

CAT MAGAZINE

From scrap heap
to money machine

Who won the
toughest
competition
on Earth?

**New mini
excavators**

Test



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THIS IS A SECOND COVER OPTION



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excavators**

Test



A FEW HOURS AGO THIS WAS A 12 FLOOR BLOCK OF FLATS

PAGE FOR YOUR LOCAL AD

BECAUSE TIME IS MONEY – THE CAT RANGE OF DEMOLITION EQUIPMENT AND TOOLS

Our Ultra High Demolition machines help you get the job done on time and on budget. A range of durable, rugged machines that can reach up to great heights, with no loss of power or control. They've also been designed for the toughest jobs, with several tool options that maximize versatility. Meaning you do the demolition the way you like – fast, safe and accurate. www.cat.com



Professionals rely on Cat

CATERPILLAR[®]



BEYOND IRON

In our business of mining and construction, we all know that tough, reliable machines are essential. But they are

nothing without the skills and professionalism of the people behind them: the operators,

the managers, the maintenance engineers, and everyone else associated with the purchase / rental and daily servicing of these machines. That's why the new design and story selection in Cat Magazine is dedicated to those people. It goes beyond the iron to share the insight, the determination and the personalities of those in the field. For example, page xx describes how one man restored a 40-year old discarded track loader back to profitable performance. While on page xx we can read about how one construction team is racing against time to construct a ski run on a 2500-meter high mountainside. Here in <insert country> we celebrate the best operators who competed at the 2005 Caterpillar Operator Challenge.

These, and other stories, capture the spirit of Caterpillar and of our customers. Enjoy the new magazine.

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NEW-LOOK CAT MAGAZINE



Welcome to the new Cat Magazine! Nearly ten years old, Cat Magazine is read by more than 200,000 customers and Cat fans from Ireland to Russia, to South Africa and Saudi Arabia. As you can see, we've updated the design of the magazine and promise to continue to deliver all the Cat construction equipment news and stories that you expect from us. We'll also take you first hand into unique job sites and events around the world. We hope that you enjoy this issue. Send us your comments, suggestions or story ideas to CatMagazine@cat.com.



CAT BOOTS HIT NEW HIGH

Last year the total sales of Caterpillar branded work boots reached a staggering 57 million pairs. "It's a powerful example of the trust and loyalty that people have in the Cat brand," says Mark Jostes, Manager Retail Products. Since being introduced in 1994, millions of people across the globe have chosen these premium products knowing that they'll get rugged, down-to-earth service – just like a Cat machine.



WORLD'S BIGGEST CAT FLEET

Almost 200 different Cat machines, all in one location: Vantaa, Finland - in Mauritz Ahlroth's house, to be exact. Is this the world's biggest collection of Cat scale models? Cat Magazine thinks so. Mauritz has been collecting for more than 15 years, a hobby that he says "is both enjoyable and educational – you can see how technology improvements over the years have shaped and reshaped Cat machine designs."

CAT OPERATORS FIGHT FIRES

Last year drought sparked fires across millions of hectares in southern Europe. Fire fighters worked day and night to control the flames, and one of the tools they used in this massive operation were Caterpillar dozers. As shown right, Lena Engenharia e Construcoes in Portugal used a Cat D6R to create earth breaches in extreme conditions to 'demolish' the fire.



MILESTONES FOR ACERT® TECHNOLOGY

Marking the production of more than 10,000 machine engines featuring ACERT, a ceremonial C15 was presented to the articulated truck facility in Peterlee, United Kingdom. All of Caterpillar's articulated trucks feature ACERT, making Caterpillar the only known manufacturer with a full line of articulated trucks powered by engines compliant with E.U. Stage IIIA emissions requirements.

ACERT Technology Facts

- More than 275,000 on-highway engines with ACERT are in service accumulating more than 112.65 million kilometres per day.
- Manufacturing facilities on five continents produce Caterpillar machines powered by engines featuring ACERT Technology.
- By the end of 2005, 45 Caterpillar machine models use ACERT to meet emission requirements.

