

CAT MAGAZINE

ON LOCATION: GRIMBERGEN
PARTS DISTRIBUTION CENTRE

**NO-ONE MOVES
FASTER**

**HIGH SPEED
PRECISION PAYS**

MOUNTAIN MAKEOVER

CATERPILLAR®



Sold with warranty for peace of mind.

Each Cat® Certified Used machine is sold with warranty.

What gives us the confidence to provide this level of security? For a start, each machine has up to 140 inspection points evaluated. The most recent maintenance will have been completed, using only original Cat® parts, fluids and filters. These low hour machines have already proved themselves in the field, and, after a thorough Cat evaluation, are ready to continue working.

Look for the Certified Used identifier. Only available at your Cat dealer.



ANTWERP, BELGIUM
High speed precision pays



GRIMBERGEN, BELGIUM
No-one moves faster



KÁRAHNJÚKAR, ICELAND
Return to Kárahnjúkar



PUERTOLLANO, SPAIN
Mountain makeover

DEAR READER,

Our primary concern is to ensure that you benefit from reliable Cat equipment and state-of-the-art product support. A powerful example of this commitment is our state-of-the-art Grimbergen parts distribution centre in Belgium, which is featured in a special three-page article in this issue. As usual there are plenty of other illuminating stories, which I hope you enjoy reading.



For now, may I wish you a successful year 2010, and hope to see many of you in April on our stand at Bauma in Munich.

Best Regards,

Paolo Fellin
Vice President
Caterpillar

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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

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CAT IN BRIEF



YOUR CHANCE TO WIN A SCALE MODEL!

To help Cat Magazine align to your individual interests even better, we would like your feedback. Your input will allow us to continually improve the magazine and help shape its future direction. You'll find a readership survey on page 25 – it takes only a few minutes to complete. We know your time is valuable that's why alternatively you can log on to >> www.catmagazinesurvey.com and give us your opinion online instead.

The first respondents can win a D7E Caterpillar scale model, so make sure you complete our survey as soon as possible, and in any event no later than **19th March 2010**.



Disclaimer: Model may vary to what is pictured

CUSTOMER GALLERY



Owned by Spanish Cat enthusiast Martin Garrido Crespo, this Cat D7 has been in the family since it was bought new by Martin's grandfather in 1941. The fact that he chose a Cat machine wasn't surprising, since the Spanish Ministry of Agriculture in those days insisted that all such

machines came from Caterpillar. Today, almost 70 years later the machine is still hard at work on the family's 600 hectare agricultural business: a fact that is also not surprising - to Cat enthusiasts.



Log on to:
www.catmagazinesurvey.com

THE FEELING OF PRIDE



Many of us lucky enough to work our industry, often take for granted the feeling of pride we get from working with Cat machines. They are instantly associated with strength, reliability and professionalism, and it's a feeling that other professions also want to experience. That's why Caterpillar offers Cat-branded clothes and accessories in special stores across the globe. Our latest of which recently opened in Dubai. Crowds flocked to it when the doors opened, once again proving that everybody wants the Caterpillar feeling of pride.



D7E the latest TTT info:
www.cat.com/D7E

CAT MAKES PLANE DISAPPEAR



It was the world famous Moscow International Air Show, opened by President Putin. On display were the latest aerospace products from 34 countries. Also in attendance was Caterpillar customer AviaVtorResurs, an aluminium recycling specialist. The company was there to show the aviation industry how it can quickly and easily dismantle, cut and ship obsolete aircraft – using a Cat M318D wheeled material handler fitted with a boom-mounted hydraulic shear. Right there in front of everyone's eyes, an old Tuplev bomber was stripped, shipped and made to vanish. But it wasn't magic, it was a Cat machine and work tool.

CATCH UP WITH CAT MAGAZINE ONLINE

Now, for the first time, you can enjoy Cat Magazine online, by logging on to >> www.cat.com/CatMagazine. There you and your colleagues will find the full spread of Cat Magazine content, useful links you can click on in articles that will take you to related Cat videos, resources and information.

Visit Cat Magazine online - and enhance your enjoyment and knowledge of the world of Caterpillar.



Go online today:
www.cat.com/CatMagazine



CAT RENTAL STORE OPENS IN BURKINA FASO



Following a year of preparation and staff training, Western Africa's first branded Cat Rental Store is now up and running in Burkina Faso. Opened last May in the nation's capital Ouagadougou, it's the latest development in over 11 years of rental activity in the country by Cat dealer Burkina Equipements. The new store rents wheel loaders, hydraulic excavators, track-type tractors, motor graders, compactors and allied equipment locally, as well as to mining operations located up to 450km away.

STAYING COOL ON ICE



Even in normal conditions, machine failure is annoying. But in the freezing Antarctic, it could be a matter of life and death. That's why South Africa's Antarctic scientific research station, which for months each year is totally isolated at the South Pole, insists on using Cat machines. Here, four specially-equipped Cat machines are used to clear emergency snow build-ups, as well as transport cargo and personnel – in temperatures as low as minus 40°C. Cat machine reliability ensures that no-one ever gets annoyed at machine failure, they always stay cool.



WHEN THE CALL COMES, NO-ONE MOVES FASTER



Sharon Craig, parts order fulfilment division manager and Walter Doms, parts order fulfilment supervisor pictured.

Walk into the office area of the Caterpillar parts distribution centre at Grimbergen, Belgium, and what strikes you is the calm way in which the staff there – around 80 out of a total workforce of over 500 – go about their business. There's no apparent rush. But that's deceptive, insists Sharon Craig, parts order fulfilment division manager. "Everyone here is geared to providing a fast response," she says. "Our customers often work in situations where they incur high costs or penalties if their machine doesn't work. When they need a part they need it fast, so we move fast. It's our whole reason for being here."

