

KOMATSU

TIMES



Times

Quarterly News Magazine for Construction Equipment Users — Volume 5 N°1



PC210-7

independent
test results

**Komatsu
expands**

European parts facility

GaLaBau

Landscaping trade fair

**Limestone
quarrying**

in Germany





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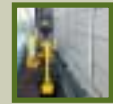
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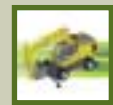
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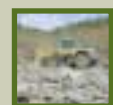
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CREDITS

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*W*elcome to this first edition of Komatsu Times for the year 2003.

Europe's market conditions in 2002 made it a year of exceptional challenge. Each of our business units, distributors and dealers rose to the challenge with skill and dexterity. Overall, the results were most favourable. We're especially satisfied with our success in last year's deployment of new products and upgraded machines, and our growing offering of customer services.

I'm pleased to announce that the construction of our expanded European parts headquarters has begun. We are building this new facility to improve and ensure first-rate services for all Komatsu machines and their owners. This expansion guarantees that the ever-growing Komatsu fleet will have an ample and timely supply of parts for many years to come. It's yet another step in our continuous mission to improve all customer services. You will find more information about the new parts facility in this publication.

Our current plans and programmes ensure that 2003 will be a year of continuing development. This includes the release of new and upgraded products that are even more productive, friendlier to the environment, and always a pleasure to operate.

I wish you a very successful 2003. All of us at Komatsu look forward to helping you to achieve that success.



Yoshinori Komamura
President & Managing Director

Komatsu's PC210-7 *in the news*



— by Michael Plummer —

Dan Gilkes, editor of the monthly British magazine BTi (Building Trade & Industry) took Komatsu's new PC210-7 21-tonne crawler excavator to the test. The results were published in the September 2002 edition. Building Trade & Industry is a leading monthly title for the UK building and construction industry. This article is a reprint of excerpts from the original magazine article.

"When it came to improving on the popular PC210-6 excavator, Komatsu didn't want to fall into the trap of just building a bigger machine. Dan Gilkes finds out if it solved this problem with the new PC210-7

Design & Engineering

Whenever a machine is up for replacement customers always want more power, greater stability, improved comfort and lower running costs. This often results in a bigger engine, stronger structures and, inevitably, more weight.

Komatsu UK's design and development project manager Malcolm Kent says the company was keen to avoid falling into that trap of continually building a slightly bigger machine. He says the PC210-7 had to remain a 21 tonne excavator, despite meeting the demands for improved performance. This goal has been achieved.

Performance & Productivity

Our test machine came with the most popular specification for UK customers, with a 2.9m dipper arm (the longest available) and 700mm wide track pads. As an LC machine it also has a longer track frame for maximum stability.

At the controls the PC210-7 feels like a much bigger machine. It is very stable, even under hard digging, and has plenty of power to fill the bucket. But the overriding impression is of real solidity, it just feels a class or two above 21 tonnes.

We put the machine through four test operations at Komatsu UK's demonstration centre in Birtley, County Durham. Despite the fact that much of the material had been dug before, it was well compacted - a heavy mix of soil, clay and rock. All tests were carried out using a 1.5m wide, 1.19m³ bucket. The machine was equipped with an electronic fuel flow meter to assess consumption. As with all BTi site tests, the production figures have been calculated by independent production expert Robert Brown of RB Research.

As the table shows the PC210-7 can certainly shift the muck, in all four tests it outperformed machines of this class that we have tested in the past. Yet Komatsu's claims of efficiency also proved well founded, with an impressive fuel consumption to material moved productivity figure.

Economy & Ownership

The big news here is that service intervals have been extended. Engine oil and oil filter changes are now carried out at 500 hours, while a hydraulic oil filter change is now at 1,000 hour intervals. The hydraulic oil is said to last for up to 5,000 hours, so you will probably only be changing it once in the life of the machine.

The fuel efficiency has been increased to allow longer working hours.

Ergonomics & Equipment

Much of the design work on the Dash 7 models went into improving the operator's environment. The SpaceCab fitted to all Dash 7 models is 14 per cent larger than the cab on the previous model. That means more leg room, more width and greater head room. The seat can even be reclined fully during rest periods.

The new model also gets fully automatic climate control and a pressurised cab to prevent dust and dirt ingress when the door is closed.

Market & Finance

The PC210-7 falls right in the middle of the 19-23 tonne excavator sector, which is the second biggest class after the 13 tonne mar-

ket in the UK. Indeed, though Marubeni-Komatsu would expect around 40 per cent of sales to be the 13 tonne PC130-6, so far this year the 21 tonne excavator has been the most popular model in the UK.