IT'S OFFICIAL

CATERPILLAR IS ONE OF THE WORLD'S BEST BRANDS

According to an independent survey we're up there with the rest of the best, alongside the likes of BMW, Nokia and Coca-Cola.

"Interbrand", the specialist branding company that conducted the survey, assessed brands such as McDonald's, Gillette and Motorola in a way that indicated the level of trust that people have in these companies and their products. Hundreds of brands from across the globe were assessed and a short-list of the top 100 was drawn up. For anyone who has driven Cat equipment, it is not surprising that we were up there with the other top 99.





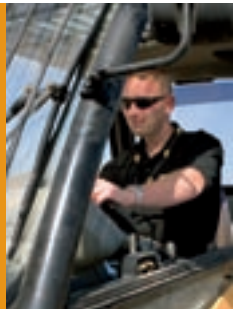
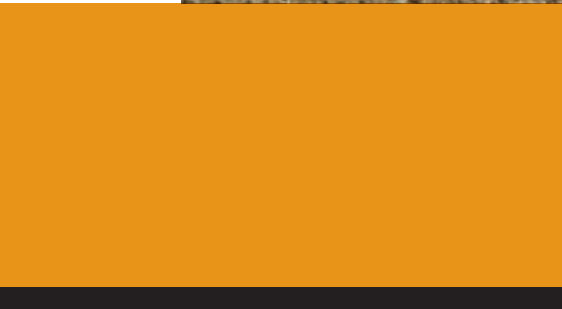
OPERATOR CHALLENGE 2005

THE TOUGHEST COMPETITION ON EARTH





Before each test, contestants watched videos on what they needed to do. Then out on the machines, they put theory into practice.



Boris Markovič tightens his grip on the mighty excavator’s pilot controls. With delicate precision he lowers the grapple, stops at the exact height and gently closes the pincers. Lifting the load and carefully swinging round, he stacks a neat column. Then he wipes his brow and smiles the biggest smile you’ve ever seen. He’s just finished the final task in the 2005 Caterpillar Operator Challenge: The toughest competition on Earth.

Boris from Slovenia is one of 65 finalists who had arrived in the glorious Malaga sunshine just five days previously on October 1, 2005. As they gathered that first day, speculation about the different tests was already the top talking point:

“The multi terrain loader is going to be tough,” says Andrew McBride from Ireland. “I’m a wheel loader specialist myself, and I’m used to going as fast as possible. The MTL test is all about going soft and slow.”

“The telehandler will be the most difficult for me,” says Patrick Anderhalder from Switzerland.” Why? “Because I’ve never used one before,” he replies laughing. “But it’s not that bad. There will be a practice machine I can use before the test.”

Goran Karlsson, from Sweden is confident from the start “This is my second time in Malaga. I think I learned enough last year to win it this year,” says Goran. “He has to win,” adds his wife Sylvia. “He beat his father to get here, the least he can do is bring back the winner’s cup.”

It’s a lively gathering of some of the world’s best Cat operators. Everyone wants to do well. And everyone is taking it seriously. But just as you would expect from Cat people, over the next four days there will also be plenty of laughter and socialising.



65 competitors, 28 countries

- | | | | |
|-----------|-------------|-------------|---------|
| Belgium | Hungary | Romania | Turkey |
| Bosnia | Ireland | Russia | Tunisia |
| Croatia | Italy | Serbia | UAE |
| Czech Rep | Mongolia | Slovakia | Ukraine |
| Denmark | Netherlands | Slovenia | |
| Finland | Norway | Spain | |
| France | Poland | Sweden | |
| Germany | Portugal | Switzerland | |



Covering an area of more than 90 hectares, the Cat centre in Spain includes a state-of-the-art indoor auditorium with 176 seats, three demonstration sites with grandstands, 12 competition sites, and more than 65 Cat machine models.

The opening ceremony

To kick-off the event, everyone gathered in the massive auditorium where Bob Woodley, event organiser, announced “We’ve got 28 countries competing this year, making it the biggest, most hotly-contested Cat Operator Challenge ever. But best of all, the toughest competition on Earth just got tougher, with 12 challenging tests instead of last year’s 10.”