RAPID ORDER PROCESSING

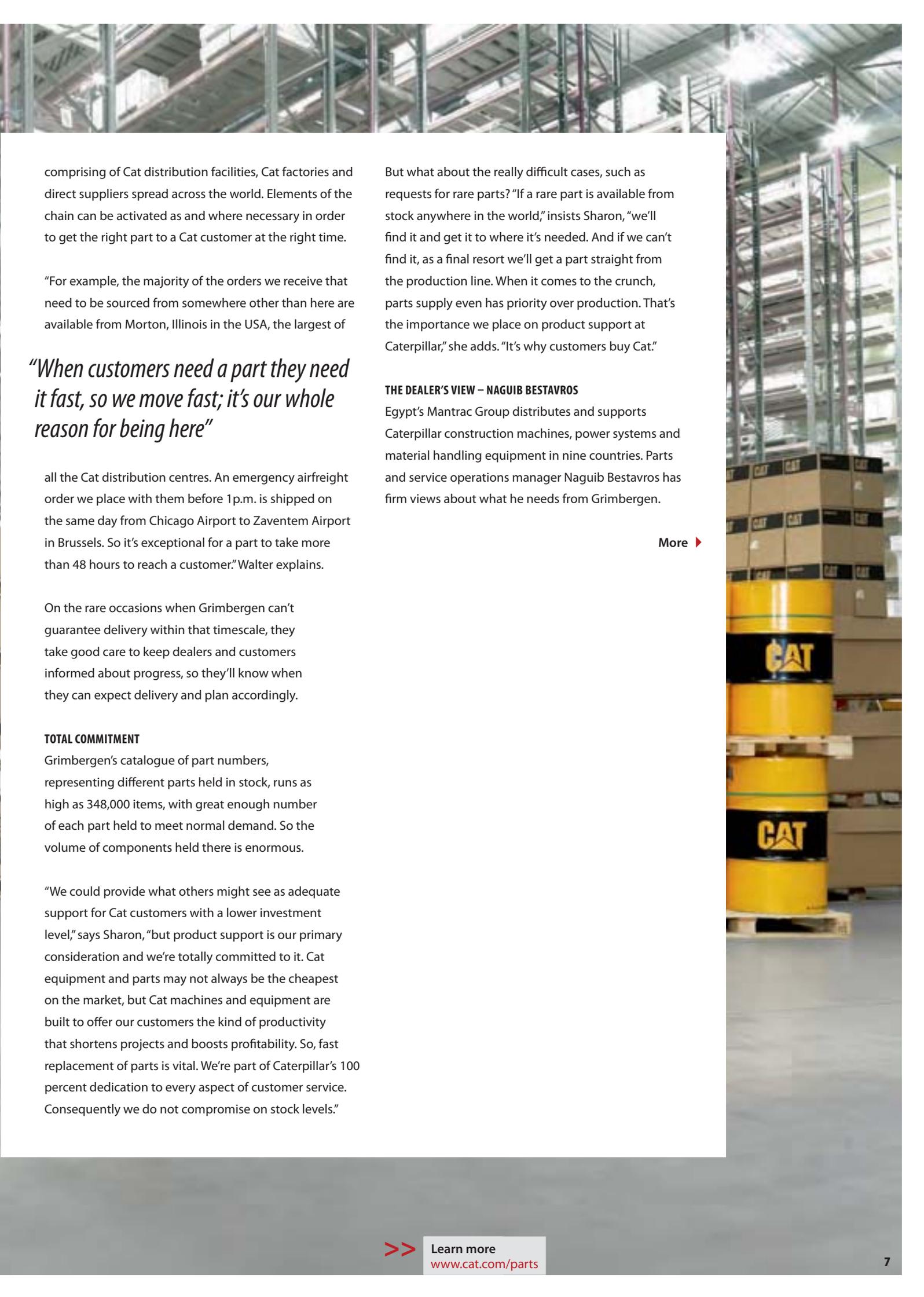
Since Grimbergen opened back in 1965, the way of working has constantly evolved to take advantage of the latest computer and communications technologies. No two emergency orders are the same, but in principal it works like this: if a dealer doesn't have the part in stock that a customer wants he simply enters the part number in the Caterpillar information system. This is transmitted by satellite to Grimbergen, and within seconds, the order is processed and one of the 80 staff picks it up. That's when the race starts. "We use a variety of material handling equipment to pick, pack and rush the part to the customer," says Sharon. "It doesn't matter when an emergency order comes in, day or night, any day of the year - they all get immediate attention." The result is that emergency orders are processed, picked and packed in under three hours and shipped the same day.

"Dealers' own inventories cover 80 to 90% of all customer parts requests," says parts order fulfilment supervisor Walter Doms. "Of the extra 10 to 20% handled by Grimbergen, we supply more than 90% off the shelf. That equals delivery to Cat customers of between 98 and 99% of total part requests in 24 hours."

GLOBAL SUPPLY CHAIN

But life at Grimbergen isn't always that straightforward. For instance, what happens when a request comes for a part not in stock there?

As part of Caterpillar Logistics Services, Grimbergen is just one part of the Caterpillar global supply chain



comprising of Cat distribution facilities, Cat factories and direct suppliers spread across the world. Elements of the chain can be activated as and where necessary in order to get the right part to a Cat customer at the right time.

“For example, the majority of the orders we receive that need to be sourced from somewhere other than here are available from Morton, Illinois in the USA, the largest of

“When customers need a part they need it fast, so we move fast; it’s our whole reason for being here”

all the Cat distribution centres. An emergency airfreight order we place with them before 1p.m. is shipped on the same day from Chicago Airport to Zaventem Airport in Brussels. So it’s exceptional for a part to take more than 48 hours to reach a customer.” Walter explains.

On the rare occasions when Grimbergen can’t guarantee delivery within that timescale, they take good care to keep dealers and customers informed about progress, so they’ll know when they can expect delivery and plan accordingly.

TOTAL COMMITMENT

Grimbergen’s catalogue of part numbers, representing different parts held in stock, runs as high as 348,000 items, with great enough number of each part held to meet normal demand. So the volume of components held there is enormous.

“We could provide what others might see as adequate support for Cat customers with a lower investment level,” says Sharon, “but product support is our primary consideration and we’re totally committed to it. Cat equipment and parts may not always be the cheapest on the market, but Cat machines and equipment are built to offer our customers the kind of productivity that shortens projects and boosts profitability. So, fast replacement of parts is vital. We’re part of Caterpillar’s 100 percent dedication to every aspect of customer service. Consequently we do not compromise on stock levels.”

But what about the really difficult cases, such as requests for rare parts? “If a rare part is available from stock anywhere in the world,” insists Sharon, “we’ll find it and get it to where it’s needed. And if we can’t find it, as a final resort we’ll get a part straight from the production line. When it comes to the crunch, parts supply even has priority over production. That’s the importance we place on product support at Caterpillar,” she adds. “It’s why customers buy Cat.”

THE DEALER’S VIEW – NAGUIB BESTAVROS

Egypt’s Mantrac Group distributes and supports Caterpillar construction machines, power systems and material handling equipment in nine countries. Parts and service operations manager Naguib Bestavros has firm views about what he needs from Grimbergen.

More ▶



Learn more
www.cat.com/parts



"We work with customers in risky and moderate risk environments," he says, "where the players are large international companies in sectors such as mining. These people need service that's quick and efficient. Availability is vital and that's what Grimbergen makes possible. They provide us with 90 percent parts availability on an immediate basis, and for the rest, they take responsibility for sourcing it from wherever it's available worldwide. They're an essential, integrated part of our total supply chain."

He gives a recent example: "For a mining company in Ghana we needed 15 engines for a planned overhaul program helping to keep 100 Cat 785C trucks operational. This involved a critical time frame for delivery of the engines. There were only four engines available from Grimbergen stock; the rest had to be sourced to a tight schedule involving air-freighting to meet delivery deadlines. And they did it!"

"They always deliver on time, and when delivery can't be immediate we're kept fully informed about

what's happening, when we can expect delivery, and even who's taking care of our order."