The Verdict

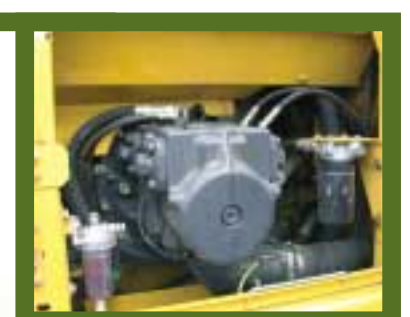
Few smaller excavators are constantly used as production tools. The popular 13 tonne market is core plant hire, where machines are, often as not, sent out without an operator and used to dig footings. At 21 tonnes the PC210-7 is getting into a harder working market, where an excavator has to earn its keep, day in and day out, and where good operators are often hard to come by.

The market tends to split somewhere around this weight, into those machines that go to plant hire companies, and those that are sold to heavy duty contractors. Komatsu is one of the few companies that has successfully bridged that gap.

Yes, the PC210-7 will be a popular machine with the cost conscious plant hirer.

But the earthmoving, demolition and civils contractors like the Komatsu machines too. Solid performance, good levels of productivity and strong residual values will usually see the Komatsu name on any serious short list of excavators.

The PC210-7 should prove equally popular with both camps. Easy to drive, the machine offers a very comfortable working environment for the operator and low running costs for the owner. Yet the productivity is undeniably there, and the machine is definitely a step forward compared with the Dash 6."



▶▶▶▶▶ [Komatsu's PC210-7
in the news]
in the news

Luxembourg Training

— Operator training on Komatsu
machines in Luxembourg

— by Pieter Quagebeur —



The non-profit organisation "Objectif plein emploi" (Objective Full Employment – OPE) is making an active contribution to employment and economic development in the Grand-Duchy of Luxembourg.

Since the organisation's launch, OPE has developed training courses in partnership with numerous public institutions and private organisations. For the first time in the Grand-Duchy of Luxembourg, a course is offered that provides initial training in the operation of Komatsu earthmoving machines. This is being done in collaboration with three organisations: the Ministry of National Education and Vocational Training and the National Further Vocational Training Centre at Esch-sur-Alzette, the Bettembourg-based Komatsu dealer MAKO, and Komatsu's operator training department from Doornbos Benelux.

The OPE recently provided a course that runs over seven full working days. The first two days are devoted to theory. Subjects include: vehicle maintenance, prevention of work-related machine accidents, and safety avoiding underground gas and electrical services. The five remaining days are hands-on, devoted to

learning how to operate the vehicles. Each trainee practises operations with the six Komatsu site machines. They work with crawler excavators in classes ranging from 2.5 tonnes to 21 tonnes, a backhoe loader and a skid-steer loader. After the finishing fifty-six hours of theoretical and practical training and passing competency tests, students are given a certificate that confirms that they are able to begin work, operating utility earthmoving machines.

Graduates are then on their way to being integrated into the employment market. And Komatsu personnel and machines are there helping to ensure their success.



PERFORMANCE:

Test One -

truck loading: bench

Average loading time (8 pass cycle): 1.6 minutes

Trucks loaded/50 min hour: 31.3

Average bucket payload: 2.34 tonnes

Average truck load (8 pass cycle): 18,7 tonnes

Production/50 min hour: 585.3 tonnes

Fuel used/50 min hour: 17.2 litres

Productivity: 34 tonnes/litre

Test Two -

truck loading: trench

Loading time (8 pass cycle): 1.9 minutes

Trucks loaded/50 min hour: 26.3

Average bucket payload: 2.41 tonnes

Average truck payload: 19.3 tonnes

Production/50 min hour: 507.6 tonnes

Fuel used/50 min hour: 20.2 litres

Productivity: 25.13 tonnes/litre

Test Three - trenching

Trench depth: 2m

Trench width: 1.9m

Trench length/50 min: 79.4m

Production/50 min hour: 301.7cu m

Fuel used/50 min hour: 21.2 litres

Productivity: 14.23 cu m/litre

Test four - basement dig

Basement depth: 2 m

Basement width: 3m

Basement length/50 min: 39m

Production/50 min hour: 234cu m

Fuel used/50 min hour: 20.7 litres

Productivity: 11.3 m3/litres

BTI RATINGS

Design: 8.5

Engineering: 9.0

Performance: 9.0

Productivity: 8.5

Economy: 9.0

Ownership: 8.5

Ergonomics: 8.5

Equipment: 9.0

Market: 9.0

Finance: 8.5

Total: 87.5

(from 100)





The indoor exhibit's location was the best at the show, being the first that visitors saw when they entered the fair from the parking area. The building is the newest and the tallest at the fair, giving generous amounts of natural light.