Speed, accuracy and safety awareness

Bob went on to explain that all the tests were designed to measure the operators’ speed, accuracy and safety awareness. But most importantly, this whole event is staged in front of journalists and TV crews to underline the essential importance of the operators’ skill – a machine is only as good as the man behind it.

Contestants were challenged with a wide range of Caterpillar equipment including track-type tractors, articulated dump trucks, mini-excavators and face shovels. “To win, you have to perform quite well in all tests,” explained Bob Brice, one of the people who devised the tests. “The personal scores from each separate test are added together and the person with the highest overall score wins.”

The Caterpillar Operator Challenge is the world’s only international competition bringing together construction equipment operators from very different backgrounds and specialities into a standardized contest that measures operator skill. Over the next few days, in between tests and during breaks, all the contestants gather round the huge outdoor scoreboard to check their own, and their colleagues’ scores. This is where much discussion takes place on how to best handle the tests. As the competition progresses the tension builds.

But it’s not just about individuals

Competitors are grouped into teams, each of which has a ‘team manager’ who encourages individual members to share knowledge and tips about the various machines. To reflect the international nature of the event, people from the same country are not allowed in the same team – which sometimes makes communication a bit difficult, but that’s also part of the ‘challenge’.

Who’s the champion?

By the end of the fourth day, all the tests had been completed and the overall winner is known – but only to the event’s organisers. The results are kept secret, to be announced at a special gala dinner, which is scheduled on day six, after a well-deserved day off in the Spanish sunshine.

“This is fantastic,” says Peter Van Schaik from the Netherlands accepting the winner’s trophy. “It was





Tested 12 different Cat machines

- 1 Track-type Tractor D8T
- 2 Mini Excavator 305CR
- 3 Telescopic Handler TH360
- 4 Large Wheel Loader 988H
- 5 Material Handler M322C MH
- 6 Small Wheel Loader 930G
- 7 Backhoe Loader 432D
- 8 Face Shovel 5090
- 9 Articulated Truck 735
- 10 Wheeled Excavator M313C VA with Joystick Steering
- 11 Multi Terrain Loader 277B
- 12 Hydraulic Excavator with grapple 321C CR

Photography by Jake Abbott

a really tough competition, and I'm really very happy to have won." In second place is the legendary Ton Verdam, winner of the competition for the previous three years. Peter continued: "All my friends at home said that Ton was unbeatable and that I didn't have a chance. But I have proven them wrong... I'm going to have a great night celebrating."

In fact everyone had a great night, as the eighth Caterpillar Operators Challenge drew to a successful conclusion. ■



Overall results

	Operator	Country	Points
1 st	Peter Van Schaik	The Netherlands	526.37
2 nd	Ton Verdam	The Netherlands	515.25
3 rd	Jerome Pignot	France	510.05
4 th	Hannu Jantunen	Finland	505.47
5 th	Timo Honkaniemi	Finland	501.08
6 th	Anders Stalberg	Sweden	498.10

Country league results

	Country	Points
1 st	Finland	479.90
2 nd	France	474.74
3 rd	The Netherlands	469.56
4 th	Sweden	462.63
5 th	Germany	422.86
6 th	Denmark	405.49

An excellent all-round performance from the Finnish team won them 1st place in the country league results.

Celebration Spanish style – indoors and outdoors, throughout the night.





Geoff Ashcroft reports

CATERPILLAR FIRST LISTENED – AND THEN CREATED

THE NEW C-SERIES MINI EXCAVATORS

When Caterpillar decided to upgrade their mini excavators, they sought advice from the people who really know their stuff – Cat operators and owners.

They talked to guys in the field about what is important to them. Obviously, increased power, reduced noise and improved durability were top of the list, but other ideas also came to light. Like the idea to relocate the hoses from the side of the boom to over the top to prevent accidental damage.



They listened to all the ideas and then headed for the design and development department to create the new C-Series. Take a look at some of the major improvements.

Badged 301.6C, 301.8C and 302.5C, the three new machines replace

the former 301.5, 301.6, 301.8 and 302.5 models and bring with them a host of key improvements.