"The great thing is," he adds, "that Grimbergen have matched Mantrac's demands through the years. As we have grown from a company with a \$100 million turnover 16 years ago to one with a \$3 billion turnover today, they have always provided the same, or better service. Systems, manpower and services available from Grimbergen have grown along with our needs." ■

GRIMBERGEN VITAL STATISTICS

Employees on site:

500

Total storage area:

138,800 m²

Items available:

348,000

Emergency orders shipped:

Up to 10,000 part numbers
per day

Processing time (emergency orders):

2 hours 45 minutes

Stock orders shipped daily:

Up to 17,000 part numbers
per day

Daily shipping volume:

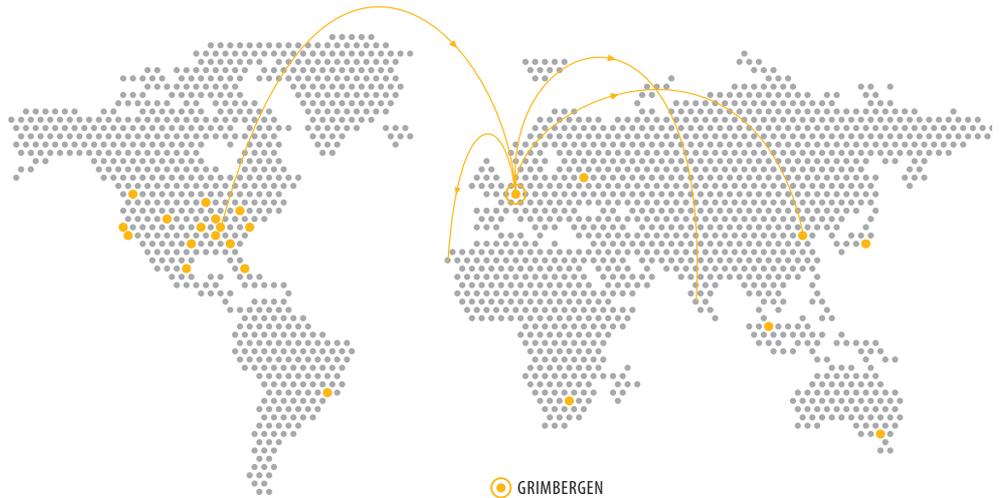
Up to 600 tonnes

Sales territory:

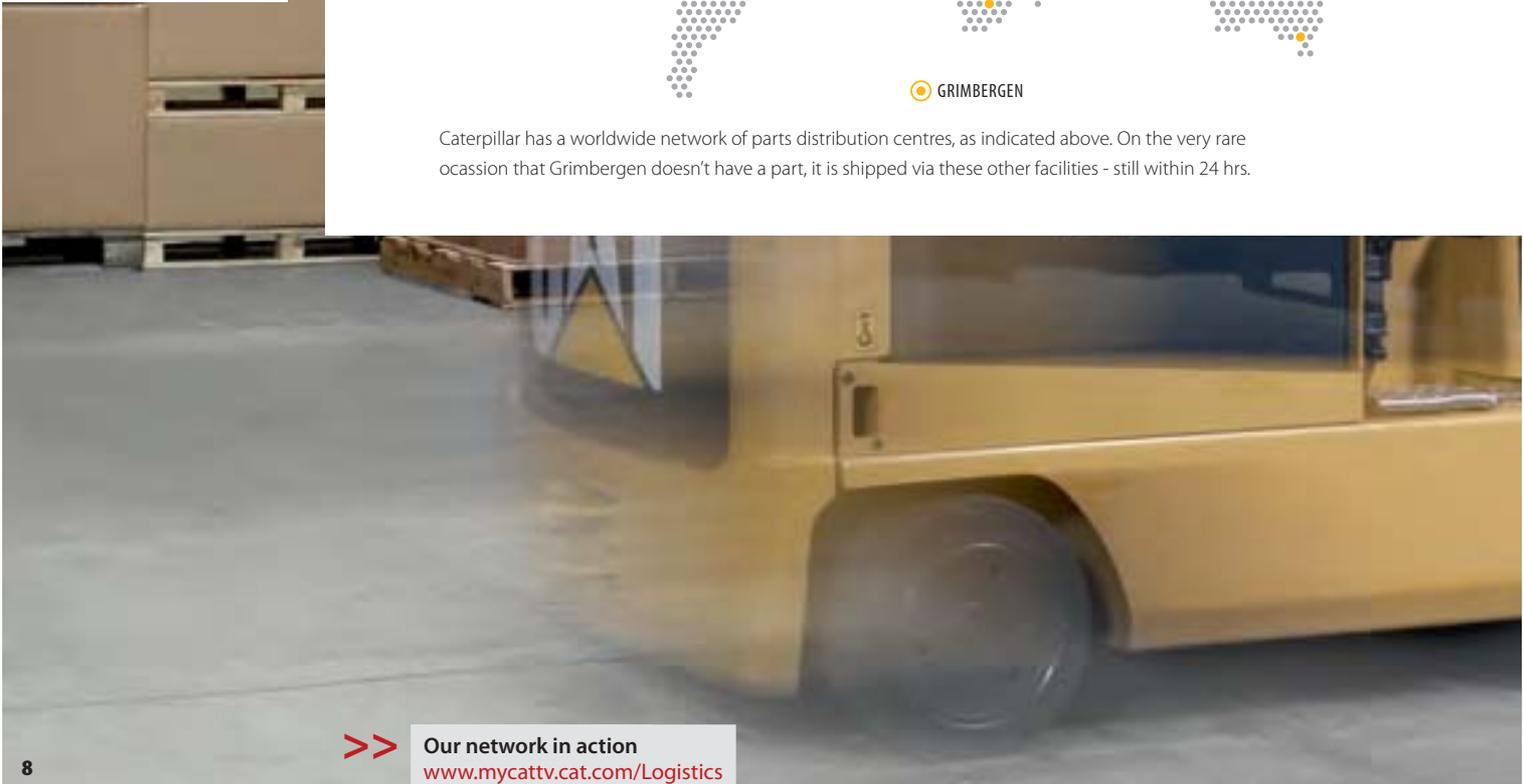
Europe, Africa, Middle East, CIS

Dealers served:

73 in 106 countries



Caterpillar has a worldwide network of parts distribution centres, as indicated above. On the very rare occasion that Grimbergen doesn't have a part, it is shipped via these other facilities - still within 24 hrs.



MOUNTAIN MAKEOVER

It is 100 metres tall and weighs more than six million tonnes. It is composed of coal ash and waste from the nearby power station, and it is still burning inside. "It's not very pretty," says Ines Llerena Gil, the town's municipal architect. "But it has become part of our little town and we're rather fond of it."

The 'Terri', as it is affectionately called, is a huge slagheap that has piled up over more than 100 years of open cast coal mining and electricity generation. It lies just outside the town of Puertollano, in central Spain. And since the country's main high-speed railway line runs past it, more than 50,000 people see it everyday. It has become quite a landmark, one that everyone associates with Puertollano.

[More ▶](#)



Work continues throughout the year even in less than perfect weather conditions.



SUSTAINABILITY IN ACTION

The 'Terri' project in central Spain is a powerful example of realising the concept of sustainability. The whole idea of the Terri project is to reclaim land that is otherwise unusable and transform it into a safe and valued area for people and the environment. "And, in the process we are cleaning up a mess that future generations will not now have to face," says Ines Llerena Gil, Puertollano's municipal architect.

So when this small mining town received a grant from the central government to remove what most people would consider an 'eye-sore' there was much debate about what the town should do. "Everyone knows it and it is part of our identity," says Ines. "We are an industrial town and there's no hiding from that. We are proud of who we are."

That's when the town council had the idea of not levelling the mountain, but to landscape it into a beautiful park, high in the sky. The mission was to cut off the top, cover it with soil, plant grass and trees, and build a road up the side. Visitors could then take in the breath taking views of the surrounding countryside while sitting on one of the purpose-built terraces, or having a picnic on the grass. "It would be a way of preserving our coal mining identity, but without all the dust," says Ines.

