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# BETWEEN the BRANCHES

## Logging in the ADIRONDACKS

By Paul Iarocci

There are six million acres of forested land in the Adirondack region of northern New York State. The dominant species include aspen, spruce, beech, balsam, soft maple and higher value trees such as yellow birch, black cherry, ash and hard maple. The southern border of this vast and diverse forest preserve lies 200 mi. (320 km) north of New York City; the northern border is only 75 mi. (120 km) south of Montreal, Quebec.

The area received special status as a 'forest preserve' in 1885. To strengthen the protection afforded by this state legislation, the following paragraph was added to the New York State Constitution in 1894:

"The lands of the state, now owned or hereafter acquired, constituting the forest preserve as now fixed by law, shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged, or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed."

The state of New York currently owns 2.5 million acres (1 mil. ha) of Adirondack forestland. As prescribed by the State Constitution, none of this public land is logged or actively managed. Mixed in are 3.5 million acres (1.4 mil. ha) of private land where timber rights can be sold and selective cut logging is permitted. The introduction of non-local species is not allowed and all regeneration occurs naturally.

Geologically speaking, the rocks and hills in the Adirondacks are old — about two billion years. Elevations reach up to 5,300 ft. (1,600 m). Isolated from both the Great Lakes and the Atlantic Ocean, the region doesn't have any moderating influences and thus the weather is often extreme. Temperatures range from -40°F (-40°C) in mid-winter to 90°F (32°C) in the height of summer.

Steep hills, rocky terrain, extreme heat and cold and 50 in. (1,270 mm) annual

cont. on pg. 2.

*Tigercat T250 loading the first trailer of the day.*

INSIDE

cont. from pg. 1.

rainfall coupled with strict environmental regulations and the unique preferences of private land owners represent significant challenges for area logging contractors.

Paul Mitchell is a third generation logger with family roots in Trois-Rivières, Quebec. Born and raised in Tupper Lake, New York, Mitchell began at age seventeen as a cable skidder subcontractor. Thirty years later, Paul J. Mitchell Logging is one of the largest and most successful contracting businesses in the area. He has 17 full-time employees including four truck drivers, two mechanics and his operators. Mitchell's wife Mary manages the office and son Paul is a partner in the business. Mitchell stresses the importance of good employees. "My employees are a big part of the success of this business."


**The T250 equipped with a circle saw slasher. "No one else has a circle saw on a track loader," explains Mitchell.**

Tupper Lake, population 5,000, is a logging town. At 6:00 am on the coldest of December mornings, pick-up trucks line the street in front of a downtown breakfast diner, engines running. Inside the steamy restaurant, Mitchell explains that the downturn in 2001 hit the area especially hard. The strongest contractors survived. The smallest were able to eke out a living on high-value hardwood saw logs. Most everyone in the middle was put out of business. These days the pulp market in the northeast is strong and if anything there is a lack of harvesting capacity.

It was only five years ago that Mitchell moved to total mechanization. Prior to 2000, the operation still relied on hand fallers, manual limbing, cable skidders and of course the ubiquitous loader/circle saw slasher combination. (In the northeast, mills are set up to accept shortwood.) Pulpwood is cut to 8 ft. (2.4 m) and saw logs range from 8-16 ft. (2.4 - 4.9 m) lengths.

Total mechanization for Mitchell involved simultaneously acquiring a track feller buncher, stroke delimber and grapple skidders. Tigercat machines were quickly integrated into the machine line-up. Over the last five years Tigercat distributor CJ Logging out of Boonville, NY has supplied Mitchell with a 630 skidder, two 630B skidders, a 245 loader and a couple of T250 track loaders. Mitchell also runs a self-loading clambunk skidder, a stroke delimber and a leveling track feller buncher.

With one buncher cutting wood for three large skidders (the 630 A-model is reserved as a spare), it is easy to see that the tough terrain offers unique challenges and potential bottlenecks.

Mitchell is selectively thinning 200 acres (80 ha) on a 36,000 acre (14,570 ha) tract of private land. The mixed stand of spruce, maple and yellow birch had been previously high-graded for valuable sawlogs; Mitchell is performing the thinnest selective cut that is permissible, clearing away most of the small or otherwise undesirable pulpwood so that the 40-50 year natural cycle can begin again.

**Mitchell's original 630 skidder. He has since purchased two 630B machines.**

Butt diameter averages from 16 in. (40 cm) up to a maximum of 24 in. (60 cm). The shorter, smaller trees limit production; it is much quicker to drag big trees through the slasher than to handle a larger volume of smaller trees.

