. This prevents pressed joints from opening up and shoe breakage in extreme conditions.

#### 2. MINIMISE OPERATING SPEEDS

Operating at high speed in non-productive situations can cause avoidable link, track roller, and idler tread wear. Reverse operation causes greater bushing wear regardless of speed.

#### 3. ALTERNATE TURNING DIRECTIONS

Avoid always turning the machine in one direction as this may cause more link side rail/track roller flange and idler flange wear on one undercarriage link assembly versus the other side.

#### 4. DO NOT SPIN THE TRACKS

Slipping the track reduces production and increases wear on all undercarriage components.

### MAINTENANCE TIPS

#### 1. ALWAYS ADJUST THE TRACK FOR CORRECT TENSION IN ITS WORKING ENVIRONMENT

A tight track increases loads, resulting in higher wear. Added track tension also increases load and wear on all mating components of your undercarriage. Adjustment requires a single person and takes only a few minutes. Refer to your machine's operation and maintenance manual, or contact your local Cat dealer, for more details on how to set the correct track tension.

#### 2. MAKE DAILY VISUAL INSPECTIONS

Check for loose bolts, leaking seals and abnormal wear. You can maximize undercarriage life and reduce cost per hour by taking advantage of these maintenance options: wet brushing turn, roller resurfacing, roller swapping, idler resurfacing, track shoe regrousering. Contact your local Cat dealer for more information.

#### 3. KEEP THE UNDERCARRIAGE CLEAR OF MUD AND DEBRIS

Clean out your undercarriage as often as possible. Remember that garbage, twigs, stones and demolition debris can't be extruded from the undercarriage, even through center-punched shoes.

#### AND FINALLY, TO HELP YOU MANAGE YOUR UNDERCARRIAGE SYSTEM BETTER...

##### CUSTOM TRACK SERVICE

The Caterpillar custom track service helps you monitor undercarriage performance. Using the most advanced diagnostic equipment, like Ultrasonic Wear Indicators, we can accurately monitor performance and predict wear rates. Measurements are taken from various positions, including the links, idlers, shoes, sprockets and rollers, and comprehensive reports give a practical insight into the undercarriage condition and the estimated life of its components. Contact your local Cat dealer for more information.



Find out more  
[www.uk.cat.com/undercarriage](http://www.uk.cat.com/undercarriage)

SUSTAINABILITY IN ACTION:

# RETHINKING DEMOLITION



Gone but not forgotten: the Philips factory in Eindhoven, site of the world's first mass-produced TV components. Arie's team used Cat machines to clear the site of all recyclable materials, preparing the ground for its next role as residential apartments.

**When you think about demolition, you may think about destruction, waste, and the end of a building's usefulness. But for Arie van Liempd, demolition is just one stage in a long-term vision of sustainability. His company, A. van Liempd Sloopbedrijf B.V., dismantles buildings, recovering more than 70 percent of the materials for re-use in other projects.**

Arie is a long-term Caterpillar customer with an outlook on sustainability that is a close match to our own. As an example, our Caterpillar Certified Rebuild (CCR) programme restores like-new reliability, performance and durability to used customer equipment, at a fraction of the cost of new replacement equipment. And like Arie, we apply the principles of sustainability across all areas of our business. In May this year Arie was responsible for an historic demolition in Eindhoven, the Netherlands. The site of the Philips factory which first mass produced televisions was taken down – but not destroyed...

**"HOUSEHOLDS RECYCLE GLASS AND PAPER. WE RECYCLE ENTIRE BUILDINGS"**

Explaining his business philosophy, Arie says: "We have to appreciate that this world has limited resources. When we run out, there is nowhere to go to get more. It is simple common sense that we use what materials we have as many times as they can be used."

For many people, this means recycling their paper and using the local bottle-bank. Arie takes the principle of sustainability and applies it on a grand scale. "Traditional demolition companies just tear buildings

