

B E T W E E N the BRANCHES

Textbook Thinning

Gerald Alexander schools BTB in pine thinning in South Carolina.

– Paul Iarocci

Standing at roadside watching two Tigercat skidders cycling from the corridor to the delimiting gate to the deck and back again while a 234 loads a steady stream of haul trucks, one word springs to mind: textbook. That is the best way to characterize the neat and efficient thinning operations of Alexander Logging. There is little wasted movement and very limited machine idle time – no obvious bottlenecks. The machines are meticulously maintained, very well matched to one another and well suited to the task.

At 35 years of age, company owner Gerald Alexander has been in business six years. In that time he has developed a first rate crew

and amassed a small fleet of efficient, high quality machines to handle any type of first or second pine thinning job in the sandy hills and ridges of the Piedmont region of South Carolina. This large swath of land falls between the coastal plains and the Blue Ridge Mountains.

Fascinated by the logging industry at a young age, Gerald began working in the woods over fifteen years ago. The experience has provided a strong sense for what private land owners desire as an end result when they elect to have partial cuts done on their wood lots. He has built a strong reputation in the area for providing consistent, high quality and dependable service.

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The 718E works in a second thinning

BTB TEAM

Robin Barker

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“I’ve got to give credit to my guys. It took me a while but I have assembled a great crew. I am proud of them and I brag about them every day. I say thank you to them at the end of every day. I have learned a lot from them.”

Working through a wood buyer, Alexander exclusively cuts private tracts in central and western South Carolina. His all-Tigercat machine line-up consists of a 718E feller buncher, 610C and 620C single arch skidders and a 234 loader. He also keeps an older 720D as a spare buncher, although the six year old machine looks practically new. Employing contract haulers, he uses up to eight trucks. The crew routinely produces 17-20 loads daily at 25 t (28 tn) per load.

Gerald knows how to move the wood. The first site BTB visited was a small acreage first thinning. It’s 10:30 in the morning and the eighth truck load is just pulling away.

Generally on the smaller tracts, the buncher stays one job ahead of the rest of the crew. The 718E has just been loaded onto a flatbed to be transported to the next site. The machine is equipped with a Tigercat 5500 felling saw. With a larger throat opening and more centred accumulating pocket than the 5000 and 5600 bunching saws, this dual purpose attachment is designed to bunch smaller wood and to fell big timber.

Looking at the Tigercat 5500 head then back to the short, small pine trees and flat ground, I

ask Gerald why he opted for this combination when the 5000 series bunching saw would seem the ideal choice.

“I wanted the extra stability of the 5500,” he responds, leaving me wondering still.

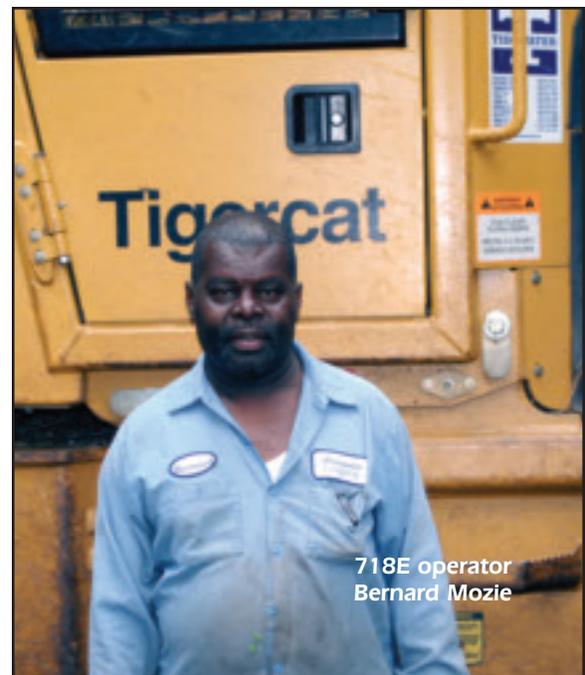
Everything makes more sense after following the machine to the next job, a beautiful 25 year old pine tract. A long ridge runs through the middle of the site. On either side, the ground drops off at a ten degree grade.

“I don’t really like basal area,” explains Bernard. “The operator looks at spacing but there are a lot of other factors. When I thinned this ridge six years ago, I left more trees than normal because of the exposure. With all the windstorms and ice storms we’ve had, you look around now and there is no blow down, damaged trees or bugs.” The forest is indeed healthy and now Alexander Logging has returned to do a second thinning.

Gerald considers the felling function to be crucially important to his thinning operations. “I ran the 720D machine for three years. I know what to look for in a buncher operator.”

