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JUST FOREST



WITH HER SIGHTS SET ON THE FUTURE

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The simulators creating the operators of tomorrow

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First in Norway to adopt ProAct 2.0

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Komatsu Forest want to create the factory of the future

By training and delegating responsibility to her employees, Lotta Folkesson is investing in her company's future.

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Safe choices for your profitability

We care about you.

Our goal is to make your working day as safe, problem-free and profitable as possible. ProSelect offers you specially selected products that fulfil our strict quality requirements. Original spare parts, accessories and consumables designed for your Komatsu machine. Why take a chance? Let your Komatsu remain a Komatsu.

ProSelect products can be ordered from your service shop.



BERND RAUSER
GLOBAL AFTERMARKET MANAGER,
KOMATSU FOREST

Sustainable forestry offers faith in the future

Caring for the forest is a responsibility we all share. As a machine manufacturer, we strive to ensure that our forest machines have as little impact as possible on the ground and standing trees. It's a given for us to comply with environmental legislation and keep emissions within the limit values. We've also chosen to integrate our environmental efforts as a natural and proactive part of both development and production.

When the machines leave the factory, the batten is handed over to you, the owners and operators of our red machines. Elsewhere in this issue, Lotta Folkesson and Stefan Ahlander talk about how they play their part in our shared responsibility for the forest.

Unfortunately, over the past year many places have been marred by disasters such as forest fires and insect infestations. All that we can do in such situations is look on as our customers do their best in dealing with the affected forests. To help you perform this valuable work, we want to make things as easy as possible for forest machine contractors. We want to be there for you, offering long-term, sus-

tainable maintenance plans, system support adapted to the industry, and expert knowledge.

As the new Global Aftermarket Manager, my vision is to offer the best available aftermarket support in everything from spare parts management to smart technological solutions. This is a puzzle with many pieces, and different markets present different challenges. As a whole, the forest industry has a bright future, with growing demand for wood and paper products. To achieve our sustainability goals, we'll have to grow – and do so in even more places around the world.

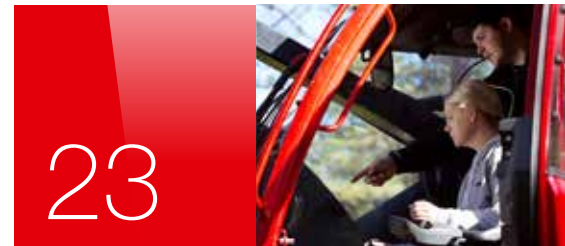
You're now holding the latest issue of Just Forest, fresh off the press. Happy reading!

PS Don't forget to recycle it as paper when you're done reading.

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Editor: Terese Johansson, terese.johansson@komatsuforest.com
Address: Just Forest, Komatsu Forest AB, Box 7124, SE-907 04 Umeå, Sweden
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KOMATSU

Headquarters
Umeå, Sweden
Telephone +46 90 70 93 00
E-mail: info@komatsuforest.com
Address: Komatsu Forest
Box 7124, SE-907 04 Umeå, Sweden

Lotta's forestry philosophy

Lotta Folkesson has more roles than most people have kitchen chairs. One day she's sitting with her company's books, the next she's tabling decisions at the Federation of Swedish Farmers, and then she's on a flight to Brussels for an EU meeting. Although Lotta has many irons in the fire, she always keeps her focus on quality and the whole.

TALKING TO Lotta Folkesson, you can't help but wonder how she manages to fit everything in. It's as though she's found a few extra hours of the day hidden from the rest of us. She's a forestry contractor, chair of the regional section of the Federation of Swedish Farmers (LRF), a board member of LRF, and chair of a European women's committee working for equality in agriculture. Not quite the easiest schedule to plan, but she manages it:

"My husband and I (they run the company together) have worked together for over 30 years, and always in green industries. It's always been a big part of my life. Sometimes work and leisure overlap, but I'm quite happy with that. And that's the main thing."

AS A DECISION MAKER at regional, national, and European level, naturally it's important to see and understand the whole. Everything is interconnected, and each link of the chain simply has to work. This is an

approach she carries over to her business.

"It's not simply a case of producing. There are so very many other aspects that have to work. Everything from being an attractive industry that appeals to people to my employees having a good day at work. We talk about wanting to maintain quality in everything we do. How we perform the actual work, how we treat service engineers, how we improve ourselves. Everything."

Lotta continues, explaining that she and her husband take a long-term approach to the business. Long-term goals with strategies and business plans for achieving them. In all this, the core philosophy is to offer a good place to work.

"It's not really the machines that are important, but that which governs the machines. We want to be a fair employer, and entrust our employees with responsibility. We believe that people grow when given responsibility, and I think we see that too."

AS A LONG-TERM strategy, Lotta invests

in training her operators. This offers motivation while also comprising an investment in which she strongly believes. However, it's not uncommon for her to meet critics who consider it a waste of money should an employee switch employer.

"I usually simply ask them what would happen if I didn't train my employees and they stayed put? That's actually worse. The way we see it, training is to both improve performance and develop the individual."

The Swedish forestry model is based on freedom with responsibility. The freedom to manage your forest according to your own goals. The responsibility to ensure that new forest is planted and to conserve and develop valuable habitats. This is music to Lotta's ears:

"I think we're all agreed that we like it this way, and we're good at it. Having said that, it's still incredibly important that we continue to show consideration for nature and culture – 'do no harm,' we usually say."

Challenges remain, however, and Lotta believes everyone needs to work on them, the entire Swedish forest industry.

"How we make forestry an attractive industry for employees is an important piece of the puzzle. Today, forest owners are not like they were 50 years ago, and many are not born into it like before. We're competing with every other industry, so it's important to highlight the positive aspects."

ONE CONCRETE SOLUTION Lotta employs is to work for greater equality in the industry. To make the industry more attractive to girls and to work together to break stereotypes.



Lotta Folkesson together with machine operator Alexander Schulz.



“

The stereotype is centered on a need for strength to be a forest worker, but that’s how things were 60 years ago.

“This industry has great potential to become more attractive to girls. The stereotype is centered on a need for strength to be a forest worker, but that’s how things were 60 years ago. Today, you harvest with your head, making quick decisions and continually developing your skills. It’s a stereotype that will take time to change – but everyone in the industry will gain by doing so.”

Despite the challenges, Lotta closes with a positive outlook on the forest industry.

“We spend every day working with the solution to a sustainable future society. Wood is becoming an increasingly important product for use in construction, packaging, biofuels, and more. We have an important job to do and we’ll continue doing it well together.”

FOREST PHILOSOPHY ACCORDING TO LOTTA

“It’s based on freedom with responsibility. We are to show consideration for nature and culture – do no harm. This is why it’s important to remember to make as little impact as possible, as well as to ensure that everything looks neat and tidy when you leave the area.

Everyone in the forest industry is contributing to a sustainable future society. There will be more construction using wood, and increasingly more new products are made from wood. That’s why everything we do is meaningful for everyone, and we’ll strive to become an even more attractive industry.”

ABOUT LOTTA

- Born and raised in Västerbotten
- Has always worked in green industries, including dairy farming.
- Runs Team Folkesson together with her husband, Mattias Folkesson.
- Chair of LRF Västerbotten
- Board member of LRF (Federation of Swedish Farmers)
- Chair of COPA’s women’s committee (European farming organization).
- Happily spends as much time as possible with her children and grandchildren.

Collaboration at its best

When we meet at Källunda Gård, the leaves in the beech forest have just unfurled. A haze of green colors the breathtakingly beautiful landscape. We're here to meet Stefan Ahlander, owner of Dannäs Skogsentreprenad AB, who works the forests of the estate together with Carl Fredrik Starby, the estate manager.