Although he is currently running 245 and T250 Tigercat loaders equipped with circle saw slashers, Mitchell is awaiting delivery of his latest loader purchase, a second Tigercat T250. He prefers the track loaders over subframe loaders mounted to a self-propelled carrier for a number of reasons:

First, size is an issue. Often times, there is not sufficient flat ground available for an optimally sized deck. Furthermore, landowners prefer the deck to be as small as possible. "The owners treat the land the way you or I would think of our own backyard," says Mitchell. The track loaders have a much smaller footprint than self-propelled carriers, reducing congestion at the deck. They are more versatile, easier to move and benefit from substantially greater tractive effort.

"I like that the whole unit comes from Tigercat. It is worth the extra money to get everything from one manufacturer," says Mitchell. "And there are too many good points to pass up," he adds.

In terms of longevity, Mitchell feels that Tigercat offers additional advantages. "The undercarriages will have very long life. I'm thinking that the T250's will be 20,000 hour machines. Maybe put a new engine in and repack the cylinders at 12,000 hours and then go at it again."

Mitchell is serious about regular maintenance. "All the machines get greased everyday. The payoff is not immediate but you start to see it at the 10 to 12,000 hour mark," he says.

One of the aspects of Tigercat that Mitchell truly appreciates is the company's willingness to respond quickly to customer requests. "No one else has a circle saw on a track loader," he explains. "I've asked other manufacturers about it."

Mitchell trucks pulpwood 80 mi. (130 km) south to the International Paper pulp mill in Ticonderoga, NY. He merchandizes and markets the saw logs to local saw mills. Mitchell does his own trucking. He owns four trucks and seven aluminum short wood trailers. On average it takes just under two hours to load a trailer. The extra trailers enable the trucks to maximize their productive time. Since the drivers don't have to wait for a trailer to load, they can generally deliver two loads per day. This gets Mitchell close to his weekly target of 45 loads.

**Paul Mitchell in front of his Tigercat 245.**

Working backwards, one skidder delivers limbed wood to the two loaders on deck – generally a 200-300 yd. (180-275 m) pull. The other two skidders pull whole trees up to 500 yd. (460 m) out of the hills to one of two 'mini' or satellite delimbing landings. "I like to keep the maximum skid distance under six-tenths of a mile," explains Mitchell. "Above that production starts to hurt."

The delimber travels between the two satellite decks upstream from the main landing. "We try to keep at least two satellite decks working so the limber can work by itself. If there is confusion, it slows the limber down. So the skidders pull wood to one mini-deck while the limber works at the other," says Mitchell.

Skidding down to the satellite decks is challenging due to the steep and uneven terrain. Skidder operator Bob Schram elaborates. "The limber isn't really the bottleneck. The skidding is really difficult because there are a lot of ledges, rocks and drop-offs. You can find your way through but it takes time."

Mitchell has an enlightening perspective on Tigercat skidders – he has owned or run all of them. He purchased his first 630 in 1999.

The machine has around 7,000 hours on the meter to date. This A-model is equipped with a 120 in. Tigercat bunching grapple, and burns about 8 US gal. (30 L) of fuel per hour.

**cont. on pg. 4.**

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*Mitchell's new 6,400 sq.ft. shop and office facility.*

The two 630Bs are equipped with 130 in. Tigercat bunching grapples. These machines burn upwards of 11 g.p.h. (42 L) but are more productive than the 630 on account of the larger grapple and additional horsepower. Both Mitchell and Schram confirm that when the terrain gets tough the 630 is no match for the 630B machines. Mitchell's is an obvious example of an application where the biggest, highest horsepower skidder class is an asset to the operation. The terrible terrain and the longer skidding distances mean bigger is better.



Mitchell recently tried out a new Tier II 630C skidder and was notably impressed. "The biggest advantage of the 630C is the variable speed engine rpm. It's likely to get much longer engine life and it burns less fuel." The 630C has a tilt-out hood enclosure that exposes three sides of the engine. Mitchell is excited by how much easier engine maintenance will be compared with his older skidders.

During the demo, the 630C burned 7-7.5 g.p.h. (26-28 L) and achieved higher production than the 630B skidders. Mitchell explains that the far superior dual cylinder grapple with a much improved tong profile accounts for some of the difference. At 18.5 sq.ft. (1.72 $m^2$), it holds more wood, gathers bunches more quickly and rarely loses wood during pulls. Tigercat's new dual cylinder grapples are available with plate or box tongs.

Mitchell is always looking for ways to improve the service he provides, whether it is exploring different equipment options or looking at improved clean-up methods.

Since the landowners are concerned with how the site will look after the harvesting is completed, ground pressure is an important consideration. Breaking traction causes mud and ruts and is to be avoided. Minimizing site degradation and proper clean-up are important elements to the overall service. Mitchell comments that some contractors are considering lower impact cut-to-length operations but the math makes the option difficult to justify.