With Bernard Mozie he has found it. A loyal, long-term employee, Bernard has the speed to maintain high production, while operating in such a manner that doesn’t leave skinned or otherwise damaged standing trees. Add to that excellent judgment in terms of felling patterns, spacing and determining which trees and

Back Row:
Gerald Alexander,
Wade Watson,
Edward White,
Sammie Peay, Bossie
Davis, Bernard
Alexander, Sam Small
Front Row:
Earnest Rabb, Marlon
Hemthill, Von Dennis
(Tidewater)



718E operator
Bernard Mozie



The trees are debranched in two stages, first using a gate and then a pull through delimeter.

how many to take. Finally, Bernard’s ability to operate effectively on slopes with a machine set up for narrow overall width is noteworthy.

Bernard removes the smaller wood, forked and unhealthy trees, while paying attention to spacing and avoiding the creation of obvious gaps in the stand. He knows the capabilities and limitation of the buncher and is able to take trees on hills and poor terrain without damaging the soil, root mass or stand. As a big fan of Tigercat bunchers his only comment is, “You can’t beat ’em.”

The 718E/5500 combination also gives clues as to the direction Gerald wants to head. “I like to try to stay in second thinnings as much as I can because some trucking contractors don’t have plantation trailers.” It is difficult to get the payload on a regular trailer with first thinning wood, Gerald explains. Since the trucking function isn’t paid by the ton there is not much incentive for the haulers to spend the extra money on plantation trailers.

The 718E feeds two skidders. Gerald purchased the 620C first and recently added a 610C. The 620C replaced an old Timberjack 460D and Gerald concedes that it took a while for the operator to warm up to the new machine.

There was also an adjustment related to the additional power and capacity of the Tigercat skidder. “Some skidder operators have the mentality of not filling the grapple so that the trees go through the gate [delimber] better. I tell them to fill the grapple. The pull-through delimeter will take care of the rest.”

Gerald likes the extra horsepower of the 620C, especially noticeable during gate delimiting. As for skidding, the machine is most effective when running in a straight line down the thinning corridors.

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Get your protractor out... The 718E dropping off the ridge into steep terrain. The 5500 saw helps to stabilize the machine by carrying the accumulated trees closer to centre.





The 234 loader is popping up more frequently in high cycle pulpwood jobs as contractors recognize the efficiencies of the machine across many different applications.

On the other hand, the 610C with its tighter turn radius and quicker hydraulic functions is better for picking up bunches inside the stand. With the limited deck space on the first thinning job, the 610C can circle back around after dropping off a bunch to the loader where the larger 620C must perform a less efficient three-point turn.

Debris management is part of the skidding cycle. The operators use the blade to pile waste debris before taking a grapple load back into the cut block. They also blade along the length of the limbing gate to remove accumulated debris. Occasionally they will grade the area in front of the gate to create a ramp. This allows the tree tops to easily run up into the gate rather than impale into ground.

Debris management is part of the skidding cycle.

“I like the Tigercat skidders because you can tailor them to whatever you are doing, whether it is hills or whatever,” says Gerald. “Kevin helps a lot.” (Kevin Wright is the Tigercat district manager for South Carolina and North Georgia.)

“We are on the same wavelength. I can tell him what I want and he can put in a different program and make it work.” The electronic control system allows for a high degree of customization of the way in which the machine responds to the operator’s inputs.

A 234 loader takes care of delimiting, merchandising and loading. Gerald looked at the Deere 437 and owns a Prentice 384. He concluded that the Deere had the fuel efficiency and the Prentice had the power and performance but only the Tigercat had both.

Gerald purchased all of his Tigercat machines at Tidewater, Newberry from Von Dennis. “Tigercat and Tidewater have been very good to me, very helpful. Von has taught me a whole lot.”

It stands to reason that a logger with a textbook operation takes the opportunity to learn something from everyone he associates with.

To see a video of the operations of Alexander Logging, please visit the Tigercat video centre at www.tigercat.com/video_centre.htm ■





The Aftermath of “Black Saturday”

Glen Marley, Tigercat district manager for Australasia reports on the salvage efforts in Victoria, Australia.

Mick McKinnell’s L870C salvaging massive burnt Mountain Ash trees.

The “Black Saturday” fires back in February this year burned approximately 200 000 hectares (500,000 acres) of southern and central Victorian forests, including around 20 000 hectares (50,000 acres) of native Mountain Ash. This equates to 10 million cubic metres (over 11 million tons) of standing timber with an estimated mill door value of AUS\$600 million.

Projections for the 2009/2010 financial year (July 1st 2009 to June 30th 2010) are for two-thirds of VicForests’ total timber production to come from the salvage program in the fire effected forests, with around 40 contracting crews working in these regions over that period.

One such contractor is Mick McKinnell of M & R Harvesting Pty Ltd, based in Healsville Victoria. Mick owns and operates an L870C

leveling feller buncher equipped with a New Zealand-built Satco 630 directional felling head.

