

# B E T W E E N the BRANCHES

## NeeSmith's Hardwood Niche

**Tigercat 845C feller buncher is key to NeeSmith Timber's demanding hardwood operations.** – Paul Iarocci

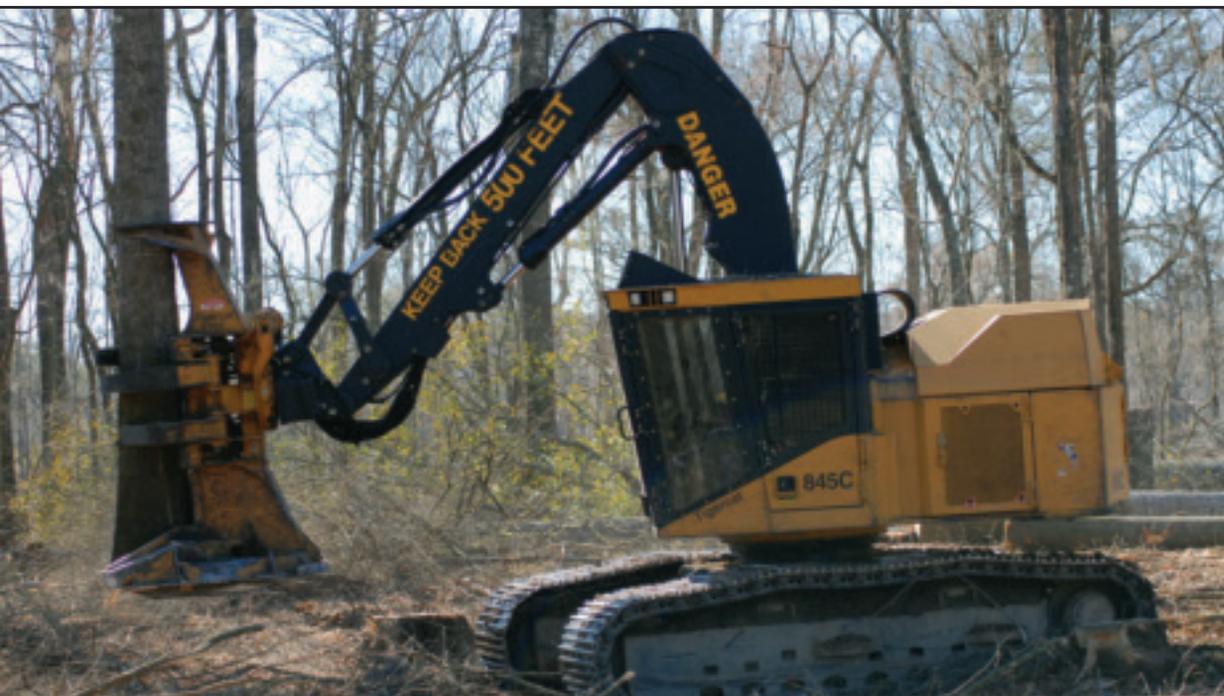
In 2007 Tigercat brought back the highly acclaimed 845 mid-sized feller buncher produced from 1995 to 2003. Completely redesigned, the new 845C is hardly recognizable compared with its predecessor. Georgia contractor Garry NeeSmith, owner of NeeSmith Timber Co. purchased the prototype machine in mid-2007. It has now worked 2,000 hours in demanding hardwood applications in central Georgia.

NeeSmith, who routinely purchases hardwood timber that other contractors might be hesitant to harvest, rarely turns

down a tract. "We won't turn a job down because the wood is too big... or too small," he says. A typical tract might yield 120 tons (109 t) per acre and include oversize, large limbed oak on the high ground with larger trees weighing in excess of ten tons (9 t). The oak saw timber is surrounded by smaller hard pulpwood and some loblolly pine. Lower lying wet terrain might have a denser concentration of one to two ton (0,9-1,8 t) cypress with flared butts so the 845C is tested in everything from oversize wood to high-cycle pulpwood to swamp applications.

