

# JUST FOREST

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## SPECIALIST FOR EXTREME TERRAIN



The giant 895 gets a new look

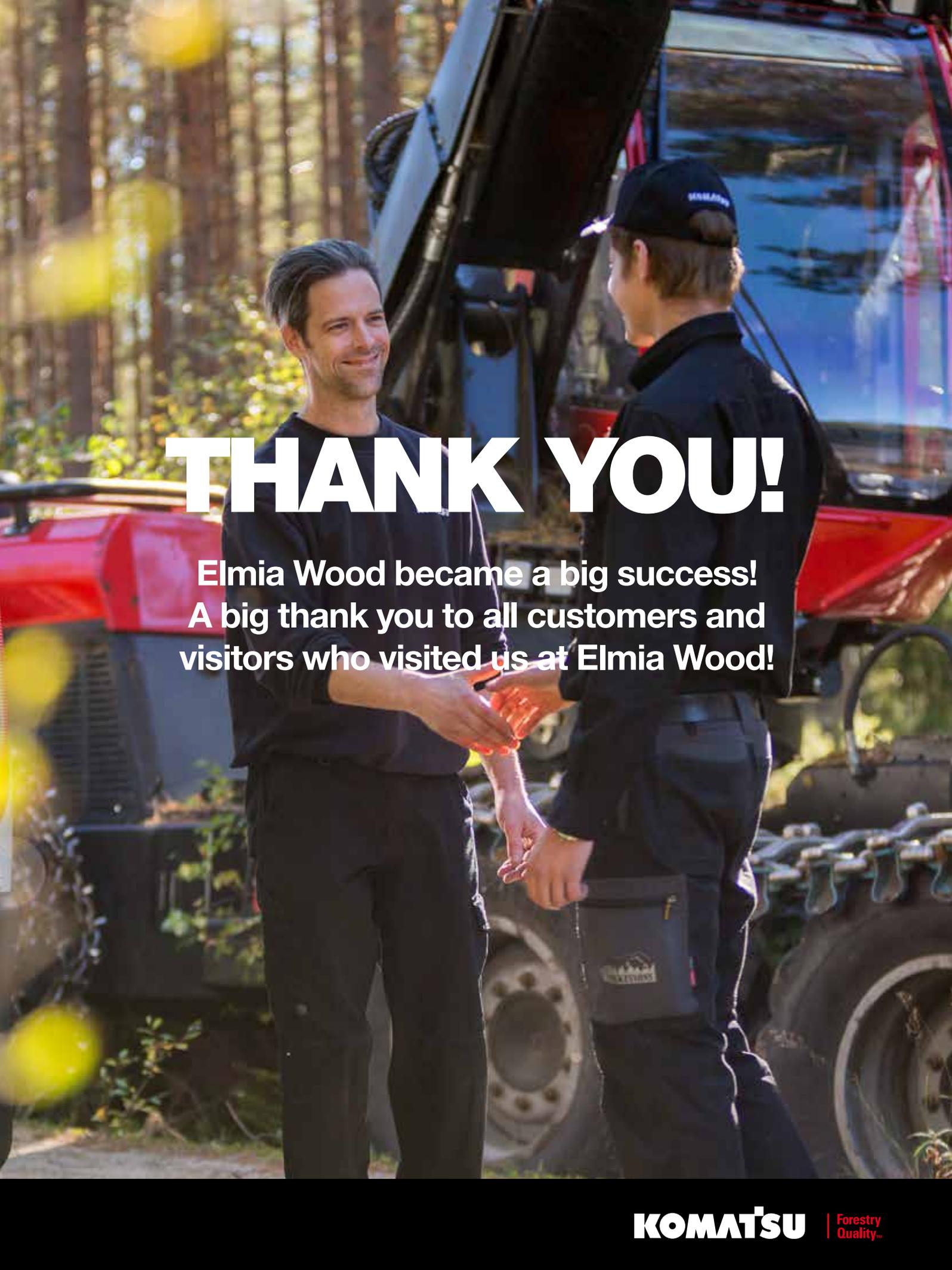


Many new features in MaxiFleet



Komatsu Traction Aid Winch

**When development** of Komatsu's eight-wheeled harvesters began, the first initiative was the Bigfoot project. A project that tested an idea borrowed from 50-year-old tractors with extra wheels.



**THANK YOU!**

**Elmia Wood became a big success!  
A big thank you to all customers and  
visitors who visited us at Elmia Wood!**



**OLA BOSTRÖM**  
HEAD OF MARKETING,  
KOMATSU FOREST

# Under continual development

Welcome to a new number of Just Forest. In this issue, we look at how the development project behind Komatsu's eight-wheeled harvesters came about. Product development is something that our company holds close to its heart, and has done so since its humble beginnings. It's an approach that has taken us on a journey of technical leaps and bounds, resulting in the sophisticated and efficient technical solutions we see today. This issue also features our new eight-wheeled harvester, the 901XC, which is designed for thinning in difficult terrain and on soft ground. And you can read about our head C124, as well as the new technical solution SmartFlow, which not only improves handling, but has also shown considerable fuel savings in tests.

What's more, this issue presents our new winch, the Komatsu Traction Aid Winch. Well, newish. The system is based on a solution developed by our sales company in Germany, which at this point in time has 12 years of documented experience of winch systems for use in alpine regions. We're pleased to announce that we can now offer the option of a factory-fitted solution in several other markets.

Both our eight-wheeled harvesters and the winch are part of Komatsu Forest's new product series featuring machines specially developed for handling

difficult conditions. As competition for land use increases throughout the world, such as for food and bioenergy cultivation, forestry often expands into areas where such uses do not compete for space, which regularly means steep terrain. In order to harvest and forward timber in such extreme conditions, there is increasing demand for specially adapted machines, which is why Komatsu Forest has developed the XC product series, where XC stands for eXtreme Conditions.

As always, we have your profitability in mind and want to offer products and services that comprise total solutions and create value for your business. MaxiFleet, ProAct 2.0, and ProSelect help make machine ownership profitable while also giving you peace of mind. MaxiFleet is a system that helps you plan, follow up, and optimize your operations. It achieves this by enabling you to read everything from production reports for entire and partial assignments through machine status reports, fuel consumption statistics, and other key figures to alarms, warnings, and much more. In this issue, you can read more about the new features available in MaxiFleet, what some of our customers have to say about ProAct 2.0, and a lubricant tutorial based on our own ProSelect range.

Happy reading!

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# THE GIANT GETS A NEW LOOK

The **Komatsu 895** is the forwarder that became a giant in the world of mechanized professional forestry. With its 22-ton (20-metric ton) load capacity, unique powertrain with 28.5-inch bogie and wheels, and one of the market's largest forwarder cranes, it can easily handle even the heaviest final logging.



## Highlights **KOMATSU 895**

**WEIGHT:** 6 WD: 22.6 tons (20,500 kg)  
8 WD: 25.8 tons (23,400 kg)

**GROSS LOAD:** 22 tons (20 metric tons)

**ENGINE:** 6-cylinder diesel engine with turbo and charge air cooler. Fulfills the requirements of EU Stage IV and EPA Tier 4 Final.

**STROKE VOLUME:** 452 cu in (7.4 l)

**POWER:** 282 hp (210 kW DIN) at 1,900 rpm (Applies to Stage 2/Stage 4 engines)

**TORQUE:** 885 lbf-ft (1,200 Nm) at 1,500 rpm. (Applies to Stage 2/Stage 4 engines)

**TRACTION FORCE:** 29.4 tonf (262 kN)

**CRANE:** Komatsu 165F

**LIFTING TORQUE, GROSS:** 60.8 tonf-ft (165 kNm)

**THE NEW KOMATSU 895** boasts many new features to help improve productivity. A more efficient bunk is one of them. LoadFlex increases the bunk's size while FlexBunk enables its height and width to be adjusted from the cab. Then there's FlexGate, a gate that improves visibility and flexes out of the way if struck by the crane.

Two other reasons behind the improved productivity are the powerful powertrain, which provides greater traction (29.4 tonf or 262 kN), and the transmission, which has been upgraded with a larger hydrostatic pump for better handling. In addition, the crane has been upgraded with new work-

ing hydraulics and a larger crane valve for greater flow capacity.