GaLa Bau

— by Uwe Pausch —

— Komatsu shows its commitment to Utility markets at GaLaBau

Visitors had a chance to show off their skills, picking up three small, circular weights, then swinging and placing them in precise-fitting openings a few metres away. Participants who did this in less than a minute were given a Komatsu hat.



The GaLaBau 2002 International Trade Fair for Urban Green and Open Spaces was hosted in Nuremberg, Germany, last September. According to the show organisers, this is Europe's biggest trade fair for planning, construction and maintenance of urban, green and open spaces. GaLaBau is held every two years. This year's fair, occupying 90,000 m², had 847 exhibitors from 25 countries, and drew more than 49,000 visitors from Germany and the surrounding countries.

Renowned for its comprehensive offering of Utility machines, Komatsu had two exhibits at GaLaBau: an indoor, 330 m² exhibit that included machine displays and visitor hospitality area, and a 1000 m² outdoor demonstration area, complete with six machines and three expert Komatsu drivers who delighted spectators with their machine-handling skills.

The indoor exhibit displayed eight machines, giving a representative overview of the extent of Komatsu's Utility range, plus a sampling of the

various types of available attachments to make every job easier. Most of these machines were outfitted with a popular mechanical quick-coupler system. In fact, more than 80% of all Komatsu machines sold in Germany are outfitted with this quick-coupler system.

Komatsu's outdoor demonstration exhibit was located approximately 500 metres away from the indoor exhibit. Komatsu provided visitors with a private shuttle that took them door-to-door, between the exhibits. During the machine demonstrations, an expert Komatsu commentator gave the spectators vital background information regarding the machines and what the drivers were demonstrating at the time.

The Komatsu personnel in the two Komatsu exhibits were people from Komatsu in Germany and Komatsu's manufacturing facility in Italy. They included product managers, sales managers, technicians and expert drivers. Komatsu's German dealers also participated. Over the duration of the four-day show, thirty machine sales

specialists representing Komatsu's dealers from all regions across Germany received visitors and answered their questions. The stand also had a catering staff who served snacks and beverages to visitors in Komatsu's comfortable hospitality area.

The ratio of visitors to exhibitors was refreshingly in favour of the show's visitors. It was obvious that these guests were mostly small business owners who were in the landscaping business. Because of this, most of them were the operators of their own machines. The result was definitely "hands on". Guests climbed all over the machines, opening engine compartments and looking at all the details that would be of interest to an owner/operator. The greatest attendance happened on the Friday and Saturday because visitors were busy running their own businesses during the week.

At GaLaBau, Komatsu clearly demonstrated its strong commitment to the landscaping industry with its compre-



The smallest Komatsu machine and the hit of the fair! The 880 Kg PC09 micro excavator - a new model that visitors could try out at the outdoor exhibit.



Four times each day, Komatsu expert drivers took Utility machines through their paces, subjecting them to extreme situations that showed their extraordinary strength and agility.



The outdoor demonstration area was a huge attraction for show visitors.

hensive range of Utility machines and its unparalleled participation in the trade fair. The strong support of Komatsu's two European Utility machine factories, plus the participat-

ing network of dealers from across Germany was impressive. Together, they created a synergy that was much greater than the sum of its parts.



Parts

[Komatsu's European parts headquarters expand in Belgium]



— by Stefan Van Doorslaer —

Beginning in October of 2002, Komatsu started a massive parts warehouse expansion project. This is being done to meet future customer needs, based on the growing installed-base of Komatsu machines across Europe. This facility is located on the existing site, just a few kilometres north of Brussels.

The new extension will occupy a surface area of 9.120 square metres, resulting in a total of about 34.500 square metres of parts warehousing. The new facility will allow parts storage up to ten meters high. It will mostly consist of narrow aisle and normal rack storage. For the stocking and

retrieval of smaller parts, the facility will have an automatic elevator system with twelve shuttles.

Growth in parts supply requires an expansion of logistics support services. To facilitate this, Komatsu is also building a new office for its parts business unit. It will be located directly in front of the new warehouse building. This new office area will consist of two floors with surface area of 1.000 square metres per floor. The former offices will be refurbished and used, amongst other things, as personnel locker rooms. The current loading docks will be demolished and relocated to better cope

with expanded volumes of shipments.

The new warehouse will be finished in the second half of 2003 and fully operational in the beginning of 2004. During the transition, systems will be in place to ensure that there are no delays in parts shipments. This 12 million euro investment ensures that Komatsu's customers will continue to receive first class parts support across all of Europe.