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"We won't turn a job down because the wood is too big... or too small." NeeSmith's 845C handling heavy, large diameter oak.

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Because NeeSmith works private land, he goes the distance for his clients, first clearing all the pulpwood and non-merchantable

overseas for furniture making. Second grade logs are milled for flooring and bottom grade logs are raw material for pallets. The cypress logs are used to make panelling, beams, flooring and milled for use in boat construction.



**Garry, J. Hall and Tidewater (Hazlehurst) salesman Reece Mincey**

timber, then going after the high value saw logs. “The understory all has to come out,” explains operations manager, Jason Wilson, “so that the new growth is all racing at the same time for the same sunlight. It comes out first and goes to the pulp mill. If you don’t cut it flat, the remaining trees will grow back bushy.”

**NeeSmith says the new 250B produces more and burns less fuel than the older 240B model that works alongside it.**

The saw logs -- up to ten inch (25 cm) tops -- go to Battle Lumber Co. in Wadley, GA, the largest hardwood mill in the region. The highest grade logs are sawed and shipped

The Tigercat S860C shovel logger doesn’t just work the low lying areas. NeeSmith uses it to clean up the site, piling the limbs and tops which are also transported to the deck. Four to ten inch (10-25 cm) tops and limbs are processed, sorted and sent to the pulp mill. The end result for the landowner is a clean parcel of land, free of waste fibre and ready for new growth. Pine seed trees are left for softwood regeneration.

The challenges that NeeSmith faces in these typically large hardwood applications are extensive. The 845C operator, Benji Denmark routinely double and triple cuts the largest trees and directs them as best he can in an orientation optimized for the skidders. He performs initial processing by using the saw head to sever the largest limbs that can exceed 14 inches (35 cm) in diameter and often bucks the largest trees as well so the skidder can manage the loads. When trees can actually be controlled and held by the head, Denmark often flicks them to the side, shooting them up hill or out of the swamp butt side forward to facilitate easier skidding. This technique



also allows him to easily access the tops for processing if necessary with minimal machine travel.

“Here you got to cut it down and then process the tops with the saw,” says Wilson. Even with all the extra handling and preprocessing, “It cuts more than I can process.” The feller buncher is not the bottle neck in the operation.

When felling in soft terrain and standing water, Denmark will build a minimal mat with felled trees and tops but on account of dry conditions in the region over the last few years, a textbook shovel logging operation is rarely necessary and often the S860C will just be used to convey the wood to higher ground. The expensive machine is under utilized to be sure but necessary for a quality job. This may keep would-be competitors out of NeeSmith’s arena.

For NeeSmith, another big hurdle in this demanding application is operator training. The large timber has the uncanny ability to destroy equipment piloted by an inexperienced hand. It highlights the necessity for the toughest and most durable machines.

The 845C fells enough timber to occupy two Tigercat 630C skidders and two deck loaders, Tigercat 240B and 250B models equipped with delimiters and bar saw slashers. NeeSmith is impressed with the recently purchased



250B. With a load sensing hydraulic system, it delivers more productivity than the 240B and averaging 3.9 US gph (14,75 L/h), it also burns less fuel. The higher capacity machine is proving to be an asset in this demanding processing and loading application. Average crew production is 90 truck loads averaging 29.5 tons (26,75 t) per load in a single-shift five day week. In optimal timber the crew can deliver 120-130 loads per week.

**The 845C feeds two 630C skidders and two Tigercat loaders.**

NeeSmith has owned both 845 and 845B machines in the past so he is in a somewhat unique position to judge the merits of the C-series improvements. He states, “the C burns about eight gallons [30 L] per hour. The old [845B] burned twelve [45 L].” This is a result of two factors: The highly refined hydraulic system offers higher performance, increased

speed and improved fuel efficiency. The other factor is the efficient Mercedes power plant. Still a bit of a novelty in the southeast, the 275 hp (205 kW) 906 model has powered Tigercat forwarders since 2004 and is also used in the H855C harvester.