In Europe and North America, the Komatsu 895 is equipped with a new engine unit with an efficient and generously sized cooling system, variable temperature-dependent fan control, and the latest environmental technology for diesel engines (Stage 4/Tier 4 Final). Emission control is based on SCR technology, which together with the new hydraulic system delivers low fuel consumption and a high power output at low engine speeds. The new engine produces even more engine power and torque than the previous model. Larger batteries, with the option



- 1. The powerful SCR engine minimizes emissions and optimizes fuel economy.**
- 2. The comfortable cab and Komatsu Comfort Ride cab suspension ensure a high-performance, ergonomic operator environment with a low noise level.**
- 3. Crane with high net lifting power.**
- 4. Fast and simple daily service directly from the ground with easily accessed service hatches.**
- 5. MaxiXplorer provides more exact machine control, as well as effective production reports and operational monitoring.**
- 6. FlexBunk enables easy adjustment of the height and width of the impressively large bunk.**
- 7. The hydrostatic transmission system and the diesel engine characteristics deliver good traction even in demanding terrain.**

of battery condition diagnostics via the MaxiFleet fleet management system, ensure that the machine starts even on really cold, subarctic winter mornings.

From the outside, the new Komatsu 895 has clearly had a makeover, with a powerful yet versatile look. This is reflected in the chassis, tank, and engine hood. What's more, the new design brings with it numerous improvements that make the machine even easier to service. The rounded engine hood is electrically powered and can be used as a service platform when open. All filters are located beneath the hood for

easy access. Eight service hatches in the chassis provide access where it's needed. A drain valve under the engine makes it easy to change the engine oil without spillages. There are even easily accessible inspection points for the oil in the engine, differentials, and gearbox.

As always with a Komatsu forwarder, everything revolves around the operator. The cab environment on the new Komatsu 895 has been upgraded to provide the best possible conditions for a productive working day. A sturdier cab structure for better operator safety, a start button, central lock-

ing, more work lights, and MediaZone are a few of the most important new features. Naturally, the new Komatsu 895 is equipped with MaxiXplorer.

In Europe, the Komatsu 895 is equipped with the fully integrated crane scale ProTec Scale, which enables the load to be weighed automatically for production reports and operational monitoring. The scale link is just as compact as the standard link and protects the hose routing to the rotator, which reduces the risk of hose failure. Production can be reviewed back at the office in MaxiFleet.



Andreas Råheim, CEO of Valdres Skog AS, couldn't wait any longer for his pre-ordered Komatsu 875, so he went home with the demo machine from the Hurdagene forestry trade fair.

# Switched to the 875 immediately



Andreas Råheim, left, and Stein Håvi in front of the new Komatsu 875 forwarder and the trade-in machine, a Komatsu 860.4.

**ONCE HOME**, the older Komatsu 860.4 was loaded on a trailer and returned to Komatsu Forest AS in Stange as a trade-in machine. Already the next day, machine operator Stein Håvi was busy working in the forest with the new forwarder, which he'd helped choose. The assessment so far is that the machine has already proved itself in the forest.

"We needed a medium-sized machine. Stein and I went through the 875's specs and decided that this new machine would suit most of our assignments."

Valdres Skog AS already had a large Komatsu 890 and a smaller

860.4, which has often been a little too small to meet certain needs. Komatsu's new medium-sized 875 made the decision easy.

"With its 17.6-ton (16-metric ton) load capacity and the newly developed 145F crane, the 875 is perfect for most of our assignments," says Andreas.

The Komatsu 875 has a 452-cubic-inch (7.4-liter), 6-cylinder engine. The power is geared to the machine's size and power needs.

All engines for Komatsu's forest machines are based on the same technology and share several systems and components. This greatly simplifies service.



# NEW TECHNOLOGY FOR IMPROVED HANDLING

Picture the crane as an extension of your own arm when operating a forwarder. Things can hardly get better than that.

**SmartFlow** is a brand new crane control technology that takes crane handling to a whole new level.

**THE OPTIMAL** scenario for a forwarder operator is for the crane to feel like a natural extension of your own arm. For crane operation to offer the same feeling and precision as gripping and lifting with your own hand. SmartFlow brings brand new technology to crane control that not only provides better precision during crane operation, but also improved fuel economy and increased productivity.

The unique handling is down to a completely new crane valve that, in combination with the MaxiXplorer control system, delivers unsurpassed intelligence. This sees the valve continually monitor and adjust the pressure and flow delivered to the crane. The SmartFlow system also results in smaller pressure losses in the valve, with a direct and positive impact on fuel economy. Tests have shown fuel savings as high as four percent during a normal forwarding cycle with both loading/unloading and off-road transport. SmartFlow's unique handling provides benefits such as less tiring work shifts, greater productivity, and – as a consequence – improved profitability. The system has received much praise in practical field tests conducted by professional operators.

**SMARTFLOW** is available as an option on the Komatsu 855 and 875 forwarders, with the initial launch targeting the Swedish market.



# Many new features in **MAXIFLEET**

**MaxiFleet** is a web-based fleet management system for forest machines that enables you to search, compile, and present all machine and production data that a machine generates.

## Highlights **MAXIFLEET**

MaxiFleet is a tool for visualizing machine data and automatically gathering information. Machine owners and operators can easily see everything from production reports and machine follow-ups to fuel consumption and many other key indicators.

MaxiFleet is web-based and offers brand new opportunities to coordinate and optimize machines by localizing them, displaying their status, and monitoring production and machine information. MaxiFleet can be accessed from any smartphone, tablet, or computer with an Internet connection.

**"MAXIFLEET IS DEVELOPED** continually, with both new functions and improvements, and always in close collaboration with users," says Joacim Henningsson, General Manager Technical Support & Training at Komatsu Forest.

The ability to save data files on a cellphone when there's no network is a new MaxiFleet function. Many countries have poor network coverage where forest machines are used. When there's no cellphone network, the data files are saved on the machine's PC. With supplementary technical equipment, a wireless network can be established around the machine.

"Via a smartphone app, you can then save the data file on your phone. Then, when network coverage is resumed, the data file is automatically transferred to the MaxiFleet system," Joacim explains.

There are also several other new features within assignment management that enable you to manage and automate even more administrative tasks from your office, smartphone, or home.

One is that it's now possible to prepare a logging assignment in advance in MaxiFleet, together with its identities, and attach instruction files and maps for both harvesters and forwarders.

"This makes it easy for the operator when they arrive at the machine, as all prepared assignments are already available," says Joacim.

Another is the new assignment overview, where you can follow the progress on different assignments. It shows the percentages of harvested and forwarded volumes, the average stem size, and a map with landings. You can quickly create reports for an assignment too.

"You can even compare the figures to the estimated volume entered when the assignment was created. This makes it easy for both the operator and the contractor to quickly get an idea of how much work remains on an assignment and it provides the opportunity to further optimize the work," Joacim continues.

**WHEN YOU SELECT** an assignment, more information about the assignment is shown and the map is zoomed in to show, for example, landings, timber concentration, and the routes taken by both harvesters and forwarders. Other new features are the option to filter sub-assignments and new report template content to choose from. The assignment overview even functions on all mobile devices.

Since all assignments can be saved and administered in MaxiFleet, all machines in the same fleet gain access to the same assignments and the same information.

"This entails the automatic exchange of map information with route and production details between harvesters and forward-



ers, provided you are using the MaxiN map software," Joacim explains.

**ANOTHER NEW FEATURE** is that you can now update the price list in MaxiExplorer in the machine by using the file transfer function in MaxiFleet.

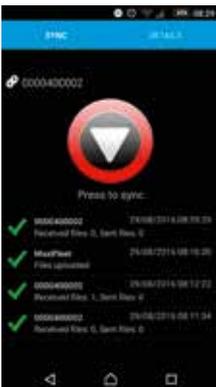
"Dragging and dropping crosscutting

instructions in the file transfer window automatically sends the file to the machine. The machine then asks the operator whether the instructions should be imported and whether the current assignment should be updated," Joacim says.