Artist's concept of the new parts extension and offices



The new PC09 was the hit of the GaLaBau trade fair in Nuremberg, Germany last September



GaLaBau visitors had a chance to try out the new PC09

— by Fabrizio Forti —

PC09

— Introducing the newest and smallest member of the Komatsu family

Komatsu has introduced a new, versatile micro hydraulic excavator that weighs only 880 Kg. It's the smallest earthmoving machine that Komatsu makes for European markets. It was introduced at the GaLaBau trade fair in Germany last September.

Only 700 mm wide, this new machine has been designed for work in confined-space industries such as sewer drain maintenance, housing, gardening and orchard farming. It provides powerful, speedy digging and loading in places where other machines would be too large and too heavy. Its variable gauged undercarriage can be adjusted from 700 mm to 850 mm for increased stability. Its slimmed tail shape makes it exceptionally easy to swing and dump, even in the smallest spaces. The PC09 has two-stick track levers and two travel speeds give precise travel control. It can

be purchased with an optional breaker chisel that installs inside the arm. When installed, it protrudes out, past the bucket. This chisel is easily detachable and can be quickly stored on the side of the boom when it's not in use.

Service points are easy to access. Greasing intervals are long – 500 hours. Its arm and bucket cylinders' hydraulic hoses are located in the arm cylinder, protecting them from accidental site damage. The PC09 runs very quietly, making it ideal for work in residential and urban areas where noise disturbances are a concern.

At the last Bauma trade fair, the 400-tonne heavyweight PC4000 hydraulic excavator was the big attraction. At the GaLaBau landscaping trade fair, the featherweight 880 Kg PC09 was the star of the show... demonstrating how big things can come in small packages.



New



Dash 7

— How the new Dash 7 wheeled excavators were developed



Using state-of-the-art CAD CAM programmes, virtual machines can be created and intensively checked before the first prototype is built

— by Tom Raes —

Komatsu recently introduced two new-model wheeled excavators that have raised several industry benchmarks. They have set new standards for state-of-the-art wheeled excavator design. The first models off the production line are the models PW200-7 and PW220-7, weighing 20 and 22 tonnes. Their design and development is the result of several years of intensive research, engineering, and prototype testing. This development project began with intensive, targeted research. It started with a comprehensive survey of customers, operators, and Komatsu sales organisations in key market areas across Europe and the USA. This was done to determine the main features and attributes that the newly designed machines had to have. This information formed the basis for the Komatsu engineers' design objectives.

Next came the testing of the market's

top competitive machines, including Komatsu's popular Dash 6 series wheeled excavators. This set the benchmarks for what Komatsu had to do better. Based on this, the engineers made the production specifications for prototypes. Using state-of-the-art modelling technology, the new machines were visualised in 3-D, given virtual stress testing, and then built in Komatsu's KUK factory in England.

Three identical prototypes were built, each to be used for its own category of tests: performance, stress, and long-term endurance. Over the following nine months, each of the prototypes were subjected to grueling, intensive testing. The test conditions were far in excess of what would be expected of production machines in most normal work situations. These tests were used to confirm every aspect of the new design.

The performance testing compared the prototype to the initial performance targets, and against the competitor test results. Key performance test areas were; the "feel" of the machine (by experienced wheeled excavator drivers), a comparison to existing Dash 6 Komatsu machines, and performance in a special climate chamber with high and low extremes of temperature. Strain gauge testing of the machines' structures was also done in this climate chamber, to confirm low stress levels in the most severe of operating conditions.

Using extreme operating conditions, the endurance testing significantly accelerated the lifetime of the test machine. This was done to further confirm the machine's strength in an actual work environment. This endurance testing included high-speed road travel, and work in granite and sand quarries. These conditions

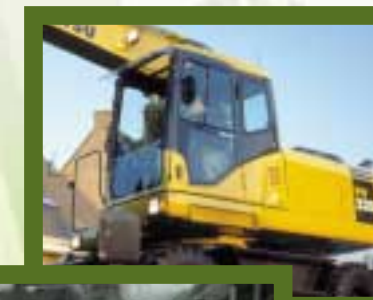
exposed the prototype to work environments and conditions that are universally recognised as being amongst the most difficult.

KUK design engineer, Paul Douglas said; "Parallel to the prototype testing, key component suppliers also undertook a bench-testing programme. These components were subjected to strict laboratory testing to simulate performance extremes and identify potential problems before they could occur on the completed machines."

When asked why the project took several months to complete, design engineer Yasuo Tomokane said; "We took adequate time at every step of the process to ensure that our questions, goals and findings were thorough and correct. This project is regarded as a significant key to our future here at KUK. We took the time to get it right, and it has really paid off."