CAT MACHINES MENTIONED IN TENDER

"When we were asked to tender for the job," says Tomás Omar, project manager. "We estimated that we would need to move about half a million tonnes of material to create the plateau, and we said in our tender that we would be using Cat machines – everyone knows Caterpillar, it is a strong and successful company. So the fact that we would be using Cat machines could only help us win the two and a half year contract."

The Terri (a word play on the Spanish word for sand) is now half way through its remarkable makeover. Electricity and water lines have been laid to supply the planned public lighting and refreshment kiosks, but since the Terri is still smouldering inside these needed special heat-resistant conduits. "We will be laying top soil and planting trees soon," says Tomás. "And importantly we will use local tree and plant species, because the whole project is really a celebration of Puertollano's identity."

The Spanish contractor, imes API, is using a Cat 330C excavator, a D6 track-type tractor, a M322D wheeled excavator, and a 140 motor grader to move and landscape this huge amount of earth. "We like Cat machines" says Alfredo Gonzalez, the motor grader operator. "I've been motor grading for eight years and I always love it when I use a Cat machine. They're very comfortable and the visibility is great."

DUST – THE BIG ENEMY

"Obviously, you can't move half a million tonnes of ash without creating dust clouds," says Tomás. "So to prevent dust clouds drifting over Puertollano we only work when the wind is in the other direction. At first we considered using special filters and air handling equipment for the Cat machines, but then decided





that they were already robust and tough enough. And to date it has all gone according to plan."

The local Caterpillar dealer, Barloworld Finanzauto, is helping to keep the machines up and running. Its maintenance contract ensures regular service and inspection while its Scheduled Oil Sampling (or S-O-S for short) helps with predictive maintenance.

"Steep gradients and severe conditions present no problems to a Cat D6"

Oil samples from each Cat machine are sent to the Cat laboratories every 25 days. "Most of the time the results come back with everything OK," says Tomás. "But occasionally the results identify a contamination problem, not surprisingly in such a dusty environment. Fortunately, these contaminations are rare and thanks to the S-O-S we always catch them well in advance before they causes any damage."

The project was completed at the end of 2009. "But it really isn't complete," says Raphael Sanchez, Puertollano's urban planner. "The park must be given time to grow and mature, this will definitely be an enjoyable experience, for us and for many generations to come." ■

Our oil sampling in action:
www.mycattv.cat.com/SOS



Learn more:
Contamination control

RETURN TO > KÁRAHNJÚKAR

In 2005 Cat Magazine reported on the use of 65 Cat machines by two contractors in the ongoing construction of three dams in eastern Iceland, including Europe's highest rock filled dam. The dams are central to a project to provide 690MW of electricity to a new aluminium smelting plant. So what has happened since our visit, and has the project gone according to plan?



- KEY FIGURES**
- Hálslón reservoir area:** 57km²
 - Water storage capacity:** 2,100 million m³
 - Tunnels:** Approx. 72km
 - Max. water discharge:** 144m³/s
 - Generating capacity:** Approx. 4,600GWh/year
 - Kárahnjúkar dam height:** 193m
 - Fill materials:** 8.5 million m³

Commissioned by Icelandic power company Landsvirkjun, the Kárahnjúkar hydroelectric power project is the country's largest to date. Construction work was undertaken by Italian contractor Impregilo and Icelandic firm Sudurverk. Both companies relied on Cat machines supplied and maintained by Iceland's Caterpillar dealer Hekla. Work began in 2003, and the six turbines fed by water from the Háslón reservoir, created by the damming operation, went into full production in late 2007.

EXPECTATIONS EXCEEDED

"The technical challenges were huge," says Landsvirkjun's head of corporate communications Thorsteinn Hilmarsson, "and the time scheduled to meet them was really tight. We were working over 600 metres above sea level in an arctic climate. The

"We all agree about the reliability and performance of the Cat machines. That's why we buy them."

hardship for the workforce, who had come here from over 40 countries, was enormous. But in general, the project has proved to be a success. All the structures and the power complex as a whole have exceeded expectations with regard to the technical aspects. For example, the water seepage through and under the big Kárahnjúkar dam is less than 200 litres per second, while the design planned for up to 25 times more."

He adds that the challenge of maintaining the integrity of the natural environment has been met as well. Reindeer, salmon and bird life have adapted to the changes. There has been an increase in the number of reindeer in the area, geese use the main reservoir as a refuge, and attempts at introducing salmon into the river downstream from the main dam have been successful.

SUPPORT WHERE IT'S NEEDED

The altitude and harsh climate were also testing for the Cat machines used on the project. Cat dealer Hekla's Snorri Arnasson comments: "Along with the tough weather conditions, the other major challenge for us was the sheer magnitude of the project. In order to provide effective support, we built a massive parts warehouse on site to keep both contractors' fleets up and running. We had up to six people at the site, where most of the maintenance work was done, though in some cases we did remove the bigger components – engines, transmissions and so on – and send them to our main workshop at Reykjavik."

PERFORMANCE THAT PAYS

For Icelandic contractor Sudurverk, Kárahnjúkar was the biggest project they had undertaken. The firm was involved both in the construction of two saddle dams that were integral to the creation of the Háslón reservoir and in undertaking groundworks for the associated aluminium plant in Reydarfjörður, on the country's north



The Kárahnjúkar dam, completed in 2009, is the largest of three dams constructed during the project.

east coast. In total, their Cat machines notched up over 270,000 working hours without significant problems.

“We all agree about the reliability and performance of the Caterpillar machines,” says Sudurverk site manager Gudmundur Olafsson. “That’s why we buy them. Not every machine on site performed faultlessly, but the Cat 773E trucks in particular are outstanding. No special modifications were necessary to the machines we ordered from Hekla,” he adds. “They were carefully specified by both us and Cat dealer Hekla, and we got help too from Caterpillar product specialists. After all, in 2004 the GPS technology we wanted was not as common as it is now.”

Sudurverk encountered no unforeseen problems with machines or equipment, but there were other complications that could have delayed completion.

“We located a number of cracks in the bedrock underneath the dam base,” admits Gudmundur. “Those unexpected circumstances called for restructuring of the job, but we managed to finish on time.”

Following completion of work at Kárahnjúkar, Sudurverk is now involved in construction of the new Landeyjahöfn harbour on the south coast – a project involving moving approximately 710,000m³ of rock and construction of a 25km long new road requiring moving of around 550,000m³. This project is due for completion in July 2010.

The final word goes to Landsvirkjun’s Thorsteinn Hilmarsson: “Although the project as a whole finished about six months late – primarily due to difficulties in tunnelling – we were still able to provide electricity to aluminium smelter Alcoa, at the right time. And remarkably we get about seven percent more energy output than planned. The economics have worked out nicely for us as a company, as well as for Iceland and the society in eastern Iceland in particular.” ■

CATERPILLAR FLEET ON SITE

- 31 off-highway trucks
- 6 articulated trucks
- 21 track-type tractors
- 11 hydraulic excavators
- 2 wheeled excavators
- 2 front shovels
- 13 wheel loaders
- 5 backhoe loaders
- 6 motor graders
- 4 telescopic handlers
- 1 skid steer loader
- 1 compactor

Cat engines in 8 x Tamrock drilling rigs, 3 x mobile crushers, 2 x Atlas Copco drill rigs and 1 Ingersoll Rand air compressor.