Another 845C operator in Georgia, Timmy Dopson, who has also owned older model 845 feller bunchers, likens the cab to “going from a 1982 Toyota to a brand new Cadillac,”

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**The Tigercat S860C shovel logger conveys wood to higher ground and aids in site clean-up.**

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in terms of operator comfort and ergonomics. The 845C is equipped with the same modern, quiet, spacious, well finished cab as the 822 and 860 series feller bunchers. With front access, floor to ceiling front window, plenty of room behind the seat and excellent visibility to the right side, the Tigercat track feller buncher cab is considered the best in the industry.

When asked about service access Wilson refers to the clamshell style retracting roof enclosure and says, “you can see what you are working on.” Although the 845C has a compact upper assembly design and limited tail-swing, component layout is optimized and the retracting roof provides excellent access to the engine and valves. The pump stack is housed separately from the engine. A large door on the right side of the machine accesses all major engine service points.

NeeSmith Timber Co. was founded in 1948 by J. Hall NeeSmith, Garry’s father. Mr. J. Hall has often been quoted that he began with “a cross saw and a old grey horse,” hand loading short wood on boxcars. In 2004 Garry purchased the company from his father, moving it from Cedar Crossing to Johnson Corner a few miles away. Today NeeSmith Timber Co. runs the hardwood crew, a pine crew and eight trucks. Three full-time wood buyers keep the two crews plus nine subcontractor crews busy year round. The company as a whole produces 16,000 to 17,000 tons (14,500-15,500 t) per week. ■



Operator Benji Denmark flicks the trees out of the low spots. With a practiced hand, he can place the butt end forward without a high rotation wrist. No wonder NeeSmith cites operator training a major challenge in his application.

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# New Zealand Revitalized

– Gary Olsen, southern hemisphere marketing manager



Since Tigercat's 2001 introduction in New Zealand, lagging sales performance has been a frustration for both our company and the dealer, Titan Plant Services. As 2007 came to a close, just a handful of skidders were sold on the North Island and the South Island had been largely ignored.

Sadly, in mid-2007 Max Whiley, founder of Titan Plant Services passed away. Brian Hogan took the reins as the new CEO. Coming from a highly successful competitor, Brian has taken the proverbial bull by the horns, undaunted by the constant uncertainty of New Zealand's forest industry. As a strong leader, Brian has created somewhat of a 'pied piper' effect. Looking for new challenges themselves, many of Brian's colleagues have followed him to Titan. These new faces come with motivation, enthusiasm and a desire to put Titan and Tigercat on the forestry map.

Based in Dunedin, at the bottom of the South Island, Mark "Handbrake" Hill is Titan's national forestry sales manager. He and his team of branch managers and salesmen coordinated a series of 620C skidder demonstrations. Logistics included not only the transport of the skidder to multiple locations but also the arrangement of numerous infield breakfasts – always crucial to a good machine demonstration in New Zealand. Glen Marley, Tigercat district manager for Australasia and SE Asia and I participated in the two-week promotional trip beginning in Dunedin and ending at the top of the North Island in Kataia.

Essential to successfully demonstrating the full capabilities of the hydrostatic drive system is an experienced operator. Ross Bertram, kindly loaned to us by Nick Whisker, of

Whisker Harvesting Ltd. certainly fit the bill.

The demonstrations were combined with customer presentation evenings where participants were taken through the Tigercat story and exposed to the vision that Tigercat and Titan have for the New Zealand market. The chance of catching up with a fellow logger over a beer and a bite to eat ensured the sessions were well attended.

**The high production 635C was pulling up to 20 tonne drags.**



Ross operated the machine on four different sites in the south. After he put the machine through its paces, queues of licensed operators got the chance to experience the machine for themselves. While possibly a touch small for some of the big 3-3,5 tonne (3.3-3.85 tn) trees common in the south, the 620C performed exceptionally well. Many contractors echoed the sentiment that "if this is what your small one can do, I can't wait to see the big one go."