With greater durability in mind, all lower body side panels are now 5mm thick, and a swing-out rear door, styled on the skid steer loader range, provides generous access to the engine bay. Where the engine bay door and upper structure were once formed of multiple composite components, steel is now used, further adding to machine durability.

All three models are available in either cab or canopy formats the latter is now a purpose-built tubular structure – and while the 301.6C and 301.8C are



3dBA, making them far quieter than the outgoing models. Variable displacement hydraulic pumps are now used throughout the range, which offer anti-stall characteristics, greater controllability, 10 percent more bucket force and 10 percent faster cycle times. Front-end digging equipment has also been revised to offer 200 degrees of bucket rotation and the boom is now a clear-sided structure to assist with sign-writing and easy repainting.

All three models can be specified with standard or long stick options, and the linkage in use maintains full work tool compatibility with previous Cat mini excavators. Adding to operational stability, the 301.6 and 301.8 models share the same footprint, giving the lighter excavator a 100mm longer track.

Beneath the seat, a drop-down panel provides access to the now concealed heater matrix and creates an additional storage area for gloves or documents.

The larger 302.5C gets proportional thumb-operated roller wheels on the top of each joystick to replace foot-operated pedals previously used for auxiliary flow and boom offset functions. Other changes in the cab include the relocation of the two-speed travel button from the floor to the dozer blade lever which simplifies dozing tasks, while the option of air conditioning is now available for the 302.5C. Machine instrumentation has been relocated from the right-hand console to a multi-function monitor ahead of the right-hand joystick. This places vital machine information and warning lights in the operator's line of vision, making machine monitoring that much easier. ■

essentially identical machines, the 301.8C retains a hydraulically extending undercarriage, which contributes to its marginally heavier operating weight.

Power now comes from Mitsubishi Heavy Industries engines (resulting from Caterpillar's collaboration with Mitsubishi), and while outputs are similar to the previous Perkins-powered models at 13.5kw and 18.6kw respectively, engine oil and filter changes are now up to 500-hour intervals and the Mitsubishi engines comply with EU Stage II emission legislation. In anticipation of new noise regulations due in 2006, all three mini excavators have been suitably silenced by around

“It’s just so easy to precisely adjust the engine RPM”

Says Site Manager, Romano Frischknecht, of Swiss civil engineering company, Heiniger AG. “We like the high reliability, power and the machine’s flexibility in different applications. And of course it is much more modern than most of our machines. It is a nice feeling to work in a new machine, just like driving a brand-new car.”

Swiss Cat dealer Avesco invited Romano and his crew to test the new excavator back in August 2005. Within a month they were already convinced that this would make the perfect complement to their fleet of 308, 312, 320, 322 and 325 Cat Hydraulic Excavators.

Increasing the cab length by 50mm in the floor area has created greater comfort, while adjustable wrist rests add to operational convenience.





38-TONNE JIGSAW PUZZLE

“It’s hard to imagine,” says Günther Brennsteiner as he stares down at the man-made mountainside of rubble and rock, “that seven weeks from now, there will be more than 10,000 people racing down that jagged highway.” But by that time it will be covered by 2.5 metres of snow, partly artificial, and will extend the natural glacier by 200 metres, ensuring that the thrill-seeking skiers and snowboarders can go all the way to the tree line.



Brennsteiner is General Manager of Gletscherbahnen Kaprun AG, the company that manages the sport areas above the tree line. He and his construction team are in a race – against time. The new ski run is essential for the survival of the Kitzsteinhorn ski resort in Austria. The glacier is rapidly receding, leaving a thick deposit of boulders, stones, and other debris. “Our job,” says Brennsteiner, “is to clear away the boulders and lay a thick layer of heavy gravel. And we only have four short summer months before the ski season starts. We’re using a Cat 325B LN to load the loose boulders into a jawbreaker, which breaks them into 7cm pieces. We then use the Cat 330C L, a 38-tonne track-type excavator, to spread the broken rock evenly.”

But with no roads to this 2500m high construction site how did Günther and his team get all this heavy-duty kit up the mountainside?

