



# between the BRANCHES

OFFICIAL PUBLICATION OF TIGERCAT INDUSTRIES INC.

## INSIDE

## FAST AND EFFICIENT

A brief history of the Tigercat shear and why it is a hot commodity in the Florida Gulf Coast.

- Paul Iarocci

To discover the origins of the Tigercat shear, we have to jump in the time machine and travel back to 1994 – the year that Richard Nixon died and CIA analyst, Aldrich Hazen Ames was convicted of spying for the Soviets. Nelson Mandela is elected President of South Africa. Drama unfolds between rival figure skaters and Colombian soccer player Andrés Escobar is murdered for scoring against his own team in World Cup. Baseball players strike and George Foreman becomes the oldest heavyweight champion. And then there is O.J. Simpson. Meanwhile, Tigercat and the World Wide Web are in their infancy and poised for bigger things.

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One of Boland Timber's four Tigercat shears amongst the palmetto on a beach like tract near Perry, Florida.

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In 1994 Tigercat is quietly, yet briskly building drive-to-tree feller bunchers and developing the 853E track buncher in Brantford, Ontario. The drive-to-tree population – which numbers 200 by the year's end – stretches from Virginia to Texas. Already the machines are recognized as more reliable and productive than anything else on the market. However, in small stem plantation applications, Tigercat's engineers feel that the productivity of the machine could be further enhanced if only the felling head could accumulate more trees per cycle. They also believe that the market is ready for a high performance shear head. So the company sets a precedent that has since become an overarching design philosophy: when Tigercat is relying on an outsourced component and that component is not measuring up, it is time to build a better alternative – in house.

So Tigercat team member, John Kurelek, literally a legendary figure in the industry, sets out to design a high capacity bunching shear. The end result is the 1800 series and later, the 2000 series Tigercat shears. Both heads are still in production today, albeit with twenty years of improvements and enhancements integrated into the design.

Today's shears have right hand side accumulation pockets (switched in 2013 to match the bunching saws) for improved visibility and sight lines for track carrier applications. The accumulation area for the 1800 series has grown from 0,455 to 0,553 m<sup>2</sup> (4.9-5.95 ft<sup>2</sup>). The 1800 is available with an optional 115 mm (4.5 in) bore cylinder for faster cycles in stems under 35 cm (14 in) in diameter. The optional quick cycle cylinder uses a 75 mm (3 in) rod with a base end cushion to eliminate shocks associated with the faster opening time. In these stem sizes – common in biomass harvesting – cycle



A Tigercat 720E, piloted by James Williams, throwing down a bunch. With deep operating experience, James has become a big fan of the Tigercat shears.

times are 40% faster compared with the standard 152 mm (6 in) cylinder with a 90 mm (3.5 in) rod.

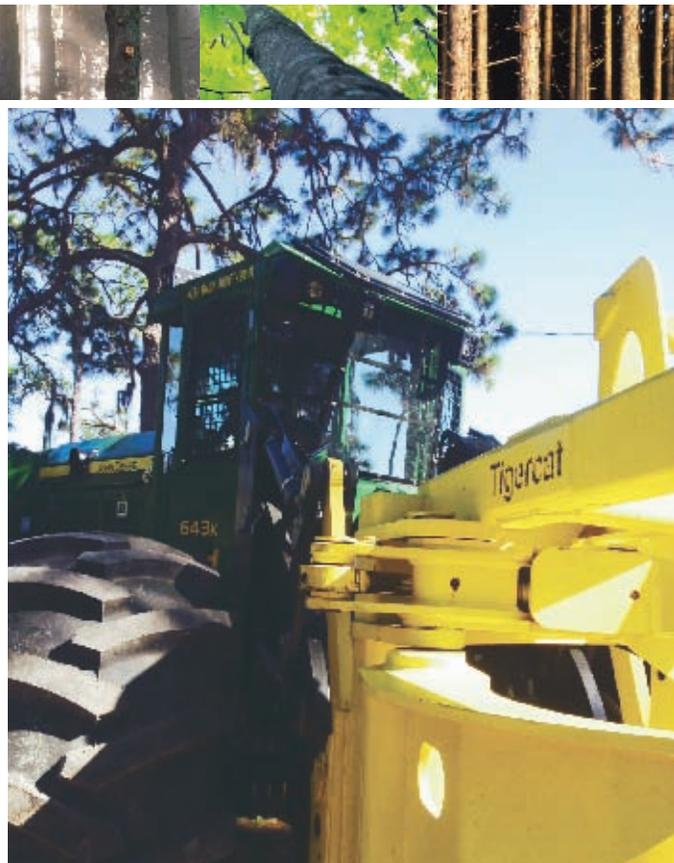
Built for larger diameter trees, the 2000 series has a capacity of 0,5 m<sup>2</sup> (5.38 ft<sup>2</sup>) measured over the accumulating pocket and fixed blade. The 2000 uses a 165 mm (6.5 in) bore cylinder with the larger 90 mm (3.5 in) rod. Another important enhancement to both models, undertaken in 2013, was the shift to tapered roller bearings in the shear pivot joint, providing very precise blade alignment and consequently, a higher quality cut.

Shears are a very specialized attachment, suited mainly to pulpwood or biomass harvesting and smaller, relatively consistent stem diameters. The reality is that many contractors cannot guarantee an ongoing supply of timber that meets the criteria. However, there are certain geographic markets, such as South Australia and Western Australia where the contractors are quite enthusiastic about Tigercat shears mounted on 845C and 855C track carriers. (See BTB 31, July 2012, What Bottleneck? and BTB 22, March 2009, When the Chips are Down Under – all back issues available

at [www.tigercat.com](http://www.tigercat.com)). Both regions are home to a large volume of homogeneous, small diameter blue gum plantations with difficult soil conditions. According to factory representative for Australasia, Glen Marley, “High cutting production, reliability, low maintenance, and longevity has been proven over and over again in the local conditions, where disc saws have been avoided mainly due to highly abrasive soil conditions, rocky terrain and the higher risk of associated bushfire dangers.”