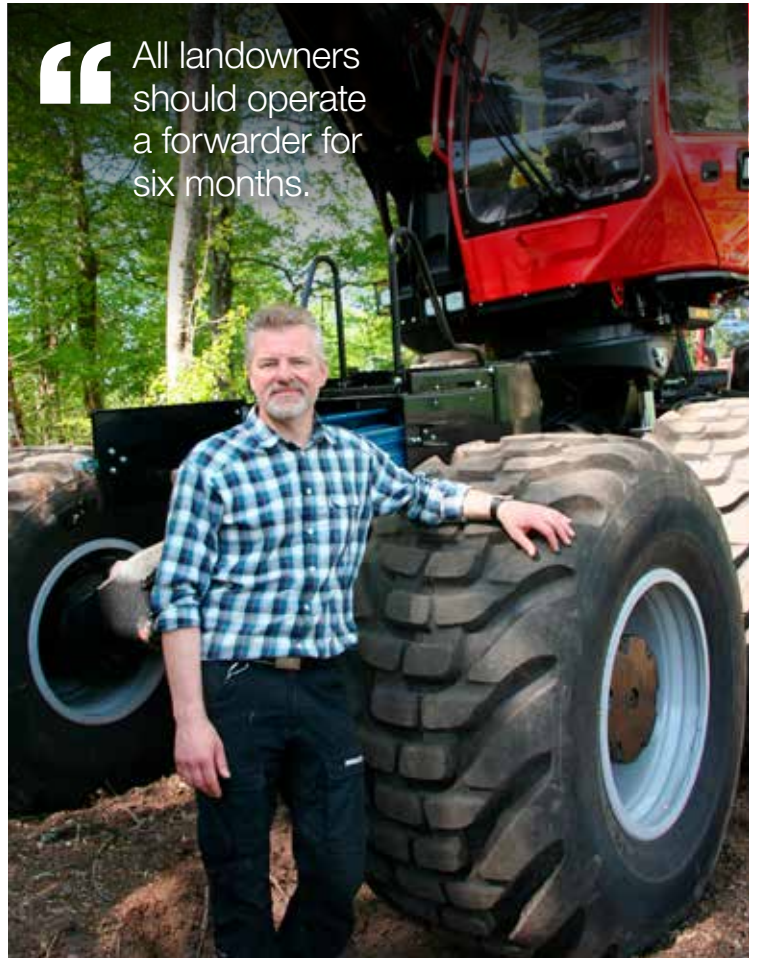
Carl Fredrik Starby and Stefan Ahlander are very happy with their collaboration at Källunda Gård.

KÄLLUNDA GÅRD is an estate dating from the 1300s. Nowadays, the focus is on agriculture and forestry. The property is unique in that it boasts both valuable natural habitats and productive forests. It's been in the family since the 1800s.

Stefan Ahlander has worked the forests of the estate for many years. Early on, he got to know Carl's maternal grandmother and mother who own the farm. The three of them realized that they had very similar ideas about production and nature conservation. Stefan values the forest greatly.

"We have only a limited time here on Earth. I have a legacy to take care of. I want to do as worthy a job as possible and leave something meaningful for the next generation. I try to teach my approach to forestry to my employees, as it's important that we all think alike to do as good a job as possible," Stefan continues.

This is something to which Carl can attest. It just so happens that he himself has worked as a forwarder operator at Stefan's company.



“Since I took over the management of the estate in 2015, we’ve collaborated very closely. Without Stefan having been a part of my early career, it wouldn’t have worked,” says Carl.

TOGETHER THEY strategize about silvicultural measures and discuss the right conditions and timing for any thinning work. The forests here are fertile, so it’s important to get things right with the initial thinning. Since Erwin, a powerful storm that hit Northern Europe in 2005, forestry is viewed differently. The storm caused a great deal of havoc in the area, although Källunda Gård didn’t suffer too badly, probably because the deciduous forest stands inside a coniferous forest.

“We can’t predict storms and hurricanes, but we can manage the forest in such a way as to cope with them as well as possible. We’ve reconsidered things and have shorter forestry cycles now,” Carl continues.

The obligatory forest management plan must always be in line with reality. Being proactive is important, especially in areas where the forest is particularly fertile. Carl cooperates with the entire team at Dannäs Skogsentreprenad to keep track of when thinning work is scheduled.

“It’s very satisfying,” they both agree. Stefan is highly motivated by being entrusted with such confidence and responsibility, and this makes it all the more enjoyable.

“All landowners should operate a forwarder for six months. Judging what can be harvested right now is more complicated than you’d imagine; it takes both knowledge and planning. If you’ve been behind the controls of a machine, then you know that felling isn’t always the most profitable option, and you get to see problems you would otherwise never know existed,” says Carl.

“Carl no longer operates a forwarder, but he’s always welcome to join us when needed if he wants to,” Stefan ends.

Dannäs Skogsentreprenad has recently invested in a Komatsu 901XC with ProAct 2.0.

DANNÄS SKOGSENTREPRENAD

Owner: Stefan Ahlander

Komatsu machines: Komatsu 835, Komatsu 901XC with S82 head and ProAct 2.0.

Awards: Dannäs Skogsentreprenad AB has received an award from the Swedish Forest Agency and the Royal Swedish Academy of Agriculture and Forestry for:

“... activities within the company worthy of merit and showing them to be a role model within the profession.”

The simulators creating the operators of tomorrow

Each year, SAMledu in Savonlinna, Finland, trains about 40 new forest machine operators. The school is strategically located between large harvesting sites in southeastern Finland and goes against the grain in that they now have more simulators than actual forest machines.

A FOREST MACHINE operator is sometimes compared to a pilot because they are required to make quick decisions while performing the correct hand movements with great precision. Moreover, things have to move as fast as possible to maintain a high production rate and ensure good profitability.

The forest machine operator course in Savonlinna is arranged in partnership with South Savo Vocational College (ESEDU). The freshman year of the course covers theoretical subjects such as basic silviculture, measuring, and forest science.

“

This also reduces machine damage once they're eventually allowed into the forest to start using real machines.

Students also learn about the importance and benefits of the correct machine and seat settings and suitable joysticks for good operator ergonomics. The second year covers the technical and mechanical aspects of forwarders and harvesters.

“During the second half of the course, students get to work in the field. We have agreements with both the Finnish Forest Administration (Metsähallitus) and smaller companies enabling us to harvest in certain areas,” explains Timo Parkkinen, a simulator instructor.

The school recently increased its



The school has agreements with nearby forest owners allowing students to practice harvesting in local forests.



Niko Heikkonen practicing to be a future operator.

simulator count from three to ten. Previously, students had free access to the three simulators, but now the school wants to use them in scheduled lessons with instructors. Simulator training allows a student to harvest the same tree several times, enabling them to accumulate a good foundation.

“The simulators enable us to let students familiarize themselves with a machine before they sit down in the real thing. This also reduces machine damage once they’re eventually allowed into the forest to start using real machines,” says Timo.

When operating the simulators, students also learn to measure, which gives them an early understanding of work methods that favor the financial side of the profession. They learn not only how to operate a harvester quickly, but also using a well-founded approach.

“It’s important to learn the right methodology at an early stage – safe, high-quality work methods. Naturally, we want to see operators in the forest who work as well and efficiently as possible,” says Seppo Kontteli, Product Manager at Komatsu Forest.

Niko Heikkonen, 18, is a final year student and is extremely motivated to be as good a machine operator as possible – just what the forest industry needs.

Why did you choose to train as a forest machine operator?

“In ninth grade, we learned about different courses. This course felt right and like something I could work with in the future.”

Why do you want to work in the forest?

“I can be left to my own devices and be my own boss.

How do you view your job prospects?

“If I’m sufficiently committed, I’m sure I’ll find work after the course.”

What would you say to others who are considering the course?

“If you’re interested and motivated, you’ll do fine.”



To ensure the best possible operators, good methodology is an important part of any course, as well as of on-the-job training.

4½ miles of firebreak logged

When Jonas Amrén heard there was a forest fire in the Ragunda area, he and his team quickly offered their services – machines and personnel – despite being on vacation. The forest fires that ravaged several regions during the summer of 2018 can hardly have escaped anybody’s attention.

LIGHTNING HAD STRUCK in two places and started fires. Jonas Amrén, who owns J Amréns Skogsmaskiner AB, went out in the evening to see things for himself and saw just how fast the fire was spreading. Afterwards, he contacted the task force leader for the emergency services and explained that they had machines ready to go if they needed help creating firebreaks. They called back the next day.

“We had all ten machines available because everyone had just started their vacation. I got in touch with the operators and we sent three machines. All in all, ten machines worked together to log the roughly 4½ mile (7 km) long and 50 yard (50 m) wide firebreak,” Jonas explains.

It was a tough summer for the emergency services. During the most critical period, Swedish fire chiefs gathered every day to study the Swedish Meteorological and Hydrological Institute’s fire risk forecasts, based on humidity levels, temperatures, and ground conditions, to decide on any fire restrictions and aerial firefighting efforts.