Refresh your memory here
2005 Iceland

CAT MAGA

WEEK	53	1	2	3	4	5	6	7	8	9	10	11	12	13
	JANUARY					FEBRUARY				MARCH				
MO		4	11	18	25	1	8	15	22	1	8	15	22	29
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WE		6	13	20	27	3	10	17	24	3	10	17	24	31
TH		7	14	21	28	4	11	18	25	4	11	18	25	
FR	1	8	15	22	29	5	12	19	26	5	12	19	26	
SA	2	9	16	23	30	6	13	20	27	6	13	20	27	
SU	3	10	17	24	31	7	14	21	28	7	14	21	28	

WEEK	26	27	28	29	30	30	31	32	33	34	35	35	36	37	38
	JULY					AUGUST					SEPTEMBER				
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MAGAZINE 2010

13	14	15	16	17	17	18	19	20	21	22	22	23	24	25	26		
APRIL					MAY					JUNE							
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	3	10	17	24	31	7	14	21	28		5	12	19	26	



QUALITY THE COMMON FACTOR



Whether you're looking for a full size dozer or a scale model, a hydraulic excavator or a work shirt, you can be sure that if it carries the Cat name it meets the highest quality standards.

Even in its earliest years, the company put the Caterpillar name on various specialty items and handouts, and the Scale Model Replica programme was launched more than 35 years ago. Caterpillar brand boots were introduced in the early 1990s, and these have been followed by ranges of work and lifestyle clothing, bags, watches, toys and more – all of them made under strict quality guidelines by Caterpillar licensees.

Licenses are granted by Caterpillar only to companies that make top quality products, guarantee availability and delivery and follow Caterpillar's strict corporate identity standards. "It's important to us that we make sure merchandise that bears our trademarks is licensed merchandise. By doing so, we ensure those products meet the highest quality standards." Says EAME Caterpillar trademark merchandising licensing programme manager Angela Bernard.

SO IS CATERPILLAR IN FULL CONTROL OF EVERY SINGLE ITEM, LIKE PRODUCT SELECTION, EVEN COLOUR?

The short answer is yes, from buttons and snaps to the complete finished product. Caterpillar licensees conduct consumer surveys and study seasonal colour and style trends reviewing the results with Caterpillar to gain approval for future seasonal new product introductions that will set trends rather than simply following them.

HOW CAN YOU BE CERTAIN THAT THE MERCHANDISE YOU BUY IS GENUINE?

That's simple; all genuine merchandise carries the Caterpillar Licensed Merchandise logo when it is sold. Items of apparel all have a permanent label fixed to them, and a printed label is carried on all hard goods packages.

WHERE CAN YOU FIND GENUINE CATERPILLAR MERCHANDISE?

Information about many of the ranges and how to obtain items, either by ordering directly online or from a high street store near you, can be found online at the following:

>> www.catfootwear.com

>> www.catwatches.com

>> www.catapparel.com

>> www.catgloves.com

In addition, the first ever dedicated Cat Retail Store, carrying the full range of Cat merchandise, is now open in Dubai (for details see Cat In Brief in this issue of Cat Magazine).

If you are planning to visit the Bauma trade fair in Munich at the end of April, you'll find the complete range of Cat merchandise on show in the Caterpillar display area.

And of course your local Cat Dealer carries his own stock of Cat merchandise – and will be pleased to advise and supply you with any item from the complete range. ■

CLEARED FOR TAKE OFF

CAT PAVERS PUT AIRPORT PRODUCTIVITY FIRST

For International airports and the airlines that use them, flight punctuality is critical. So when runways and taxiways need renewing, with no delays tolerated, clearly it's time to call in Cat PM200 cold planers.

Cat Magazine takes a look at the PM200 paving the way for take off at two International airports.



BOLOGNA AIRPORT, ITALY: RELIABILITY TO DEPEND ON

Bologna Airport is ranked 3rd in Italy and has a runway authorised to handle flights travelling up to 5,000 sea miles. It is used by around 20 million passengers a year, so uninterrupted passenger service is vital.

Commissioned to repave a runway link and sections of taxiway without disruption to flights, Bologna-based contractor Cooperativa Costruzioni turned to the Cat PM200. "It was essential to finish on time and without any hitches," says Coop Costruzioni's Nicola Guidetti. "To be absolutely sure of this we knew we needed two Cat PM200 cold planers. We had already put this model to the test many times and knew that it delivered what we needed: top performance and productivity, reliability and the capacity to work without breaks. Since we only had one PM200, we contacted CGT, our local Caterpillar dealer, to rent a second machine."

The work was completed in two 6-hour night shifts, with three hours dedicated to removing the worn paving using the two cold planers in tandem. By 5a.m. at the end of each night's work, the airport was returned to full service. In total 670 tonnes of material was milled from a 10,500m² surface area.

MUMBAI AIRPORT, INDIA: PERFORMANCE FOR PRODUCTIVITY

Mumbai's Chhatrapati Shivaji International Airport is India's largest, with four terminals spread over an operational area of 1,450 acres (5.9 km²). Each year it handles over 25 million passengers and over 500,000 tonnes of cargo.

Faced with the demands of larger aircraft like the Airbus A380, upgrading and extending the runways was essential. Chosen contractor Ashwini Infra Developments (A.I.D.) turned to Cat dealer Gmmco to supply a new PM200 to complement the PM102 they already operated, figuring that running the two cold planers in tandem would allow them to meet the project's stringent deadlines.

As A.I.D. jobsite foreman Rajesh Ghanekar discovered: "The PM200 responds to all types of cuts and handles them easily. The milled surface texture was excellent and enabled easy binding tack operation, and the paving that followed. Levels were maintained, resulting in very few or almost no second passes for the same cut."

Thanks to PM200 productivity, over 130,000 m² of asphalt have been removed to date in this ongoing project. ■

PM200 COLD PLANER

Cat® C18 Engine with ACERT™
Power at 1900rpm

Gross:
429kW/583hp

Net:
415kW/564hp

Operating Weight:
30,100kg

Rotor Width (max):
2010mm

Rotor Depth (max):
320mm



PM200 in action:

www.mycattv.cat.com/PM-200

HIGH SPEED PRECISION PAYS

How long does it take to dismantle a bridge? When you're Antwerp-based Aertssen NV, one of Belgium's leading earthmoving, construction lifting and transport contractors, the answer is just two days.

Over a mere 15 hours on two consecutive Sundays in August 2009, the company dismantled the old Noorderlaan bridge, one of two old road bridges spanning the country's Albert Canal at the point where it leaves Antwerp harbour.

The dismantling of the bridge, with the help of a Cat 325DL hydraulic excavator and 950G wheel loader, forms just one part of a major long-term project being undertaken by the government of Belgium's Flanders region. When complete, the project will have created an efficient, totally integrated road transport infrastructure for the city of Antwerp. One part of the scheme involves the replacement of two existing neighbouring bridges over the Albert Canal by a single, higher capacity road bridge solely for public transport. The first of the older bridges was demolished in 2008, and the new bridge – sited very close to the second older bridge – was completed in July last year.