Another market where Tigercat shears dominate is north Florida. The Gulf region is flush with pine plantations situated on extremely sandy soil. BTB recently did a quick tour around the areas of Perry and Live Oak to see a couple of Tigercat’s latest generation shears in action. First stop was the operation of Jeffrey Boland, owner of Boland Timber Co. The jobsite was a beach-like tract of marginal quality pine. The plantation was carpeted in palmetto. The green wood is transported full-tree to the Buckeye pulp mill in Perry, Florida where it is chipped for fuel.

Packed to capacity. A really good operator can cut a ten tree bunch cycle nearly as quickly as a saw and without the vines. Many believe that the positive lock on the tree as it is severed allows for larger, more parallel bunches.



Deere dealers in north Florida are buying up used Tigercat shears, refurbishing them and installing them on brand new Deere feller bunchers. (Photo courtesy of Shawn Webb)

There is a subtle difference in the way the shear cuts a tree as opposed to a saw. When a hot saw drives through a tree, the cut stem is loose and sitting on the butt plate for an instant. With a shear, the operator wraps the grab arm around the trunk as it is severed, creating a constant positive lock on the tree. Many operators including Boland’s 720E driver, Punky Hampton, feel that this difference allows them to pack more trees into the head than an equivalently sized saw, eliminating a significant amount of machine travel over time. If you cut ten trees instead of nine over ten cycles, you eliminate an entire bunch cycle along with the associated travel to and from the bunch pile. Cutting two extra trees per cycle makes an even more profound difference, roughly eliminating every sixth cycle.

Some criticize the shear saying the open-close cycle time is too slow but as Jamie Boland, Jeffrey’s son says, “You don’t need to open the shear all the way. Some people say they are slower but we are never waiting on the cutter. You couldn’t give me a saw.”

For the Bolands, it’s the maintenance costs that make the difference. “We change shear blades once or twice a year. We keep them sharp and we don’t cut a lot of big timber. It costs \$1,000 a month for teeth [when you

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are working] in the sand, including bolts every other time, plus labour and downtime.” Then one must factor in disc wear, which the Boland’s value at about \$1.50 per hour. “We don’t know anything different but we do know that a saw will not survive the sand. These things are worth their weight in gold down here on the Florida Gulf Coast.” says Jamie. The Bolands figure that one shear can last the life of two tractors, “and now with the new tapered roller bearing, it could last even longer,” Jeffrey surmises.

Jamie and Jeffrey cite another advantage: “We get the tree not the vine.” Disc saws tend to pick up the vines to a much greater extent than the shear heads and they remain entangled in the trees through the skidding process, eventually winding up on the landing. It is a real problem at the deck for the loader operator and the use of the shear tends to speed up the loader productivity which in turn improves the productivity of the entire system.

Punky’s machine burns 21,5 L (5.68) gallons per hour and cuts 1 770 to 2 120 tonnes (1,950-2,340 tn) per week. Tigercat engineering estimates that it takes



The new tapered roller bearing design allows the blades to remain in a very precise alignment for improved cut quality and reduced maintenance.

40 horsepower just to turn a saw blade, without factoring in cutting trees. This translates conservatively to 5-8 L/h (1.3-2 gph) in fuel savings by running a shear over a saw.

## Second life

In 2008, Johnny Boyd, Tigercat district manager and Frank Corley, a prominent forestry professional based in Greenville, Alabama sourced a used 1800 shear and for less than the price of a new disc saw blade, rebuilt it and installed it on a 724 buncher. The operators, leery at first, caught on pretty quickly as they realized the vines don’t get tangled and there is far less maintenance compared with a disc saw. Now, when Frank’s operators have a choice between a shear or saw, they always choose the shear. Other contractors (and competitors) took note and now the practice of refurbishing old shears has really caught on – so much so that John Deere dealers in the Florida Gulf region buy every used Tigercat shear they can get their hands on. It is a common occurrence in the area to see brand new Deere feller bunchers with rebuilt Tigercat shear heads. This really demonstrates the consensus that the Tigercat shear, in any of its incarnations, is the ultimate head for sandy plantations.

The second site BTB visited was a Williams Timber Inc. operation near Live Oak, Florida. Again, the plantation was situated on fine sandy soil. Operator, James Williams, who comes from a family with deep ties in the north Florida logging community, is another expert operator who previously ran hot saws on both wheel and track feller bunchers in varied conditions – including swamps and hills. James cuts the stems at ground level. Due to the taper at the base of the tree, this is a harder job for the shear but it improves the fibre yield and does not slow production. He is extremely fast and efficient in his movements, often able to cut two trees before closing the clamp arm. We timed some cycles and saw him achieve a ten tree bunching cycle in 34 seconds. “I like the shear,” he says. “I was a [Caterpillar] man and you won me over. It didn’t take me long to get used to the shear and the new style packs a lot more wood. It is hard to beat a Tigercat.”

Visit [www.tigercat.com](http://www.tigercat.com) and click ‘Tigercat TV’ to see both machines in action. ■

# HEAD COUNT IN SASKATCHEWAN

Performance and support leads to steadily expanding TH575 population in Saskatchewan.

- Paul Iarocci



Get-R-Done Logging and Farming Inc. The TH575 is performing well in hardwood processing despite extreme winter temperatures.

The TH575 is making waves in northern Saskatchewan. With an expanding field population currently at seven units, all on H855C carriers, and a history dating back to 2007, this geographic area probably has the highest concentration of Tigercat harvesting heads anywhere in the world. Personnel from the Saskatoon branch of Redhead Equipment (the Tigercat dealer in Saskatchewan), Tigercat district manager, James Farquhar and harvesting head specialist, Blain MacDonald have all made significant contributions to the success of this program.