This summer’s wildfires have hit the forests hard in many parts of Sweden and the situation has proven to be worse than imagined now when the forests are being inventoried. Spruce are more susceptible to fires due to their lower branches and thinner bark compared to, for example, pine, which are more fire-resistant.

“The fire department had already allocated overall responsibility for the project when we got to the site,” Jonas continues. “Also on site were seven excavators to clear the logged firebreak. They cleared all combustible material. Then together we cleared a road that was flooded with water for agricultural machines to use.”

Flooding the area you intend to drive into is extremely important. Although a day had passed since the fire was extinguished, the material that had been logged started to burn as the machines drove past on the service road. Even though everything combustible had already burned, there were still glowing embers in the ground. Despite this, Jonas’ machines and personnel were never in any danger as there were firefighters on hand, hoses at the ready.

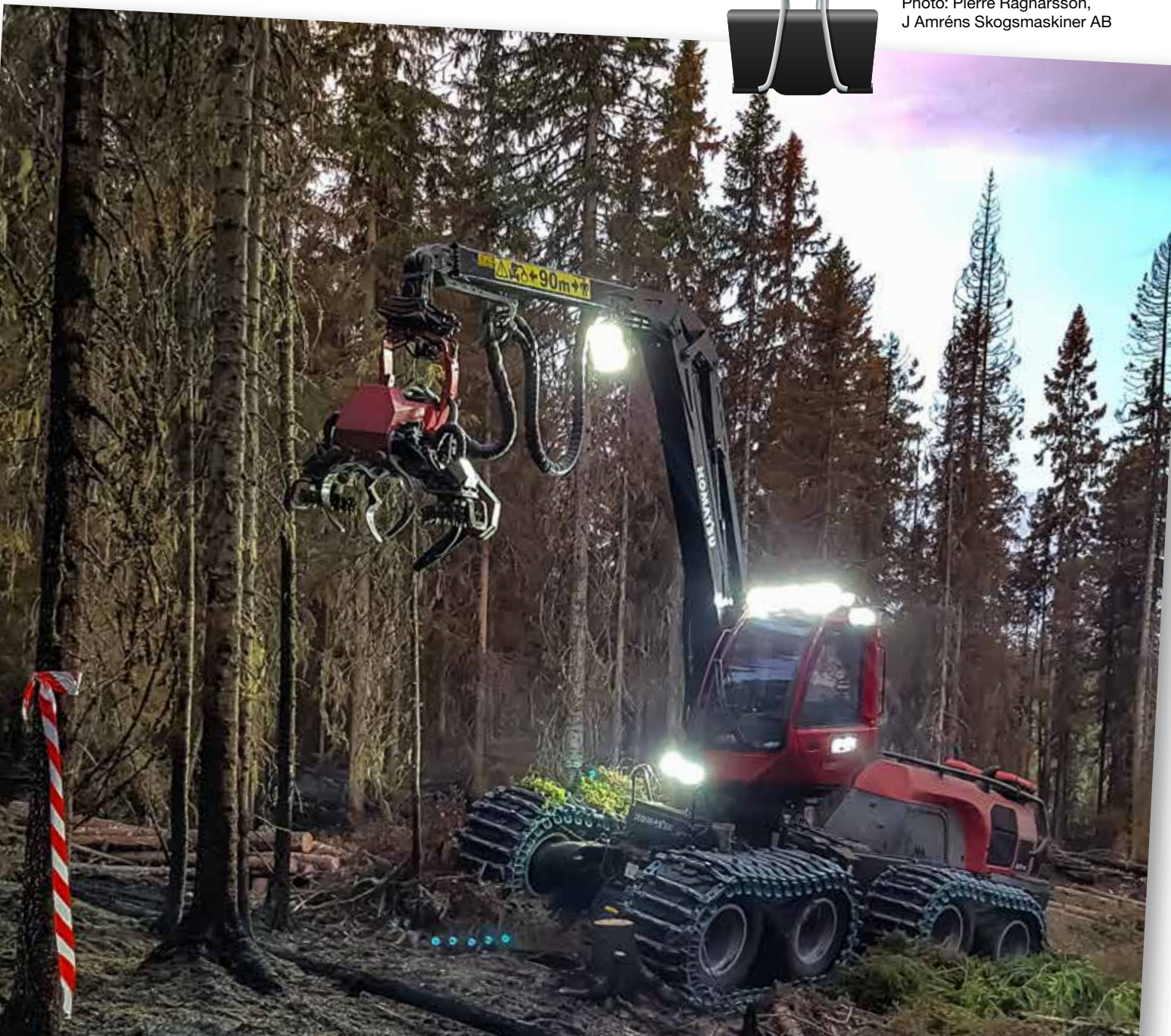
RAGUNDA IS A SMALL community in Jämtland County, Sweden, where many who fought the fire also know local residents. This meant that many people were ready and willing to help out and there was no lack of volunteers. Jonas also reveals that the Swedish national guard served the volunteers with food so they could carry on working.

“This was the first time we’ve worked with a forest fire, and it feels good that we were able to help. Our previous disaster efforts have involved storms, such as when trees have brought down power lines,” says Jonas.



READER'S PHOTO

Photo: Pierre Ragnarsson,
J Amréns Skogsmaskiner AB



MANY AFFECTED AREAS IN 2018

USA More than 100 wildfires reported. Thunderstorms in areas hit by drought were a major cause. Northern California saw wildfires covering more than 282,000 acres (114,000 ha) with over 30,000 firefighters called in to help.

Finland The northern reaches, bordering Russia, were ravaged by several fires.

Latvia 2,500 acres (1,000 ha) of forest destroyed. Dry weather and strong winds caused the fires.

United Kingdom Unusually dry weather caused a large number of fires that spread across northwest England. Experienced its longest heatwave since 1976.

Greece Wildfires in several places around Athens. The summer's hot and dry weather was compounded by strong winds that spread the fires.

Norway About 40 separate fires.

Sweden Over 80 forest fires raged, devastating 62,000 acres (25,000 ha) of forest.

New Komatsu XT-5 Series Track Feller Bunchers

Totally new design, more power, increased lift, and KOMTRAX® deliver advances in productivity, reliability and durability.

THE NEW Komatsu XT-5 Series of Track Feller Bunchers includes the XT430-5 (non-leveling), XT445L-5 and XT465L-5 models which replace the prior XT-3 Series machines. Operating weights range from 66,359 lb. (30,100 kg) to 74,516 lb. (33,800 kg) and all feature a new, more powerful fuel-efficient EPA Tier 4 Final engine, gull-wing style engine hood, increased lift capacity, rugged undercarriage, redesigned and relocated cab, new hydraulic and cooling systems, forestry-specific guarding and KOMTRAX® telematics system technology.

“We have been systematically gathering and analyzing voice-of-the-customer input to define our next generation of feller bunchers,” said Mitsuhiro Utsumi, vice president, forestry product marketing, Komatsu America Corp. “This new XT-5 Series represents the culmination of translating that entire input into feller bunchers which truly meet the needs of today’s demanding loggers”, Utsumi said.

Performance & Productivity

The new 310 peak hp (231 kW), Cummins QSL9 9-liter engine provides more horsepower, torque and displacement and lowers fuel consumption by as much as 10%, due to advanced engine and hydraulic system control designs*. Lift capacities at full reach lift have been increased by 75% on the XT430-5 and XT445L-5, and by 16% on the XT465L-5. The XT465L-5 now readily operates the Quadco 24-inch (610 mm) cutting capacity disc saw heads.

Operator Comfort & Convenience

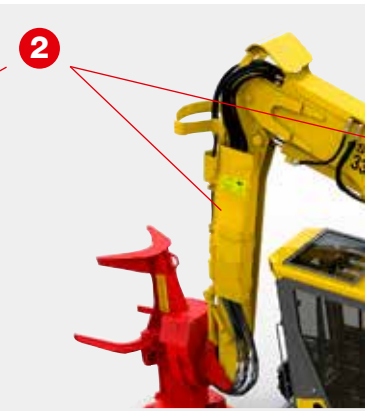
The state-of-the-art, fully-certified, Komatsu forestry cab has been relocated to the left of the boom for industry commonality. Cab design changes provide superior lines-of-sight to each track. Standard rear view and optional right-side view monitoring systems further enhance the operator’s view. Eleven (11) LED lights provide superior visibility for night operations.

Komatsu’s highly intuitive, IQAN-MD4 digital control system programming allows up to three (3) different operators to program their individual control patterns for increased multi-operator productivity. An IQANsync mobile phone app is available to allow remote access to perform IQAN system functions.