**Mark "Handbrake" Hill doing on-site breakfast.**

At Dave Paul's site near Invercargill, Ross was required work in an actual production

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**The 620C performed well in a variety of applications on both the North and South Islands.**

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scenario for an entire shift to determine how the 620C stacked up against the other skidders on the job. The landing was soon flooded with wood and the crew commented that they best invest in a processor to deal with the doubled production compared with the existing skidders.

The machine was then moved up to two more sites in the Christchurch area. One of these sites -- not a typical grapple skidder application -- had slopes exceeding 50%. Both man and machine were pushed to their limits in terms of both capability and safety. Despite the unorthodox application, the owner of the operation, Tony Brand was well impressed with the machine and spent considerable time behind the wheel himself.

The final site was Dave Button's operation where the 620C was pitted against a CAT 525B and 545B. All three machines worked on a challenging skidding route that had been laid out for the purpose of the demonstration. Despite the popular perception promoted by our competition that hydrostatic skidders are slow, neither of these competing machines managed to lap the Tigercat. Considering the number of trees the CAT skidders lost while dragging to the landing, the Tigercat was the machine doing the lapping. Once again operators had the opportunity to have a go and all were extremely impressed.

Moving to the North Island, Ross demonstrated his very own 620C in his own backyard at the site of Whisker Harvesting. This multi-tasked application included

skidding away from the hand fallers and accumulating bunches for the pull-through delimeter. Then the delimbed tree-lengths were skidded to the landing and carefully spread out with the grapple in preparation for the bucking process. Additionally, the 620C was charged with keeping the landing clean.

Bidding farewell to Ross, we travelled on to Taupo and the job of Willie Tukaki in the Kaingaroa Forest for a demonstration of Tigercat's big 635C. Willie had just taken delivery of his second Tigercat skidder, a 630C, so there was opportunity for participants to see two brand new C-series skidders working in tandem. The demonstration was well attended and interest extremely strong. With both machines working, the landing was quickly inundated with wood and the loader could not put the tree-lengths on the trailer quickly enough. Some of the 635C loads were estimated at 20 tonne (22 tn), reaching the 60 tonne (66 tn) truck payload in three drags.

The trip has brought about instant success with the sale of a number of 630C skidders as well as a 635C, 610C and 620C on the South Island. A similar program with a Tigercat track machine, possibly an LH870C is on the table and we can expect a great response in a country where excavators (commonly known as diggers in New Zealand) have dominated the market. With the continued efforts from Glen Marley and the Titan team we can look forward in the near future to fulfilling our vision of leadership in the New Zealand forestry equipment market. ■

# Burn Less

## Operating and maintenance tips for improved fuel economy

– Paul Iarocci

Everyone is talking about the price of fuel these days, whether it is city-bound commuters, truck drivers or heavy equipment contractors.

Once a relatively insignificant component to the overall harvesting operations cost structure, the average price of a gallon of diesel in the US -- formerly the land of cheap fuel -- has more than tripled in less than six years.

Worldwide demand for diesel and other distillate fuel oils is on the increase with strong demand in China, Europe and North America. The added demand is exerting more pressure on an already tight global refining capacity. In addition, the US transition to low-sulfur diesel

has affected production and distribution costs. What does this mean for harvesting contractors?