Mick suggests that this combination gives him better flexibility in these large timber stands, where average butt diameter is 1-1,2 m (40-47 in) and tree height up to 65 m (215 ft).

“I had decided to swap over to the Satco from the locally manufactured harvesting/debarking head on the base unit before the fires had hit us, but once I knew I had another eighteen months in this burnt timber, I knew the extra flexibility of this combination was what was needed, so I went ahead and invested in the different style of head.”

“The L870C is just a beautiful machine and goes anywhere I need to up to and well over 30 degrees of slope. I’m really happy with the

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A stack of harvested Mountain Ash saw logs ready to be loaded.

The remains of the town of Marysville three months after the fire.

open looped drive's capability and although I did consider the closed loop option, I'm more than happy with the extra flow available for multi-functioning and head performance. And the open loop's new priority drive valves give you that."

"The Tigercat has been exceptionally reliable, so much so that when I had to update my skidder recently, I knew that the Tigercat 630C was the best option for my job. We're fairly remote where we're logging, so the machine just has to be reliable and we know from other contractors in this area that already use the Tigercat skidders that they are second to none in this respect."

Uses for the charred and unmerchantable residual timber include the possibility of building either one or two megawatt power generating and hot water supply facilities in the King Lake and Marysville townships. Thanks largely to the European experience with these systems, the technology is basically off-the-shelf and well worth looking at as a way to help stimulate the townships and make use of what otherwise would be considered waste residue from the burned forests. ■



Move Efficiently

Harvest and process more efficiently to boost productivity, reduce fuel consumption and minimize wear and tear on the carrier and processing attachment.

– Gary Macdonald, product support representative

A simple rule of thumb when harvesting and processing is to minimize the amount of movement for a set job. This translates into less fuel burned, reduced pin wear, lower levels of operator fatigue and an easier workload for the engine and hydraulic system. This was taught to me by a guy I worked with in Nova Scotia who already had twenty years experience by the time I started in the industry in 1989. I have also learned many tricks by observing good operators over the years. When operators use these techniques they get better production with the same or even less downtime than others on the crew operating the same machines on the same site.

A Note on Set-up

The proportional clamping pressures of the knives have a significant effect on feeding and braking performance. If the pressures are too high, the result is poor feeding and inconsistent braking which in turn increases fuel consumption and reduces knife and motor life. Similarly, if the feeding or braking settings are too aggressive, fuel consumption jumps and stress on the head and boom increase.

Roadside Processing

Work close. Keep the log deck and unprocessed tree deck as close as possible. Situating the machine close between both piles speeds up your cycle time because less boom movement is required when swinging between the two decks. Additionally, multi-functioning with the boom and swing, especially on an excavator



conversion machine, increases the load on the engine and burns more fuel.

Coordinating the deck locations is a joint effort between the operators of the processor, skidder and loader. The distance from the road that the skidder operator places the unprocessed wood is critical as it ultimately defines the position of the processed logs. This positioning must be optimized for the loader operator to maximize loading efficiency. This is a good example demonstrating that often the whole system must be analyzed when attempting to increase productivity of any individual part.

Drop the top. Ejecting the top using the feed rolls or “spitting the top” causes premature wear on the roller motors. Dropping the top while swinging back to the unprocessed tree deck is faster, uses less oil and allows the head to be lined up with the next tree to be processed with minimal boom movement. This is all dependent on the amount of tops and residue left over as well as the size of the decks. If the decks are very large, it may be necessary to eject the tops or the debris pile will get too large in front of the machine. Ejecting the top puts the debris further away, allowing the operator to swing to the tree pile without having to lift the head over the residue pile.

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Don't move the boom. This may sound odd but swinging from deck to deck is the most efficient way to process. The more you move the boom instead of just swinging back and forth, the slower the cycle time and the more fuel consumed.

Keep your head down. Position the head close to the ground when processing. Raising the head higher than necessary requires extra feed power and increased knife and wheel arm clamping pressures. This consumes more fuel and upsets the balance of the head, leading to instability and lost tree control.

Move to the deck. Swing to the log deck then feed. Whenever possible, feed the tree without swinging. When using excavator conversions rather than purpose-built machines like the H855C, the head and boom functions compete for oil. If you move the boom while feeding, the head slows down and vice versa. Moving the head to the log deck and then feeding or starting feeding very close to the deck is the most efficient way to process.

You cannot make up lost time. Missing trees when picking from the pile is a great example of a seemingly small operator error that has a real effect on productivity because the lost production cannot be made up. Some operators will argue that the lost time accrued from missing a tree here and there is balanced out by working more quickly. I disagree.