Introducing the 38-tonne jigsaw puzzle

“It is impossible using helicopters to transport the Cat machines up the mountain. They, like the 38-tonne 330C L, are just too heavy,” says Brennsteiner. “So we decided to dismantle it and take it up piece by piece – by cable car, which can transport loads of up to 4.5 tonnes. At the top we would put it all together like a giant jigsaw puzzle.”

All seemed to go well, until it came to the Cat 330C L’s counterweight – a massive 6.6 metric tonnes. “We could not use

alternatives such as lead plates, since we’d need so many and they would not be compact enough. We decided that we just had to cut the counterweight into pieces, which was not all that simple, given the extreme density of this compact counterweight. Nevertheless we cut it in half, and welded it back together at the top.” Reassembling the whole machine took five-and-a-half days.

All the heavy construction equipment used on the Kitzsteinhorn ski resort is from Caterpillar. “We really could not take any chances of machine failure”, says Brennsteiner. “Getting a replacement machine would take too much valuable time. I’m glad to say that we have had the best experiences with our Cat construction machinery, and our dealer Zeppelin.”

Additional task

Ensuring that the ski run stays intact is just one of the Cat 330C L’s roles. Brennsteiner’s team also used it to construct a 600m pipeline for water and power. The pipeline will manufacture and spray the artificial snow, guaranteeing that there will be a seamless connection from the glacier end (at around 2700m) to where the tree-line starts at 2500m. ■

A SURE WAY TO KEEP YOUR MACHINES RUNNING

“Since getting our CSA we have NEVER had a major components failure.”



Explains Elio Del Bono, General Manager of a building and road construction company active in the Italian and Romanian market. “And with no major component failures, you don’t have any unexpected major bills,” continued the self-made business owner who owns more than 20 Cat machines.

“Nowadays, more than ever, time is money. And our CSA saves us both. Our Cat dealer, CGT, is very professional. The preventive maintenance that they provide ensures that components are replaced before they fail. And that’s important: because it not only avoids downtime, but also enables us to financially plan more accurately – with fewer unexpected costs,” says Elio.

“In the past five years none of our machines has been down for more than an hour.”

Says Technical Director Wim Verschuren of Kuypers Kessel, a road construction company that has 25 Cat machines. It also has an on-site service engineer from Pon, our Dutch dealer. “Eric looks after all our daily servicing needs and keeps the machines in top condition. If ever he needs help in maintenance, Pon sends extra engineers straightaway. It’s great!”



“We now run at 98% machine availability. Before our CSA we were just 65%.”



Says Daren Ford of Jones Plant Services in the UK. “Our CSA with UK Cat dealer Finning, includes nationwide out-of-hours servicing, the disposal of waste oils and filters, and a highly effective ‘Repair Before Failure’ programme. This enables us to repair equipment before it becomes a problem. It not only maximises up-time, but also minimises the cost of repair compared to what it could have been had the fault not been identified and been allowed to worsen. We haven’t upgraded our CSA since starting it two years ago. But when we start to use larger machines we would probably change to a Total Maintenance and Repair CSA because then we would keep the machines for longer than three years to get the full value out of the equipment.

In total, the CSA gives us peace of mind. I know that the equipment is being serviced in a timely manner, and our investment is protected.”

WHAT IS A CSA?

A CSA (or Customer Support Agreement) is an arrangement between you and your Cat dealer that helps lower your operating costs. It does this by using your dealer’s technical expertise to service and maintain your Cat and non-Cat equipment. When you have a CSA you have more time to do what you do best: run your business.

Tailored to your needs

There are no specific products and services that you must buy. You can cover single pieces of equipment or entire fleets, and your costs can be a flat rate monthly fee or some other arrangement based on actual production hours. Your Cat dealer will help you to define the strategies that best benefit your business.

Evolving with your business

From day one your CSA will be tailored to fit your business, and as your business changes and expands with additional machinery and services, you can easily upgrade your CSA – to ensure it always perfectly answers your changing needs.

MOVE MORE MAKE MORE

WITH THE NEW H-SERIES MID-SIZE WHEEL LOADERS

“We’ve made them more powerful, more fuel-efficient and faster than ever,” says Michel Jenny as he eagerly watches the first H-Series mid-size wheel loaders roll off the production line in Belgium. “We’ve loaded them with so many performance improvements that they will give any business a serious advantage. That’s because the more you can move, the more you can make,” explains the Caterpillar Product Specialist.