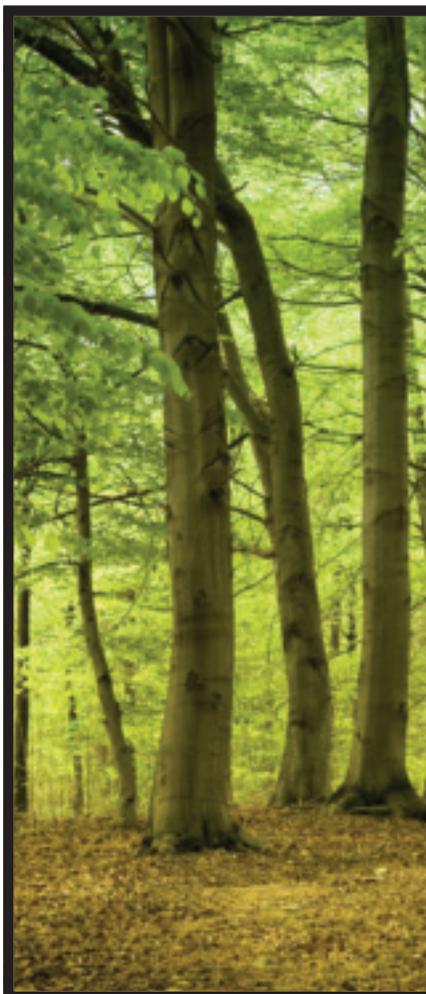
The bottom line is that it's safe to assume five dollar per gallon diesel prices in the US and even higher prices elsewhere in the world are not likely going away anytime soon.

Anticipating this new market reality, Tigercat has responded with many fuel-saving features over the last five years. Variable speed cooling fans, the energy recovery (ER) boom system, the electronically controlled hydrostatic skidder drive train and more efficient hydraulic circuits all contribute to reduced fuel consumption.

Not enough? Of course not. And Tigercat will continually look for novel ways to improve production volume per unit of fuel. But it is also necessary for harvesting companies to look



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inward. There are many actions that harvesting professionals can take right now that will reduce fuel consumption and squeeze more production out of each precious litre or gallon.

## Machine Maintenance

Equipment manufacturers have been forever sermonizing on the importance of proper maintenance for longer machine life and higher rates of machine availability. To put a novel spin on the issue, maintenance is extremely important to fuel economy as well.



**The radiator fins are clogged with needles and other debris.**

**When the dust doesn't settle. High levels of airborne debris decrease air filter change intervals and increase the need to check and clean the heat exchangers.**

*Breathe easy.* To start with a simple example, air filters are a relatively inexpensive and easily replaced wear item. A plugged air filter restricts the amount of oxygen that is aspirated into the engine's combustion chamber, resulting in an unnecessarily rich

fuel mix. Not only is this a waste of fuel but in combination with high ambient temperatures, a rich fuel ratio contributes to higher operating temperatures. Consequently, the fan must work harder to cool the machine resulting in additional losses of available horsepower. Consult the operator's manual to ensure that the correct intervals for changing air filters are observed.

Speaking of cooling fans, Tigercat has been an industry leader in the effort to offer automatic variable speed or variable pitch

reversible fans rather than conventional fixed speed, fixed pitch engine-driven fans. Advantages include cleaner heat exchangers and easier cold weather starts. The time between reversing cycles is operator adjustable to compensate for seasonal variations in the amount of dust, pollen and other airborne particles. But the ability to vary airflow is also a big fuel saver. After all, there is no point pushing massive amounts of air across the heat exchangers when a lesser amount is sufficient for cooling requirements.

Unfortunately, dirty heat exchangers are not very efficient and a machine equipped with a thermostat controlled variable flow fan will compensate by increasing the fan pitch or rpm to increase airflow. This wastes horsepower and burns more fuel, negating the advantage of the more expensive fan system. The heat exchangers should be inspected daily and cleaned as required for maximum efficiency and fuel economy.

*Hydraulic system tune-up.* Modern high efficiency load sensing hydraulic systems turn off the pump to save fuel when maximum pressures are reached. Set at a higher pressure than the pump, the pressure relief valve is a watchdog, waiting to act should the pump not do its job. But hydraulic system components wear over time. The pressure relief valves in particular should be checked regularly as normal wear causes the pressure setting to gradually drop.

If the relief valve pressure setting drops too much, the valve may start to open before the pump turns off, resulting in an invisible internal system leak, possibly a big one. When high pressure oil leaks into the low pressure return system, the release of stored energy creates a substantial amount of heat. Now the engine must not only burn more fuel to supply the system leak but also to power the increased cooling fan load. An annual full hydraulic system tune-up will ensure that your machine meets factory recommended pressure settings.