Reliability & Durability

New Komatsu rugged undercarriages provide significantly increased service life due to:

- Rugged 8.5" track chain links which are thicker, heavier and contain more material
- New high-density track roller and idler bushing material extends wear cycles
- XT445L-5 and XT465L-5 have larger track guard roller side openings to minimize mud packing and facilitate cleaning
- XT465L-5 has 9 vs. 8 rollers for improved load distribution. Track length has been extended to the rear by 5.3" (135 mm) for improved steep slope stability





The XT-5 Series features a more powerful engine, gull-wing style engine hood/service platform, increased lift capacity, new heavy-duty undercarriage, relocated cab and a KOMTRAX® telematics system.

- XT445L-5 and XT465L-5 have a reduced track slider angle that produces 30% lower contact pressure for reduced wear
- All final drives have a triple labyrinth floating seal housing to better protect the seal against mud packing

Larger capacity, hydraulic piston pumps for the implement, attachment and disc saw operate at 500 rpm lower speed, while providing high flow. Boom, arm and rear hydraulic tubes and hoses have robust

forestry-specific guarding that provides protection and sheds debris.

The totally new cooling system features a larger radiator, charge air cooler and a single hydraulic cooler. All coolers have been relocated to the rear of the machine to minimize debris buildup. Separate radiator and hydraulic oil cooler fan controls provide the cooling needed to maintain the required temperatures. Both fans have an auto-reversing function to help purge debris and maintain cooling efficiencies.

Ease of Maintenance

A gull-wing style engine hood folds down to provide an elevated service work platform. Four (4) other service doors swing wide to provide excellent service access. An innovative new hydraulic tank design requires 55% less total hydraulic oil (a refill = 57 gallon = 217L). The attachment control valve has been relocated from the main control valve to the arm for ease of service.

Komatsu's exclusive KOMTRAX remote equipment monitoring and management telematics system is standard. It utilizes highly reliable, satellite-based technology to transmit valuable information such as location, utilization and maintenance records to a website, plus provides advanced machine troubleshooting capabilities by monitoring machine health and issues caution and abnormality alerts.

3



- 1 A gull-wing style engine hood provides an elevated service platform and four (4) other service doors swing wide for excellent service access.
- 2 Boom, arm and rear hydraulic tubes and hoses have robust forestry-specific guarding that provides protection and sheds debris.
- 3 Rugged new undercarriages provide significantly increased service life.



* Note: All comparisons and claims of improved performance are made with respect to the prior Komatsu models unless otherwise specifically stated. Up to 10% lower fuel consumption results are based on using the XT445L-5 prototype vs. the XT445L-3 model – each operator's results may vary.

Simplifying day-to-day business and finances

Since this past summer, Norway's first Komatsu 901XC with ProAct 2.0 has been operated by forest machine contracting company Skogsentreprenør Sverre Bergli in the forests outside Oslo.



BACK IN 1985, Sverre Bergli invested in his first used forest machine. It's been a long and rewarding journey since then, and today he spends his workdays in the company's Komatsu 931. He's only owned red machines for the past 20 years, with the latest addition being Norway's first Komatsu 901XC, which was delivered last summer. Over the years, Sverre has had four 901s, which he's always been very happy with, yet he's still happily surprised by the new machine's impressive productivity.

"It has extreme capacity and is well suited to the wilds of Norway," says Sverre.

When taking delivery of the new eight-wheeler, he was also the first contractor in Norway to enter into a ProAct 2.0 agreement.

"We've long asked for a formal service agreement and finally Komatsu Forest was able to offer us one."



It offers peace of mind knowing that the machine is regularly inspected so that we can avoid unwelcome downtime.

He hopes that the cost per hour will be lower and so far he's only seen benefits.

"It offers peace of mind knowing that the machine is regularly inspected so that we can avoid unwelcome downtime. It ought to be cheaper to discover faults that haven't fully developed yet rather than deal with them later. This means you can plan better and have the parts you need in stock."

AFTER 34 YEARS in the industry, Sverre still likes to try new things. But this time Kjetil Røste was the instigator, and he's very innovative. Kjetil operates the company's new 901XC and is also the operator who's used it most and is fully aware of the machine's status and service needs. So far, the machine has only undergone the initial inspection and they're already happy with the arrangement.



Sverre Bergli and Kjetil Røste are convinced that proactive service is the future.

“I think this is the future. New operators don’t have the necessary experience of troubleshooting,” says Sverre.

On the whole, Sverre feels that the service arrangement works really well and they receive their spare parts in the mail. With less than a two-hour drive to Stange, where the nearest workshop is, help is never far away.

MOREOVER, Sverre and his employees have MaxiFleet to help them as well. In Nor-

way, harvesting areas are often both small and numerous, so MaxiFleet is a great help with all the administration.

“As we can plan the areas from the office, certain tasks are already done when we get to the machine, so we can start work immediately. We can also keep track of progress in each area and see what remains to be done.”

So far, the company has MaxiFleet in its two eight-wheeled harvesters, but has plans to expand this to encompass all machines.

SKOGSENTREPRENØR SVERRE BERGLI

Where? Hønefoss, about 35 miles (60 km) north of Oslo

Employees: 5

Komatsu machines: 931, 901XC, 931XC

Service agreements: ProAct 2.0, MaxiFleet



Bernd Rauser wants to invest in smart technological solutions to strengthen our aftermarket offering.

Bernd wants to strengthen the aftermarket offering

Since mid-September, Bernd Rauser is our new Global Aftermarket Manager. Prior to this, and since the new millennium, Bernd was CEO of Komatsu Forest GmbH. Now it's time for new pastures with a fresh start in Umeå and Sweden – something that Bernd appreciates and is looking forward to.

KOMATSU FOREST is experiencing a growth phase and this will continue in our aftermarket offering. The goal is to continually improve our customer solutions, and to grow in both existing and new markets. Bernd, who has previously worked closely with customers and has broad knowledge

of the industry, is now piloting this exciting journey into the future.

“I think these are interesting times to join the effort. Our aftermarket offering has tremendous further growth potential. As a company, we need to be at the forefront with our offering, and to this end smart

technological solutions are something we're highly focused on today. And we'll continue to raise the bar.”

How did the move from Germany to Sweden go?

“On the whole, very well. Although

naturally it entails both practical and bureaucratic efforts. My wife and I live here in Umeå now, and we've settled in to our new city well."

Tell us about the decision – was it difficult to make?

"Both yes and no. I was open to the move before I was even asked. Once I was actually asked, it became very real. My wife and I discussed it over and over again, and after about three weeks we decided to go for it. It was a bit like it's now or never."

What made you say yes?

"Two things, essentially. It's a very interesting role with a great deal of potential to continue developing our aftermarket offering. There's a lot going on in terms of smart technological solutions, and this is a challenge I find both fun and important, especially if we're to remain at the cutting edge. Then both my wife Beate and I enjoy spending time in nature. Especially the mountains. And in Umeå we live near both nature and the mountains."

Bernd explains further that he and Beate have started to settle into life at more northerly latitudes. Both consider learning Swedish an important part of it, and they're attending evening classes to learn the language. There was, however, one change they weren't really prepared for:

"The darkness during the winter months. It's new to us and will take some getting used to."

MOVING FORWARD and for the forest industry as a whole, however, Bernd sees a bright future:

"There are always challenges. We're to offer the best available aftermarket support – and by that I mean everything from spare parts management to smart technological solutions. It's a puzzle with many pieces, and different markets present different challenges. The forest industry has a bright future, with growing demand for wood and paper products. To achieve our sustainability goals, we'll have to grow – and do so in even more places around the world. There are also large forestry markets where mechanization will be a natural part of that development."

New roles for two stalwarts



Jürgen Munz takes over in Central Europe

DR. JÜRGEN MUNZ has worked at Komatsu Forest since 2007. In recent years, Dr. Munz has been head of sales at Komatsu Forest GmbH with responsibility for all of Central Europe. Dr. Munz is the natural successor to Bernd Rauser and will carry on the successful sales growth we've achieved in Central Europe over the past few years.

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Per new CEO in the UK

PER ANNEMALM has been appointed CEO of Komatsu Forest Ltd. He's held various positions at Komatsu Forest over the past 16 years, for the longest time as Product Manager for forwarders and control systems. His most recent position was Area Manager for Russia and North America.