When asked to sum up why he is so positive on Tigercat, Mitchell comments that the long term benefits of owning the machines out weigh any up front difference in purchase price. "Tigercat is an amazing company, like a Cinderella story," he explains. "They sell more expensive but superior machines into a tough business environment for the contractors."

# 620C Australia Update

By David Princz, designer

**In early 2004, Tigercat unveiled the 205 hp 620C hydrostatic skidder to the North American market. The first 620C hit Australian soil in the fall of 2004 and was purchased by Kevin Morgan of Invermay, Tasmania.**

Tigercat dealer Forest Centre Pty Ltd. recently took delivery of its second 620C. To introduce the machine in Western Australia, Forest Centre hosted a series of in-field demonstrations in December.

The first was held on the job of Dawson Logging, near Waroona. Lex McLean and Western Australia service tech, Brian McCavanagh represented Forest Centre. Tigercat district manager Glen Marley and Tigercat designer David Princz also attended. Shane Davis operated the 620C. Spectators included Daryl Dawson and Jeff Loton from Plantation Logging and Dave Lodge, Chris Bruffy and Robin Coverley from Pine Hauliers.

Once the loggers arrived, it took McCavanagh only a few minutes to expose the entire driveline. With the cab tilted and panels removed, one logger commented with much surprise, "It's so empty in there, with almost no hoses over top of the transmission."

*Tigercat designer David Princz scaling the same log as above.*

*Kevin Morgan's 620C pulling 10 tonne logs in Tasmania.*

A mix of jarrah and marri trees ranging from 30-100 cm (12-40 in.) in diameter, the site was being clear felled in preparation for bauxite mining. The difficult conditions and varying timber size demonstrated the versatility of the dual arch 620C. Davis, who had only been operating the machine two days, commented that even with all of the work stoppages to appease the steady stream of interested loggers, the 620C outperformed any of the other skidders he has run.

With the feller buncher unable to build properly sized bunches, the 620C was forced to do a lot of maneuvering. Davis commented that the hydrostatic transmission really shined because it wasn't necessary to continually shift gears. The attending loggers were impressed to learn at the end of the day that the 620C consumed a mere 14.5 L (3.8 US gal.) of fuel per hour.

Next Steve Giovanetti and operator Ian Abbott ran the machine. With twenty years operating experience, Abbott was thrilled with the responsiveness of the drive, the ease of operation, the large grapple and the cab ergonomics. He commented that the ability to dial back the ground speed was exceptional in the hilly ground conditions.

Giovanetti operated the 620C in three different applications — a jarrah clear fall, a karri thinning and a karri clear fall — and was pleased with the production levels and performance. "It's a truly versatile skidder. That's very important in these uncertain

cont. on pg. 6.

The demo attendees were uniformly impressed with the service access of the 620C.

times when you are not quite sure what type of contracting you will be doing next," said Giovanetti.

The 620C was also demonstrated at Softwood Logging Services. Bush operations manager Don Burmas was impressed with the traction control in the sandy soil where they were extracting large panasta pine. The operator had experience on Tigercat 630B skidders in New Zealand and was amazed at the performance of this supposedly smaller machine.

# Jarrah and Karri: The Giants of Western Australia

The H822 harvesting karri trees in western Australia.

The jarrah and karri forestlands extend along the coast of southwestern Australia. These eucalyptus species are prized by the timber industry.

Karri grows in areas of rich gravel loam soil and high winter rainfall. With smooth silver-gray bark, they are the tallest trees found in Western Australia and the third tallest in the world, reaching heights of 90 m (300 ft.) With a rich reddish-brown colour, karri is primarily used for flooring as well as for heavy construction and plywood.

A typical jarrah grows to 40 m (130 ft.) in height with a 3 m (10 ft.) trunk diameter. The jarrah thrives in dry, gravely soil. Because of its long root structure, it can pull up underground water, allowing it to survive in drought conditions. An unusual adaptation, called a lignotuber is a growth that develops in the root mass of the jarrah tree. The lignotuber stores carbohydrates and allows the tree to recover and re-grow after a forest fire.

Due to its size, limited low-hanging branches, fine grain pattern and rich colour, jarrah wood is popular for furniture making. Because of its strength, it is often used in lieu of steel for bridge and railcar construction. Prior to the development of modern asphalt, blocks of jarrah were used to pave the streets of Berlin and London.

Over-harvesting and die back are the main threats to the population of jarrah trees. Die back is a root rot caused by algae. A similar affliction caused the destruction of the potato crop in Ireland, leading to the Potato Famine of the mid-19th century.

The Australian government now maintains control of the majority of jarrah and karri forestland. Harvesting activities are closely monitored and backed with an extensive scientific research program. This will ensure the future of jarrah and karri forestlands and the ecosystems these giants support.