PREPARATION IS KEY

In reality the job was by no means as straightforward as the short timescale for the actual dismantling process makes it sound, as project leader manager Yves Aertssen confirms.

“Although by our standards this is not a big job, two factors have made it a very demanding one. The first is the fact that the bridge to be dismantled crosses one of Belgium’s busiest commercial waterways. Secondly we had to come up with a plan that would convince our customer – the Flemish Government – that we could keep disruption to canal traffic to an absolute minimum. We spent a lot of time and resources devising a way of working that would be acceptable to our client while allowing us to do the job quickly and efficiently.”

Because the job meant closing the Albert Canal, the agreed solution involved two separate stages, to be carried out on consecutive Sundays. On the first, the bridge’s reinforced concrete decking was lifted using a Cat 325DL, and removed from the bridge by a Cat 950G,

“Our Cat machines offer us exactly the right combination of power and ease of control.”

for later recycling at Aertssen’s own recycling plant a few kilometres out of the city. In order to facilitate lifting of the decking, the 325DL was equipped with a 6150mm reach boom, a 2650mm R2.6CB2 stick and a heavy-duty bucket, specially modified by Aertssen with two locking plates to keep the decking sections in place during the lifting process. On the second Sunday, the five steel beams spanning the canal – each one 70 metres long and weighing 100 tonnes – were lifted and moved to a prepared site on the canal bank for subsequent cutting into smaller pieces. In the week before the first operation, the concrete decking was freed from the beams and cut into 3 x 4 metre sections for easier removal. And during the following week the

ties connecting and stabilising the steel beams were removed, ready for the final lifting of the beams.

“A lot of this is precision work,” says Aertssen project manager Gert Mennes. “As well as having to avoid dropping any material into the canal, the new bridge is only a metre or so away from where we need to work, so there’s no room for error. We have to be 100 percent accurate in everything we do.”

RELIABLE PERFORMANCE FOR LIFE

Currently Aertssen has over 60 Caterpillar machines in its Belgian fleet, supplied by Belgian Cat dealer Bergerat Monnoyeur. Why does the company rely on Caterpillar for operations like the dismantling of the Noorderlaan bridge?

“For jobs like this we need machines capable of doing precision work at speed. Our Cat machines offer us exactly the right combination of power and ease of control. And with Cat machines we have always found that the lifetime costs provide us with good value. You don’t always see that with other makes of machine. That’s one of the reasons why we currently have over 120 Cat machines in our total fleet.” Says Yves. ■

FACT FILE: ALBERT CANAL

Belgium’s Albert Canal connects the cities of Antwerp and Liège. It is about 130km long. As completed in 1939, it had a minimum bottom width of 24 metres and could be navigated by 2,000-tonne vessels with a maximum draft of 2.7 metres. Enlargement of the canal began in 1960, and it can now handle push-tow units of 9,000 tonnes with a draft of 3.4 metres. The canal carries up to 400,000 tonnes of cargo a year.



RAF AERTSSEN

As co-owner of Aertssen nv, operating a Cat 950G is not Raf Aertssen’s normal occupation. But it’s the one he loves best. “During the week running the company keeps me occupied with other problems, other aspects of the business. But whenever I can – and that usually means on a Sunday – I take the opportunity to get back to what we’re all about. Nothing beats the pleasure of operating our Cat machines.”

>> Check out the latest wheel loader:
950H Specalog

>> Product info:
325D L Specalog



One of the bridge's 70-metre long, 100-tonne steel beams is attached to the crane's cable ready for lifting.

HIGH SPEED PRECISION PAYS STRICT TIMELINES

Sunday 2nd August expected work time 06:00 to 16:00

06:00

A Cat 325DL is stationed on the bridge, ready to go, with the 950G wheel loader on standby nearby, ready to remove concrete decking as it is lifted.

10:00

The delicate work of removing the decking on the outer edges of the bridge is complete and the Cat 325DL begins lifting sections of the main concrete decking, using a bucket specially modified for the job by Aertssen. As each section is lifted, the Cat 950G carries it off the bridge and stacks it nearby, from where it will be collected for recycling.

11:30

All the decking is lifted, a full 4½ hours ahead of schedule.

12:00

The Albert Canal is reopened, four hours ahead of schedule.

Sunday 9th August expected work time 07:00 to 16:00

07:00

Two high lift capacity cranes are on site, with a barge moored on the canal alongside the bridge, and the work of moving the five 70 metre long steel beams begins.

The beams are moved in two lifts, with three beams lifted together in the first lift and two in the second. That's a lift of 300 tonnes followed by one of 200 tonnes.

First the cranes lift their loads clear of the bridge's supporting structure. Then one end of the beams is lowered onto the waiting barge, which swings the beams across the canal towards where they will be stacked and cut. Then finally the beams are lifted onto the canal bank.

16:00

The work is complete and the canal reopens.

CAT BIO HYDO™

ADVANCED

PROTECT YOUR INVESTMENT AND THE ENVIRONMENT

New Cat Bio HYDO Advanced is a biodegradable, non-toxic hydraulic fluid that offers the drain interval of premium mineral-based oil while providing unmatched environmental protection.



NEW PERFORMANCE STANDARDS

The new fluid outperforms the previously recommended Cat Bio HYDO and competitive brands, setting new high standards for performance, hydraulic system protection and service life.

Used with Caterpillar's Scheduled Oil Sampling (S-O-SSM), the new fluid can be taken up to a 6,000 hour drain interval. It maintains consistent wear protection through a wide ambient-temperature range, -30°C (-22°F) to 45°C (113°F), and retains its ability to flow easily through filters even when water is present.

PROVEN ECO-FRIENDLINESS

Cat Bio HYDO Advanced is made from more than 90 percent renewable raw materials, achieving the ready biodegradability classification. It decomposes readily and harmlessly in the presence of naturally occurring microorganisms in soil and water. "Cat Bio HYDO Advanced presently is the only oil that conforms to, and actually exceeds, the new Cat BF-2 specification for biodegradable oil. The new fluid is also backward compatible with BF-1 fluids for all current and non-current Cat machines and we

strongly recommend its use for all our customers." Says Stephane Latini, Caterpillar marketing consultant.

It's a recommendation that finds an echo elsewhere. The environmental friendliness of the new BF-2 fluid has earned Cat Bio HYDO Advanced the prestigious European Union (EU) Flower, an "eco-label" only

"Made from more than 90 percent renewable raw materials."

assigned after a product has been thoroughly evaluated for performance, toxicology, environmental protection and utilisation of renewable resources. ■



The EU Flower is the only eco-label that covers all aspects of sustainability.

POSITIVE CO₂ BALANCE

Cat Bio HYDO Advanced uses 99% bio-based carbon and not fossil-carbon.

ACCUGRADE SETS THE PACE IN BURUNDI

Since July 2008 two AccuGrade-equipped 14M motor graders and a D7R Series 2 track type-tractor have been boosting productivity in a major road building project in the Republic of Burundi – one of the first occasions this Cat GPS-based technology has been put to work in Africa.



Chosen to construct a new highway planned to carry traffic between Tanzania, and central Burundi, contractor Sogea-Satom wanted to investigate the benefits Caterpillar's AccuGrade technology could bring them in this and future projects.