“...our ACERT engines and load sensing hydraulics reduce fuel consumption by five percent. Non-ACERT engines will increase consumption ...”

Reduced costs

Not only do the new loaders; 950H, 962H, 966H and 972H perform better (lifting more, faster) they also cost less to own and operate. “Firstly, they use five percent less fuel, which is a significant advantage in itself. But is especially crucial at this time when the industry is gearing up to meet the EU’s Stage IIIA emission regulations, this will cause most non-Cat machines to consume more fuel.”

One of the main reasons for this difference in fuel consumption is the combination of new load-sensing hydraulics and an ACERT® engine, which reduces emissions. ACERT technology precisely controls the amount of fuel/air mix to deliver the exact amount needed per individual load – not a drop more (or less) than what’s needed. This precision control not only reduces emissions but also helps reduce fuel consumption by up to five percent. Many non-Cat machines meet the new emission levels by using EGR (Exhaust Gas Recirculation) valves. These feed the exhaust fumes back into the engine to burn off the emissions. But this makes the engine less efficient, causing it to consume more fuel.

“In addition,” says Michel, “most non-Cat machines will have shorter service cycles – down to just 250 hours. We remain

at 500 hours. You may read that these non-Cat machines offer 500-hour service cycles, but only if you use premium fuels and oils, which are more expensive.”

The shorter service cycle of non-Cat machines effectively doubles the cost of new oils, filters, service hours and the lost productivity caused by the servicing down time. “By comparison, our new H-Series reduces costs considerably.”

Proven reliability

“We’ve kept all the reliability and durability features of the previous G-Series II. This helps maximise up-time, and minimise maintenance,” says Michel. “On top of that we’ve made system checking really convenient. This not only saves you time but also means that your machine is more likely to be kept in top condition – and less likely



Daily service is made easy with ground-level service points which group together all the electronics, grease and pressure points and filters.



- 1 Quieter operator environment
- 2 Excellent visibility
- 3 Wider, more comfortable arm rest
- 4 Powered by ACERT technology

IMPROVEMENTS AT A GLANCE

Five years in the making and more than 100,000 hours of field-testing has produced significant performance and reliability improvements. Take a look at how you can benefit:

Five percent less fuel

This significant cost saving is due mainly to the load-sensing hydraulics and the ACERT engine. Together they precisely control the amount of fuel/air delivered to the engine – not a drop more (or less) than is required for the particular load. This saving is even more significant as the industry gears up to the EU's Stage IIIA emission controls: most non-Cat machines meet the new levels by recycling fumes back into the engine, but this makes them less efficient and they consume more fuel.

Proven reliability

The Stage IIIA emission requirements have forced all manufacturers to redesign their engines, and without any track records no one knows how they will perform – except for Caterpillar. The new ACERT engines use 68 percent the same parts as the field-proven G-Series II, which set the industry standard in reliability. In addition, 350 machines have already clocked up 100,000 hours of field tests at customer sites, and all the feedback is highly positive. On top of all this, you can be sure of the H-Series reliability since tens of thousands of ACERT engines are in use today, including in 18-wheel highway lorries, performing faultlessly.

More power, more speed

20 percent more lift power. Thanks to the new hydraulic system, which includes an advanced load-sensing pump that provides the exact amount of hydraulic pressure required by each load.

Five percent faster cycle times

Operators will really notice the difference in speed, the Cat H-Series is much faster than the G-Series II and now benchmarks the best in the industry.

to require maintenance. We've centrally located, at ground level, all the grease points, hydraulic and transmission filters, pressure taps and all the electrical service points," explained Michel. "Everything is within easy reach, and system checking can now be done in seconds."