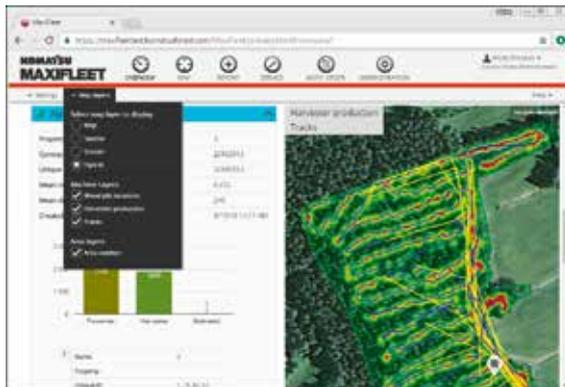
The function works with crosscutting instructions that are StanForD 2010 compliant.

- 1. When there's no cellphone network, data files are automatically saved to the cellphone. Then, when network coverage is resumed, the data file is automatically transferred to MaxiFleet.**
- 2. For each assignment, you can see, for example, landings, timber concentration, and the routes taken by harvesters and forwarders.**
- 3. Dragging and dropping crosscutting instructions in the file transfer window automatically sends the file to the machine.**

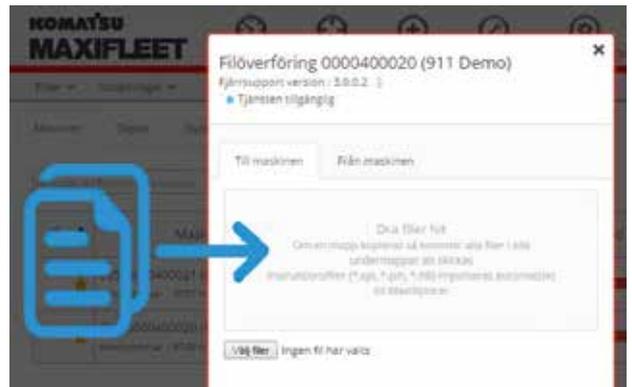
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# A SPECIALIST for extreme terrain

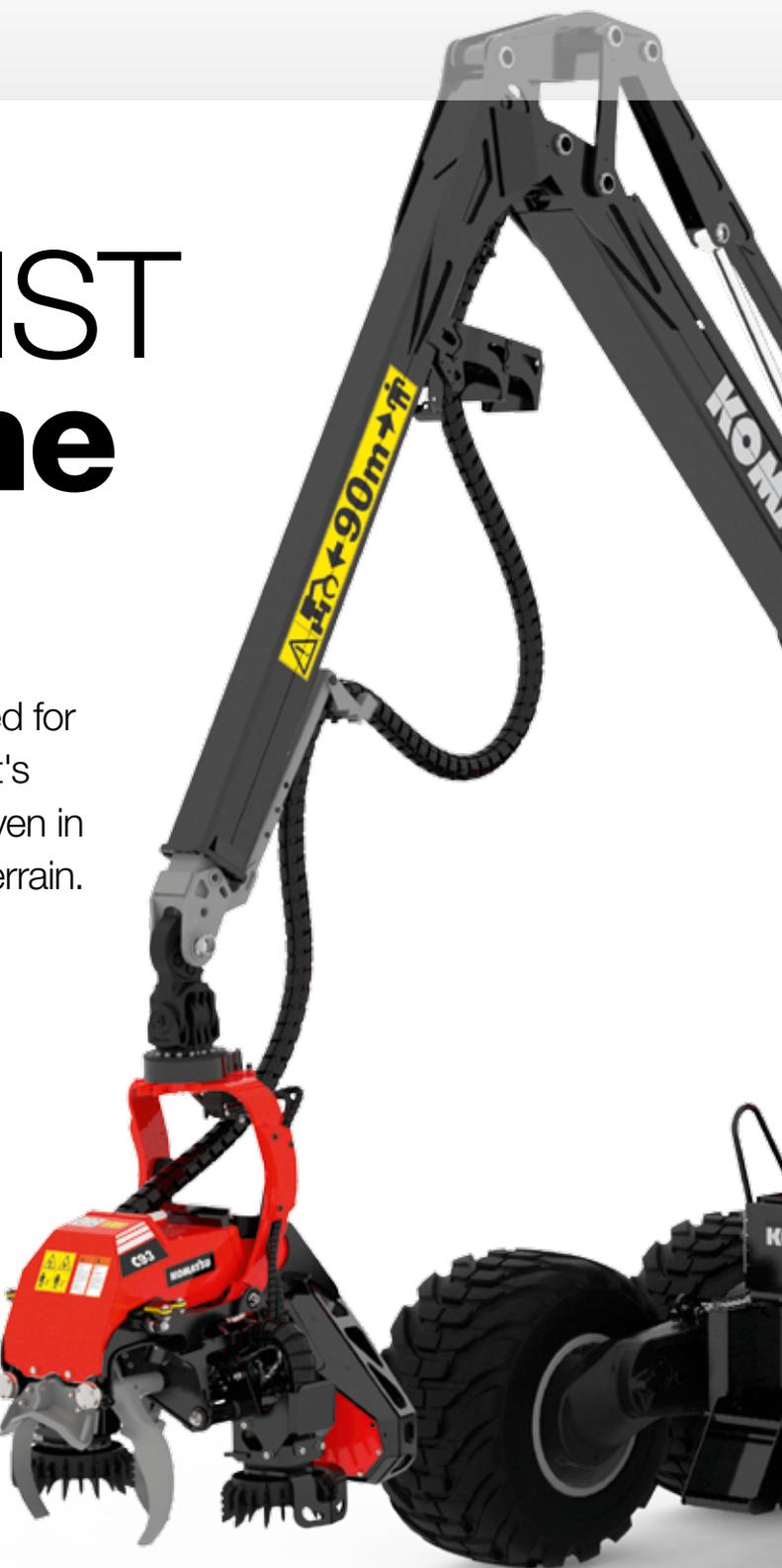
The **Komatsu 901XC** is especially designed for thinning in hilly terrain and on soft ground. It's extremely stable and easily maneuvered, even in unfavorable ground conditions and steep terrain. This makes it a true thinning specialist.

**THE KOMATSU 901XC** (eXtreme Conditions) benefits from Komatsu's unique approach to eight-wheelers. An approach that combines old and new techniques to make Komatsu's eight-wheeled harvesters the most stable. At its core is the well-proven concept of a rigid articulated joint and a swing axle that work together with the cab's tilt cylinders. On the 901XC, the rear axle is combined with Komatsu Comfort Bogie, which lowers the machine's center of gravity and increases ground contact. The bogie's unique double suspension provides a favorable balance between performance on soft ground and good mobility in steep terrain.

The result is unique handling characteristics as the machine has an unmatched ability to follow irregularities in the terrain. Add to this generous ground clearance and a crane with both high slewing torque and a long reach and you have a harvester that is productive even with the crane working at its limits. This is important for effective thinning.

The Komatsu 901XC has a strong EU Stage IV/EPA Tier 4 Final engine that fulfills the most stringent emission requirements and reduces fuel consumption. The new harvester delivers impressive starting tractive force and boasts unique interaction between the engine, control system, and transmission. The hydrostatic power-optimized transmission ensures that the engine power is fully utilized, providing massive advantages in challenging terrain and excellent hill-climbing performance. With several preset and task-optimized driving modes, the transmission delivers maximum productivity by utilizing every ounce of horsepower and every drop of fuel.

**THE UNIQUE THREE-PUMP HYDRAULICS** are another reason why this harvester is so effective. Pressure and flow optimization



means that you can work considerably faster as you can perform several crane and head operations at the same time with maximum hydraulic power, such as to simultaneously slew the crane, feed a log, and maneuver the machine – all with optimally low fuel consumption.

Good comfort is a product of good stability. Eight-wheelers require less repositioning, which increases comfort. Moreover, the

Spacious cab in all directions with features that include an ergonomically designed seat that rotates 180 degrees, good visibility, low noise level, several joystick options, and a keyless system.