The UK market is important and Per and his team will work to increase our sales and market share.

Properly equipped for timber processing

Fast and safe cutting is crucial to maintaining high productivity and the right quality. One prerequisite is that the machine's saw equipment is intact and properly maintained. Here are some important recommendations for taking care of your saw equipment.

Sufficient chain lubrication

Saw equipment is used in a challenging environment and relies on sufficient lubrication to reduce wear and extend its service life. Outdoor temperatures and other factors at the worksite play a major role in the amount of lubrication needed. Be sure to check the equipment at regular intervals and ensure that the chain is slightly sticky rather than dry to the touch.

Make sure the anti-cavitation function is working to avoid a vacuum forming in the chain oil tank. Avoid getting water in the chain oil tank as together water and chain oil form a thick sludge that can block the chain oil hose and pump.

Keep the chain sharp

Sawing with a blunt chain results in higher fuel consumption and excessive saw bar wear. What's more, it can also result in poorer quality processing with splits in the timber. To avoid this, the chain should be filed regularly and correctly. Before sharpening the chain, it should be cleaned to remove dirt and oil and then inspected in good lighting to reveal any damage, missing components, or loose rivets. Check whether the chain has stretched, which may indicate wear. Chains that are sent away to be sharpened may be returned dry. If so, soak them in an oil bath before use so that they are well oiled before being further lubricated by the cutting unit.

When should the chain be replaced? A chain needs replacing when the longest

part of the cutting tooth is shorter than 0.16" (4 mm) or if you find any cracks. If it's damaged, replace it.

Tip! The bar mount has two pistons that extend the bar and tension the chain. Over time, debris accumulates around these pistons and between the bar mount and clamp. This debris must be removed so that the bar can be pushed back in when replacing the chain.

Chain quality

To ensure a more durable chain and one which is also safer, we've chosen to use a 0.08" (2 mm) thick drive link instead of the standard 0.06" (1.5 mm). To ensure proper chain tensioning, Komatsu Forest recommends complete chains with the right number of links for the bar length.

Bar maintenance

The area subjected to most wear is the underside of the bar, where most of the cutting takes place. The saw bar ought to be inspected daily to check for damage and general wear and tear.

- Flip the bar each time the chain is replaced so that it wears evenly
- Clean the bar groove and oil inlet regularly, preferably every week
- File down any burrs on the bar groove

Use a flat file to remove any burrs, otherwise they can split and the damage can propagate into the body of the bar. Any

imperfections on the bar rails ought to be filed down too. Always start at the end and work toward the bar mount. If the bar is wearing too quickly, check the lubrication, chain sharpness, and bar feed pressure.

When should the bar be replaced?

- The bar groove is too shallow to hold the drive link. Check this at the most worn part of the groove.
- The chain doesn't stand up straight in the groove. If the chain continues to cut crookedly after replacing the bar, the chain should also be replaced.
- Cracks in or minor damage to the nose of the bar or at the bottom of the bar groove. Minor damage to a relatively new bar may be repairable. If not, replace the bar immediately.
- A blue discoloration forms near the bar groove, the top of the chain drive, or the bar mount. Such discoloration can appear, for example, if the bar groove is compressed, lubrication is insufficient, or debris has accumulated.

Correctly adjusted cutting control

In addition to taking care of your saw equipment, it's also important that you adjust the cut to be as exact as possible. Exact cutting saves fuel and ensure good timber quality. These settings are adjusted in the MaxiXplorer menu under Head – Cutting – Extra cutting distance.

good

PROSELECT SAW BARS AND SAW CHAINS

The products in the ProSelect range are developed and carefully tested to work perfectly together. This means you can rest assured that they boast the best possible functionality and durability with a reduced risk of, for example, splitting.

File the chain regularly to keep it sharp

Flipping the bar each time the chain is replaced ensures more even wear

CONSTANT CUT

Did you know that the Constant Cut saw unit on our C heads ensures constant chain speed and short cutting cycles, reducing the risk of splitting?

HOW TO AVOID SPLITTING

- Use sharp chains
- Use correctly adjusted cutting control settings
- Do not use worn or damaged bars
- Monitor chain lubrication

Smart solutions with sust

At Komatsu Forest, we work purposefully to design machines that optimize maneuverability and limit ground pressure. With smart solutions and engines that are custom-built for forest machines, we work hard to reduce fuel consumption and emissions alike. Product managers Tobias Ettemo and Daniel Grabbe tell us how and why.

HERE AT KOMATSU FOREST, we strive to ensure that our forest machines have as little impact as possible on the ground and standing trees. Tobias Ettemo, Product Manager Harvesters, explains that the

machine concept for both harvesters and forwarders is based on stable machines with even weight distribution. "A balanced bogie ensures that the machines generate more evenly distributed pressure between the front and rear



Tobias Ettemo

wheels. Distributing the machine's weight over a larger area reduces ground pressure, enabling the machine to maneuver more easily and causing less damage to soft ground."

On the harvesters, the underside of the frame is smooth, which reduces the risk of it catching on stumps and rocks and provides good maneuverability. The six-wheeled harvesters are light and agile, while the eight-wheeled harvesters have even more surfaces over which to distribute their weight. This results in low ground pressure under all wheels and a significantly reduced risk of ground damage.

Daniel Grabbe, Product Manager

Forwarders, adds that the forwarders' V-shaped frame design and portal bogies provide ideal conditions for good ground and obstacle clearance.

"Since the final drive is concealed inside the rims, the space between the wheels is both wider and higher."

IN RECENT YEARS, several development projects aiming to reduce machine fuel consumption have resulted in smart solutions that not only save contractors money, but also spare the environments in which the machines operate. Proof of this is found in two of the most recent innovations, namely the three-pump



Komatsu's harvesters are very stable and produce low ground pressure.



Portal bogies ensure the best possible ground clearance for forwarders and harvesters alike.

ainability in focus

hydraulics on Komatsu harvesters and the SmartFlow option for Komatsu forwarders, as well as in a large number of minor improvements to diesel engines and machine systems which help reduce fuel consumption.

As of a few years ago, all harvesters are equipped with three-pump hydraulics, 3PS, with generous hydraulic capacity split between three different hydraulic circuits. Two of these are used for the working hydraulics and boast individual pressure levels.

“The system’s power is coordinated with that of the diesel engine and enables the operator to perform even more tasks at the same time without losing hydraulic power,” says Tobias. “Thanks to the separate circuits, energy losses in crane operation are reduced, resulting in lower fuel consumption. What’s more, the hydraulic design is one of the most important factors for increased productivity. Since 3PS increases hydraulic power availability, you can quite simply harvest more timber for every drop of diesel.”

THE SMARTFLOW OPTION for Komatsu forwarders works similarly.

“This is brand new crane control technology that continually monitors the pressures and flows delivered to the crane to ensure that they’re just right,” says Daniel. “In addition to refined handling and increased production, this technology results in lower pressure losses from the valve. This leads to improved fuel economy.”

Daniel adds that we’ve also developed more secure hydraulic couplings to reduce leakage.

“ORFS soft-seal hydraulic couplings provide better sealing surfaces compared to JIC couplings,” he explains. “What’s more, we examined which of the biodegradable hydraulic oils is the best option and made it standard for our machines. All our hoses, filters, and pumps are also optimized for biodegradable oils.”

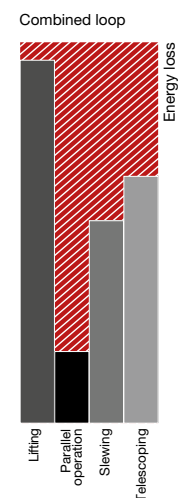


Daniel Grabbe

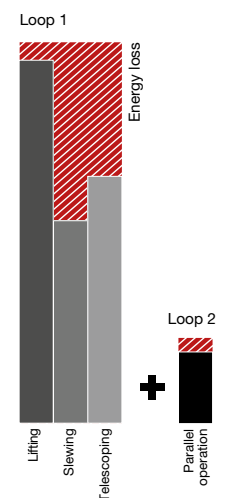


Our SmartFlow technology improves both handling and productivity

1-circuit system



2-circuit system



With 3PS, the two working hydraulics circuits can operate at different pressures and thereby reduce energy demands on the diesel engine. When a particularly high oil flow is required, such as when feeding a stem, the two circuits are combined to provide maximum hydraulic power.

The system’s power is coordinated with that of the diesel engine, providing optimal conditions for utilizing full diesel engine capacity at any given time in the work cycle.