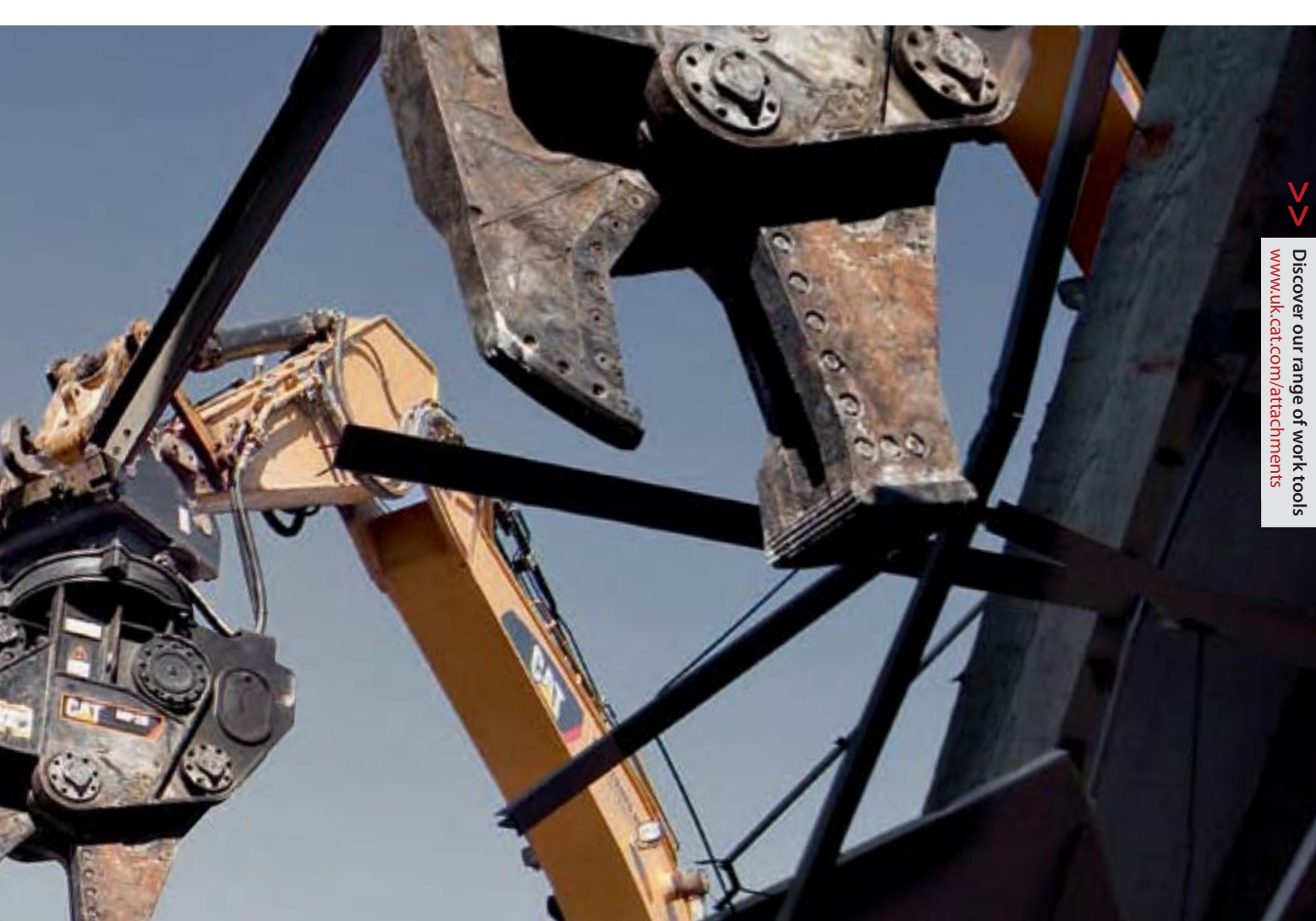
down and get rid of the evidence. We take buildings apart, carefully, piece by piece and use them again."

Over 70 percent of a building's component parts can be re-used or re-purposed. All the glass is carefully removed first. Then all the ceramics – toilets, tiles, sinks. As the building is taken down, everything that can be used again is sorted and saved. That means all the wood from frames, floors and supports, all the carpets and fittings, plastic, metal, concrete – everything – is sorted and stored for future use.

**"WHEN I SEE A CAT MACHINE IN ACTION, EVEN IN 38-DEGREE HEAT, I STILL GET GOOSEBUMPS"**

Arie owns seven Cat machines: one 206, three 330s and three 345s excavators, and has a number of preferred configurations, depending on the situation. Multigrapples, crushers and hammers feature heavily in daily work, with multiprocessors adapted to the changing needs of the materials being handled. Arie works closely with Arie Buitendijk and John Wannet from Pon Equipment, Cat dealer in the Netherlands. "Sometimes I get calls from customers at short notice, about a project halfway across the world," says Arie. "I might need an extra 20 Cat machines delivered on site thousands of kilometres away. All it takes is one call to Pon Equipment and the answer is always the same: "they'll be there as soon as you need them." It's the same reliability and trust that I have in the machines."