An out of tune track feller buncher can waste several litres of fuel per hour.





**Under pressure.** Correct pressure settings for the feed wheels and knives eliminate unnecessary friction, improve limbing and debarking performance and reduce wear and tear.

replaced when efficiency drops, instead of simply running the components to failure.

When processing, it is important to ensure acceleration and deceleration ramps provide smooth feeding and braking and that pressures for feed wheel arms and knives are correct. Incorrect settings

add too much friction to the system, requiring higher pressures to feed the trees. The result is wasted horsepower and increased wear and tear on the head.

*Sharp tools.* When felling -- whether with saw, shear or harvesting head -- improving fuel economy is as simple as replacing damaged or worn teeth on your disc saw felling head, sharpening shear blades or replacing dull chain on your

There are many actions that harvesting professionals can take right now that will reduce fuel consumption and squeeze more production out of each precious litre or gallon.

Multiply the lost volume at today's high prices by 2,000 hours and you will see that the annual figure amounts to thousands of dollars. If you are double-shifting, you could be wasting \$20,000 per year in fuel to save a few hundred dollars for a competent service technician to check and reset the machine pressures.

Similarly, leaking packings in hydraulic cylinders, damaged control valves and worn out pumps and motors all consume large amounts of energy. These parts should be leak tested and

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harvesting head. It takes less horsepower to fell a tree when the tools are sharp. Extremely worn disc saw teeth are the number one productivity killing factor observed on drive-to-tree feller bunchers. It is important to track fuel consumption and productivity changes as the cutting edges wear. Too often owners lose money by not replacing teeth or sharpening blades soon enough.

## Operating Tips

Drag racing from stop sign to stop sign doesn't deliver optimal fuel economy for your pickup truck. Similarly, there are good machine operating techniques that minimize fuel

consumption as well as bad habits that will send your fuel costs through the roof. In many cases, the techniques that reduce fuel consumption also contribute to higher productivity and longer machine life. Generally speaking, a smooth hand on the joystick is recommended. Smooth,

deliberate operation of the functions -- as opposed to fast and jerky machine movements -- save fuel and reduce wear and tear.

We observe the same operator errors again and again in the field. By simply correcting these actions, fuel savings can be realized.

*Full throttle?* Many operators assume they need to operate their machines at full throttle to maximize machine performance and output. Running an engine at 1,800 rather than 2,200 rpm could amount to a 20% reduction in fuel consumption. For a feller buncher, the savings are negligible when measured on the basis of litre per volume of production but for a lower duty cycle application like processing, the math can work and 1,800 rpm may be a good compromise between power and fuel economy.

With forwarders, peak power torque is at approximately 1,400 rpm. The machines are smooth, productive and efficient at this engine speed and wear and tear is reduced. Running

a loader engine 200 rpm slower can decrease fuel consumption by 5%, often without a noticeable change in machine productivity. This is especially true for loaders with load sensing hydraulic systems like the Tigercat 234 or 250B.

It is instructive to analyze the entire harvesting system when making decisions about engine speed. Say the skidder is the bottleneck of the operation because of longer than normal skidding distances. Reducing the operating engine speed of the skidder will likely be detrimental to overall system productivity. However, if loader production is constrained by the amount of tree-length timber the skidder can supply, it does not make sense for the loader operator to maximize production in short bursts at full engine rpm, only to wait at idle for the next bunch of logs to arrive at the deck. In this case, a slower but steady loader working pace will accomplish the same work with less fuel burned.