Blain, who is spending a lot of time in Saskatchewan servicing the TH575 population, explains that there are two major factors in the region that makes the H855C/TH575 package highly competitive: extremely cold weather and rough wood. “The cold weather is a factor when it comes to cracking issues. The rough wood profile exacerbates the cracking issues,” says Blain explaining that the Waratah 622B cannot stand up to these conditions on a long-term basis. Consequently, this has forced some of the Waratah users to bump up to the larger 623 model, which in turn requires them to move up one size class in the carrier.

“Aside from the strong commitment to support at both the dealer and factory levels, TH575 does well in Saskatchewan because it has unique design characteristics that help performance in crooked or limby trees – where some other heads struggle – without sacrificing overall productivity or fuel efficiency in easier wood,” explains Duane Barlow, attachment product manager. “The patented three-to-two wheel drive system with fully independent drive arms and independent motor control maintains positive tree contact of all three feed wheels to power through heavy limbs or around crooks in three-wheel-drive, then shifts to two-wheel-drive for faster speeds and improved efficiency in smaller trees.”

Duane explains that the drive system also lends itself to a chassis design with better force flows and fewer stress concentrations, less debris build up and cleaner hose routings. “Combined with larger taper-lock pins, heavy-walled bushings, cushioned cylinders, isolation mounted valves and electrical components, it leads to a head matched to the Tigercat design philosophy of high performance without sacrificing durability.”

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In addition, harvesting head marketing manager, Matt Roberts believes that the ongoing commitment to product development to further improve performance, reliability and serviceability has also helped to drive new sales. "Recent improvements to the TH575 include a new option for timed processing knives for faster picking, revised hose routings and a new hose brand better suited to extreme conditions, an improved photocell and optional smaller displacement motors for faster speeds." Tigercat has also developed a higher torque rotator with positive positioning control and the new Tigercat D5 control system with a simplified operator interface and enhanced head performance.

Redhead forestry sales specialist, Chuck Miles is a very strong proponent of the Tigercat harvesting head and has been since he sold the prototype, mounted on an H860C carrier, to Almar Limbing in early 2007. (See BTB, Issue #16, March 2007.) Almar (owned by brothers Marcel and Alain Chalifour) is still running the original head, now with over 18,000 hours and piloted by Marcel's son Brody. The company has since purchased two additional heads, one on an H855C carrier and one stand-alone unit that was mounted to a modified Tigercat feller buncher already in Almar's fleet.

While the customer base for the most part appreciated the added value and benefits of the purpose-built H855C carrier, at first it seemed a substantial leap to transition from the well accepted triangulated design to the Tigercat design. The operators were all used to Roadside on the operation of Get-R-Done Logging and Farming Inc.



Harold Milne operates one of the TH575 equipped H855C processors. His brother Kelvin operates the other H855C.

running a particular style of head and change is not easy, considering the amount of hours that an operator can spend on a processor even in a single season. However, once the contractors saw how well the head was built and discovered that the design of the head is a huge benefit in crooked poplar and challenging softwood stem profiles, the whole local head market changed.

At the same time, as Chuck explains, the wood markets have come back. "Pulp, OSB and lumber prices have all increased at the same time allowing the mills to come back online. With the mills demanding wood and a shortage of contactors, these contractors have to increase in size, renew and add equipment." Chuck notes that the Weyerhaeuser facility in Hudson



Bay produces a special OSB product that is in high demand. The Radiant Barrier Sheathing (RBS) panels are foil-laminated to help lower home energy use by reflecting up to 97 percent of the sun's radiant energy and reducing heat build-up in attics. According to a Weyerhaeuser media release, "The panels offer an efficient and cost-effective, one-step solution to help keep homes cool and comfortable while reducing energy bills." After some very tough years for the Saskatchewan forest industry, it seems as that activity and confidence levels have drastically improved in the last two years.

Rodney Fullerton, owner of Get-R-Done Logging and Farming Inc., runs two H855C harvesters equipped with TH575 harvesting heads among his fleet of Tigercat equipment. It was the 630D skidder that initially convinced Rodney of the value of the Tigercat brand. "Chuck talked me into buying that skidder and honest to God that skidder is an example of what a good machine can do. That was the first machine I bought and after 4,700 hours in two years, I only changed two hoses." Rodney also owns an 860 feller buncher and the four machines work on a 100 000 m<sup>3</sup> annual contract with Weyerhaeuser. Rodney also acquired an 845C buncher on a rental purchase program this past winter to work ROW contracts for SaskPower. "The bunchers are second to none, let's face it," Rodney comments.

"One thing that did sell me on Tigercat was that you are only in the forestry industry," he continues. "If you have an engineer trying to figure out just solely forestry products and he deals with the problems that we have in the forest, there should be nobody that can compete



Rodney's belief in the Tigercat brand began with the purchase of a 630D skidder in 2012.

with that. It might cost a dollar or two more but it is manufactured better."

On the TH575, Rodney says, "It may be a bit slower than 622B and it took the operators two weeks to get used to. But we've had a cold winter and we've had

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Milne and Ron Pritchard as keys to the success of what can be a very demanding business.

Visit [www.tigercat.com](http://www.tigercat.com) and click 'Tigercat TV' to see the processing operations of Almar Limbing and Get-R-Done Logging and Farming Inc. See the TH575 heads in action in softwood and poplar. ■

Almar's processors working in challenging spruce. "The cold weather is a factor when it comes to cracking issues. The rough wood profile exacerbates the cracking issues," says Blain MacDonald, product support representative specializing in harvesting heads.

to log in -35 to -40°C. I think we are still going to be processing trees while the other guys are welding."

Rodney was a small volume logger who grew quickly. "I always tell the guys at the mill, give me a chance to show you what I can do. If I fail, at least I had a chance. I am that kind of guy." Rodney seems to have used the same logic, when initially taking the step to buy his first Tigercat piece and once again, when deciding to go against the grain and purchase the TH575. "I like Chuck. I like how he sells stuff." Another crucial element is the service support that the customers are receiving from Redhead technician Alex Johannesson. "I love Alex. He is my favourite guy in the whole country. And my whole crew love Tigercat stuff."