Caterpillar Technical Support's Eric Durand takes up the story: "In the first half of 2008, working with Sogea-Satom and Burundi Cat dealer Tractafric, we defined precisely the AccuGrade configuration they would need and developed software for it. Then, in July 2008, on the jobsite in Burundi, we began the installation, calibration, training and testing process."

Following initial work to make the chosen machines AccuGrade-ready, the two Dual GPS systems were mounted in one of two new 14M motor graders supplied by Tractafric, and in a D7R Series 2 track-type tractor.

Operator training to enable the Sogea-Satom surveyor to set up the AccuGrade base station were quickly accomplished, and initial trials using the D7R were carried out on a short section of the highway where, in some areas, 30cm of material needed removing. Previously this work had progressed at around 100 metres a day using an excavator and one truck, but the AccuGrade equipped D7R covered the same distance in just half an hour. Accuracy, too, was impressive, despite the fact that trees alongside the road masked satellite signals in some places. Compared with conventional grading techniques, where surveying involved the placing of stakes every 25 metres, grading quality was also significantly improved, with accuracy achieved on the carriageway of between 0 and 1cm.

"The installation and hand over process went well, and demonstrate the ability of local Cat dealer Tractafric and Caterpillar to provide a complete solution." Adds Eric. "The surveyor, is particularly happy to work with Cat equipment. He's worked with other manufacturers' equipment and has found that, in his experience, they can't match Caterpillar's support levels."

Since the initial trials the D7R and 14M have put in some 3000 hours of work between them and, according to Sogea-Satom, have proved extremely reliable, especially in fine grading applications. There have been real gains in both time saved and ease

"There have been real gains in both time saved and ease of operation."

of operation – gains that mean that the AccuGrade equipped machines are now scheduled for another major road building project in Burundi, improving productivity for Sogea-Satem well into the future. ■



Installation, set up and calibration of the AccuGrade systems and base station was accomplished in just five days.

BURUNDI

Full name:

Republic of Burundi

Population:

8.9 million (UN, 2008)

Capital:

Bujumbura

Area:

27,816 sq km (10,740 sq miles)



Learn more:

www.cat.com/accugrade

OPERATOR TIPS

TO MAXIMISE PRODUCTIVITY AND SAVE FUEL



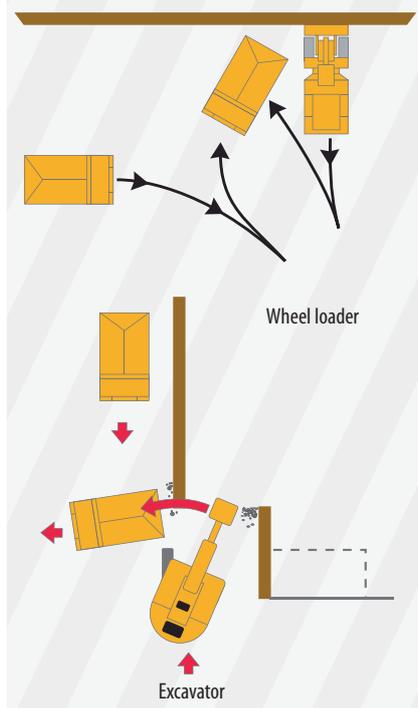
OFF HIGHWAY TRUCKS

In this article we take a look at some of the essentials in operating an off-highway truck. On average, fuel use represents 18 percent of hauling costs and tyres 16 percent, so following these tips will significantly help you minimise fuel consumption, reduce tyre wear, and maximise productivity.

AT THE FACE

1: TRUCK AT 45°

Make sure you place the truck at an angle of 45° to the face for loading. This is the best position to ensure minimum loader movement, resulting in faster cycle times and lower fuel use.

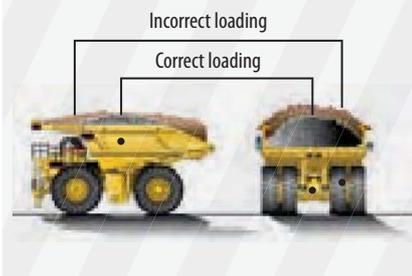


2: DON'T GET TOO CLOSE

To minimise tyre wear and damage, keep the rear tyres away from the bottom of the face where rubble may be lying.

3: ENSURE ACCURATE LOADING

For maximum safety and even tyre wear, make sure the load is centred side-to-side over the hoist cylinders or on the body arrow, and – from front to back – on the body centreline.



4: DO NOT OVER-LOAD

To avoid spillage and so boost productivity, avoid over-loading and loading too much material on the headboard.

AT THE DUMP

5: SLOW DOWN

To reduce tyre wear, manoeuvre slowly enough to avoid rolling of the tyre sidewalls.

6: OPERATE YOUR TRUCK SMOOTHLY

To prevent avoidable wear and damage, don't slam the cylinder at the top of its movement during dumping, make sure you lower the body before you move forward, and avoid harsh transmission shifts at all times.

AND FINALLY, A TIP FOR SITE MANAGERS

A haul road gradient of 11 percent, with a rolling resistance of 3 percent will force a truck at maximum vehicle weight to climb it in 1st gear at 1900rpm.

On the other hand, a gradient of 10 percent and a rolling resistance of 2 percent will allow the same truck, with the same load, to climb it in 2nd gear at 1500rpm, resulting in a 4 to 5 percent fuel saving.

In other words: **A well constructed haul road saves fuel. ■**



Our trucks in action:
www.mycattv.cat.com/OHT

STORE IN THE DESERT – WHY?

“Why build a Cat Rental store in the middle of the desert?” Asks Tselmuun Gal. “That’s a good question. There are no towns nearby. There aren’t even any roads. But we still built a Cat Rental store here... because we thought our customers would appreciate it.” She says with pride.

Beneath the sand and rock in this part of the Gobi desert there are massive deposits of valuable minerals. Soon two new mining operations will be busy at work producing almost 5,000 tonnes of copper and 9,000kg of gold every year. On top of that there will be plenty of coal to mine: more than 6.5 billion tonnes according to the latest estimates.

“To keep these operations running at optimum productivity, we thought that a Cat Rental store would be helpful,” says Tselmuun, rental manager for the local Cat dealer: Wagner Asia. “In addition to providing extra equipment at peak times, our technicians will also provide services to keep all kinds of machines up and running.”

NO HESITATION

As soon as plans for the new mines were released, Wagner Asia decided, without hesitation, to build a new store – in the middle of one of the most inhospitable deserts on earth. It was a bold decision, because when construction started in August 2008 daytime temperatures often reached 50°C, and later in the year they often fell to -30°C. Also, all building materials, equipment, stocks and manpower had to be hauled over 630km of rugged desert terrain – remember, there were no roads to the new store site.

Despite all these challenges the new Cat Rental store was completed on time and opened its doors in March 2009. It is currently renting twelve 773 trucks and a TH560

telehandler. In addition, four Wagner Asia technicians are permanently based there, providing technical support for both the rental machines and a range of purchased Cat equipment that includes five 785 trucks.

The new Cat Rental store also has eight other full time employees and a fleet of machines that includes Cat backhoe loaders, excavators, a motor grader, wheel loader, vibratory roller, and plenty of other allied equipment.