# Tigercat Appoints District Manager for Australia, New Zealand and South Asia

Tigercat welcomes Glen Marley in his new role as district manager for Australia, New Zealand and southeast Asia. In the past couple of years, Tigercat has experienced significant sales growth in Australia, which justifies a full-time company representative to assist customers and distributors in the region.

Previously, Marley was service manager for Forest Centre Pty Ltd. where he gained valuable experience servicing the first Tigercat unit in 1999 and all subsequent machines sent to Australia. In this capacity, he built up a solid reputation with Australian harvesting contractors. Lex McLean, dealer principal of Forest Centre comments, "Marley was very successful in gaining the trust and confidence of the loggers here."

Marley was instrumental in adapting Tigercat products to suit the specific demands of loggers in Australia. Along with others in the Forest Centre organization, Marley helped design, build and install modifications to the boom system on the first Tigercat H845B harvester carrier, allowing it to handle the larger, heavier Waratah harvesting heads that are predominantly used in that part of the world. This harvester stick boom modification gave contractors a 25 ft. (7.62 m) boom reach and allowed the H845B to handle the Waratah HTH622 and HTH624 harvesting heads.

A similar modification has been designed for the Tigercat 822/L830 carriers to allow the installation of large harvesting heads up to 7,500 lb. (3,400 kg) onto the standard feller buncher boom.

In addition to Marley's service expertise, he has helped to promote Tigercat machines in New Zealand and expanded sales throughout Australia. Henderson Logging recently purchased the first LH830 harvester in New Zealand from Titan Plant Services.

While the majority of Australian machines are working in New South Wales and Tasmania, Marley is working closely with Forest Centre salesman Keith Shelley and McLean to expand sales efforts in Queensland and Western Australia. In addition to Australia and New Zealand, Marley will be focusing his efforts on Tigercat expansion into Indonesia and Malaysia. Ken MacDonald, owner and CEO of Tigercat Industries is very excited about this part of the world. "I have visited southeast Asia several times in the past year and believe that Tigercat's reliability and productivity will be a valuable alternative to manual labor harvesting techniques currently being utilized. Marley will play a valuable role in the growth of this area."

Marley embraces the challenges of his new role. "Having been with Forest Centre when we sold the first Tigercat into Australia, I feel that I have been part of the Tigercat family right from the start. I look forward to continuing my work with the Australian loggers and continuing my association with the members of the Forest Centre team. As well, I am anxious about expanding Tigercat's position in other nations." ■

***Marley and wife with the Henderson clan who recently purchased an LH830.***
***(L-R) Sherril Henderson, Dan Henderson, Viv Henderson, Les Henderson, Janet Marley, and Glen Marley.***

# "Spruced up" 5702

## Timmins, Ontario contractor provides valuable input resulting in performance increase of 5702 saw.

By Paul Iarocci

**Operator Moise Sauvé fills the 5702 saw with 10-12 trees per cycle.**

Twenty kilometres outside Timmins Ontario, Louken Logging Inc. operator Moise Sauvé is harvesting black spruce with an 860 feller buncher using a technique called 'scooping.' Sauvé plunges the ER boom into the stand, cutting three trees almost simultaneously. Snow flies off limbs that cover nearly the entire trunk of each tree. The machine is momentarily obscured by the swirling snow. When it reappears, the 5702 head is already filled with ten low-limbed black spruce trees. It was these problematic limbs and the well-articulated complaints of machine owner Louis Caron that fostered an important design change on the Tigercat 5702 felling saw.

This particular cut block can only be accessed in winter. Sure, it's -35°C (-31°F) today in late January but it will be a race to get all the wood out before the late winter thaw. By spring the road will be gone and the ground will be floating. During summer, Louken will move to higher and rockier ground — harvesting white spruce, poplar and jack pine that will feed the Tembec sawmill and Grant OSB plant that are located just outside of Timmins. But when the ground is frozen, Timmins area contractors are working in the black spruce that grows in the abundant swampy terrain characteristic of this part of the boreal forest.

Caron has tree-length and cut-to-length capability that allows his crew to get into the black spruce a little earlier and stay a little longer. Leveraging the CTL capacity, he can continue to run the harvester and forwarder where it is too wet to operate a grapple skidder, even a Tigercat 630B with 76x50 flotation tires.

Louis Caron started in the woods when he was sixteen and bought his first machine, a Timberjack 230 cable skidder in 1972. Steady progress has followed. In 1987 Caron's son Ken became a partner in the business that was renamed Louken Logging. Caron's wife Colette manages the office. In addition, Louken Logging Inc. employs nine operators.