"When I went to the Tigercat factory I noticed that the company had surrounded itself with conscientious people," says Rodney. "I took my dad there for a factory tour. He is 80 years old and he is a straight shooter and he said these people are good people." Rodney believes that surrounding himself with honest and conscientious people is crucial to his business. He credits operators like Kim Binkley on skidder and processor operators, Harold Milne, Kelvin

"One thing that did sell me on Tigercat was that you are only in the forestry industry."

- Rodney Fullerton

Marcel Chalifour and son Brody who operates one of the Tigercat processors for Almar Limbing.



# FORESTRY HARVESTING DEMO 2014:

Little Clyde, Elvanfoot, Biggar, South Lanarkshire, Scotland

- Gary Olsen, factory sales representative, international

Following the success of the inaugural Forest Harvesting Demo in 2010, it was evident that the organizers built on the positives from four-years ago and with no surprise came up with yet another great UK forest industry event.

In case you were wondering, the show was held at one single location and not four as the title suggests. Little Clyde is near to a tributary of the River Clyde that eventually flows through Glasgow. Elvanfoot is a very small town on the confluence of the River Clyde and Elvan Water. Biggar is the former burgh (town) under which the hamlets in the area fell and finally, South Lanarkshire is one of 32 unitary authorities of Scotland in which all of the above mentioned find themselves. Thank goodness for the GPS coordinates, N 55° 25' 27.5" W 003° 35' 38.5" or else I would have been lost!

After easily accessing parking and a shuttle, I caught a glimpse of the logging demo site where I saw that the various suppliers had considerably stepped up their game with highly professional block planning, layout and harvesting operations. Demonstrations started at 8:00am and ran steadily until 4:00pm, giving attendees the opportunity to see the machines performing their daily tasks with none of the 'smoke and mirrors'

Treetop brought the full range of Tigercat track harvesters.



Scottish contractors are eyeing up the 1135 as a potential thinning machine.

associated with most other dynamic shows around the world – this was the real deal.

Treetop Forestry Ltd, Tigercat's dealer for the United Kingdom, under the leadership of the Stewart and Gordon Booth, once again pulled out all the stops to showcase Tigercat's tracked harvester range and the 1075B forwarder. Teamed up with Log Max harvesting heads, Tigercat carriers included the H845C, LH845C, H855C, LH855C and the first ever LH845D harvester with the Tigercat FPT N67 Tier 4f engine. The simple after treatment emissions solution was well received by the customers. The Tigercat 1135 eight-wheel harvester, initially designed for Sweden, was also on display and pitched at the potential thinning market in the UK.

As Tigercat rolls out more models with the Tigercat FPT engine, customers will receive full engine support from Tigercat and Treetop, including all parts, service, warranty and technical support.

The old saying, "All work and no play makes Jack a dull boy," came to mind as some banter took place



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between well-known competitors, despite the serious nature of the show. The picture below clearly suggests someone arrived with a premeditated sense of humour. Then overnight someone from the other side lost or found theirs! Perhaps they weren't even Scottish! ■



The new Tigercat powered LH845D harvester.



The attendees enjoyed some fine Scottish weather.



Some friendly banter among competitors.



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# EXPO RICHMOND

- Judy Brooks, Tigercat marketing

Expo Richmond 2014 provided an excellent opportunity for Tigercat to showcase the new Tigercat FPT Tier 4 engines. All Tigercat E-series skidders, the 724E and 726E feller bunchers, the M726E mulcher and the 250D series loaders are powered by the new engine series which is fully supported by the factory and Tigercat-trained dealer service technicians. Other machines on display included the 234 loader, 718E feller buncher, 480 mulcher and the 860C track feller buncher.

Tigercat CEO Ken MacDonald, US sales manager Kevin Selby, district managers Wayne Cale, Jerry Smeak, Don Snively and Kevin Wright and select engineering staff for a total of 21 Tigercat team members attended the show. Tigercat dealer support was supplied by Bullock Brothers, Forest Pro, A.G. Lassiter Equipment, CJ Logging Equipment, G & S Equipment, Ricer Equipment, Smith & Turner and Tidewater.

Bobby and Lori Goodson along with grandsons Gavin and Garrett were special guests of Tigercat. Bobby spent several hours in the Tigercat booth visiting with fans and



The new Tigercat FPT Tier 4i powered 724E.



Third generation swamp logger? Garrett Goodson in the operator's seat.

signing autographs. By far the most asked question was "Why did they cancel the show?" Bobby is continually told by his fans how much they appreciate that Swamp Loggers is family friendly and that they are not embarrassed to let their children watch the show.

On an adjacent show site, Tigercat dealer, Forest Pro, displayed the Tigercat T250D loader, plus 630E and 635E skidders along with a 600 pound bronze tiger. Saturday morning, the Forest Pro team hosted a hot breakfast to celebrate the opening of their new branch in Ashland Virginia. ■

Tigercat brought the full range of E-series skidders.



# FIRST CLASS ALL THE WAY

Forest Pro shows off stunning new facility during Expo Richmond weekend

- Judy Brooks, Tigercat marketing



The new Forest Pro branch in Ashland, VA.

Brothers Binky and Guke Tapscott hosted the grand opening of the new Forest Pro dealership in Ashland, Virginia on May 17, during the Expo Richmond weekend. Forest Pro staff and Tapscott family members worked diligently to ensure that the 375 guests felt welcome and enjoyed the delicious hot breakfast. Each guest spun a customized prize wheel to indicate which door prize they would take home along with the chance to win one of the grand prizes.



Tigercat district manager Wayne Cale, US sales manager Kevin Selby, Binky Tapscott and district manager Don Snively.