It all adds up to a powerful example of Caterpillar’s and its dealers’ commitment to totally support customers – wherever they work and live. ■



When one of the mines bought two giant Cat 785 mining trucks, they wanted them delivered to the site. No problem, the local Cat dealer assembled them at the Mongolian border and drove them 630km through scorching heat. Just what you’d expect from a Cat dealer.

CAT MAGAZINE

READERSHIP SURVEY - YOUR OPINION COUNTS

Please take a few minutes to answer the following questions for the chance to win a D7E scale model.

You can submit this survey as follows:

Please copy both sides and fax back to: 00 41 (0) 228 494 990 or

Post back to: Cat Magazine, Attn. Agnes Schroeter, Caterpillar S.A.R.L., PO Box 6000, 1211 Geneva 6, Switzerland.

Deadline for submission 19th March 2010.

YOUR PROFILE

1. PLEASE TELL US MORE ABOUT YOU

COMPANY: _____

NAME: _____

ADDRESS: _____

COUNTRY: _____

TEL: _____

FAX: _____

EMAIL: _____

2. ARE YOU A CURRENT CAT MACHINE OWNER?

Yes No

3. WHICH BEST DESCRIBES YOU?

Under 25 yrs 26-40 yrs
 41-55 yrs 56 or more yrs

4. WHAT WOULD BEST DESCRIBE YOUR COMPANY'S MAIN AREA OF BUSINESS?

- Small scale construction
- Heavy machinery / large earthmoving or road works
- Quarry & Aggregates
- Waste and industrial applications
- Paving
- Mining
- Forestry / Logging
- Plant hire / Rental
- Other (Please specify)

5. WHAT BEST DESCRIBES YOUR PROFILE AND POSITION?

- Owner operator
- Operator
- Decision maker / purchaser
- Family member of a person in the industry
- Other (Please specify)

INFORMATION VALUE

6. IS THE CURRENT CAT MAGAZINE ARTICLE CONTENT RELEVANT TO YOUR BUSINESS CHALLENGES

- Yes
- No (Please specify what type of content would be relevant)

7. ARE YOU INTERESTED IN READING ONLY STORIES ABOUT THE TYPE OF INDUSTRIES YOU WORK IN AND MACHINES YOU UTILISE, OR ARE YOU OPEN TO READING ABOUT OTHER INDUSTRIES AND MACHINES?

- Yes (I prefer to read only stories related to the industry I am in and machines I utilise).
- No (I am open to reading about other industries, machines and Caterpillar services).

8. WHEN YOU READ AN ARTICLE IN CAT MAGAZINE, IS THIS TYPICALLY THE FIRST TIME YOU HEAR ABOUT THE STORY IT COVERS?

- Yes
- No, I also see the same stories covered on www.cat.com, www.mycattv.com and in the trade press (please circle).

9. HOW MANY PEOPLE IN YOUR BUSINESS READ YOUR COPY OF CAT MAGAZINE?

- Just me
- Me and one other person
- 3 to 4 people
- 5 or more

10. ARE YOU HAPPY WITH THE NUMBER OF ISSUES CAT MAGAZINE PUBLISHED PER YEAR?

- Yes, 3 times per year is just right
- No, I would like the Cat Magazine to be published more often

11. HOW WOULD YOU LIKE CAT MAGAZINE DELIVERED TO YOU?

- Printed magazine
- Online interactive PDF
- Printed magazine & online magazine

ARTICLES AND SUBJECTS

12. DO ARTICLES AND SUCCESS STORIES COVERED IN CAT MAGAZINE INFLUENCE YOUR PURCHASING AND REPURCHASING DECISIONS?

- Yes, they have an impact on my purchasing decisions
 No, they do not influence my purchasing decisions

13. LOOKING AT THE TYPE OF ARTICLES COVERED IN CAT MAGAZINE TODAY, WHICH ARE OF GREATEST INTEREST TO YOU (PLEASE TICK)?

- 1 = Not interesting
2 = Average
3 = Interesting

Cat In Brief (short stories)

- 1 2 3

Jobsite stories

- 1 2 3

Extreme and extraordinary applications

- 1 2 3

Operator tips

- 1 2 3

New Product Introductions

- 1 2 3

Service and maintenance success stories

- 1 2 3

Caterpillar, dealer and customer profiles

- 1 2 3

14. WOULD YOU LIKE TO SEE MORE IN-DEPTH ARTICLES IN CAT MAGAZINE?

- Yes, I would like Cat Magazine to go more in-depth
 No, the level of detail of the stories covered is just fine

15. WHAT OTHER TOPICS WOULD YOU LIKE TO SEE COVERED IN CAT MAGAZINE? (CHOOSE THREE)

- Future technologies
 Sustainability progress
 International projects (outside of your home country)
 Corporate initiatives (Example: Caterpillar building a new factory)
 Local dealer initiatives
 Behind the scenes at Caterpillar
 Caterpillar history
 Other (Please specify)
-

OTHER PUBLICATIONS / INFORMATION SOURCES

16. DO YOU READ MAGAZINES FROM OTHER CONSTRUCTION EQUIPMENT MANUFACTURERS?

- Yes (Please specify which magazines)

 No

17. IN SHORT, HOW WOULD YOU DESCRIBE CAT MAGAZINE?

18. WHAT ELSE WOULD YOU LIKE TO READ AND SEE IN CAT MAGAZINE?

THANK YOU FOR YOUR TIME. LOOK OUT FOR THE RESULTS IN CAT MAGAZINE 2/2010.

All personal information will remain for internal Cat and dealer use and will not be shared with external parties for any commercial purposes.

**PLEASE COPY BOTH SIDES AND FAX BACK TO: 00 41 (0) 228 494 990 OR
POST BACK TO: CAT MAGAZINE, AGNES SCHROETER, CATERPILLAR S.A.R.L., PO BOX 6000, 1211 GENEVA 6, SWITZERLAND**

CAT FLASHBACK 1972



The 225: Caterpillar's first ever hydraulic excavator

Back in the 1960s excavators were operated via cables, with everything controlled from an open air pedestal seat, with no protection against noise or weather. Then, hydraulic technology began to change all that.



1992



1995



1998



2006

1992: Introduction of the 300 family, featuring different boom and stick configurations.

1995: Production of the M300, the first wheeled excavator.

1998: Emergence of the Cat minis, and compact radius models for work in tight spaces.

2006: Launch of the D-Series, the 4th generation of the Cat 300 family. As a result of Cat excavator technology, today, operators can ride on a comfortable air-suspended seat in an air-conditioned environment.

They operate machines with vastly increased versatility over a wide range of applications.



Designed for your success

Cat® 700 Family Articulated Trucks are designed to help boost productivity, control costs and make a significant contribution to your business.

700 family trucks are designed as an integrated system together with other Cat® machines to ensure high production rates.

The body design has optimised capacity and a geometry that facilitates fast loading and high payloads when working with Cat excavators.

A highly efficient off-road suspension system enables you to achieve shorter cycle times. The fast, responsive, 'on the move'

differential lock systems give excellent traction on steep grades and when ground conditions are poor. Durable structures and systems ensure reduced downtime and lower costs. Reliable, field proven Cat engines with ACERT™ Technology deliver optimum power and fuel efficiency.

We are committed to keeping your machines working. Cat 360° Solutions offers flexible, cost effective packages – machines, finance, customer support agreements and warranties – tailored to your business.

Contact your Cat dealer today. www.cat.com

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