*Felling.* Depending on tree size and species, there is an optimal speed to push a disc saw blade into the tree. Too slow and productivity suffers. Too quick and the saw blade slows to such an extent (or stalls altogether) that it takes too much time and energy for the blade speed to recover. The optimal chip exhausted from the saw head should be wafer like, approximately 3 mm (1/8 in) thick. If

**Tree size and species determines how quickly the disc saw blade should be pushed through the tree but sharp teeth will always reduce cycle times and horsepower requirements.**



**A feller buncher cannot operate at peak efficiency with dull teeth.**



your chips are thicker, you are wasting fuel. If they are thinner, you are not realizing full productivity from the feller buncher.

*Skidding.* Proper positioning of the grapple and arch reduces drag resistance and improves the fore-aft balance of the machine. We regularly observe incorrect positioning in the field. When the grapple is not positioned correctly there is insufficient weight on the front of the machine and the skidder has to make more tractive effort unnecessarily in order to move the load. This practice wastes fuel.

When skidding logs, the boom should be raised to its maximum height if terrain conditions permit. The arch should be pulled all the way forward so the butt end of the logs



improves driving and steering performance and allows the machine to more efficiently move larger, heavier loads.

*Forwarding.* When unloading at roadside, it is important to keep the forwarder in proper

position relative to the log pile by driving the machine along the pile. This minimizes crane and rotator movements. The machine should be parked close enough to the wood pile to allow unloading without extending the crane. The logs are lifted off of the load area using the main boom (hoist) function only and swung over the pile and lowered into position again using only the

hoist function. With this method, stick and telescopic boom movement is minimized if not eliminated altogether.

After releasing the logs onto the pile, a good operator will have the grapple positioned at the proper distance from the crane pillar to be swung between the stakes to the forwarder load area instead of having to be lifted over the stakes.

*Loading.* Some operators are in the habit of holding the grapple close function while loading logs. This forces the hydraulic system over relief, wasting fuel and horsepower,

**Proper positioning of the forwarder reduces the need to use the stick and telescopic functions when unloading for quicker cycles and reduced fuel consumption.**



**Up and in. Proper grapple positioning minimizes drag resistance, traction and steering performance and reduces ground pressure.**

are as close to the machine as possible. This positioning is advantageous for two reasons. The height reduces drag resistance. When drag resistance is reduced, the amount of tractive effort required to pull the load is also reduced, saving horsepower and fuel. By bringing the butt end of the trees forward, toward the machine, the loaded fore-aft balance of the machine is improved. More weight is transferred forward, allowing the front wheels to maintain full contact with the ground. This

**Extremely dull disc saw teeth are the number one productivity killing factor we observe on drive-to-tree feller bunchers.**

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while generating heat. Tigercat grapples are equipped with built-in lock valves to hold logs in the grapple. Holding the grapple close function is not necessary.

More so than with other machines in the harvesting system, loader production is frequently interrupted. Production stoppages can occur due to inconsistent log supply at the input side or insufficient transportation capability on the output end. While the Tigercat 234 and 250B loaders have an

automatic idle down feature, many loaders do not. It is good practice for the operator to idle down the machine during periods of inactivity.

A full analysis of your specific operation and a measure of common sense can make a world of difference to your monthly fuel bill. As an added bonus, you just may extend machine life, reduce unplanned downtime and improve system productivity. It is an exercise that is well worth the effort. ■

## Focus on Safety

### Wood and Engine Exhaust Definitely Don't Mix

– Robin Barker, engineering administrator

Forestry machines -- particularly those used in thinning, felling or delimiting applications -- constantly work in close proximity to large quantities of combustible organic material. Branches, twigs, bark, leaves and needles falling from surrounding trees, bushes and vines as well as chips and dust thrown from saw heads can enter the engine enclosure of a logging machine both as airborne debris and pieces broken off by machine movement.

Engine exhaust temperature often exceeds 425°C (800°F). Remember *Fahrenheit 451*, the dystopian Ray Bradbury novel? Well, like banned books, forest debris will ignite and burn at temperatures of 200-260°C (400-500°F). Consequently, if forest debris makes contact with high temperature engine exhaust components like the manifold, turbocharger or muffler, then the risk of a machine fire is greatly increased.