Three-pump hydraulics enable you to use several crane and head functions at once with maximum hydraulic power, such as to slew the crane, feed a log, and maneuver the machine.

Unique interaction between the engine, control system, and transmission fully utilizes engine power, providing advantages on steep inclines and in difficult terrain.

Double suspension, comprised of a axle together with a suspended bogie. Provides very good handling characteristics as the machine follows the terrain exceptionally well.



## Highlights **KOMATSU 901XC**

**POWERFUL EU STAGE IV/EPA TIER 4 FINAL ENGINE** that fulfills the strictest emission requirements.

**POWERFUL CRANE** with high slewing torque.

**THREE-PUMP HYDRAULICS** enable the use of several crane and head functions simultaneously.

**DOUBLE SUSPENSION.** Swing axle combined with a suspended bogie.

**HIGH-PERFORMANCE OPERATOR ENVIRONMENT** with spacious cab, good visibility, low noise level.

**KOMATSU COMFORT BOGIE** with concealed portals, where the final drive is integrated with the rims, for good ground clearance.

**AUTOLEV ADVANCED** cab suspension option.

**THREE DIFFERENT JOYSTICK ALTERNATIVES** (including EME) to choose between.

operator environment is unique in several other ways. Large cab volume, good visibility in all directions, smart display placement, and a remote control/key for controlling the main power and cab heater. Underfloor heating, effective lighting, and three joystick options (including EME) to choose between make life in the cab comfortable. You can also choose to add Autolev Advanced cab suspension, which makes for near-perfect cab comfort.

# Integrated Traction Aid for working effectively

A new **factory-fitted winch** with a unique technical solution enables you to work more effectively in steep terrain.

**IN MANY PLACES**, forestland is found in steep, inhospitable terrain, presenting harvesting operations with major challenges. A winch is a tried and tested aid for harvesting in such terrain. When the inclines are so steep that machines can barely maneuver in the forest, a winch enables you to work effectively.

Komatsu Forest has extensive experience of working with winches in the alpine regions of Germany and Austria, where the technology has been refined in cooperation with customers for over ten years. The factory-fitted winch leverages this experience. The new winch is initially available for the Komatsu 875, the Komatsu 911, and the Komatsu 931. The design is compact with smart placement on both harvesters and forwarders. On the 875, the winch is integrated with the rear frame. On the harvesters, it's placed behind the engine hood. The winch for harvesters has a hydraulic tilt function, allowing the cable angle to be adjusted as needed. The tilt function also has a service position that enables the hood to be opened. The winch has a compact, simple, and robust design that helps ensure high ground clearance and the ability to pass over obstacles in the terrain.

The Komatsu Traction Aid Winch is based on the well-proven capstan principle, which means

that the winch has a separate drum for cable storage while the motor providing traction is installed on the capstan unit. Our solution is unique because the cable is wound round the capstan unit nine times, which provides increased friction and thereby greater traction.

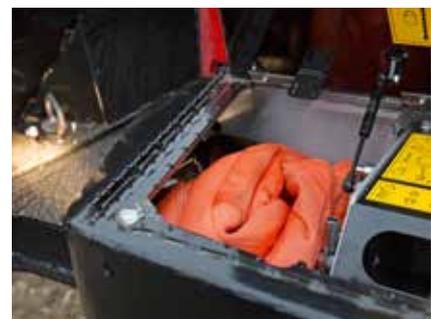
One major advantage of using the capstan principle is that it entails less strain and wear on the cable, thereby extending its service life. The design also provides better control over how the cable is wound on the drum.

On harvesters the cable has a maximum length of 1,000 feet (325 m) and on forwarders 1,400 feet (425 m). In both cases the maximum traction is 8.1 tonf (72 kN).

Winch control is integrated with the machine's control system, MaxiXplorer. The cable tension is monitored and automatically adjusted to the machine's driving speed.

With the aid of the remote control, the operator can easily feed the cable and then anchor it, enabling them to handle the winch alone. On harvesters the winch can be detached for servicing or when covering mostly flat terrain.

The winch has centralized lubrication with lubrication points on the winch body.



### Background

## KOMATSU TRACTION AID WINCH

**THE WINCH CONCEPT** is nothing new to Komatsu Forest. It's been developed in the German and Austrian markets by pioneers at Komatsu Forest GmbH. The winch solutions have been tested in alpine environments in collaboration with customers, who have also helped refine the technology into today's high-quality solution. Based on this expertise, Komatsu Forest has now developed the Komatsu Traction Aid Winch solution.

# Winch

Pictured is a Komatsu 911 with a V132E head on paper and pulp manufacturer Fibria's eucalyptus plantation. Just like many other places in the world, the terrain in Linhares in eastern Brazil is often steep.



# FROM BIGFOOT TO AN EIGHT-WHEELER

**Komatsu's unique solution** for eight-wheeled harvesters has evolved from well-proven technology.

"You could say that we've tested and evaluated earlier ideas in order to refine and develop them into a unique concept of our own," says Tobias Ettemo, product manager for harvesters.

**IMPORTANT CHARACTERISTICS** for eight-wheeled harvesters include providing better performance on soft ground and better mobility in steep terrain. 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. Komatsu's eight-wheeled harvesters achieve this using a unique combination of proven technology and innovation.

As early as the 1950s, tractor manufacturers began experimenting with technology to increase performance on soft ground and improve mobility. They installed an extra pair of small wheels in front of the rear wheels and covered each wheel set with tracks. This solution did the job at the time.

"It was actually a solution that, in principle, offered the same functionality as today's eight-wheeled harvesters, namely increased contact with the ground," says Tobias.

**WHEN DEVELOPMENT** of Komatsu's eight-wheeled harvesters began, the first initiative was the Bigfoot project. The basic idea behind this project was taken from the tractors with extra wheels, so-called half-tracks. A modern six-wheeled harvester was fitted with an extra pair of smaller wheels at the very back. This combination teamed a pair of small wheels with regular 34" wheels and tracks.

"We ran many field tests and found that the idea worked. In addition to the combination proving to provide excellent

mobility on soft ground, as we expected, the machine also climbed exceptionally well in steep terrain," says Tobias.

The small wheels were hydraulically controlled and could be raised and lowered from inside the cab. This meant that the Bigfoot was both a six-wheeled and an eight-wheeled harvester at the same time.

"You could use it as an agile six-wheeler when better mobility on soft ground wasn't needed," Tobias explains.

Although the project provided a great deal of valuable experience, when it came to functionality the Bigfoot solution still required extensive development work on components such as the frame and axles.

"This resulted in the decision to end the development project, but it convinced us



The Bigfoot field tests provided valuable knowledge.



The adjustable extra rear wheels provided good mobility.

” When developing the Komatsu 931XC, we decided to base the design on concepts that we know to have worked well for years.



## The birth of the **KOMATSU 931XC**

that we should use double suspension on our eight-wheeled harvester," Tobias says.

Komatsu's six-wheeled harvesters are widely renowned for their stability. Essentially, these machines are based on the well-proven concept of a rigid articulated joint and a swing axle that when combined with the cab's tilt cylinders provide superior stability even with the head perpendicular to the machine or while repositioning the machine.

This is a concept that has proven the most effective for several decades. When the centrally mounted crane is working far from the machine, naturally the center of gravity of the area supporting the machine moves away from the machine's centerline. In order to counteract the instability this would otherwise cause, two stabilizing cylinders on the swing axle act as a counterforce, locking the harvester in a horizontal position. The force acting on the stabilizing cylinders comes from the pressure in the machine's tilt cylinders, which are located

under the cab. The pressure from each tilt cylinder transfers the force to the corresponding stabilizing cylinder. Together with the automatic cab leveling, this ensures harvesters with great stability.

"The system has been used on our harvesters since 1984. That's more than 30 years," says Tobias.

One of the major advantages of this system, aside from its functionality, is its simplicity.

"When developing the first eight-wheeled harvester, the Komatsu 931XC, we decided to base the design on concepts that we know to have worked well for years," Tobias explains.