The father-son team will be looking to make some changes to the operation and may require some new equipment. For instance, Caron wants to get rid of the feller buncher nightshift. He says that the night buncher shift is less productive than the day shift. Compounding the problem is the difficulty in find good operators willing to work the nightshift.

"We will probably have to look at replacing the 845 soon with another 860 in order to get the production up," explains Ken Caron. "The delimbers will have to continue with double shifts. There is no way around that."

The Carons' machine line-up currently con-

sists of a Tigercat 845 with 13,000 hours, a new Tier II Tigercat 860 feller buncher and a Tigercat 853 that was converted from a feller buncher to a harvester at 8,000 hours and now has 13,000 hours on the clock. For transporting, Louken runs a newer 630B skidder and a Deere 748 as well as a Rottne forwarder. Although Louken runs one delimber, the company still must subcontract some of the delimbing.

When the limbers are really behind, Caron can send the Tigercat 853 over to do full-tree roadside processing. If the skidders are getting behind, one of the bunchers will cut for the CTL side. The 853 will follow, performing at-the-stump processing. These examples demonstrate Louken Logging's flexibility and adaptability – crucial qualities that separate success from failure.

Louis and Ken Caron are thoughtful, logical and innovative, backing up their ideas and opinions with fact-based rationale. Louken runs 28 in. tri-track undercarriages on both the 853 and 860 machines. "I think I can go longer with tri-track than with the FH400 [870 undercarriage.] I have 3,000 hours on the undercarriage on the new machine [860] and I haven't had to tighten the bolts very often. The D6 tri-track is lighter in weight, lower maintenance and has longer life." The 853 harvester is still running the original chains at 13,000 hours.

So when Louis Caron complained that his new 860 fitted with a 5702 Tigercat head and high rotation wrist was missing the mark, Tigercat district manager Derek Tremblay and Strongco Timmins sales representative Maurice Boudreau listened.

The white and black spruce are heavily limbed. During the felling cycle, the branches of the trees already in the head would push on the fifth or sixth tree that was being cut. The operator would cut through half of the tree, resulting in poor cut quality or he would split the tree with the arms when he tried to grab it, or miss it altogether.

Caron didn't just complain of the problem. Instead he stated constructively what the problem was. Tremblay explains, "Louis brought it to our attention that the grab arms on the 5702 were too short." Duane Barlow, product manager for attachments, sketched up longer arms. "I showed the drawings to Louis and he figured they would work. It has made a big difference in his production. The swing and drop is a time consuming part of the bunching cycle. If you can double the amount of wood in the head, you can get more than double production increase because you are reducing the number of costly swing and drop cycles."

**Louken owners Ken and Louis Caron, 630B operator Michel Sirois and Strongco representative Maurice Boudreau.**


**The 853 harvester has 13,000 hours on the original tri-track undercarriage**

"The operators used to drop more often and not take the chance to pinch the last tree," says Ken Caron. "Now they are getting ten to twelve trees every time."

The newly lengthened and re-profiled arms are now standard on the 5702 head. Aside from increasing accumulation in limby wood, performance in blowdown has

**cont. on pg. 10.**

**630B skidder driving off the pile.**

also improved. "The operator can pick up a tree more easily and the saw blade never comes in contact with the trees on the ground," says Tremblay.

When asked to compare performance of the different Tigercat bunchers, Caron says initially his operators preferred the 845 equipped with a Gilbert saw. "It was faster than the 853," he explains. "With the 860 everything has changed. There is no comparison. There is a big difference with the ER boom. The operator sees it and he is producing more."

Strongco recently brought in a Tigercat 620C for Louken to try out. Ken Caron says the performance is comparable to the 630B but the machine is lighter in weight. Louis says that the 620C is far more serviceable than his 630B. Both men agree that the operator controlled engine rpm is a good feature. Louken may look to a 620C or 630C for the future.

With two 13,000-hour machines, Louken has some history with Tigercat equipment. So far reliability and uptime have been good. The 845 and 853 have had one planetary and one track motor replaced each and the Deere engine in the 853 failed at 8,000 hours but Ken notes the failure was a fluke.

When asked about dealer support, Ken says that Strongco is helpful. Maurice Boudreau has a great deal of experience in the industry and has worked on both the contracting side and the equipment selling side. He knows the machinery and understands forestry and harvesting practices. "Strongco understands what we do," says Louis Caron.

# High marks for new **726D** feller buncher

It has been over twelve years since the debut of the original 726 feller buncher, Tigercat's first entry into the logging equipment market and the machine that put Tigercat on the map. The unprecedented durability and productivity of the 726 allowed Tigercat to gain instant credibility among southern US loggers. Now Tigercat has unveiled the third generation of the famous drive-to-tree feller buncher.