The best operator environment ever

The new H-Series is faster and more powerful, but one of the most dramatic and noticeable improvements is the nine percent noise reduction over the G-Series II. This has produced the best operator environment ever – matching the best that the industry has to offer. Other major improvements, to ensure driver comfort during long shifts, include additional vibration insulation, a standard, six-way adjustable air suspension seat and an automotive-style lumbar support and wide arm and wrist rests that includes

all hydraulic control levers. Visibility is also improved, thanks to the sloping hood. Operators can remain seated and still see objects just 4.4 meters behind the machine. Combined, these new features give you the best in terms of performance, durability, and operating cost. ■



“The moment I saw it, I just had to have it,” says Jan Luhan, a life-long Cat enthusiast from the Czech Republic. He was talking about the moment he first saw the 40-year old Cat track-type loader that is now his pride and joy. “It didn’t look like much then; rusty, beaten, abandoned and half buried under rubbish and scrap. But I just had to have it.”

FROM SCRAP HEAP TO MONEY MACHINE

How a 40-year old Cat 933G was renovated to perfect working order

“I contacted the owners – a Swiss demolition company – and offered to take it off their hands. We struck a deal for 1,000 Swiss Francs and after paying 900 Czech Crowns import duty it was all mine. For a total purchase cost of just 700 Euros.”

That was more than 10 years ago. Now the immaculate Cat 933G is hard at work each day in and around the Czech town of Petrovice. Jan regularly operates the 933G himself but also rents it out to others. So how did Jan turn what seemed like a broken down ruin into this highly profitable machine?

“...in many respects the Cat track loader was still in perfect shape...”

“It goes without saying that years of standing out in the open in the Swiss Alps had left its mark,” says Jan. “There were birds nests in the fuel tank and cabin, and one of the main hydraulic cylinders was missing, along with many other parts such as the accumulator, air filter and fuel tank cap. All these needed to be replaced, but in many respects the 933G was still in perfect

shape. Engine oil and other fluids were still at the right level and uncontaminated. The engine and fuel injection system were in perfect order and the hydraulic hoses showed no trace of damage.”

A thorough clean up and refurbishment followed. Then came the first engine start-up: the engine turned over, but immediately slowed down. After a couple of tries there was a minor explosion as a final bird’s nest flew out of the exhaust pipe. From then on the engine has run perfectly. Pressure was instantly available in the hydraulic system and the track loader was ready for work. And it has been working faultlessly ever since. Well done Jan! ■



OPERATOR TIPS

Everyone who operates construction and mining machinery is exposed to vibration. And in most machines, under normal conditions, the vibration is well within the recommended limits. But some machinery operated for long periods in rough conditions may exceed recommended limits. That's why Cat Magazine offers some valuable tips that help minimise vibration and the risks associated with whole-body vibration.

TO MINIMISE WHOLE BODY VIBRATION

Make sure you adjust the 'driver weight' setting, on suspension seats, to your weight. This will minimise vibration and help prevent the seat from 'bottoming out' when travelling over rough ground.

Adjust the seat position so you have good lines of sight and adequate support. And adjust the controls so you can easily reach the foot and hand controls.

Adjust the vehicle speed to suit the ground conditions to avoid excessive bumping and jolting.

Do everything smoothly: steer, brake, accelerate, and shift gears smoothly. Also, operate attached equipment, such as excavator buckets, smoothly.

Follow worksite routes to avoid travelling over rough, uneven or poor surfaces.

A primary way to manage vibration is to maintain machinery and ground surfaces properly.

Make sure that paved surfaces or site roadways are well maintained, e.g. potholes are filled

in, ridges levelled and rubble removed.

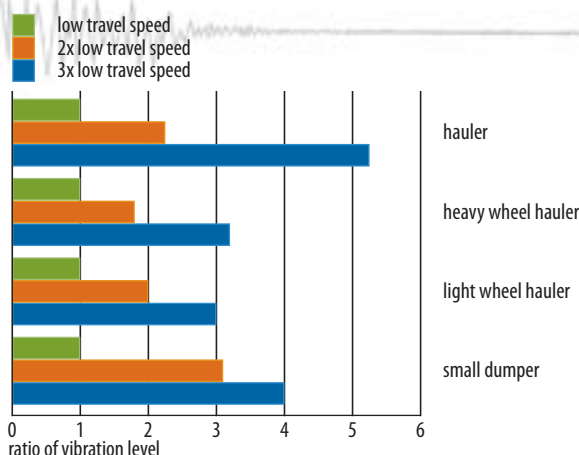
Make sure that vehicle suspension systems are maintained correctly (e.g. cab, tyre pressures, seat suspension).