The solution for the eight-wheeled Komatsu 931XC involved combining the rear swing axle with a bogie, thereby creating a completely unique bogie with double suspension. The bogie used in this system is called Komatsu Comfort Bogie, which since its launch almost ten years ago has proven to offer great performance. The bogie

provides a favorable balance between performance on soft ground and good mobility in steep terrain.

"This results in a bogie system that provides maximum mobility and performance not only on challengingly soft ground, but also in steep terrain," says Tobias.

The Komatsu 931XC offers completely unique handling characteristics as the machine follows irregularities in the terrain so well. The machine also has low ground pressure because the weight is distributed over a larger area. The rear ground pressure has been halved compared to six-wheeled harvesters. And low ground pressure means less ground damage. In certain circumstances, this also reduces the need for tracks and chains, which has a positive effect on fuel economy.

"However, we have stable harvesters regardless of whether they have six or eight wheels and both variants offer advantages depending on what is to be harvested and the surrounding terrain," Tobias explains.





# Fast feed for profitable production



High productivity and reliability. The new **Komatsu C124** is a head that delivers – day after day.

**THE KOMATSU C124** is, despite its sturdy frame design, a light head that with a tilt angle of 40 degrees is productive in steep terrain.

Productivity is also favored by the fast feed. The head has four feed rollers, with the fourth feed roller placed in the head's feed path, above the frame roller. This provides more points of contact between the stem and the head, ensuring a strong feed. This is especially noticeable with small and medium-sized stems.

Another important factor behind the high productivity is how the feed roller design centers the stem. Since the clamping pressure can be kept low, friction is reduced and you save fuel. Stem centering also helps ensure accurate and reliable measuring.

Cast delimiting knives with fixed diameter sensors help maximize durability and simplify service.

The Constant Cut saw unit guarantees the correct cutting speed throughout the entire cutting cycle. This means there is never any risk of running the chain too fast,

thereby increasing productivity and minimizing splitting risks. As an option, you can choose work lights for the head, which help raise productivity by making it easier to en-

gage stems and reduce the risk of sawing rocks. The Komatsu C124 is also available with a multi-tree accumulator.

## Highlights **KOMATSU C124**

**CAST DELIMITING KNIVES** for increased durability

**STRONG AND ROBUST** frame design for high net lifting force

**FOUR FEED ROLLERS** for high net traction and fast feed

**FOUR MOVING DELIMITING KNIVES** for good stem holding

**LARGE TILT ANGLE** simplifies work in steep terrain

**GOOD STEM HOLDING** for accurate length measurement

**THE CONSTANT CUT SAW UNIT** increases productivity and safety

**THE ECO-GLS LUBRICATION SYSTEM** (optional) lowers lubricant use, cuts fuel consumption, eliminates oil mist, and reduces environmental impact

**MULTI-TREE ACCUMULATOR** option available

**EASILY ACCESSED SERVICE POINTS** simplify your working day

**WORK LIGHTS** make engaging stems easier and reduce the risk of sawing rocks

# A WINNING COMBI

**Jim Battye (JB) from Channing, Michigan**, has worked in the forest industry for more than 30 years, and since 1991 he's only used 'red' forwarders. His employer, Jim Carey Logging, was an early adopter of cut-to-length equipment.

**IN 2003, JB**, encouraged by his employer, bought the company's 860 forwarder and started his own business: Jim Battye Logging Incorporated. Since then, JB has worked almost exclusively for his former employer, and has remained a loyal Komatsu customer. Over the years, he's bought a number of Komatsu forwarders, most recently a new 855.1 with Comfort Ride and a combi crane.

JB has a longstanding relationship with the red machines and began his career just as the cut-to-length method caught on. With 25 years behind the controls, he's one of the most experienced Komatsu forwarder operators in all of North America. What's more, he has a strong desire to use the latest technology to increase production and he appreciates the continual development of Komatsu's forest machines.

"I always want to own the very latest equipment. New equipment is productive equipment," he says.

His new 855.1 boasts many improvements over its predecessors, the 840 and the 860. The most significant are the new cab

and the Comfort Ride option. The new cab is more spacious and quieter with bigger windows, providing considerably better visibility, especially upward and downward.

**THE COMFORT RIDE CAB SUSPENSION** absorbs jolts when driving on uneven terrain, significantly improving comfort and handling.

"I'm not as tense. I'd say that Comfort Ride reduces jolts and bumps, and also raises the cab eight inches (20 cm) when loading and unloading, which means better visibility," says JB.

He also appreciates the combi crane and its reach, as well as the ProTec function, which means that the hydraulic hoses are routed through the crane tip.

"This is my third combi crane and it saves me a great deal of time. The new cab design, Comfort Ride, and the combi crane are definitely a winning combination," JB ends.

## Ergonomics – a priority area



The ergonomic evolution of Komatsu's forest machines is a continually ongoing process, with both gradual improvements to individual components and major, ground-breaking innovations that make a considerable difference.

**An ergonomically well-designed cab is important to productivity.**



# NATION



Owner Jim Battye (JB) with Brad Jackson from dealer Roland Machinery.

**KOMATSU'S MACHINES** are at the absolute forefront when it comes to delivering high-performance work environments. It's very much about continual improvements in, for example, the cab environment, work posture, serviceability, lighting, and various tools. Continuous developments that ease working life for operators.

But it's also about the major advances in development that receive a great deal of attention. Our harvesters have two unique features that underpin their favorable ergonomics. On the one hand, a full-circle slewing cab with the crane to the side for an unobstructed forward view; on the other, leveling of both cab and crane so that you're always working from a level plane, regardless of any machine lean. A well-proven ergonomic solution valued by many operators. All new harvesters can also be fitted with the optional cab suspension system Komatsu Autolev Advanced. All functions of

this hydraulic cab suspension are controlled by the MaxiXplorer control system. The result is effective damping of sudden jolts.

**KOMATSU'S FORWARDERS** are global leaders when it comes to combining advantages in productivity, safety, and ergonomics. One important underlying explanation is the quiet cab environment with its good air quality and generous workspace and legroom. Other important explanations are the renowned good crane geometry and the Komatsu Comfort Ride cab suspension, which is comprised of four hydraulic cylinders, one under each corner of the cab. The solution with a damper in each corner is a prerequisite for maximizing the benefits of the suspension system. But the real secret behind Komatsu Comfort Ride is the cylinders' unique 4" (10 cm) of travel in both directions, which enables jolts to be absorbed and cab movements

to be braked in a superior fashion. This also significantly reduces noise. The end result for operators is a work environment that is both more comfortable and more productive.

However, the work environment is also about working correctly. A comprehensive approach to the work environment and ergonomics even includes helping forest machine operators to work correctly.



Find out more about Komatsu Forest's work with ergonomics at [www.komatsuforest.com/Explore/Ergonomics](http://www.komatsuforest.com/Explore/Ergonomics). You can also watch exercise videos on the website.

**News, developments, and improvements.** Komatsu Forest constantly works with product development and continual improvements. Here are a few snippets of technical news, both large and small.

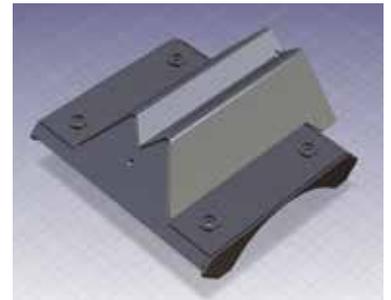
## FEED ROLLERS WITH NEW DESIGN

The feed rollers on the Komatsu C144 have a new design with fewer fingers. They are also thicker. These changes are to increase the service life of the feed rollers.



## STURDIER CRANE SUPPORT

The crane support on the Komatsu 895 has a new, sturdier design for increased durability. The new crane support uses thicker metal plate with crimped edges, which reduces the risk of it being ripped off by the grapple.



## NEW ENGINE

New emission regulations in Brazil mean that a new engine has been developed to meet the stricter emission requirements. The engine fulfills the requirements of MAR1.

## NEW ALTERNATIVE REAR FRAME

A new alternative rear frame, +900/+400, is now available for the Komatsu 845.