The new 726D has been totally updated and enhanced. Stability, fuel efficiency and serviceability were key design criteria. Positioned as the largest machine in the drive-to-tree line-up, the 726D is best suited to final felling in oversized wood, natural stands and rugged terrain applications. It can also be configured as a mulcher carrier — designated M726D — to complement the larger Tigercat M760.

According to wheel feller buncher product manager Rob Pentesco, the goal is to make the 726 model a multi-purpose carrier. It will provide the company with a flexible machine capable of working in the forestry, construction and public works sectors. With this latest redesign, the machine will be suited to a variety of applications, most of which require higher horsepower to drive the attachment.

The 726D has an interior layout that Pentesco refers to as compartmentalized. From the cab back, the machine has been redesigned and divided into three main compartments. The first houses Tigercat's cross-flow cooling system. The second compartment contains the Tier II 215 hp Cummins QSC8.3 electronic engine. The engine air intake has its own housing, isolated from the engine compartment. The rearmost section houses the hydraulic pumps and filters.

The wheel base has been stretched nine inches for improved stability and a tighter turn radius when the machine is equipped with larger tire sizes. Overall, the machine has been lengthened by seventeen inches. The added length increases stability, allowing the 726D to easily handle oversized and top-heavy trees. It also affords space for additional fuel capacity.

**Rock solid stability. Piloted by John Cox, the 726D was cutting and manipulating 100 ft. tall mature pine trees.**

Rowland & Sons out of Greenwood, South Carolina purchased the first 726D from Von Dennis, salesman for Tidewater Equipment Company in Newberry. It is the first Tigercat for Rowland & Sons. They were looking for the biggest and most powerful cut-down machine they could get their hands on. The 726D fit the bill.

At the 200-hour mark, we caught up with operator John Cox to get his comments on the new machine. "I like the fan. It's especially good when you're working in hardwood in the fall," explains Cox. "With my old machine I had to get out and clean it." The automatic variable speed fan reverses manually or on a pre-set timer to clear debris from the coolers. Operators rarely have to manually clean the air intake area on cross-flow equipped machines. Fewer production interruptions translate into higher productivity.

Cox also likes the maintenance access that the new design affords. "When you open up the engine panels, everything is right there. Overall, I'd say the machine is a nine out of ten."

**cont. on pg. 12.**

"Overall, I'd say the machine is a nine out of ten"

- machine operator John Cox

As for the application, the machine generally works in mature stands in western South Carolina. Hills are common. Big, heavy timber is the norm. The day we visited the operation, Cox was felling 100 ft. (30 m) pine trees in a mixed stand. Butt diameter averaged 20-23 in. (510-585 mm) diameter.

A great deal of maneuvering was required to deal with the extreme length of the trees, to separate the hardwood and to build the proper bunch sizes in the correct position and orientation for the skidders. The 726D carried the massive trees with ease.

Cox shut down the machine for a while. Although there were a lot of leaves and debris flying around, the engine house was clean. Opening the access door for the air pre-cleaner, we found a layer of dust and dirt lying at the bottom of the compartment. With a sweep of the hand it was gone. The isolated housing held the debris and prevented it from going any further.

**Quick access doors for battery disconnect, precleaner and engine. Engine door accesses oil fill and dipstick, fuel filter and main electrical panel. The pre-cleaner has its own housing. Fine dust and debris never makes it into the engine compartment.**

# Prototype building: A team effort

**By Tracy Culp**

Long time Tigercat employees Frank Doleman and Greg Reeve successfully completed assembly of the first 726D drive-to-tree feller buncher in June of 2004.

Throughout Reeve's tenure at Tigercat, he has been involved with the drive-to-tree feller bunchers, initally working on the 726 and 726B lines.

A favourable recommendation to engineering from veteran employee and prototype assembler, Tim Koniuch, led to Reeve's participation in the assembly of the prototype T750 street trencher.

Reeve subsequently participated in prototype building of the M760 mulcher, 724D and 718 feller bunchers and the M724D and M726D mulchers. Tigercat designer Greg Robinson believes that Reeve is well suited to prototype work because of his exceptional problem solving and communication skills. "I've got a lot of respect for these guys. Prototype work isn't easy."

With the exception of a three-month stint with the loader group, Doleman has also been involved with drive-to-tree feller bunchers since joining the company. Tigercat engineering administrator Robin Barker worked with Doleman on many occasions. "Whether they are right or wrong, the guys who are willing to show some initiative by providing ideas and speaking their minds will be the ones that succeed and Frank is one of those guys," says Barker. "If you have designed something that just isn't going to work he'll let you know."