Arie prides himself on thinking ahead, and planned many years ago to be a Caterpillar customer. "Cat machines were always my goal, always. From day one



I planned to build my company around Caterpillar, quite simply because they are the best. They radiate power, trust and reliability: in all my years in this

*“Over 70 percent of a building’s component parts can be re-used or re-purposed”*

business I have not once been let down by a Cat machine. When I see a Cat machine in action, even in 38-degree heat, I still get goosebumps.

“Maybe ‘magic’ is difficult to define. But when I see these machines – these delicate monsters – at work, I feel like a magician. And who doesn’t love magic?”

#### **CATERPILLAR WORK TOOLS ‘TEST PILOTS’**

Because Arie’s work involves a great deal of precision – sorting and sifting different materials on a busy site – he uses a range of work tools. He has developed a close working relationship with Caterpillar Work Tools B.V., which has recruited Arie and his crew as unofficial ‘test pilots’. “The people at Work Tools in Den Bosch often ask us to test their new designs. We equip our machines with the new work tool and set it to work on-site, and then invite the Work Tools people to see it in action. My crew gives them honest feedback on the operation, and then Work Tools will incorporate that feedback into the next design update. It’s a tremendous feeling to be involved in the creation of a piece of equipment

that will be used by so many people, and it’s fantastic that Work Tools listens to its customers so closely.”

#### **WORK TOOLS AND TEST PILOTS IN ACTION**

Bert Heijligers, MarCom and Marketing research manager at Caterpillar Work Tools B.V.: “It’s all about trust; loyalty and trust. New work tool designs are valuable intellectual property, so we choose our test pilots carefully, since they often see and use the prototypes up to six months before they hit the market.”

Arie’s Eindhoven demolition project was the ideal opportunity to try out the new G325B, P200 series and a 6-jaw set multiprocessor. The G325B Multigrapple has unlimited left and right rotation, perfect for sorting and shifting the different types of material for recycling. The P200 Series secondary pulveriser for sizing down concrete blocks, and the 6-set MP is the Swiss army knife of demolition. The new S-Jaw has a piercing tip and wear blade in the upper jaw, with a cross blade and guide blade below. Ideal for processing large metal pieces.

“Before we launch a new work tool, we send it into tough working conditions, like Arie’s demolition site,” Bert explains. The Eindhoven project was perfect because the tools on test were designed for both primary (‘asset stripping’) and secondary demolition (moving and sorting concrete and metal after the building is taken down).

“Our work with test pilots is an essential part of product development. We get valuable data on tool wear and tear, and our engineers get feedback on usability and how our tools compare with other products. And

#### **ABOUT THE COMPANY**

Arie started his company in 1988 in the Netherlands’ Sint Oedenrode, once voted the greenest village in Europe. Since then, the business has grown to become a major player in the international demolition industry. Today, Arie employs 40 people and handles up to 30 projects a year, recycling more than 400,000 tonnes of concrete annually. The company works wherever the projects take them, from the Netherlands to France and Belgium, Germany and farther afield, working on buildings as diverse as factories, banks, hospitals, warehouses and even churches.

More ▶

**PROUD MEMBER OF INTERNATIONAL  
CENTRE FOR SUSTAINABLE EXCELLENCE  
(ICSE)**

This year Arie's company made headlines in the world of sustainability by becoming the first and only demolition company to be approved by the ICSE. This organisation is a global think-tank of businesses, governments and scientists within the field of sustainability.

And thanks to Arie's unique approach, talks are underway to shake up the entire demolition industry. "I want nothing less than a new set of standards, a new approach and new guidelines for my industry. Why destroy materials that can be used again? We should no longer be associated with waste: buildings do not cease becoming useful when they stop being used." This is equally true for the equipment that Arie uses. Like every Caterpillar customer, he can benefit from the wide range of Cat Certified Rebuild machines. They reuse more than 85 percent of the original equipment materials, requiring up to 60 percent less energy to build. Which combines good business sense with a minimal environmental footprint.



because operators are at the 'front line', they often come up with ideas that we might overlook. We took advice recently from an operator about grapple overbite, and his comments justified our greatly improved redesign."