We're at the leading edge when it comes to green engine technology and fulfil the legal requirements of each market.

The hydraulic system found on harvester heads also uses Komatsu Forest's unique variable back pressure valve. Since this valve is adjustable, MaxiXplorer can control the back pressure, which lowers energy consumption and increases the service life of hydraulic components.

FUNDAMENTAL to reducing fuel consumption is that the engine cooling system is optimized to the machine's needs.

"The design of the cooling system, with parallel cooling elements and the excellent cooling fan speed control, contributes to the low energy demands of the machines' cooling systems," Ettemo reveals.

The greased chain (Eco-GLS) reduces lubricant consumption. The adaptive chain lubrication function also adjusts the amount of grease used based on stem diameter, tree species, and more, which in turn reduces both consumption and spills. Good for both the environment and your finances.

GLOBAL ENVIRONMENTAL and climate issues have been increasingly prioritized since the 1990s. For forest machine manufacturers, this is most tangible in the emission legislation of the EU and the USA;

legislation that regulates a systematic increase in emission control to cut emissions of nitrogen oxides (NOx) and particulate matter (PM). On January 1, 2019, the legal requirements were tightened for the fifth time since 1996 and now encompass a requirement for Stage V engines. The new legislation will result in a 94% reduction in nitrogen oxide emissions and a 97.8% reduction in particulate matter.

"We're at the leading edge when it comes to green engine technology and fulfil the legal requirements of each market," says Daniel proudly.

For some time now, our forest machine engines have been based on SCR technology, making them extremely fuel efficient with less environmental impact.

With our refined SCR technology, NOx reduction is carried out after and outside the engine's combustion process. This enables the combustion process to be optimized, reducing particulates and maximizing engine performance. Using a cleaner CJ-4 class engine oil, with lower sulfur content, also moves things in the right direction.

The above legal requirements are now a natural and integrated part of Komatsu Forest's future development projects.



An Eco-GLS greased chain reduces environmental impact. Available as an option for the Komatsu C93, C123, C124, and C144 heads.

Correctly optimized machines **SAVE FUEL**

Fuel economy is an important factor for most forest machine owners. With a correctly optimized machine adapted to operators and stands, fuel consumption per harvested cubic foot can be reduced even more. This is where our machine and method instructors can help out.



ONE IMPORTANT PREREQUISITE for better fuel economy is a correctly optimized machine. Work quite simply becomes more efficient if the operator can utilize the machine's full capacity and the machine behaves the way the operator wants. When adjusting the settings, you need to find the right balance between functions. Fastest is not always most efficient. The right balance results in not only reduced fuel consumption, but also increased production as the machine is more easily operated.

The basic principle is that the settings are adjusted to each individual operator, but also to some extent to whether the machine is being used for final logging or thinning. When it comes to the head, we can also consider the stand and tree species. Crane settings ought to be reviewed once or twice a year, and head settings on a more regular basis, especially if there are large variations in assignments and tree species.

HOW IT'S DONE: The machine and method instructor reviews and adjusts the machine together with the operators. The crane, head, and machine settings are fine-tuned. On harvesters, the knives are ground to improve delimiting, which results in better diameter measurements and logs that are more easily fed through the head. If necessary, the feed rollers may be filed to optimize traction. Once the machine is operating nicely, it's time to review your work methodology.

Settings that affect fuel consumption

MACHINE SETTINGS

1. We help you find the right working revs.
2. Correct off-road driving speed. By setting the optimal speed, the operator can focus on crane operation even when the machine is moving a little while working.
3. Avoid unnecessary idling. In a cold climate, it's better to use the diesel heater.

CRANE SETTINGS

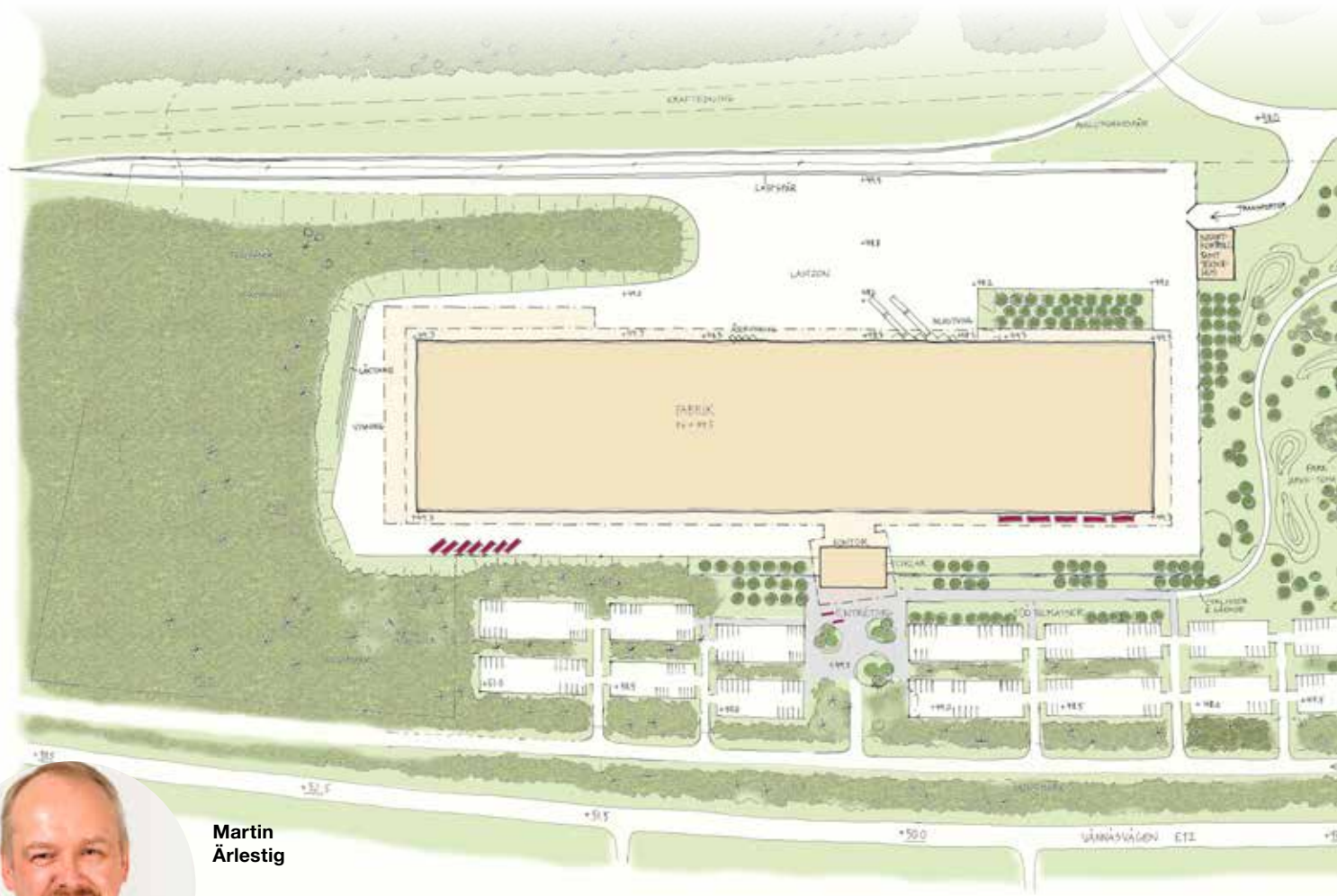
1. We check the minimum flow to all crane functions. The result is a smooth yet highly responsive crane that minimizes crane movements.
2. The right start and stop ramp values. The response should be fast yet smooth.
3. The joystick curve can be adjusted to match joystick type and operating style.
4. The speeds of the extender, boom, and outer boom functions should be well balanced to ensure effective crane operation.
5. Reduce the amount of main arm operation. Use the extender and outer boom instead, as these functions require less energy and load the diesel engine less.

HEAD SETTINGS

1. Set delimiting knives to pulse opening. It's important to set the right stem diameter.
2. Adjust knife pressure. Too high knife pressure makes for a heavy load when feeding a tree. Too low knife pressure compromises stem holding, crosscutting, and measuring.
3. Adjust roller pressure as necessary. Too high pressure makes feeding heavy and too low pressure risks slip damage and poor stem holding.
4. Set separate pressure curves for different tree species for delimiting knives and feed rollers as necessary.
5. Check and adjust the cutting movement so that no excessive cutting motion is made.