One of the most difficult aspects of the prototype process is determining optimal hose routing and component mounting without compromising serviceability. Barker largely attributes continuing improvements in machine serviceability to Reeve and Doleman's involvement. "They approach the assembly of these machines with a lot of common sense. Throughout the design process, hose routings and access to pumps and fittings can become exceedingly complicated and they are able to simplify it all and make it work."

**The 726D team. (L-R) Greg Robinson, senior designer; Dave Goad, shop foreman; Greg Reeve and Frank Doleman, prototype assemblers; Mike Ross, former designer; Ivan Sikkema, desiger; Atamjeet Kainth; designer; Steve Waterston, designer; Colin Durdon, designer; Jamie Pearson, designer; Rob Pentesco, product manager.**

Barker remarks that both men are detail-focused with a good understanding of hydraulics, electric systems and engines. "We count on these two to express their opinions and require that they be comfortable trying something that may not work in the end. We expect them to challenge us and remind us to apply common sense to the design where, quite frankly, we may have overlooked it."

Reeve credits the implementation of 3-D design software for streamlining the prototype process over the years. Rob Pentesco, product manager for wheel feller bunchers, explains that 3-D technology provides a virtual walk-through for the design group. The program is capable of running interference checks, performing stress analysis and calculating deformation under load.

The designers also spend time on the shop floor during prototype assembly. "It is important that the designers participate in the assembly process so that they can note any changes that need to be made. They gain experience they can apply to future projects," says Pentesco.

Reeve agrees. "Having the designers around while we're building the machine helps because if something isn't coming together properly we can start working on a solution right away."

**cont. on pg. 14.**


**Product manager Rob Pentesco credits the success of the M760 and M724D as the driving force behind the 726D model.**

Reeve and Doleman maintain that their success is a direct result of the good relationships that they have developed. "The engineering group is really good here, very communicative," says Doleman. "Everyone makes an effort to work together to get the prototype machines out. Roger Moiny, the shop floor expeditor, will keep the new parts separate so that we don't have somebody running around looking for a part they've never seen before. It saves us a lot of time when we're trying to get the machine together."

Reeve adds, "There have been times when we've needed to have a bit of last minute welding or painting done and these guys are more than happy to help out. It's a good group. Everybody here takes a lot of pride in their work."

Reeve also remarks that he and Doleman appreciate the active participation of company leaders Tony Iarocci and Ken MacDonald with the prototype projects. "They are always coming around and checking in with us. Their support is really important especially when we're struggling to meet a deadline."

# Tigercat Service Department Expands

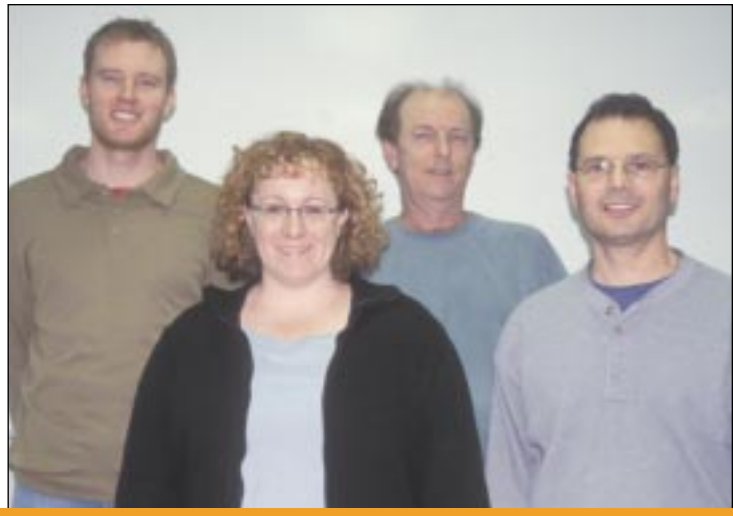
With the Tigercat machine population growing faster than ever, service department head Martine Léveillé has expanded the team.

James Viljanmaa is the newest member. His experience in assembly and field service work and his willingness to discuss design related issues with engineering will strengthen the group. "We were looking to add someone who is a good communicator who would be reliable and responsive," says Léveillé. "His knowledge of the forwarder product line we felt to be a particularly important asset."

Asked about the transition to service representative, Viljanmaa responds, "This is the best job I could ever have. It has been a wake up call for me, I thought I knew a lot about our stuff but everyday I'm learning something new."

During his five years at Tigercat, Viljanmaa has worked on several prototype projects and in the rebuild department."

Rounding out the department are Rick Routliffe and Richard Racine who spend the majority of their efforts advising dealer service personnel. Routliffe is also heavily involved in dealer service training. Field service representatives, Gilbert Gosselin, Steve Young, Carlos Hernandez and Barry Bliss travel onsite to assist dealers and customers and respond to critical or complex issues. Gosselin, Hernandez and Bliss rebuild hydraulic and power train components when not travelling and Young is a warranty administrator.