**HISTORY MEETS ART AND THE FUTURE OF SUSTAINABILITY**

In Eindhoven at the end of May this year, the nation's TV cameras filmed a historic event. The factory where Philips first mass-produced the world's first television cathode ray tubes was finally brought to the ground. For some, this marked the end of an era. But Arie knew that this was just the beginning. The factory was just one on the Strijp site, covering more than 70,000m<sup>2</sup> of the complete site's 190,000m<sup>2</sup> which Arie's crew will take down and recycle over the next two years.

Before the demolition, two CAT 330 and two CAT 345 excavators had already helped strip out around 400.000kg of materials from the 190.000m<sup>2</sup> site for recycling. Over the coming months, the remaining 200.000kg of materials – concrete, metal and so on – was removed and will be re-purposed.

"The factory itself isn't there now, at least not in the same shape" Arie explains, in what might sound like a spiritual approach to sustainability. "The elements that once formed the Philips factory are now taking new form, in new buildings in new places around the world. I'm proud that people will be able to look at a house

or a museum somewhere and think that inside that building is a piece of history that I helped to preserve."

Caterpillar has long recognised the need to encourage innovation that leads to new sources of energy and improved use of existing, abundant resources. The example set by Arie and his company is a perfect example of how Cat equipment is helping to turn this ideal into a reality.

A lot of the wood that Arie recovers is repurposed in a more visible way, by a company called 2LifeArt (2life-art.nl). "They make beautiful furniture, model houses, wonderful pieces that people can enjoy for many years to come," says Arie. "They perfectly represent the concept of sustainability. Trees are turned from things of beauty into wood for functional buildings, which are demolished at the end of their lives. With 2LifeArt, that same wood once again becomes a thing of useful beauty. To me, that shows real respect to the planet, and there are few things more important in life." ■