Additional new Dash 7 wheeled excavator models are currently under development. At Komatsu, constant

improvements and development of better machines is a key part of the corporate culture. This new series is a revealing example of the long, thorough and thoughtful process. And now, it's time for Komatsu's customers to take advantage of the results.



Working on one of the prototypes at KUK



Pictured here from left to right are the project's design engineers Paul Douglas, Alan Clark, and Yasuo Tomokane

[Komatsu introduces a new 110-tonne class mining excavator]

— by Marc Blondeel —

Komatsu's new PC1250-7 hydraulic excavator has replaced the highly-respected PC1100-6. It's undoubtedly the large-class machine of the future. It carries the highest levels of sophistication in its hydraulics and electronics, plus the ultimate in operator comforts, fuel economy, and environmental compatibility. At the time of order, it can be configured as a backhoe or as a loading shovel.

It's outfitted with Komatsu's renowned new SpaceCab™, a spacious, comfortable work environment with a dynamic noise at the operator's ear of only 72 dB(A).

This new machine is equipped with Komatsu's Equipment Management Monitoring System which monitors all vital running conditions, informs when scheduled maintenance should be done, and memorises abnormalities for most-effective troubleshooting. The first European PC1250-7 delivery was made last year to a customer in Spain.

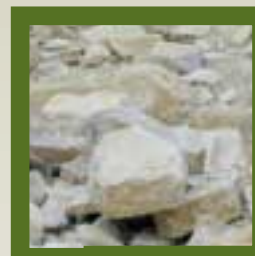


The new Komatsu WA480-5 carrying a shell-limestone block with its stone-fork for loading

WA 480-5

— Latest-generation Komatsu WA480-5 wheel loader handles heavy shell-limestone blocks

In this quarry, the wheel-loaders lever the blocks free, directly from the formation and transport them to the loading point



— by Ralf Uta —

Shell-limestone around Kirchheim, Germany is quarried and transported to sawmills where it's converted into high-quality facing material for the façades of buildings. One of the quarry operators there is Michael Brückner. He and his small team have been in the market for more than fifty years. They have machines operating in their own as well as various other quarries.

Mr Brückner has been working closely with Komatsu for several years. His Komatsu wheel loaders range from a 5.9-tonne WA95 and 14-tonne WA320, to a 29-tonne WA500. His most recent acquisition is a newest-generation 26-tonne WA480-5. These machines are normally equipped with a bucket and stone-fork, which can be changed over using a mechanical quick-coupler. All of

Mr Brückner's Komatsu machines are serviced by Komatsu dealer Schlüter-Baumaschinen, at a branch nearby in Würzburg.

The main task for the new WA 480-5 is to loosen blocks of limestone, measuring up to 2 x 2 x 1.5 metres, from the two-to-three-metre thickness of limestone strata. Then, the blocks are either taken and stacked temporarily in the quarry, or loaded directly onto lorries which transport them to the sawmills. Where difficult formations or particularly large blocks are involved, a splitter is used. This resembles a single-tined fork, with an especially large tine. The WA480-5's ECSS (electronic load stabiliser system) and Torque Converter Lockup reduce pitching motion and fuel consumption.

Limestone quarrying has to be one of the toughest jobs for earthmoving equipment. And it's a Komatsu specialty. Knowing Komatsu, and its latest generation of wheel loaders, you wouldn't expect anything less.

PC340-7 in Greece

— by Ara Varjabadian —

— First PC340-7 in Greece works at the site of the 2004 Summer Olympic Games

Greek construction company Triedron is busy using their new PC340-7 to prepare the ground for a new building at the site of the 2004 Summer Olympic Games. The new building will be the official press centre for the Games. Each day, this Komatsu machine is working two shifts (8 hrs/shift). Triedron selected the PC340-7 for the job based on its sophisticated hydraulics and the solid backing of General Automotive S.A. (GAC), Komatsu's distributor for Greece. So far,

the customer has been most impressed with their new Dash-7's fast cycle times and low fuel consumption.

So when the Olympics start, you'll know that Komatsu was there, breaking new ground to help keep the world up to date about how your team is doing.





ALL STAR PLAYERS



Komatsu mini excavators, the ultimate combination of technology and experience, adapt perfectly to every need. Sturdiness and excellent stability guarantee safety and reliability in all work conditions. Simplicity of operation, thanks to their sophisticated hydraulic systems, means that less-experienced operators can work with maximum efficiency. A wide range of models and configurations, together with the possibility of fitting the machines with various attachments, make Komatsu mini excavators a team of all star players that are often the only solution for many difficult applications. Want to try one? Visit your nearest dealer!

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