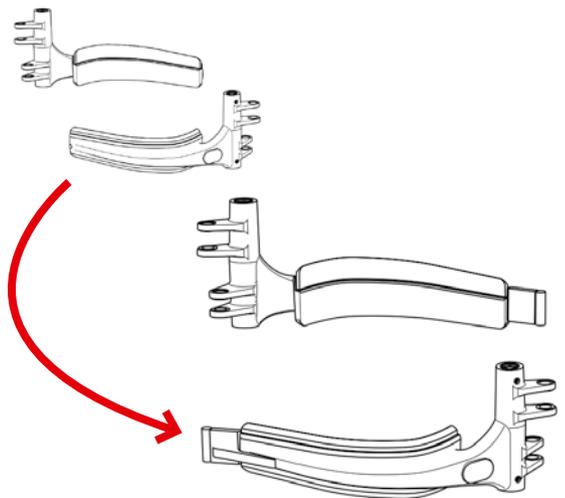
The new rear frame is primarily intended for applications that involve loading 10+10 foot (3+3 meter) double timber lengths. This frame option limits the bunk area.

## UPGRADED CRANE HYDRAULICS

The harvester crane hydraulics have been upgraded by increasing the gauge of the hydraulic components. The upgrade applies to all harvesters and reduces the pressure drop across the crane. Applies to all harvesters.

## NEW BOGIE LIFT WITH SEPARATE CONTROLS

We're launching a bogie lift with individual control of the left and right sides. This function greatly eases driving in steep and uneven terrain.



## DELIMITING KNIVES FOR PROCESSING

In many markets, heads are used solely for processing, that is, delimiting and crosscutting, with the operator picking timber from a log pile with great precision. There are now new processing knives for the Komatsu C283, and these knives have been designed with this purpose in mind.

## STEERING WHEEL AS STANDARD

A steering wheel is now being introduced as standard on both forwarders and harvesters. This change is a result of new safety requirements and will initially apply in certain selected markets. Check with your nearest Komatsu contact.

## NEW ADAPTER FOR HARVESTERS

There's now a new adapter that you can connect when towing a trailer or cabin. The new adapter extends the tow bar, which improves the turning radius.

## NEW FEED ROLLER GUARDS

The feed roller guards on the Komatsu C144 have been upgraded with a more robust design, thicker metal plate, and a stronger material. These changes are to increase reliability.



## UPDATED TIRES

The tires from Trelleborg have been updated. Twin Forestry T428 is being replaced by T480 and Twin Forestry T22 is being replaced by T440.

Both tires have improved traction and stability, as well as better compatibility with tracks. The update applies to both forwarders and harvesters.

## NEW TREAD PATTERN ON NOKIAN TIRES

The Nokian Forest King F tire is being replaced by the Forest King F2. The tires with a width of 31½" (800 mm), which are optional, also have a new tread pattern and improved characteristics when used with tracks.

The 31½" (800 mm) width also includes a new option, Forest King TRS2, which can be used with or without tracks and has very good traction characteristics, grip, and durability. The change applies to all forwarders.



## BULL BAR FOR HOOD

A bull bar is now available as an option on all harvesters. The bar has a stylish design and protects the engine hood from falling branches.

## NEW LOCK FOR LIGHT BAR

The light bar on harvesters has a new locking mechanism on the rear guard. The new locking mechanism is more durable. Applies to all harvesters.



## IMPROVED BAR FEED FOR CONSTANT CUT

Heads with Constant Cut now have a more powerful bar return. They've been equipped with a new bar rescue block that includes the function 'active bar home', which increases the power of bar home. This applies to the C124 and the C93.

## NEW SNOW GUARD

The harvester cranes now have a new snow guard for the crane link and outer boom. Applies to all harvesters.



# JANNE MORE EFFECTIVE WITH 3PS

**Petri Jussila** is a forest machine owner and contractor from Kouvola in southern Finland. One of the companies he runs is PJ-Turve Oy. He recently invested in a new Komatsu 911 with a C123 head.



Petri Jussila has switched back to Komatsu with the purchase of his new Komatsu 911 with a C123 head.

**PETRI JUSSILA** owns and runs two companies, PJ-Turve Oy and Jussila Power Oy. His companies' core businesses are energy and logging. For some 15 years, a large part of his fleet came from competing manufacturers, but now Petri's started afresh with Komatsu Forest. He feels that Komatsu's quality has developed in the right

direction for a number of years, and that each new machine generation has brought with it more efficient engine technology that helps ensure good fuel economy.

The Komatsu 911 is an all-round harvester that provides the right conditions for effectively conducting most assignments with high productivity and minimal environ-

mental impact. One important factor is the unique three-pump hydraulic system that ensures that the operator always has optimal hydraulic capacity and can work faster. The 3PS hydraulic pump system enables the operator to perform several work tasks at once, and thereby increase productivity. Operators can quite simply harvest more in less time.



Since the hydraulic system has three hydraulic pumps split into several hydraulic circuits, high hydraulic power availability is always guaranteed. As such, the operator can use several hydraulic functions at the same time without the machine being limited by the availability of hydraulic power and hydraulic flow.

Moreover, the energy efficiency of the new three-pump system delivers fuel savings for the machine owner as fuel consumption per processed cubic foot is considerably lower compared to a harvest-

er without a three-pump system.

Operator Janne Anttas has used the new 911.

"I was really curious about the 3PS hydraulics and this machine is certainly easy to use," says Janne. "Being able to do several things at once is important in terms of efficiency. It improves work performance, especially when conditions are most demanding. I'd be willing to claim that the more challenging the forest, the greater the difference compared to other brands."

The 911 is equipped with a Komatsu C123.

"Now we can accept any logging assignment that's offered. In heavier stands, this is more effective than the C93, without compromising on maneuverability when thinning," states Janne.

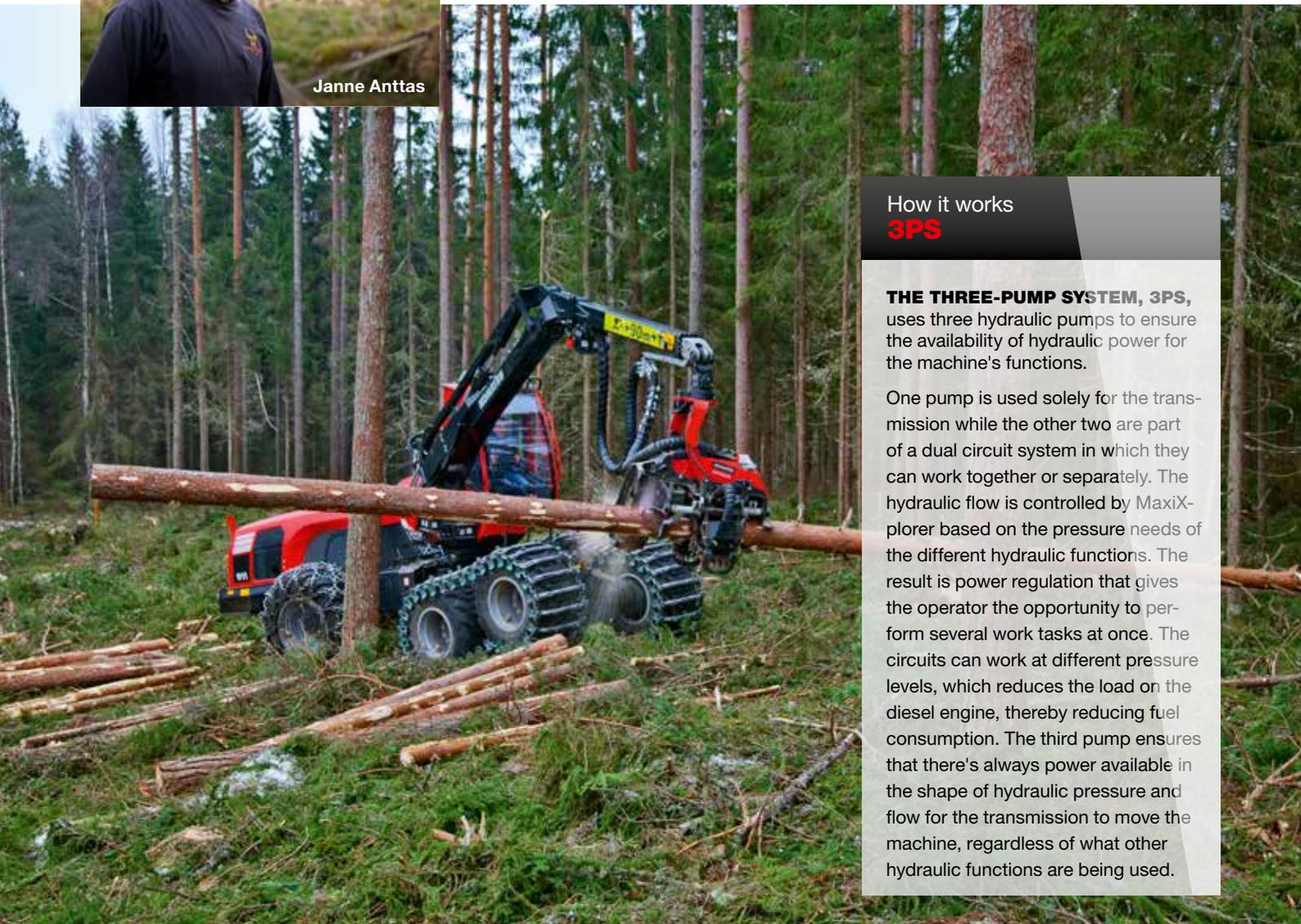
Petri agrees with him.