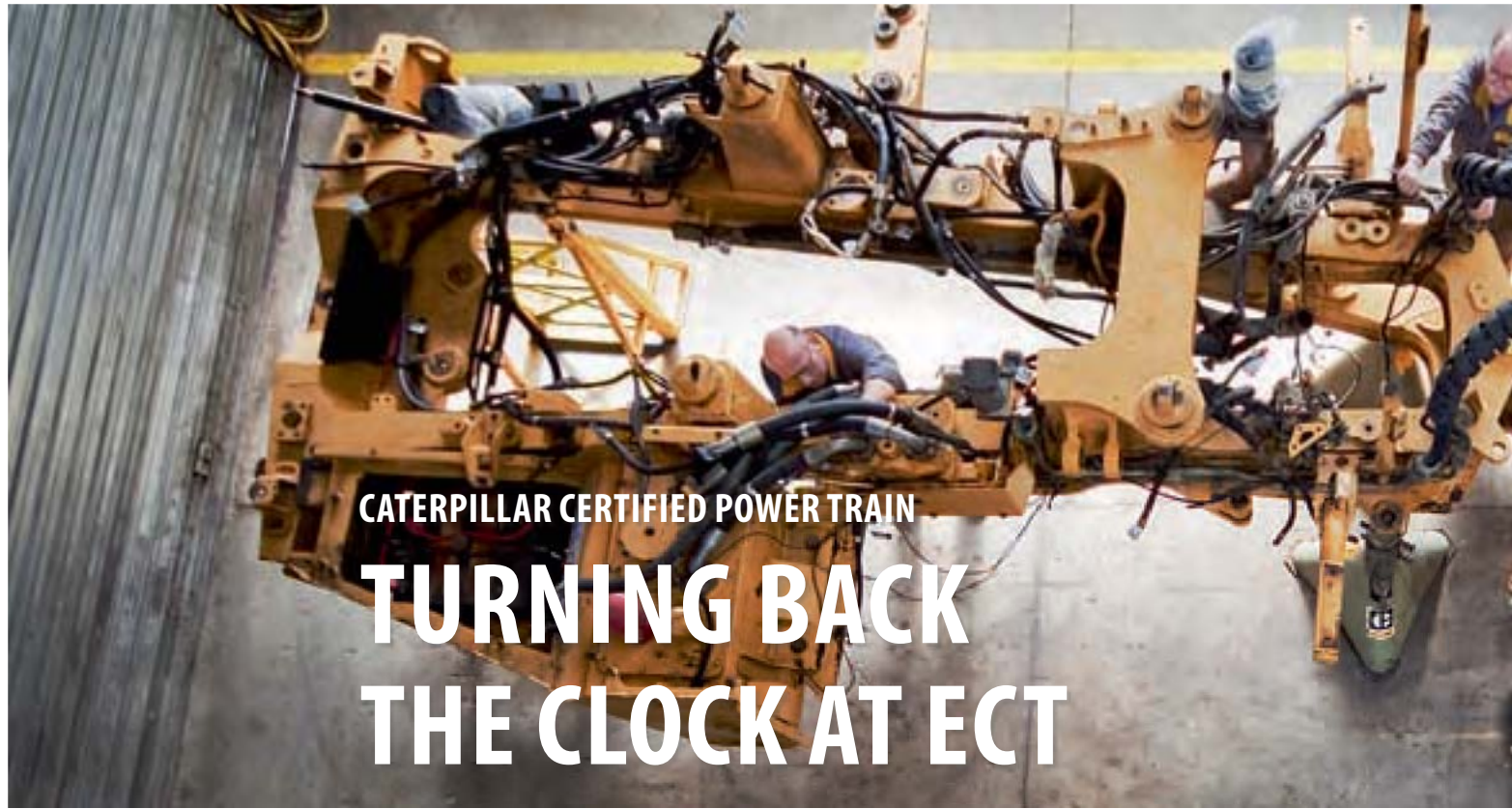


"Fairytale beginnings: a 3m-tall fantasy house built by 2LifeArt to show some of the creative uses for Arie's recovered wood."



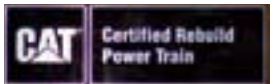


*"When I see a CAT machine in action, even in 38-degree heat, I still get goosebumps"*



## CATERPILLAR CERTIFIED POWER TRAIN

# TURNING BACK THE CLOCK AT ECT



### CAT CERTIFIED POWER TRAIN

- Restores power train to like-new performance
- Covers radiator, engine, transmission, torque converter, final drive and axle
- Approximately 200 tests and inspections of power train components
- Replacement or reconditioning of approximately 3,000 parts, including power train electrical switches, sensors, sending units, electronic control modules, engine wiring harnesses, bearings, gaskets, seals and coolant hoses
- Critical engineering improvements and updates incorporated
- Extended power train coverage available

French company ECT has recently opted to take advantage of the Caterpillar Certified Power Train (CPT) rebuild service offered by Cat dealer Bergerat Monnoyeur for two of its Cat 740 ejector articulated trucks. So what led to the decision and how has the company benefited?

ECT (the initials stand for Enviro – Conseil – Travaux) is based at Villeneuve-Sous-Dammartin, 30km north-east of Paris. The company specialises in the storage of inert waste from building and civil engineering projects, and in its use for reclaiming and restoring derelict land. Currently the company handles around seven million tonnes of material brought by contractors to 14 landfill sites in the Paris region and the south of France. These include two gypsum mines, where the mineral extracted is being replaced by waste material in order to stabilize the cavity and prevent collapse or subsidence. Just one of these, located in Baillet-en-France, near the company's headquarters, is estimated to have a stocking capacity for waste material of around 10 million cubic metres.

### PRODUCTIVITY UNDERGROUND

It's little wonder, then, that in 2004 ECT, already enthusiastic users of Cat machines, were among the first companies in Europe to buy the 740 ejector articulated truck. Or, to be more precise, three of them, equipped by local Cat dealer Bergerat Monnoyeur with special fire protection equipment and reinforced shock protection for underground working.

"For us the 740 ejector was a rational and easy decision," says ECT operations manager Pascal Beslay. "It's the perfect machine to match our application underground, where there are height, turning radius and visibility constraints. With its 38 tonne payload and long service intervals, the 740 ejector has proved to be just as productive for us underground as a normal 740 articulated truck would working on the

surface. Using it, we can move up to 50,000m<sup>3</sup> of material per month working a single shift pattern."

But even the toughest machines have limited lives, particularly when they work underground, subjected to high dust, vibration and shock. By 2009 it was evident that, with over 8000 operating hours, ECT would soon have to consider replacing them – or would they?