The new Forest Pro location, highly visible from Interstate-95, is considered to be a flagship Tigercat dealer facility and the first of its kind, with full Tigercat branding inside and out. The bright lobby, welcoming parts and service counter, floor to ceiling graphics demonstrate the Tapscott's attention to detail and professional sense of pride. Situated on 1,6 ha (4 acres) of land, the 1 070 m<sup>2</sup> (11,500 ft<sup>2</sup>) facility has five service bays fully equipped with air compressors, welders and Gantry cranes as well as a well-stocked parts room. The location is managed by Mark Fleisher.

Forest Pro's original location, managed by Meghan



Tapscott Robertson, is a 1 400 m<sup>2</sup> (15,000 ft<sup>2</sup>) facility in Scottsville, VA on 7 ha (17 acres). The four bays shop is similarly equipped and the facility also carries a large Tigercat parts inventory. In total, Forest Pro has six crane-equipped service trucks and eight mechanics. Sales specialists, Mike Barton and Fred Cox cover Forest Pro's territory. ■

Forest Pro hosted 375 for the open house and breakfast.

# 880 BUCKS TREND IN GEORGIA MILL

- Samantha Paul, Tigercat marketing

Tigercat dealers have sold many, many 880 loggers on the western half of the North American continent. With just a couple of machines in Quebec, an 880 sighting in the east has been a bit of a rarity. Now it is a little less so with an 880 logger at work in a mill yard in the southeastern United States. Operator, Lorenzo Torres-Rodriguez runs the machine twelve hours a day, six to seven days per week in the yard at Battle Lumber Company Inc. located in Wadley, Georgia.

This Tigercat 880 is the first of its kind sold into the southeastern United States. It was custom-designed with a slasher saw hydraulic system and is the first unit to use a Rotobec live heel grapple. Battle Lumber Company Inc. is primarily using this machine in the wood yard crosscutting, sorting and stacking logs. Operations manager, Thomas Battle, has never been happier.

Thomas made the decision to purchase the Tigercat 880 late last year and he has been very pleased with its performance so far, commenting, “The machine has about 600 to 700 hours on it and it has been excellent. It is running much better than my previous machine.”

Purchasing this machine from Tigercat dealer, AllWood Equipment, located in Washington, Georgia, the 880 logger replaced a Caterpillar 325. One of the main reasons for the switch was to have superior

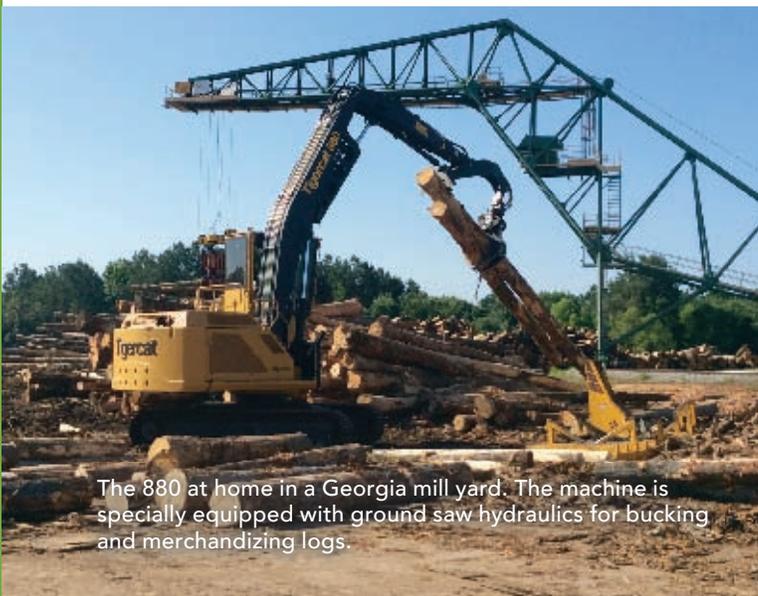


Battle's 880 is the first to be equipped with Rotobec's live heel grapple combination.

customer service from Tigercat and AllWood only a phone call away. Fuel economy was also an important consideration. The 880 logger has an energy recovery swing drive system that recovers braking energy, reducing fuel consumption and heat generation. Efficient hydraulic circuits along with the powerful 224 kW (300 hp) engine combine to provide excellent fuel efficiency and high performance. The 880 also has much greater lift capacity compared to the previous machine, further justifying the purchase, according to Thomas.

Operator comfort is always a priority and therefore it is nice to hear Thomas say that his operator feels much more comfortable in the 880 – mainly due to the larger interior cab space and the convenient walk-up access and rear entry door.

Tigercat is once again pleased to see its machines outperforming the competition, while at the same time, revealing an increasingly diverse set of applications for the product. “This machine is very good for mill yard applications,” comments Thomas. “I plan to buy many more for the same purpose in the near future.” ■



The 880 at home in a Georgia mill yard. The machine is specially equipped with ground saw hydraulics for bucking and merchandizing logs.



Photo courtesy of Expoforest

## BRAZIL'S EXPOFOREST 2014

Tigercat debuts a new bunching saw and exciting new options for the 1075B forwarder.

It may not be the biggest event in Brazil for 2014, but the second Expoforest show in Mogi Guaçu, São Paulo did attract large crowds and international attention. With the event taking place a mere month before the start of FIFA World Cup, some foreign visitors did benefit from the sparkly new terminal at Guarulhos International in São Paulo, even though the paint was still tacky, construction crews worked frantically among passengers and the roof leaked during afternoon rain showers. If Brazil as a whole did not seem to be in a complete state of readiness for the upcoming tournament, the Expoforest organizers certainly were well prepared for their event on every level.

Compared to Expoforest 2011, Tigercat upped the ante, demonstrating not only a complete full-tree system, but also a cut-to-length (CTL) system. Tigercat's Brazil dealer, Tracbel, hosted an excellent show and the Tigercat-Tracbel booth attracted forestry professionals from throughout Brazil as well as Chile, Uruguay, Paraguay, Mexico, Canada, the United States and South Africa.