"It's profitable as long as you don't end up in really bad marshland," he says.



Janne Anttas

"I'd be willing to claim that the more challenging the forest, the greater the difference compared to other brands."



### How it works **3PS**

**THE THREE-PUMP SYSTEM, 3PS,** uses three hydraulic pumps to ensure the availability of hydraulic power for the machine's functions.

One pump is used solely for the transmission while the other two are part of a dual circuit system in which they can work together or separately. The hydraulic flow is controlled by MaxiX-plorer based on the pressure needs of the different hydraulic functions. The result is power regulation that gives the operator the opportunity to perform several work tasks at once. The circuits can work at different pressure levels, which reduces the load on the diesel engine, thereby reducing fuel consumption. The third pump ensures that there's always power available in the shape of hydraulic pressure and flow for the transmission to move the machine, regardless of what other hydraulic functions are being used.

# Service that creates peace of mind

Being a successful forest machine contractor takes more than an effective machine. Another important factor is that the machine is kept in the best possible condition so that it can deliver when it really counts.

”

I would definitely recommend ProAct 2.0 to others.”

## **THE PROACT 2.0 SERVICE CONCEPT**

combines increased productivity and high uptime with low running costs. One company that has recently invested in a new Komatsu machine with ProAct 2.0 is Brogården Karlshaga, which is based in Tibro, southern Sweden.

When the family business Brogården Karlshaga planned to buy a new forwarder in the smaller machine segment, they decided on a Komatsu 845. As a complement to the investment in the machine, the company decided to opt for ProAct 2.0, which is a comprehensive concept for maintenance and spare parts that simplifies machine ownership and provides peace of mind.

“We run two shifts with the forwarder, so it's not easy to know when to schedule a service. So to reduce the amount of downtime on evenings and weekends, we needed ProAct 2.0,” explains Andreas Axelsson, a machine operator at Brogården Karlshaga.

**PROACT 2.0** is a proactive service concept that aims to ensure no unplanned downtime for the covered machine. The ba-

sic idea is to replace parts before they fail.

The concept encompasses four components: inspection, scheduled maintenance, tailored training, and regular follow-ups. This means that inspections are conducted to monitor the machine between regular services. This enables faults to be discovered before they cause a breakdown. These inspections are scheduled based on the customer's day-to-day needs to minimize the risk of production losses and also include a machine-specific field stock. At present, ProAct 2.0 is only available in Sweden.

**WITH PROACT 2.0**, Brogården Karlshaga feel that they have better control over their costs. They also consider it an advantage that the costs are spread more evenly over the year and even expect them to be lower than before. They add that the ProAct 2.0 XP supplementary agreement also provides peace of mind with the guarantees that apply in the event of a major breakdown.

“I would definitely recommend ProAct 2.0 to others,” Andreas ends.



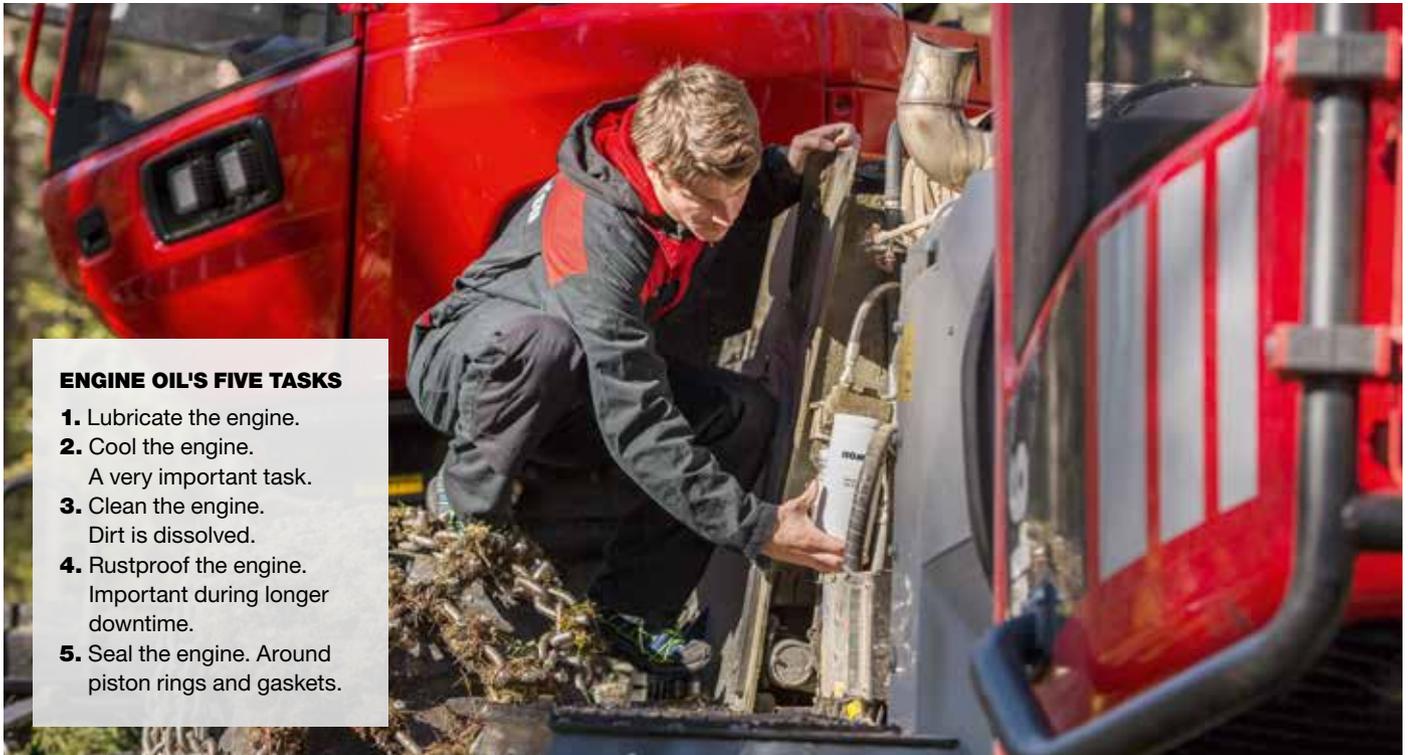
Erik Gustavsson and Andreas Axelsson are operators at the company Brogården Karlshaga, which has opted for the ProAct 2.0 service concept for its new forwarder.



## PROACT 2.0

### PROACTIVE INSTEAD OF REACTIVE

The basic idea behind ProAct 2.0 is to replace parts before they fail and to conduct service before downtime strikes – following a schedule based on the needs of you and your operations. At present, ProAct 2.0 is only available in Sweden.