### DON'T REPLACE; RECYCLE

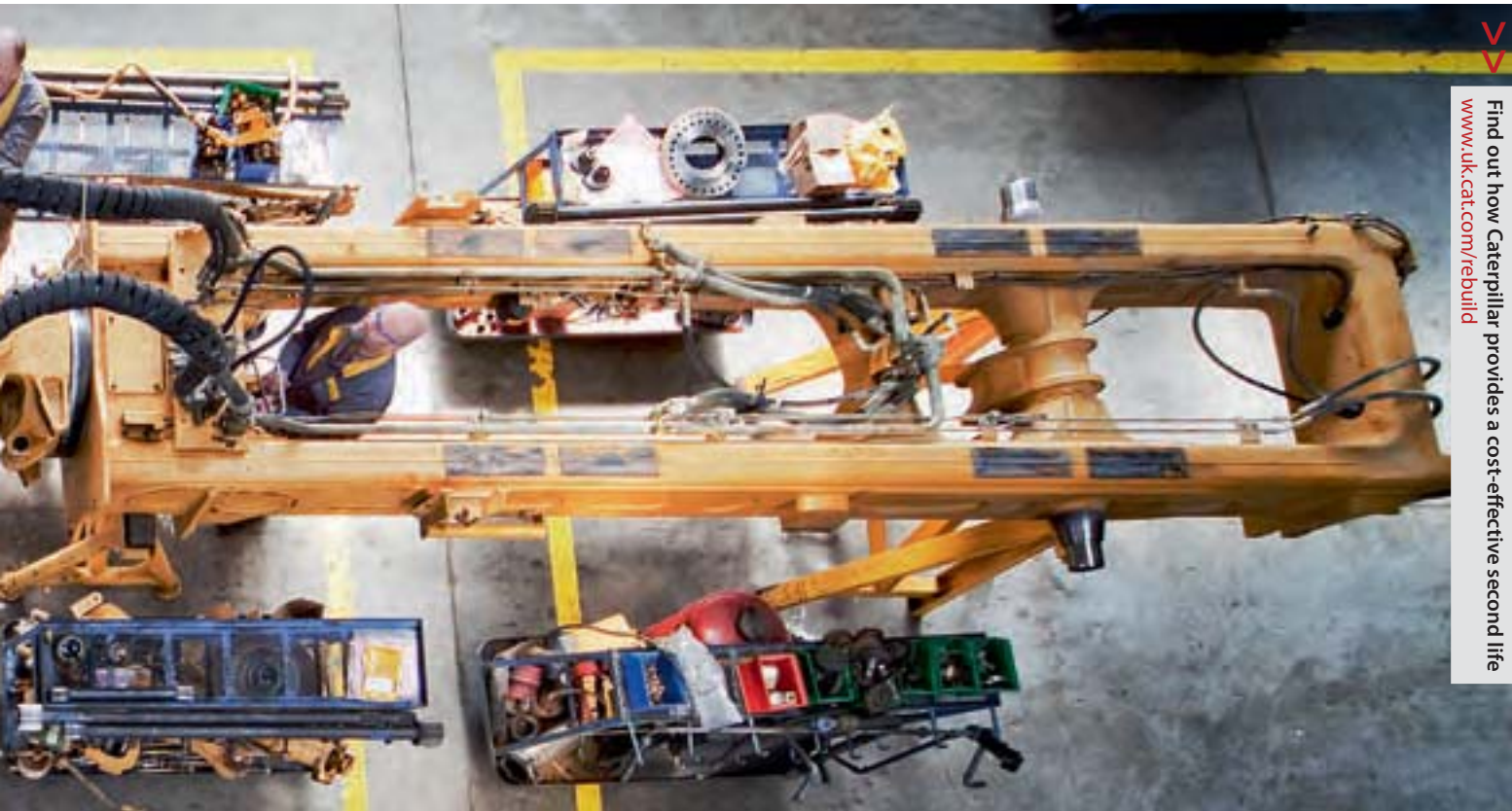
ECT's environmental consultant Joel Labille had his own views on the matter: "We're a company whose primary concern is sustainability, and whose whole business is related to conservation and restoration of the environment. So does it make sense simply to scrap and replace a Cat machine when there's a more cost-effective, environmentally friendly alternative? Of course not!"

Pascal Beslay puts it another way: "The Caterpillar Certified Power Train service offered by Bergerat Monnoyeur presented us with a more cost-effective

*"Why scrap a Cat machine when there's a cost-effective, environmentally sound alternative?"*

*Joel Labille, environmental consultant, ECT*

option. It allows us to take advantage of a machine with a practically new engine, transmission and axles, and with external renovation, for around only 50 percent of the price of a new machine. That includes a three-year extended warranty on the complete power train. And we could also be certain that the experience and expertise of our Cat dealer's technical staff would guarantee a first class renovation job."