Working more quickly in this example causes increased wear because of the increased number of machine movements to do the same job.

Here is a simple illustration demonstrating how minor errors can add up over time. An average operator on a site in interior British Columbia might have ten productive hours per shift with one hour of service. If he processes a conservative 1,000 trees per shift at an average piece size of 0,30 m³ per tree, he will produce 300 m³ each shift.

Now let's identify three seemingly minor errors:

Three extra seconds to grab every second tree because he tries to work too fast and misses trees when picking up

$$3 \times 500 = 1,500 \text{ seconds} = 25 \text{ minutes}$$

Three extra seconds to process each tree because the machine is parked too far away from the decks

$$3 \times 1,000 = 3,000 \text{ seconds} = 50 \text{ minutes}$$

Two extra seconds reaching to deposit the top or rotating to spit the top

$$2 \times 1,000 = 2,000 \text{ seconds} = 33 \text{ minutes}$$

That is a total of 1 hour and 48 minutes wasted during every 10 hour shift. This time cannot be regained unless the operator works longer. By eliminating the errors and



the wasted time, the operator could process an additional 180 trees or 54 m³ per shift. This simple analysis does not even take into account the adverse effect of the errors on fuel and long term maintenance costs.

Look at the big picture. This tip is directed towards the whole operation to help speed up the processing function. If the feller buncher separates out the undersized trees and the skidders optimally place the deck, processor production will increase. Similarly if the system works in such a way to maintain a steady flow of wood to the processors while keeping the deck size small, the processing function benefits. Too many times I see very large decks filled with unmerchantable trees. This slows the processor down immensely. When the log deck gets too large, the residue pile gets too large, causing the operator to reach more to get rid of the tops. The operator also must reach to the top of the log pile, untangling the decks well above his sight line.

Harvesting

Work close. Moving the machine closer to standing wood speeds up the cycle time. Tigercat harvester boom geometry is designed with this in mind. (See Focus on Safety in BTB#22 for more on the topic.)

Pile by swinging. The largest log should be placed the farthest back then swing to separate the next sort, swinging until the tree is processed. The different sorts should have the tops of the logs spaced 30-60 cm (1-2 ft) apart. After cutting the first log, the arc of the boom while swinging will provide the correct spacing between the sorts, setting the tops far enough apart for the forwarder operator to tell the difference.

Sort by species. When sorting multiple species, first cut as much of the primary species as possible. Pile secondary species on the opposite side of the main species. This works best when the forwarder is close behind the harvester.

Deposit tops evenly. Deposit the tops evenly in front of the harvester to provide a good brush mat to travel over.



Feed while falling. If possible start to feed while the tree is falling.

Let go of large trees. When cutting oversize trees try to let go of the tree, allowing it to fall to the ground, then pick it up again. This will help extend the overall life of the machine. Large trees put a great deal of stress on all parts of the machine when they hit the ground.

Sharp tools. Sharp knives allow for better delimiting which can assist in measuring both diameter and length. A sharp chain reduces the incidence of barber chairs when falling and log splitting when cross cutting.

Open the bottom arm. If the bar becomes pinched when falling a tree, open the bottom arms (if so equipped) as this has a tendency to release the bar. If not, you may be able to swing with the bottom arm open, when the tree is leaning and tear the tree from the stump. This will leave a barber chair but won't ruin the bar. This technique is not easy but will work when done right.

Eliminating bad habits and optimizing efficiency of movement can be challenging but the end result is higher production, reduced fuel consumption and less wear and tear on the machine. ■



Charles K. Doolittle Logging and Turnaround

Innovative contractor helps Tigercat develop revolutionary rotating seat in skidder cab. – Paul Iarocci

Newberry, South Carolina based Charles K. Doolittle Logging (CKD) wasn't always a Tigercat user. Company founder Charles Doolittle, an innovator by nature, has experimented with many brands, concepts and systems over the years in his efforts to continue to profit from a rapidly changing industry. Migrating to the Tigercat brand was a natural progression as he was won over first by the productivity and reliability of the drive-to-tree bunchers and later by the 620C skidder and 234 loader.

CKD is a family business with sons Mike, John and Daron running harvesting crews and Travis in charge of timber buying. The company has the experience and equipment to tackle any job whether it is clear fall, first or second thinning. Regardless of the application, CKD focuses on an efficient harvesting system, optimized merchandising and most important, a high quality end result.

For example, in a second thinning application Daron Doolittle might approach the felling function by first removing the merchantable hardwood and understorey, then going back and cutting the pine afterward. Although this takes extra time and effort, it makes for a better job and private landowners appreciate and remember it.

First won over by the productivity and reliability of the Tigercat bunchers, CKD fells with 718 and 724 series machines. Daron Doolittle is finishing up a second thinning job on a private woodlot with his buncher of choice, the 718E.