*It's a tall order to get the whole service department in one place at one time. (L-R) James Viljanmaa, Martine Léveillé, Rick Routliffe and product support manager Phil Ricotta.*

# Tigercat sales soar to an all time high in 2004

As Tigercat ramps up production for another record breaking year in 2005, the company is pleased to announce the recipients of the 2004 Outstanding Achievement awards.

## Outstanding Performance in 2004

**Wayne Ammons**, Patrick Miller Tractor Co., Many, LA
**Maurice Boudreau**, Strongco Equipment, Timmins, ON
**Allen Cook**, Cotton-Hutcheson Inc., Evergreen, AL
**Sébastien Dubé**, Strongco Équipement, Baie D'Urfe, PQ
**Jimmy Harris**, A.G. Lassiter Equipment Corp., Chocowinity, NC
**Sandy Hodgson**, Strongco Equipment, Dartmouth, NS
**Jim Lattay**, Tidewater Equipment Co., Thomasville, GA
**Mac MacLaurin**, Tidewater Equipment Co., Polkton, NC
**Todd Matthews**, Tidewater Equipment Co., Forsyth, GA
**Van McLoon**, Tidewater Equipment Co., Brunswick, GA
**Reece Mincey**, Tidewater Equipment Co., Hazelhurst, GA
**Ray Parker**, Hillister Tractor Sales Inc., Hillister, TX
**Ronnie Piland**, A.G. Lassiter Equipment Corp., Chocowinity, NC
**Keith Shelley**, Forest Centre PTY Ltd., Tumut, Australia
**Ben Smith**, Tidewater Equipment Co., Walterboro, SC
**Jeremy Strickland**, Tidewater Equipment Co., Conway, SC
**Jimmy Watkins**, Tidewater Equipment Co., Hazelhurst, GA

## Honorable Mention - Performance 2004

**David Crouch**, Forestry 21, Lafayette, AL
**Monty Deeg**, Marcels Equipment Ltd., Vernon, BC
**Von Dennis**, Tidewater Equipment Co., Newberry, SC
**Jocelyn Dufour**, Strongco Équipement, Chicoutimi, PQ
**Keith Michaud**, Frank Martin Sons, Fort Kent Mills, ME
**Bill Nunnery**, B & G Equipment of Magnolia Inc., Magnolia, MS
**Gerry Simmons**, Rocan Forestry Service Ltd., Pasadena, NF
**Jamie Smith**, ForesTrac Equipment Services Inc., Washington, GA
**Rod Stacy**, Strongco Equipment, Winnipeg, MB
**Danny St. John**, Strongco Equipment, Moncton, NB
**Jim Wark**, Pape Machinery, Portland, OR
**Mark Woods**, PKW Inc. DBA JNS Equipment Inc., Monticello, AR

## Highest Single Store Unit Sales in 2004

**Patrick Miller Tractor Co**., Many, LA
**Strongco Equipment**, Dartmouth, NS

## Honourable Mention - Single Store Sales

**A.G. Lassiter Equipment Corp**., Chocowinity, NC
**Cotton-Hutcheson Inc.**, Evergreen, AL
**Marcels Equipment Ltd.**, Vernon, BC
**Tidewater Equipment Co**., Hazlehurst, GA

## Most Improved Unit Sales in 2004

**ForesTrac Equipment Services Inc.**, Washington, GA

## Honourable Mention - Most Improved

**B&G Equipment Inc.**, Philadelphia, MS
**Forestry 21**, Lafayette AL
**Frank Martin Sons**, Fort Kent Mills, ME
**Redhead Equipment Ltd.**, Regina SK
**Rocan Forestry Service**, Pasadena, NF
**Tidewater Equipment Co.**, Polkton, NC

## Tigercat Service Tip

In forestry applications, airborne debris can enter the engine compartment of any machine. This material is combustible at temperatures over 200˚C (400˚F) and engine exhaust gas temperatures can exceed 425˚C (800˚F). If debris inside the engine compartment is exposed to leaking exhaust gases, fire can result.

The engine exhaust system must be properly maintained to ensure that all engine exhaust gases exit from the exhaust pipe. Incorporate engine exhaust component inspection into the daily lubrication and maintenance routine.

Replace rusted or cracked exhaust pipes and mufflers, broken muffler mounting brackets, cracked exhaust manifolds and damaged or missing manifold bolts and clamps. If exhaust leaks are found, shut the machine down immediately and perform the necessary repairs before resuming operation.

For more information on fire prevention, please refer to the Tigercat News Bulletin (included with all mailed copies of this issue.) This material is also available on the Tigercat website: **www.tigercat.com/pro-sup.htm**

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