The 740E power train undergoes reconditioning.

Certainly local Cat dealer Bergerat Monnoyeur's experience in undertaking certified power train rebuilds for their customers is considerable, with over 20 rebuilds completed since 2001 by their workshops, working jointly with their engine, transmission and hydraulics renovation centre at Brie-Comte-Robert.

Yves Harel of Bergerat Monnoyeur confirms this: "With around 850 mechanics and a total technical staff of 1200 people, the expertise we can make available to customers is considerable, as is our experience of undertaking CPT and complete Caterpillar Certified Rebuilds (CCR). So we were able to reassure ECT that they would see solid practical benefits from a CPT."

Consequently ECT decided on CPT for two of their three Cat 740 ejector articulated trucks, which was carried out earlier this year according to strict Caterpillar guidelines. An initial study was undertaken to evaluate potential benefits, followed by detailed machine inspections and planning. Only then was the renovation process carried out, followed by thorough performance testing.

For each of the two Cat machines, the total process – including dismantling renovation, painting and reassembly – took approximately 1200 hours, and the two machines are now back at work.

"It's a solution you can't argue with," states Pascal. "The operational life of the two machines has been extended by at least 50 percent. Like the kind of work we do, it's a perfect example of sustainability in action. ■"

#### THE CAT 740E – THE PERFECT CHOICE FOR WASTE HANDLING UNDERGROUND

ECT have found their 740Es, the first in Europe, to be perfect for their demanding application and site configuration, where height, turning radius and visibility are restricted. With its powerful combination of reliability, durability, high productivity and lower operating costs, the Cat 740 Ejector is equipped with off road oil/nitrogen front suspension cylinders that keep the operator comfortable in even the most difficult working conditions. True "on-the-go", simple to operate differential locks ensure fast cycle times and optimal productivity.

# YOU CAN'T BEAT THE EXPERIENCE

## CAT MAGAZINE TURNS THE SPOTLIGHT ON PAOLO CANTELLI, TECHNICAL COMMUNICATOR WITH ITALIAN CAT DEALER CGT



**PAOLO CANTELLI**

CGT, technical communicator

**STEFANO BASTIANONI**

CGT, mechanic



**ROBERTO BECHELLI**

Cave Pedogna S.p.A., mechanic

**Paolo's mission – to keep customers' Cat machines operating at full stretch, delivering maximum productivity for their owners day after day, throughout their working lives. So just how does he set about achieving this? And what resources can he turn to solve problems out in the field? Cat Magazine joins him to discover what drives him.**

When we meet Paolo Cantelli, he is standing in front of a Cat 365B hydraulic excavator hard at work in a quarry operated by Cave Pedogna S.p.A. high in the hills above the town of Lucca, northern Italy. As we talk, he bends down, picks up a rock fragment the size of a pinhead, and says: "It was a piece of material this small that created a problem with this machine recently. It got into the hydraulic pump regulator, blocking the spool and slowing down the swing system hydraulics. The customer's on-site technician called on us to help him solve the problem. But even our own technician assigned to the quarry couldn't at first discover what was causing the trouble. So when, in turn, he called me for advice, I asked him to take a closer look at the pump regulator. I knew from experience that this was where the problem must lie. And sure enough, second time round we found the source of the trouble, fixed it and had the 365B quickly back at work."

### AN EARLY START

Experience is a key ingredient in Paolo's current work. He began his career with CGT in 1974, as a technician based in one of the company's five main branches in the city of Arezzo. In 1990 he moved to Florence, working as the branch's chief technician coordinator. Then, in 1990, he moved again, to his current position in CGT's technical division, where he provides specialist support for Cat excavators and training for CGT's 400 technicians. The bulk of his day to day work involves liaising with CGT's technicians to ensure timely maintenance, repair and technical support to every customer in his territory. And that's a big area, covering the whole of northern and central Italy from the Alps to Umbria. As he says, "It means that I work long days. I'm up at 6a.m. every day and work through 'til 8 or 10p.m., whatever it takes. Even when my work on the road is done, I still have to spend time liaising with other CGT and Caterpillar contacts to ensure the right parts get to the right place at the right time. But I wouldn't change my job for the world; I love

what I do, the company I work for, and above all the Cat machines that have been my life for over 30 years now."