The all-important processing and merchandising functions are achieved through a mix of methods. The skidders run the pine through a delimiting gate as a rough first stage. The hardwood and pine pulp wood is processed with a pull through delimeter equipped with double knives to better handle hardwood branch patterns. Higher grade saw logs are delimited and bucked manually by experienced saw hands. According to Mike and John, the lengths and diameters are critical.

“The final fell jobs is where we make our best money and this is where high quality merchandising makes the biggest difference,” explains Mike. “If you miss a dimension on a log by an inch, it can cost you \$30 and that adds up.”

Although tolerances for ply logs (the highest grade logs used to make plywood) used to be a liberal 6 in (150 mm), they have been reduced to 3 in (75 mm). “We can’t accurately measure the length with a pull through or ground saw or handle really big wood,” says John.

The saw hands must also cut blemishes and imperfections out of the saw logs to avoid being penalized by the mill. CKD simply hasn’t found a more economical and effective way to measure and cut the valuable chip and saw or ply logs.

TURNaround

It was through Charles Doolittle’s ongoing desire to innovate and improve efficiency that he first came up with the idea of a rotating seat in a skidder cab. He even got one of the skidder manufacturers to build a prototype in the late nineties but the project ended up stalling and eventually the company picked up the prototype machine and took it away. Then in 2005, after CKD had quite a few Tigercat machines in the stable, Charles approached Tigercat with the same idea.

Fast forward three years and the concept is in regular production in both the 630D and 635D. But it was CKD that provided critical early stage testing and feedback on the prototypes.

Tigercat built two Turnaround™ equipped E620C skidders for CKD. The E620C was a transitional model that Tigercat used to test a number of developments and systems that would eventually find their way into the recently released 630D. However, aside from the rotating seat, CKD’s new machines were equipped as similarly as possible to the company’s other 620C skidders: 220 hp (164 kW) engines, single-function arches and fixed cooling fans.

The Turnaround™ equipped E620C skidders shuttle processed logs from the staging area to the 234 at roadside.

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So how do the skidders fit into CKD's operations? Each machine works on a different second thin or final fell crew and is paired with a standard 620C skidder. In applications where multiple sorts are required for pulp, super pulp, chip and saw and ply logs, CKD uses a two-stage skidding system. The 620C pulls from the cut block, backs through the delimiting gate and then drops the load at a primary staging area where the saw hands manually delimb and merchandise the logs. From here the Turnaround™ equipped skidder shuttles back and forth in a near straight line delivering the processed logs to the loader at roadside. The distance is seldom more than 30 yards (28 m) and the machine never turns around.

Charles' rationale for the rotating seat was to apply it to the skidding function where looping or turning around would represent the largest percentage of the total cycle time. It logically follows that the function with the shortest skid distance would be the one to target.

Because the machine does not have to

turn around, cycle times are quicker, fuel consumption is lower and landing sizes are reduced. To achieve the same result with a regular skidder cab is possible but would cause a great deal of neck strain and fatigue.

"They are really great," comments Mike. "The operators really enjoy them. I'm 46 and my neck gets sore from turning around. The joystick steering is comfortable to operate and was easy to get used to." Mike and John aren't specific on quantifiable improvements in productivity. "They just do the job better and easier and the operators feel better at the end of the day," says Mike.

John adds that the rotating seat has such a positive impact on ergonomics in this application that he expects to reduce the company's insurance costs by reducing the number and possibility of back and neck related compensation claims. CKD has a long term view of the benefits of the new style cab in that the more time an operator spends on a machine over months and years, the greater the payback will be in terms of reducing fatigue, strains, injuries, absenteeism and insurance claims. Further, it will help attract

Charles' rationale for the rotating seat was to apply it to the skidding function where looping or turning around would represent the largest percentage of the total cycle time.



The standard 620C skids from the cut block to a staging area, where skilled saw hands limb and buck valuable saw and ply logs (foreground, right)



and retain the best operators in the local labour pool.

Always thinking forward, the brothers point out that in the future there will be a diminishing amount of 100 ft (30 m) tall, 28 in (70 cm) diameter trees to fall. They

readily admit that this and other factors may require them to rethink and revise various aspects of the system, including the merchandising. However right now the two-stage decking and skidding system is providing excellent results. ■

The 234 loader amongst a number of hardwood and pine sorts.

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The New 480 Mulcher

Tigercat and dealer, Tejas Equipment have sold the first two 480 mulchers in Texas and the order backlog is growing fast. The 480 track mulcher is the latest offering in Tigercat's growing line of vegetation management equipment. Other models include the M726E and M760 wheel mulchers and the M822C, based on the 822C track feller buncher.