Creating the factory of the future

The ambition is to build a modern factory where our employees thrive and grow and we can deliver leading product quality. So says Martin Ärlestig, Factory Manager Komatsu Forest.



Martin Ärlestig

AT THE TIME of writing, Komatsu Forest is in the final stages of a feasibility study looking at the possibility of building a brand new factory. The factory is planned to be built in a new location in Umeå, Sweden, and this past fall the company acquired the plot of land where we hope to build it. The feasibility study has been conducted together with Komatsu Ltd, which has

brought solid knowledge and experience to the table. (The Komatsu Group has 92 factories).

Starting with a clean slate offers great opportunities in designing a modern factory to meet both current and future needs. We have a strong focus on efficient and flexible production to better meet and respond to customer demand for our machines. We'll also raise the technology used in assembly to the next level by building a digitalized

factory. This will enable us to further improve production in terms of both quality and safety.

This is a major investment based on the strong future growth potential we see in wood products. The forest industry has a bright future in which we'll see the exciting development of new, innovative, and climate-smart products produced from wood.

Komatsu Forest already has strict re-

he future

A conceptual sketch of Komatsu Forest's future factory and surrounds.



The new service facility in Egleton was inaugurated this past fall.

Extended service and availability

Recently, we've invested heavily in building new or renovating our existing service facilities.

We've built them with the aim of further improving our aftermarket offering to provide the best possible service and availability to customers in the area while giving our employees a good work environment. We provide a few examples below:

IN FRANCE, a new facility was inaugurated in Egleton on September 21, 2018. This new facility boasts, for instance, considerably higher capacity for servicing machines, better access to spare parts, and an improved used machine lot.

IN SWEDEN, two newly built facilities have been inaugurated in Hässleholm and Lindesberg. These facilities strengthen service capacity and availability in their respective areas. This past fall saw the inauguration of our facility in Tvärålund, existing premises renovated to better suit the role of a service facility.

IN GERMANY, the facility in Vöhringen was renovated to increase its service capacity from four to seven machines, among other improvements. The existing service facility in Austria has also been renovated.

quirements as regards product quality, the work environment, and occupational health and safety. Another important aspect is taking our environmental responsibility seriously.

"We already have demanding environmental requirements for our production, but building a new factory from scratch will enable us to integrate green solutions throughout. Our goal is to make our production carbon-neutral," Martin ends.



Operating a forest machine is a tough job with many challenges. Demands for good working conditions and stimulating assignments will not lessen in the future – on the contrary. This is why Komatsu Forest has always prioritized ergonomics in its development work and will continue to do so.

Ensuring ope

SAHAR SVEDBERG is a design engineer and part of the team that spends its days designing and developing the cabs found on Komatsu's forwarders. Her work encompasses everything from looking at the placement and height of the driver's seat to planning cable routing. This work is a never-ending process, centered on requirements largely based on user safety, preferences, and opinions.

Most of Sahar's work is done in front of a computer, but she also has a direct dialog with operators and tests the cabs herself.

"Regular contact with those who operate our machines on a daily basis is extremely important in development work and all new functions are prototyped before going into production."

To help her, Sahar has several test operators who she can join in the forest or otherwise collaborate with when evaluating different solutions.

Sahar Svedberg says that individual settings are important if operators are to have a workplace that is viable in the long term.

Prevents health problems

Opportunities to vary your work are of great importance as the main cause of health problems is monotonous movement. This can involve everything from taking micro-breaks, stretching, and standing up to regularly readjusting the seat, armrests, hand controllers, and so on.

Individual seat settings

The driver's seat can be adjusted both vertically and horizontally, with adjustable back, neck, and lumbar support. The seat's integrated suspension and damping system can be adjusted to the operator's weight.

The armrests offer vertical adjustment. The distance, height, and angle between controllers and armrests are also adjustable.

The seat is attached to a pillar around which it can rotate. The seat pillar is available in two versions:

Operator comfort

REDUCING vibrations and improving visibility in the cab are two key areas for improving the work environment. The Komatsu Comfort Ride cab suspension option is highly recommended by users, much due to the improved comfort it offers.

“Operating a forest machine entails a great deal of responsibility and the need to make many quick decisions in a short space of time, and this in itself demands a comfortable work environment adapted to the operator’s body and mind.”

To simplify crane operation, the forwarder cabs have large windows to provide good upward, downward, and side visibility. Here, we’ve concentrated on improving visibility under normal conditions, so that the operator doesn’t need to make any unusual movements, such as crouching down, in order to see.

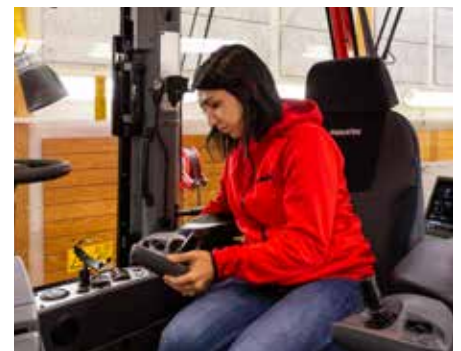
“We also get the opportunity to use modern technology in our development work. For instance, we once used VR tech-

nology to see how visibility was affected by a grille on the front windshield – that was very cool!”

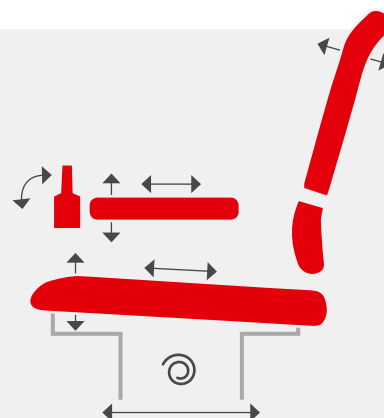
SAHAR EMPHASIZES that most of the work conducted by a forest machine operator is within the innermost work area, that is, within reach of the arm, and as such the ability to make individual settings is of great importance. An adjustable seat and adjustable armrests are important, as are hand controllers that relieve hand and wrist strain.

Our Komatsu Comfort Controls offer the operator a hand controller with an ergonomic design, encompassing the joysticks, steering controls, and buttons. The choice of two different joystick systems also enables operators to choose the controllers that best suit them.

“Variation and the opportunity to rest at work are essential to well-being and performance. We want to prevent unnecessary strain on muscles, joints, and bones so as not to overload the operator physically.”



- **FIXED POSITIONS.** The seat pillar has three fixed positions (forward, sideways facing the door, and backward). Before the seat can be rotated, it must be released with a lever near the floor or a button on the joystick base. Once the seat has been rotated to a new position, it’s automatically locked in place.
- **FLOATING.** The seat pillar can be locked in any position. Before the seat can be rotated, it must be released with a button on the joystick base. Once the seat is in the desired position, the button is pressed again to lock it in place.



Adjust the seat settings regularly to reduce the risk of health problems.

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SUSTAINABLE WORK METHOD DELIVERS RESULTS

Using modern, high-tech forest machines demands both know-how and training. Operating a machine in a smart way benefits both productivity and fuel economy.

In the previous issue of Just Forest, you could read about a pilot project in which Swedish forestry company SCA and Komatsu Forest aimed to find out how simulators can help experienced operators work more efficiently.

Training courses have now been held at which participants were able to use Komatsu simulators to perform exactly the

same task, in the same stand, on two different occasions. The only difference was that on the second occasion the operators received help and instruction from Komatsu Forest's method instructors. Happily, the results showed major differences in terms of both increased productivity and lower fuel consumption.

Komatsu Forest plans to offer this type of training course to a wider audience in the near future.



CONTINUOUS ROTATING NOW FOR C144

The C144 head can now be ordered with the Continuous Rotating function, which allows the operator to rotate the head without the interference of hoses and electric cables. One prerequisite is that the head is ordered with an HD link.

NEW LOOK FOR MAXIFLEET

MaxiFleet has a new, more user-friendly interface. The new look offers a better overview of your machines and their performance. You can choose which information appears in the machine overview and you can see each machine's location, key data, and any warnings directly on its individual details page.

Areas are easier to administer now when you can easily create and track all your harvesting areas from one and the same place.

BEHIND A WORLD CHAMPION

Komatsu Forest is the proud sponsor of Laurence O'Toole from Australia, who can now call himself a Timbersports world champion. The Australian won first place at the competition in Liverpool, England, following a thrilling evening of events, setting several personal bests.