The event was hosted by International Paper and all of the harvesting activity took place on the company's

commercial plantations. Demonstration sites were generously sized, giving the feel of a real-life operation as opposed to the constricted and contrived 'shows' that many of us have become accustomed to over the years. The Tigercat-Tracbel demonstration stand averaged 0,18 m<sup>3</sup> per stem at 1,100 stems per hectare.

### The cut-to-length system

In late 2013 Tigercat released some exciting new options and improvements for the Tigercat 1075B. The new crane and grapple designs have been working in a gruelling double shift forwarding application on the



The Tigercat-Tracbel display attracted crowds from throughout South and Central America and around the world.

operation of Dalfeý S.A. in Northern Uruguay since last November (see BTB, Hot and Heavy, March 2014). The heavy duty F195T85 crane, designed and built by Tigercat, is capable of lifting 20 to 30% heavier loads at the same reach compared with any other forwarder

harvester which was equipped with the SP 591 LX G2 head, purpose built for harvesting and debarking plantation eucalyptus in the range of 100 to 350 mm (4-14 in). The H845C is proving to be an excellent carrier for smaller diameter harvesting and processing applications in both hemispheres. In the demo stand, the harvester was felling, processing and debarking about 120 trees or 22 m<sup>3</sup> (approximately 23 tn) per hour. With a 250 m (820 ft) lead distance, the 1075B achieved three loads or 66 m<sup>3</sup> per hour. In a real operation typically two H845C harvesters would be paired with one 1075B.



Tigercat demonstrated both full-tree and cut-to-length harvesting systems.

crane on the market. In addition, the crane has 22 to 66% more slew torque than any competing crane. It is the only crane that can handle a 0,53 m<sup>2</sup> grapple, a great advantage in smaller diameter log applications. Since an average of 50% of the forwarder duty cycle is spent loading and unloading, increasing the number of logs per crane cycle can vastly improve overall machine productivity. The crane geometry is optimized for quick loading and unloading cycles with excellent grapple clearance above the load.

The new 430 and 530 series Tigercat grapples complement the heavy duty crane with larger load area capacities at 0,43 m<sup>2</sup> (4.6 ft<sup>2</sup>) and 0,53 m<sup>2</sup> (5.7 ft<sup>2</sup>) respectively. The grapples are fitted with thick walled bushings for extended service life. The link has a patent pending hose routing design to better protect the hoses and the swing dampener has been designed for heavy duty applications.

The 1075B was partnered with the H845C

The Brazilian customer base – while conscious of capital costs – has high expectations in terms of the base carrier for harvesting heads. Special requirements include vacuum pumps, ground level water tanks for operators to wash their hands, fire suppression systems, automatic greasing systems, ISO certified operator cabs, window blinds, specialized seating, camera systems, telematics, HID or LED working lights and toolboxes. Typically the harvester carrier of choice is a 20 tonne excavator modified to the hilt to meet just some of these expectations

cont'd on page 16



The 1075B was equipped with the new Tigercat F195T85 crane and the new high capacity 530 series grapple.

cont'd from page 15

(ISO certified cab not included). The Tigercat H845C comes woods-ready and includes all of these features as standard or optional equipment available to any Tigercat customer in the world. Running cooler, more reliably and more efficiently than excavator conversions, the H845C delivers the lowest cost per tonne by far.

### The full-tree eucalyptus system

The full-tree system comprised a Tigercat 860C feller buncher, 635D skidder and a T250B loader equipped with a grapple saw for slashing at roadside. The grapple saw is a combined effort built by Rotobec and Brazilian company, MSU.

Although most are now familiar with the massive productivity rates of the 635D, the 860C drew a lot of attention because it was equipped with the new 5300 bunching saw. According to attachment product manager Duane Barlow, "Demand for the 5300 came from Brazil. The customer, International Paper, asked for an extra two trees per bunch cycle. The 5600 bunching saw would have accomplished this and more but would have added too much weight to the end of the boom and we could not effectively gain the extra accumulation with the existing 5000 design."

In order to combat the track wear and stability issues sure to arise as a result of the extra head weight and additional trees that can be packed into it, the 5300, along with the high torque 340 degree wrist, was mated to an 860C feller buncher with the



The H845C with the SP 591 head felled, processed and debarked at a rate of 120 trees per hour.

R7-150 undercarriage. The R7-150 is more stable and robust with longer track frames and stronger FH400 components, compared to the F6-140, F6-155 (F8 sized) undercarriages normally specified for the 860C. Essentially the machine is an 870C without the extra fuel capacity. Factory sales representative, Gary Olsen, expects that the 870C will likely replace the 860C as the standard full tail-swing offering for the export market. A similar shift has already occurred in Canada, where the F8 sized undercarriage has been deemed



A 635D and 860C feller buncher on the full-tree side.



The ER equipped 860C with the new 5300 saw, specially designed for optional bunching capacity in high cycle plantation applications. The buncher easily fells 800-1,000 trees per hour.

insufficient as the capabilities and performance of these carriers have incrementally increased over the years.

System productivity in the 0,18 m<sup>3</sup> piece sized eucalyptus, including slashing to 6 m (20 ft) lengths (no debarking), works out to approximately 100 m<sup>3</sup> per hour. The 860C can fell and bunch at a rate of 144 m<sup>3</sup> per hour. However with lead distances of 200 m (660 ft),



The 250B equipped with a Rotobec – MSU grapple saw for roadside slashing to 6 m (20 ft) lengths and loading.

the 635D was only hauling 100 m<sup>3</sup> per hour. To address the imbalance, typically the buncher operator will spend more time building larger skidder bunches.

See both the full-tree and CTL systems in action. Visit [www.tigercat.com](http://www.tigercat.com) and click ‘Tigercat TV’. ■

### Tigercat F195T85: Quick facts

The F195T85 is the only crane with standard end-of-position dampening sensors on the stick boom to prevent impact loads. The tapered roller bearing in the slew base is designed to last the life of the machine, a vast improvement over the plain bearing and spherical rollers used in other cranes. In addition, the telescopic cylinder is cushioned. It is also the only crane with swivels on the pillar hoses for extended hose life with thick walled bushings used at all pivots.