The new 480 is a 370 kW (500 hp) class track driven mulcher carrier suitable for tough terrain, sensitive site applications and large scale land clearing and right of way (ROW) projects. High production and extremely low ground pressure combine to offer exceptional performance in the most demanding mulching jobs.

Tigercat's expertise in designing and building productive, reliable and efficient machines for full-time forest duty translates well to the mulching and vegetation management market. Few other mulcher carrier manufacturers have the depth of knowledge and experience necessary to fabricate components and design complex hydraulic and electronic systems that will survive serious and continuous forest

The 480 has a high lift boom.



duty cycles. Field proven design elements of the new 480 are taken from Tigercat's very successful 700 series wheel feller bunchers and 800 series track carriers.

Preliminary data suggests that production is 20-25% higher than some comparable models. Observed fuel consumption numbers are in range of 49-53 L/h (13-14 US gph).

With a Cummins QSX15 Tier III engine, the 480 is a powerful machine with 328 kW (440 hp) available to the mulching attachment.

A highly refined closed loop track drive system propels the carrier and a dedicated pump powers the attachment. The 480 uses heavy duty track frames and a robust mounting system for the oscillating tracks. The efficient, high capacity cooling system uses a variable pitch fan with an automatic reversing cycle.

The machine is compact and manoeuvrable with a narrow overall width and a light footprint for soft soil conditions. It incorporates high-lift boom geometry for improved performance on uneven terrain. The counter-rotate function (CRF) allows the 480 to pivot about its centre axis at the touch of a button for quick, effortless "on a dime" turns at the end of a row. All functions including the joystick steering are electronically controlled, allowing for operator customization. ■



Not Your Average Roadside Processing

– Paul Iarocci

With steep, broken terrain, rocks, large second growth timber and massive old growth stumps left over from another era, logging on Vancouver Island is rarely straightforward. Contractors use a variety of methods to get the wood down, including hand fallers, feller bunchers and harvesters depending among other factors on site topography and the size of the timber. Transport to roadside can vary from skidding to shovel logging to cable or grapple yarding. For roadside processing, single grip harvesters dominate.

The processor carriers are primarily excavator-based with add-on forestry packages to beef up the upper assembly, track frames, boom systems and cab structure. A typical pairing with these 30 tonne (33 tn) class machines might be a Waratah 624 or equivalent sized harvesting head.

Fred Wiley, owner of Cold Stone Logging based in Merville, BC is trying something a little different. Recognizing the heavy duty cycles and extra demands placed on the roadside processing function in Vancouver Island applications, he has opted for purpose built forestry machines with the purchase of two Tigercat H855C harvesters.

The first machine, purchased in the fall of 2007 is equipped with a Waratah 624. Wiley took delivery of his second machine the following year, this time deciding on a Tigercat TH575 at the end of the boom.

BTB visited Fred on a job site one hour north of Campbell River. The tract was comprised of 60-70 year second growth fir, cedar, spruce



and hemlock mixed with a small percentage of old growth that survived the great fire of 1938 and 50 years of logging previous to that.

In 1938, an unprecedented dry spell resulted in one of the worst forest fire seasons ever seen in BC. The largest fire took place in the Sayward forest. The fire burned for almost 30 days and roughly 35 000 hectares (85,000 acres) were destroyed.

This is not volume production but high value logging with an average 50:50 pulp to saw log ratio. The high grade logs are exported to Korea and other overseas markets. Average piece size of the second growth timber is around 1,6 m³ (one cubic metre equals approximately 1.2 - 1.4 tons). With up to six sorts per species and the occasional massive, hard to handle tree thrown in, Wiley's processors still manage to produce 40 m³ (over 50 tons) per hour or about 400 m³ (520 tn) per day. When the piece size drops to a more manageable 0,5 m³, production rates zoom up to 600-700 m³ per day. All the while the H855C carriers are burning an average of 18 L/h (4.75 US gph).

Cold Stone Logging owner Fred Wiley runs two Tigercat H855C harvesters. The newer machine is equipped with a TH575 harvesting head.

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Factoring in the complexity and difficulties, these are remarkably high production rates. The steep terrain doesn't allow for large landings, so the processor is constantly moving and often not situated 'roadside' but set somewhere off the road in the cut block.

Combine the small decking areas with the multiple species and sorts and the result is a whole lot more machine travel. Sometimes the operator tracks the machine to get to the unprocessed trees and also to get to the processed log piles. Often the operator must place the machine in steep terrain in order to process to roadside.

We asked Fred point blank how the H855C compares to a modified excavator for processing applications. He answered just as directly. "I will never buy another combination machine again."

"It gets around in the bush better when we have to fall," he elaborates. "You don't see as much of that in the interior but we do it a lot here. The cooling is better as well as the flow. I like how well the carrier is matched to the head."