Make sure the controls, hydraulic system and linkages are well maintained.

Get appropriate advice (from seat manufacturers, machine manufacturers and/or vibration specialists) when replacing a seat. Seats need to be carefully matched to the vehicle to avoid making vibration exposure worse.

When selecting your equipment your local Cat dealer can help you select machine features to minimize operator vibration. CE labels and the Certificate of Conformity to show that our machines comply with relevant European Union directives. ■

Travelling speed has a strong effect on vibration. For example, driving a light wheel hauler at 30km/hour instead of 15km/hour doubles the amount of vibration for the operator. Also, driving a hauler at 3 times the low speed increases vibration by more than 5 times.



Source: EU Project MAT1-CT 940057



“WE DON'T JUST DEMONSTRATE THE MACHINES WE PUT ON A PERFORMANCE...”

Emmanuel Chatelain, Cat Demonstrator

Says Emmanuel ‘Skinny’ Chatelain: Chief Demonstrator at Caterpillar’s Demonstration Centre in Spain’s Costa del Sol. ‘Skinny’, as his friends call him, has been demonstrating Cat machines for just over 11 years, and has a total machine experience of 19 years. “It’s a great job, I get to drive all the Cat machines – from simple forklifts to the massive mining trucks. And what’s more I get to meet people from all over the world.”

What’s your typical day?

There’s no typical day – every day is different. But it mostly starts around 7 o’clock. I check my e-mail, which usually has plenty of enquiries from dealers about training. Then I check the machines that I will be demonstrating. By 10 o’clock I’m in the driving seat doing the demos.

Where do you do the demonstrations?

In an enormous natural outdoor arena. There’s a covered stand for the audience, and a really powerful public address system that broadcasts the commentary. There are five of us who demonstrate, and it’s not just digging and dozing we do. We like to show all of the intricate and specialised work that the Cat machines can do.

The demonstration takes about 2 hours – in which time we will have shown 65 different machines. The demonstration is very carefully planned and we try to entertain the audience with a few tricks and special effects.

Favourite trick?

The one the audience likes is where we use a massive material handler to take the top off an egg.

And the Grand Finale?

Yes, we finish with a very dramatic end called “The Big Push”. During the show we accumulate a small mountain of earth. Then, at the end, we introduce a line of four track type tractors, which slowly move in a line formation to bulldoze and flatten the mountain. This is done to very dramatic music and the effect is very theatrical.

Favourite machine?

The motor grader – it does everything. It’s a real challenge with all those levers. It’s like playing the piano.

You also do training?

Yes I’ve met and trained hundreds of people – that’s another great part of my job. We usually travel to the country where the customer operators will actually do the work. This allows us to tailor the training to their own site conditions.

Which countries have you visited?

Too many to mention, but I’ve been all over the world – Egypt, Russia, Switzerland, Mauritius, the US and more.

Finally, in your opinion, what makes a good operator?

To be a good Cat operator you have to be reliable, rugged and skilful. But to be a great operator you have to really love your job. ■



“I love the motor grader, it can do everything – with all those levers, it’s like playing the piano.”

THIS IS OPTIONAL CONTENT

CAT FLASHBACK

Over the past 80 years we've seen some great Cat moments captured on film. This "Cat Flashback" page shares them with you. Above is one of the very earliest Cat machines: the gasoline-powered Cat Thirty Tractor, manufactured by Caterpillar from 1925 - 1932. The girls in the picture were not the real operators, as you will no doubt have noticed, they are not wearing safety boots.

Other notable events of 1928

Alexander Fleming discovers penicillin.



Canada's Percy Williams surprises everyone by winning both the 100 m and 200 m Olympic sprint events.



Walt Disney's first cartoon with sound introduces Mickey Mouse to the world in "Steamboat Willy".



1928



PAGE FOR YOUR LOCAL AD

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