Gross lift: ..... 195 kN-m (143,825 lbf-ft)

Gross slew: ..... 55 kN-m (40,565 lbf-ft)

Maximum reach: .... 8.5 m (27 ft 11 in)

### SP 591 LX G2: Quick facts

The SP 591 LX G2 is purpose built for harvesting and debarking plantation grown eucalyptus. It is an extremely durable harvesting head, designed according to the LX principle for maximum reliability and productivity even under the toughest conditions. The uncompromising design is to be found throughout the head, from large components like frame and knives down to pins and seals. In spite of its brute and tough appearance, the SP 591 LX G2 does not only offer strength and reliability. Smart solutions like proportional pressures, in combination with unprecedented debarking efficiency, make the SP 591 LX G2 an extremely fast, productive and fuel-efficient harvesting head.

Weight:..... 1 850 kg (4,080 lb)

Max cutting:..... 600 mm (24 in)

Feed roller opening: ... 630 mm (25 in)

Optimum debarking diameter:..... 100-350 mm (4-14 in)

## TIGERCAT FPT POWERS D-SERIES LOADERS

Tigercat released its next generation 250D and T250D loaders this spring. The D-series loaders are powered by the Tigercat FPT N67 Tier 4i engine delivering 160 kW (215 hp). The high horsepower Tigercat engine is extremely fuel-efficient and positions the 250D/T250D at the top end of its size class. The 250B and T250B loaders will remain available to markets outside of North America and Europe, where Tier 4 is not required.

Tigercat has introduced additional enhancements to the D-series loaders to increase productivity and performance especially with respect to multi-functioning capabilities. With a highly refined hydraulic system, the main boom, travel and grapple functions are now routed through a new control

valve, which improves multi-functioning performance and response. A separate valve is used solely for attachments and auxiliary hydraulics. The electronic controls have been replaced with pilot controls and the new joystick handles are taller, with improved ergonomics.

Other design features that maximize comfort and daily service access for the operator include the large entry platform, an air ride suspension seat, insulation and isolation mounting for reduced vibration and in-cab noise levels. The engine and hydraulic component layout has improved with easy access and serviceability in mind.

### About the Tigercat FPT engine series

Tigercat FPT engines meet Tier 4 emission levels without the need for variable geometry turbochargers, an EGR system, a higher capacity cooling system, an intake throttle body or a diesel particulate filter. Furthermore, the engine series offers improved reliability and lower long-term maintenance costs. Most importantly, Tigercat FPT engines are fully supported by Tigercat and the Tigercat dealer network, including all parts, service, warranty and technical support. ■

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# product news

## FOCUS ON 5300

Attachment product manager, Duane Barlow, talks about Tigercat's high capacity bunching saw line-up and the new 5300 bunching saw.

**BTB:** *Tigercat's latest addition to the bunching head line-up is the 5300. How did the model come about?*

**DB:** The demand for the 5300 bunching saw came from Brazil. Our customer, International Paper, asked for an additional capacity of two trees to consistently cut ten trees per swing cycle – cutting five rows across and back. In larger trees, the 5000 saw was sometimes short of capacity to achieve the full cycle. The 5600 saw would have added too much weight and we could not effectively gain the additional accumulation with the existing 5000 design.

The 5300 bunching saw uses the existing 5600 accumulating arm. The spindle and bearings are common to the 5400, 5500, 5600 and 5700. The cylinders are common to the 5600. The 5300 uses the 5400 saw blade, which is smaller in diameter than the 5600 blade. It will consume less fuel and recover more quickly than the larger blade. Unique components on the 5300 include the clamp arm, frame, guards and skis. We tried to offer as much parts commonality as possible. The saw is approximately 250 kg (550 lb) lighter than the 5600 would have been if it had been adapted for track carriers.

**BTB:** *Describe the typical uses and applications for the 5000 and 5600 saws.*

**DB:** For wheeled machines, the 5000 is lighter, more compact and better suited for thinning applications. We tried the 5600 saw on the 718 series feller bunchers in thinning and it was objectionably heavy, too big for the required thinning dexterity and was a poor match for the machine overall. The 5000 saw is perfectly matched to the stability limitations of the lightweight 718E with its compact wheelbase,

particularly with the smaller tires on narrow-offset wheels common for thinning. The 5600 saw is meant for maximum capacity bunching with a suitably equipped carrier. It is very well suited to the 720E and 724E drive-to-tree bunchers but is too heavy for track machines.

**BTB:** *Why is the 5300 saw only available for track machines?*

**DB:** We already have the 5000 and 5600 saws. Those accustomed to the 5600 would not accept lower bunching capacity. Those who are running a 5000 would likely object to loss in dexterity and machine balance with the heavier 5300. ■



## EHS AND THE NEW E-SERIES SKIDDERS

Early in 2014, Tigercat released the E-series skidders. Available in North America and Europe, the 620E, 630E and 635E skidders are powered by the Tigercat FPT N67 Tier 4i engine. The 620E is rated at 164 kW (220 hp) and the two larger models at 190 kW (260 hp).

Tigercat FPT engines meet the stringent Tier 4 emission levels without the need for variable geometry turbochargers, an EGR system, a higher capacity cooling system, an intake throttle body or a diesel particulate filter. As a result the engines offer improved reliability and lower long-term maintenance costs. The biggest benefit for Tigercat machine owners is that the engines are fully supported by Tigercat and the Tigercat dealer network, including all parts, service, warranty and technical support.

Tigercat's other skidder markets including Australia, New Zealand, Russia and South America will continue to receive Cummins Tier 3 equipped D-series skidders for the foreseeable future.