## ENGINE OIL'S FIVE TASKS

1. Lubricate the engine.
2. Cool the engine.  
A very important task.
3. Clean the engine.  
Dirt is dissolved.
4. Rustproof the engine.  
Important during longer downtime.
5. Seal the engine. Around piston rings and gaskets.

# Invest in the right **LUBRICANT**

**When did you last change your engine oil?** Do you follow the oil change schedule? It might not be an issue that gives you sleepless nights, but the fact is that oil and lubricants are as important to your machine as blood is to your body.

**INCORRECT OIL CHANGES** can ruin an engine and require expensive repairs. And without the right oil, wear increases and, in the worst case scenario, engine damage can occur. That's why it's important to keep track of oil changes, not only to avoid expensive repairs, but also to maintain a high resale value.

"We recommend that you always use ProSelect lubricants for Komatsu machines," says Joakim Strömdahl, Product Planner at Customer Service Business. "And be sure not to neglect oil change schedules. That way you'll build a good foundation for good, steady production out in the forest."

And you shouldn't skimp on oil quality.

"All of our ProSelect lubricants are opti-

mized for our Komatsu machines. They're of the right quality and contain the additives needed to keep our machines working as intended," Joakim explains.

And don't forget to replace the oil filters as directed. A clogged filter allows dirt to pass that then circulates back into the engine and can cause damage. The cost of changing the oil and filters is negligible compared to the cost of an engine overhaul.

"We care about the environment, so we'd like to encourage all who change the oil themselves to always take the used oil for destruction," says Joakim.

For machine owners who've signed up for the ProAct 2.0 service, this includes the right oil, oil changes, oil filters, and the destruction of used oil.

**PROACT 2.0** is a complete solution that includes inspection, maintenance, training, and follow-ups. The maintenance concept is about preventative service, and ProSelect spare parts, accessories, and consumables comprise an important part of this. When you choose ProSelect, you can rest assured that your machine will continue to operate optimally. This ensures a longer service life and the certainty that your machine will continue to perform as expected.

**"EVERYTHING INCLUDED** in the ProSelect range is carefully selected by qualified experts, which means that we assume responsibility for ensuring the right quality, optimal functionality, and maximum service life," says Joakim.

# World-leading collaboration

Quality, capacity and commitment



Indexator is a world-leading supplier and development partner for hydraulic rotators and ancillary equipment. The company has made a name for itself as a committed and professional business partner that helps its customers achieve better results. We shape the future in our ultra modern production facility and unique test lab.

Together with Komatsu Forest, we are always running a number of development projects. Professionals from both companies with cutting-edge expertise work side-by-side to achieve unique results. The ProTec rotator-link solution is an example of one such successful collaboration between Indexator and Komatsu Forest.

[indexator.com](http://indexator.com)

 **Indexator**  
Rotator Systems



## FORWARDER WINNER IN THE USA

The 2016 Great Lakes Forwarder Operator Challenge ended with Gerald Dugree Jr. in first place. The winner received \$1,500 and a trip to compete in the 2017 Forwarding World Championship at Elmia Wood in Sweden. Gerald had a total time of 3 minutes and 55 seconds. Second place went to David Anderson, with a total time of 4 minutes and 27 seconds. Alex Johnson II came third, followed by Manley Murray in fourth place.

See the film from the competition at: [www.youtube.com/watch?v=QgHylhoxZUY](http://www.youtube.com/watch?v=QgHylhoxZUY)

From the left: Jim Williams, Komatsu America Corp., Gerald Dugree Jr. with his son Jacob, Hermansville, Michigan, David Anderson, Felch, Michigan, Alex Johnson II, Eckerman, Michigan, Manley Murray, Felch, Michigan, Henry Schienebeck, Great Lakes Timber Producers Association, and Perry Hughes, Roland Machinery Company.



Students Ida Backlund, Johannes Murto, and Agnes Juul together with Komatsu Forest's representative Liza Danielsson Niemi on a guided tour of the Komatsu Osaka factory located in Hirakata, Japan.

## SWEDISH STUDENTS IN JAPAN

Each year, the Komatsu Forest Foundation awards travel grants to three students studying at Dragonskolans Teknikcenter in Umeå. This year, Ida Backlund, Johannes Murto, and Agnes Juul were given the chance to visit Japan and Komatsu City.

The study trip is always arranged during the fall semester for third-year students. The grants are awarded to students who have excelled in their studies and are good ambassadors for the course.

## 1,000TH HEAD TO BRAZIL

The 1,000th Komatsu 370E head has been delivered in Brazil, where the 370E is a popular choice for logging eucalyptus plantations. The eucalyptus trees are harvested at an age of about 7-10 years, with the stems measuring some 70-80 feet (22-25 m) in length with an average diameter at breast height of 8 inches (20 cm). They are most often logged by fleets of 5-7 excavators equipped with 370E heads and 3-5 forwarders, such as the Komatsu 895. The machines are generally operated around the clock throughout the year, clocking up some 5,000-6,000 hours a year.





### IMPORTANT DEAL IN URUGUAY

Komatsu Forest's dealer in Uruguay, ROMAN S.A., has sold seven Komatsu machines to major paper and pulp manufacturer UPM. The deal includes Komatsu 911 harvesters with S132 heads, Komatsu 895 forwarders, and a service agreement.

"This is a very important deal that strengthens Komatsu Forest's position in the region. UPM has a long history in Uruguay and is a strategically important customer," says Martin Voulminot, General

Manager of ROMAN S.A.

UPM's paper and pulp factory is located on the border to Argentina and the raw material is harvested locally from the company's forests. UPM owns and operates its own fleet of about 30 machines and also uses independent contractors. The Komatsu machines are part of UPM's own fleet and will log and debark eucalyptus, as well as forward timber to the roadside for further transport to the factory.

One important reason for UPM choosing Komatsu machines is the low running costs.

"The Komatsu 911 and the Komatsu 895 have extremely low fuel consumption, which is an important consideration in Uruguay where fuel costs are high," says Martin.

### NEW SERVICE ORGANIZATION IN FRANCE

Komatsu Forest in France has started its own customer service by taking over the workshops of ARP in Egletons and AFN in Lacroix St. Ouen. Otherwise, Komatsu Forest in France uses various independent workshops located throughout the country. This has expanded the spare parts and accessories service to meet customer demands on speed and availability.

### NEW DEALER IN LATVIA

Sia Haitek is a new Komatsu dealer in Latvia. Sia Haitek is headquartered in Lielvārde, 50 km east of Riga, and is a well-established and experienced dealer that has been working in the forest machine industry for more than a decade.

"This new partnership gives us a very strong position in Latvia," says Timo Korhonen, CEO Komatsu Forest Oy, Finland.

### 15 YEARS WITH HITRAF

On February 14, 2002, Hitraf SA and Partek Forest entered a partnership to sell Valmet forest machines in Spain, which means that in 2017 this collaboration celebrates its 15th anniversary. During these 15 years, Hitraf has sold a large number of machines in the Spanish market. In addition to machine sales, they offer service and spare parts to their customers throughout the country.

Nowadays, Hitraf is one of the most important actors in Spain's forest industry and Komatsu customers remain loyal to them.

You do know that we are  
active on both  and   
 us there and you'll  
always have the latest news on  
your  and your 



# Silver jubilee

**Komatsu Forest in Norway** is celebrating 25 years of business. The festivities took place in January with more than 200 people enjoying good food and drink. Kjell Odd Bredin and Erik Øverbø received special recognition for having been involved since the start back in 1992.



## CONTACT US

### DISTRIBUTION CENTERS, SALES CENTERS AND DEALERS

#### EUROPE

- |   |   |   |
|---|---|---|
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|---|---|---|

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# 8 WHEELS DONE RIGHT

Extremely stable. Extremely low ground pressure.



Komatsu  
**931XC**

The Komatsu 931XC lives up to its name: it's a machine that remains productive even in eXtreme Conditions. The combination of Komatsu's unique underlying harvester concept and a completely new solution with a suspended bogie in the rear

frame enables this machine to deliver unbeatable stability. The low centre of gravity and even weight distribution give the XC model incredible hill climbing ability and an unbelievably low ground pressure of just 0.3/0.35 kg/cm<sup>2</sup>.