Previously, the excavator-based processors would often stop working at 2:00 pm to avoid the heat of the day in summer. "When I had combination machines, you would have to blow and clean the rads out a lot. They always ran hot. This one never goes above 160 degrees (70° C)."

With both Waratah and Tigercat heads on the same carrier, Fred also has some insight on the differences between the two heads. "I like the 575 better and I have around 20,000 hours on Waratah heads." (The H855C/TH575 machine had worked 1,600 hours at the time of the BTB visit.)

"I like the feed better and it seems to handle anything the 624 will do," he adds. This is an interesting comment because the TH575 was designed to fall in between the 622 and 624 class sizes.

Fred also explains that the TH575 processes smaller wood in the 0,5 m³ (0.65 tn) range equally well as opposed to the Waratah 624 where production really falls off in the smaller diameters. This makes the TH575 far more versatile and enables the processor to maintain

Not your average roadside processing. With steep slopes and small deck areas, the processors are frequently required to work well beyond roadside in nefarious terrain where large stumps and rocks abound.



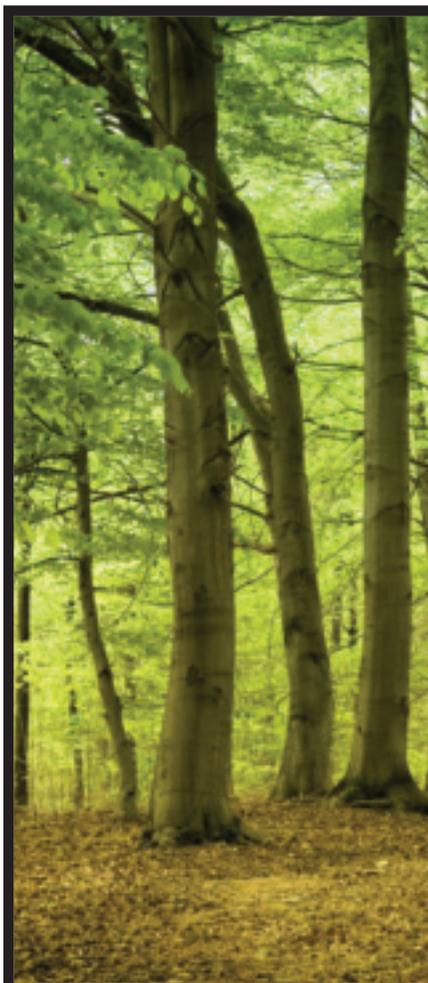


Coastal BC timber is big. This site north of Campbell River on Vancouver Island is 60-70 year old second growth with some surviving older, larger timber mixed in.

high production in stands with widely varying sizes and diameters.

The TH575 uses a Motomit measuring system. When a Waratah head is matched to an H855C, a Timberite or Logrite measuring

system is used. Of the Motomit system, Fred says, "I also like the computer system better. You can really fine tune it. It was a bit overwhelming at first but you can really set it up to do the work for you." ■



IT'S TIME TO RETHINK PERFORMANCE

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PROUDLY POWERING



Elmia Wood 2009: A Review

– Gary Olsen, district manager, Africa



With the next Elmia Wood now some four years away one can take time to reflect upon the show and ask the question: Was it all worth it?

The decision to participate is serious, from a cost perspective alone. The direct cost of renting a site, transporting

equipment, building an attractive display, hiring operators and staffing the stand for four days adds up.

Given the economic fallout taking place around the globe in 2009, it is understandable that the Elmia organization was nervous and uncertain about attendance. Fortunately, the show was a resounding success. Calculated in accordance with the regulations of the Scandinavian Fair Control (SFC), the number of unique visitors to Elmia Wood 2009 was 46,502. This tally did not include the 5,500 return visitors, exhibitors or other individuals who worked at the fair.

With biofuel being a main theme at Elmia there was a strong focus on the gathering and processing of forest residues for power generation. Two main systems were represented. Large chippers, grinders and hammer mills capable of consuming nearly 200 tonnes of material an hour typically follow a large scale tree-length harvesting operation that generates large volumes of forest residue at a concentrated location.

Also well represented were mobile chippers mounted on forwarders. This is the method of choice for harvesting biomass residue from Scandinavian-style cut-to-length harvesting applications. Tigercat contributed with a 1055B 14-tonne forwarder with a Bruks mobile chipper mounted to the wagon frame.

Conspicuous in their absence were bundlers of any type and so it would seem the penny has dropped in this regard in terms of the cost of feed stock collection. The closest equipment to this bundling method were compactors on the wagon frames of forwarders. Interestingly none of them were in actual operation during the show. Many of the biomass processing equipment suppliers indicated that smaller yet commercially orientated debarkers and chippers are in the product development pipeline.