The 620D/E and 630D/E are suited to the vast majority of the world's high production skidding applications – commonly used in clear fell and plantation thinning applications, steep ground and soft soil. The six-wheel drive 635D/E with its long wheelbase, low-ground pressure and massive grapple is designed for long hauls, extremely heavy loads and very soft or steep terrain. The 635D/E is also approved for use in demanding, high duty cycle ground scarification applications.

### EHS option for 620 series

Tigercat's EHS (efficient high speed) drive system is similar to the standard hydrostatic drive system in that the two variable displacement motors are input into the Tigercat transfer case. Front and rear output shafts are connected directly to the front and rear axles.

Warren Brantley's EHS equipped 620E skidder



However the similarity ends there. EHS is capable of providing the tractive effort of the deepest gear ratio offered in Tigercat's standard transfer case as well as the top speed of the shallowest gear ratio offered in the standard transfer case. This is accomplished with more sophisticated computer logic and the ability to take one of the drive motors offline when high tractive effort is not required. In this case, all pump flow is directed to one hydraulic motor, increasing both travel speed and motor efficiency.

When operating conditions demand high tractive effort, both hydrostatic motors are working. When tractive effort requirements are reduced – for instance, when travelling empty – all of the pump flow is directed to one motor for higher travel speeds.

Tigercat is now offering the EHS option on the 620D/E series skidders. Initial field studies indicate excellent production and fuel economy in relatively

flat terrain, where the machine is able to operate fully loaded on one drive motor for a significant portion of the duty cycle.

Warren Brantley, owner of Oconee River Logging LLC in Georgia, has been running an EHS equipped 620E since early March. Pulling nine tonne (10 tn) drags on flat terrain, the machine is able to run on one motor the majority of the time and fuel consumption is positively impacted at around 20 L/h (5.4 gph) with very little engine idle time. Of the 620E, he says, "Tigercat listened to what we wanted and built it. That's the best thing ever to come out of Canada." ■

# EHS™



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## dealer news

### BOBCAT CENTRAL IN CALIFORNIA

BRANTFORD, ON, JUNE 18, 2014 – Tigercat is very pleased to announce that Bobcat Central has taken over northern California as a full line authorized Tigercat distributor.

Bobcat Central is a well-established dealer and represents several quality product lines including Bobcat, Doosan and Kubota. Bobcat Central is located in Stockton, CA, serving San Joaquin, Stanislaus, Calaveras, Tuolumne, Merced, Amador, Mariposa, Alpine, Inyo, Madera, Fresno, Kings, Tulare, Monterey and San Benito counties.

For 38 years, Bobcat Central has been a family owned and operated business. Owner, Don Franzia, has been with the company from the very beginning, when it was founded in 1976.

“We are very excited about this partnership with Tigercat,” comments Don. “Being in the business for over 30 years, we know we complement each other very well to give the support loggers expect.”

Bobcat Central sales manager, Bill Schwenk, brings 34 years of industry experience, obtaining forestry fundamentals from growing up in the Pacific Northwest. “We look forward to many years of success in supplying premium forestry equipment to northern California loggers,” comments Bill.

Recently joining Bobcat Central as a dedicated Tigercat sales representative is Bill Ford. Bill and Don started working together when Don acquired the assets of previous Tigercat dealer, F5 Equipment. Ford brings with him a solid customer base and a wealth of forestry knowledge.

“The Tigercat LX830C feller buncher and the skidders are currently being sold,” states Bill. “We look forward to leveraging Tigercat’s forestry expertise to



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# dealer news

provide machines for a wide range of applications in northern California.”

Key to Bobcat Central’s success has always been a commitment to quality service, reliability and dedication to its people and products. ■

## AB EQUIPMENT SELLS 100TH TIGERCAT

When AB Equipment took on the Tigercat distribution for New Zealand in January 2011, 30 Tigercat machines had been sold over the ten preceding years. Now, little more than three-and-a-half years later, AB Equipment has just chalked up the sale of its 100th Tigercat machine. Tigercat has become such hot

property in New Zealand forests that the last 50 sales took place in just twelve months.

The 100th Tigercat, a 630D skidder, was recently delivered to Renner Logging in the Canterbury region. It is Peter and Wendy-Lee Renner’s fourth Tigercat purchased from AB Equipment and their fifth in total. Peter is rapt with his new addition, saying it is pulling loads of 10 tonne comfortably in the tough winter conditions.

Mark Hill, Tigercat product manager for AB Equipment says, “The acceptance of Tigercat forestry equipment in New Zealand has really come of age in the last few years, with the support and backing of the AB Equipment network adding the icing to the cake.”

The product mix in New Zealand includes four-wheel and six-wheel skidders, 855C series leveling harvesters and shovel loggers, the 880 logger and the 1075B forwarder. ■



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## employee news



### New product support representative for Russia

Tigercat is pleased to announce that Artem Shilov has joined the Tigercat product support team in the position of factory sales and support representative.

Based in Perm, Russia, Artem will focus on providing after-sale technical and commercial support to Tigercat dealers and customers and will work closely with Tigercat's Russian district manager, Alex Chornyy to further develop Tigercat's market share in Russia's vast forestry industry.

Artem has ten years of experience working for Tigercat's Russian dealer, Forestry Machines, as technical director where he coordinated all the service support for the Bratsk, Krasnoyarsk, Surgut and Perm areas. ■



### Ben Twiddy returns

Tigercat is pleased to announce that Ben Twiddy is returning to Tigercat after a ten year stint as a logger in partnership with Wayne Cale. Previous to the logging venture, CTW Forest Products, Ben was district manager for South Carolina and a portion of Georgia for five years. In his new position, Ben will be working in the area of dealer development. Ben's previous district manager experience (and the accompanying technical and commercial knowledge) in addition to his insider understanding of the contract harvesting business and the importance of comprehensive parts and service support will be a great asset to the growing Tigercat dealer network as well as the end user customer base. ■

#### LETTERS TO THE EDITOR:

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