The course of Paolo's working day is dictated entirely by the need to keep customers' Cat machines working productively. "Normally," he says, "the CGT technician assigned to a customer will do his routine work on site in collaboration with the customer's own mechanics – maintenance, an oil filter change perhaps – as per the customer agreement. And if a problem occurs he'll usually test the machine and fix it himself. But if there's a difficulty, or a problem that's beyond his capability

*"I love what I do, the company I work for, and above all the Cat machines that have been my life for over 30 years now"*

and experience, he'll call me for advice and help. And naturally, I have to react quickly. After all, a Cat machine that's not working is costing its owner money instead of earning him income, and that's totally unacceptable. It means that I could be working almost anywhere on any given day. Also it means I spend a lot of time on my mobile phone, answering questions, giving advice and liaising with CGT service and marketing people in Italy, and Caterpillar staff worldwide, to gather information and source parts and materials."

### TOUGH MACHINES FOR TOUGH CONDITIONS

On the day Cat Magazine talks with him, Paolo is visiting Cave Pedogna, one of CGT's largest customers. Their quarry and crushing mill at Pescaglia, a few kilometers north of Lucca, produces up to 6000 cubic metres of stone per day. Most of the quarry's output is destined for road building, civil engineering and general construction projects throughout northern and central Italy. In order to meet these production levels, the company operates a substantial fleet of Caterpillar machines at the site. Their fleet includes 992, 990 and 980 wheel loaders, 365B and 345 hydraulic excavators, D11 and D7 track-type tractors, 777 and 775 highway trucks, and 730 articulated trucks. Working conditions at the site are tough, which means that maintenance requirements are high. So a fast reaction to machine problems by CGT technical staff – and a quick solution to them – is essential to maintain productivity.

The reason for Paolo's visit is a Cat 992G wheel loader that has been reported as suffering from low performance. Working together, Cave Pedogna mechanic Roberto







Bechelli and CGT technician Stefano Bastianoni have installed fuel flow meters supplied by Caterpillar from the USA, data recording equipment and a wireless communications adaptor in the machine to try to track down the source of the problem. Paolo is here to study the results and make repair recommendations. Within two hours of his arrival, the problem has been diagnosed, a remedy found, and the 992G is back at work in the quarry.

"It's a good example of what we're here for," says Paolo. "We hate to see machines in the workshop when they should be out there earning their keep. So a quick solution to any problem is vital. To achieve that we're prepared to call on whatever know-how, resources and facilities we need, both from CGT and, wherever necessary, from Caterpillar anywhere in the world. There's a whole world of knowledge out there in the Caterpillar organisation, and it's our job to bring it to bear for the benefit of our customers."

[More ▶](#)





## DIAGNOSIS AND CURE IN ACTION AT CAVE PEDOGNA

### TECHNICIANS EQUIPPED FOR FAST SERVICE

Caterpillar field service technicians have experience and tools to troubleshoot fast. Their first priority is to get machines up and running. Their trucks are fully loaded with state-of-the-art tools and diagnostic equipment and they carry programs with specs for every Cat machine, including Genuine Parts list, service manuals, and updates on every machine from 1978 to today. But more than all of these tools, it is the knowledge that each bring to the job that keeps equipment running. They can troubleshoot and if a full repair isn't immediately possible, they can often patch things together until the right part arrives so that the contractor can stay up and running.

⤴ After suffering a final drive problem while working on-site, a Cat 775D is examined by Cave Pedogna's Roberto Bechelli and CGT technician Stefano Bastianoni.

Tough conditions at the quarry mean that rigorous maintenance and service are a top priority. Here a Cat D11R with a radiator fan motor problem that led to engine overheating is inspected to ensure the effectiveness of the repair. ⤵



⤵ Working together, Cave Pedogna mechanic Roberto Bechelli and CGT technician Stefano Bastianoni track down the source of a fuel pressure problem that has been affecting the performance of a Cat 992G wheel loader.





# REASSURANCE

As you would expect, our work tools are characterized by exceptional reliability and high quality. They are also extremely durable, which means they retain a high resale value. And with our extensive range of grapples, multi-processors, shears, rippers, buckets, quick couplers and compactors, we make sure you have the right tool for any demolition and recycling challenge.

But there's more. With the unique combination of Cat machines and work tools, you have the perfect performance match. Uninterrupted productivity. Equipment you can be proud of. A single point of contact. And the backup of our unrivalled spare parts service and vast dealer network. In other words, the reassurance that comes from choosing the leader in work tools.

[www.cat-worktools.com](http://www.cat-worktools.com)

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