Laurence is a third-generation forest worker and has enjoyed a very successful year as a Timbersports athlete. He began the year by winning the Australian Championship, which qualified him for the World Championship in the UK where he was crowned world champion.



Laurence O'Toole, Australia.

ADDITIONAL MEASURING WHEELS

A kit containing two additional measuring wheels is now available for all S heads.

NEW OPTION

36-foot (11-meter) crane available as an option for the Komatsu C124 head on the 931, the 931XC, and the 911 with a 230HD.



Bringing harvesters into the home

Two Komatsu Forest machines have been implemented digitally down to the smallest detail, offering players a fun, lifelike experience.

November 20, 2018 saw the release of Farming Simulator 2019. This is the first version to include Komatsu Forest machines – two of them. The eight-wheeled Komatsu 931XC harvester with a C144 head and the Komatsu 875 forwarder will provide many hours of fun.

THE GAME SIMULATES the life of a modern-day farmer. In addition to regular farm work such as ploughing, cultivating, sowing, weeding, fertilizing, harvesting, selling, and so on, forestry and animal husbandry are also on the agenda. The player can choose from more than 300 original vehicles to conduct the various farming tasks.

Farming Simulator is without doubt number one in this genre. The first game in the series from Swiss software developer Giants Software was released in 2008 and more than 15 million copies have now been sold worldwide. The company quickly expanded from two to fifty employees in Zurich (Switzerland), Erlangen (Germany), and soon Brno (Czech Republic).

THE AGREEMENT between Komatsu Forest and Giants Software was signed in the winter of 2016 and there's been a lot of work since then. Photo shoots, machine measurements, audio recordings, more photo shoots, detailed clarifications, questions, changes, and finally video shoots in East Germany and Poland.

"It's remarkable to see the demands and attention to detail that the developers have set for themselves for the Komatsu machines," says Thomas Schmelzle of Komatsu Forest.

The game is available for all major platforms, including PC, PS4, Xbox, and Nintendo, and in 18 languages. Hours of fun guaranteed!

Small beetle – big trouble

Bark beetle a source of woe in Central Europe.



FOLLOWING THE STORMS of the past year and a far too mild winter, summer 2018 saw record heatwaves. Optimal conditions for the bark beetle, which has now spread like never before in the forests of Germany.

And it's not only Germany that's been affected, but also Austria, Switzerland, and Poland, where the tiny beetle measuring about 1/5" has wreaked havoc. The Nordic countries have been badly affected too. Following droughts and demanding weather conditions, trees are unable to keep pests at bay and the bark beetle can easily bore through the bark and lay its eggs. The larvae then feed on the inner bark. This process destroys the tree's water and nutrient flows and the tree dies.

Spruce in particular have suffered infestations, with major consequences for forests in Central Europe. For example, some two million spruce trees were felled

at the beginning of October in the German state of North Rhine-Westphalia as a result of the infestations, and the full extent of the damage is not yet known.

IN THE FIGHT against the bark beetle, there's only one path to follow: infested trees must be felled and removed from the forest as quickly as possible. Komatsu's forest machines are a useful aid in ensuring the quick removal of damaged trees and the MaxiFleet and MaxiN information systems provide excellent means for monitoring the situation.

Unfortunately, the consequences are dramatic: timber prices are nosediving and sawmills are overburdened. What's more, the climate change effects we're seeing are forcing many state forestry agencies to reconsider recommended tree species to avoid the risk that spruce entails.



KEEP AN EYE OUT FOR BARK BEETLE

Inventory older spruce stocks. Pay particular attention near previously infested locations. Areas with recently windthrown timber or snapped tree-tops and the perimeters of new stands may also be susceptible.

Dried-out trees, boreholes, and boring patterns are visible signs that a forest is infested with bark beetle. Look for spruce trees with green and yellowing needles, flaked bark several feet up, small boreholes in the bark, reddish-brown boring dust on the ground around the tree base, and trees shedding green needles.

CONTACT

DISTRIBUTION CENTERS, SALES OFFICES AND DEALERS

EUROPE AND RUSSIA

AUSTRIA

Komatsu Forest GmbH
Zweigniederlassung
Österreich
www.komatsuforest.at
Tel: +43 2769 84571

CROATIA

Šuma GM d.o.o.
www.sumagm.eu
Tel: +385 1 5628 827

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ESTONIA

MFO OÜ
www.mfo.ee
Tel: +372 515 58 88

FINLAND

Komatsu Forest Oy
www.komatsuforest.fi
Tel: +358 20 770 1300

FRANCE

Komatsu Forest France
www.komatsuforest.fr
Tel: +33 3 44 43 40 01

GERMANY

Komatsu Forest GmbH
www.komatsuforest.de
Tel: +49 7454 96020

HUNGARY

Kuhn Kft.
www.kuhn.hu
Tel: +36 128 980 80

IRELAND

McHale Plant Sales Ltd
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Tel: +370 5 260 2059

NETHERLANDS

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www.lmbbrink.nl
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NORWAY

Komatsu Forest A/S
www.komatsuforest.no
Tel: +47 901 78 800

POLAND

Arcon Serwis SP.ZO.O.
www.arconserwis.pl
Tel: +48 22 648 08 10

PORTUGAL

Cimertex, S.A.
www.cimertex.pt
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ROMANIA

ALSER Forest SRL
www.utilajedepadure.ro
Tel: +40 741 367 378

RUSSIA

Komatsu CIS
www.komatsuforest.ru
Tel: +7 812 44999 07

SLOVAKIA

ARCON Slovakia s.r.o.
www.arcon.sk
Tel: +421 2 40 20 80 30

SPAIN

Hitraf S.A.
www.hitraf.com
Tel: +34 986 58 25 20

SWEDEN

Komatsu Forest
www.komatsuforest.se
Tel: +46 90 70 93 00

SWITZERLAND

Intrass AG
www.intrass.ch
Tel: +41 56 640 92 61

UNITED KINGDOM

Komatsu Forest Ltd
www.komatsuforest.com
Tel: +44 1228 792 018

NORTH AMERICA

USA, CANADA

Komatsu America Corp.
Forest Machine Business
Division
Chattanooga, TN
Tel: +1 423 267 1066

To find your local dealer/sales
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SOUTH AMERICA

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Bramaq S.R.L.
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BRAZIL

Komatsu Forest Ltda.
www.komatsuforest.com.br
Tel: +55 41 2102 2828

OCEANIA

AUSTRALIA

Komatsu Forest Pty Ltd
www.komatsuforest.com.au
Tel: +61 2 9647 3600

NEW ZEALAND

Komatsu Forest NZ
www.komatsuforest.com.au
Tel: +64 7 343 6917

OTHER MARKETS

INDONESIA

PT Komatsu Marketing
Support Indonesia
Tel: +62 21 460 4290

PRODUCTION UNITS

Headquarters
Komatsu Forest AB
www.komatsuforest.com
Tel: +46 90 70 93 00

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Tel: +1 423 267 1066



A big day

FOREST CONTRACTOR Thomas Osterkorn from Kopfing in Austria celebrated the biggest day of his life in a very special way.

“Since I spend 90% of the year in my Komatsu 931XC, it was obvious to me that my harvester should be in our wedding photos,” explains Thomas, of forest company O&L Forstservice GmbH.

His wife Carina liked the idea and helped realize it. The photos were taken on their wedding day, September 8, 2018, in Enzenkirchen and the wedding dress survived the forest photo shoot without too much damage.

We wish the newlyweds all the best for the future!

Dieter on MaxiFleet

“MY WORKING DAY IS SO MUCH EASIER”

Working in the forest has always been Dieters Wiese's dream. A little more than ten years ago, that dream came true. He now runs his own business in North Rhine-Westphalia and Hesse in Germany with a fleet comprised solely of Komatsu machines.

MaxiFleet has also made his life as a forest contractor even better. Easier administration. Quick access to each machine's production data. Remote support from Komatsu's in-house service experts. And much more.

“I can even start the engine heater from my smartphone, so that the machine is already warmed up when I arrive,” says Dieter, proudly showing us the app that gives him access to every new benefit.

A new day can begin. The dream continues.



MAXIFLEET IN BRIEF

- Easily accessed production and operating data for all your machines
- Real-time map with harvested areas, routes, landings
- Monitoring of control measurements and calibrations
- Simple administration and straightforward reports
- Modern and easily navigated web interface
- Remote support and remote control