While Elmia is generally focused on harvesting, there was also a strong emphasis on mechanized site preparation and planting. The Tigercat 635D skidder with the revolutionary Turnaround™ seat has gained favour in this application in Sweden. Various types of site preparation implements can be mounted onto the six-wheel drive hydrostatically driven carrier to allow for cost effective site preparation. Tigercat also featured the 1075 with a large four-row scarifier on the Bracke stand.

In this traditional cut-to-length market featuring exclusively rubber tired harvesters and forwarders, Tigercat attracted much



High capacity.
With new extendable bunks, the 1075B is likely the highest capacity forwarder in the world.

Tigercat brought a diverse line-up of machines.

attention with the LH845C tracked leveling harvester. While this unit is not relevant to the Swedish market, strong interest was shown from Germany, Russia, Norway and the UK where the negotiation of steep slopes is a daily event.

As for rubber tire harvesters, Tigercat featured its small eight-wheel drive H09 – popular for ghost trail thinnings in the Swedish forest industry.

At the opposite end of the size scale, the big head turner for anyone who walked past the Tigercat stand was the 1075B forwarder. With the new extended bunks, it carried a load no other forwarder is capable of. With 20-tonne (22 ton) wide spread bogies, a



massive centre joint, a completely redesigned cab and the latest user friendly MD3 control display, the Tigercat 1075B is in a class of its own for tough forwarding applications. In addition Tigercat demonstrated the 1055B 14-tonne class forwarder. ■

The LH845C attracted interest from outside Scandinavia where steep slope harvesting is common.

DEALER NEWS

Tigercat Enters South Korea

Tigercat is pleased to announce the appointment of Shinyoung Equipment Co. based out of Anyang-City, South Korea as its authorized full service dealer for the Republic of South Korea. Established in 2005, Shinyoung Equipment is a leading supplier of premium branded industrial products to the wood fibre and construction industries.

Tigercat is pleased to be working with such a well respected and forward thinking organization for the sale and support of Tigercat machines.

Distribution Changes in Arkansas

On April 1, 2009 Davis Tractor and Equipment, LLC took over Tidewater's operations in the state of Arkansas. Davis Tractor and Equipment is continuing to operate out of the two existing locations in Warren and Hope.

Meanwhile, Tidewater has refocused its efforts in its traditional markets in the Carolinas, Georgia, Florida and Alabama.

Tigercat adds US distributor

Ricer Equipment Inc. has been named Tigercat dealer for the states of Ohio, Kentucky and

West Virginia. Based in Lucasville, Ohio, Ricer specializes in the sales and service of imported and domestic construction equipment. The family business was founded in 1987 by Greg and Matthew Miller. Ricer has forest industry experience with the Prentice, Barko and Franklin brands. ■



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In Memory of Doug Phelps

It is with sadness and regret that we report the death of Mr. John Douglas "Doug" Phelps, age 57, on Sunday June 21, 2009. Doug was the Tigercat district manager for North Carolina, Virginia, Maryland and West Virginia. An industry veteran and valuable Tigercat team member, Doug will be very much missed by his coworkers, associates and customers.

Mr. Phelps was born in Hertford County on September 6, 1951 to the late John Ryland Phelps and Iona Casper Phelps who survives. On December 3, 1980 he married Tina Lynn Revette who survives. He was a 1968 graduate of Ahoskie High School,



received an associate's degree in drafting and a diploma in the Diesel Maintenance Program at Chowan Community College and also attended Appalachian State University. He served in the United States Marine Corps. Mr. Phelps was a member of Old Ford Church of Christ.

Doug leaves behind his wife, Tina Revette Phelps, two sons, Jeffrey and Jacob, daughter, Holly Phelps, mother, Iona Casper Phelps of Ahoskie, and two grandchildren, Braxton Douglas and Jared Dean.

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New Tigercat District Manager

Jerry Smeak, formerly of Lyons Equipment has joined the Tigercat team as a district manager. Based out of Mt. Pleasant, Pennsylvania Jerry's area of coverage is extensive, including the states of Ohio, Pennsylvania, West Virginia, Indiana, Kentucky, Maryland, Minnesota, Michigan and Wisconsin.

Experience gained in the Air Force as a fighter jet crew chief, a mechanic for S&M Equipment, a field representative for Timbco and most recently as a sales representative for Lyons Equipment has given Jerry extensive technical knowledge, forestry equipment industry experience and product support and customer service expertise.



Jerry will play a key role in developing these regions by further expanding dealer network and continue to build the Tigercat machine population.

NEW www.tigercat.com

If you haven't been there yet, please visit the new and improved www.tigercat.com for the latest news, product information and videos of Tigercat machines in action.

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