Once a wood debris fire has been initiated, many other materials on the machine could become involved as well, rapidly turning a small, localized fire into a raging machine inferno.



**Tigercat shields the muffler and separates the exhaust system from other components where possible.**

These other materials include:

- rubber and plastic hoses
- electrical wiring insulation
- engine oil
- hydraulic oil
- diesel fuel
- engine anti-freeze

The prevention of a logging equipment fire is an ongoing effort. Cleaning, washing and removal of accumulations of forest debris within the machine are important responsibilities and tasks to be completed frequently.

Equally important is the ongoing inspection and maintenance of engine exhaust system components to ensure that all exhaust gases exit the machine only from the exhaust pipe after the muffler. If exhaust leakage occurs anywhere inside the engine compartment, all of the above components and materials are exposed to the high temperature gases. At

best, this leads to premature component failure. At worst, it significantly increases the risk of machine fire.

Examination of all engine exhaust components for leaks must be conducted frequently. Always thoroughly inspect for:

- cracked manifolds
- loose or missing bolts
- loose clamps
- leaking gaskets
- loose or missing debris guards and shields
- broken mounting brackets
- rusted or cracked pipes and mufflers

This inspection work should be incorporated into morning warm-up procedures, daily lubrication and maintenance schedules or end-of-shift cool-down checks.

*Be proactive.* If any exhaust system components appear to be nearing the end of their useful service life, repair or replace the parts before they fail. If an exhaust leak is found, the machine must be shut down immediately and not put back to work until the necessary repairs have been completed.

*Listen.* A change or increase in the engine exhaust noise level is usually a sign of an exhaust leak. This audible warning cannot be ignored; immediate action is required.

*Planned downtime.* As machine operating hours accumulate, major service work or engine replacement may be undertaken. Use these opportunities to conduct a thorough examination of the complete engine exhaust system, replacing any marginal components.

Machine fires are expensive – more expensive than the time it takes to clean out the machine and inspect the exhaust system on a daily basis and far more expensive than replacement parts. Machine fires are also largely preventable. So think ahead, be proactive and avoid the long list of associated financial, human and environmental costs.

For more information, refer to the *Fire Prevention* pages in Section 1 of any current Tigercat Operator's Manual. This same material is available at [www.tigercat.com/safety.htm](http://www.tigercat.com/safety.htm). ■

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# Tigercat Marches Across Siberia

– Matt Roberts, international sales manager

On a February trip to start up a new H860C harvester and provide initial operator training, I was fortunate enough to follow up with two of Tigercat's first customers in Siberia. The companies purchased the Tigercat systems nearly one year ago.

After a gruelling 16 hours of flying time from Toronto, via Frankfurt, St. Petersburg and Moscow, we arrive early morning in Bratsk, the second largest city in the Irkutsk region of Siberia. We are met by Viktor Mishurov, general director and Nikita Mikhaylov, service

manager for Husqvarna Siberia. The company is under contract with Tigercat's Russian distributor, Canadian Forestry Machines Ltd. to service Tigercat machines in Siberia. With no time for rest we pile into Viktor's Land Cruiser and drive six hours south to Ust-Uda.

Upon arriving, we head out onto the Uda River for the 60 km (40 mi) journey to the harvesting operations of Angarsky Les. In the winter months river travel is by far the most efficient means of reaching the cut blocks. There is nothing quite like driving at speeds approaching 160 km/h (100 mph) over a frozen river in Siberia. In the flat, overcast light, it is difficult to distinguish between the road's edge and the banks of snow piled on each side. There are more than a few collective gasps as Viktor either under or over steers the Land Cruiser while navigating the many curves arbitrarily inserted in a vain attempt to lower the speed of the local traffic.

**The H860C during start-up and operator training. Together, Tigercat and Canadian Forestry Machines are making a significant investment in training and support.**





**The L870C is becoming the felling machine of choice in Siberia.**

Along the way, we pass Siberian pine and larch stacked at the river's edge awaiting the spring thaw. Yuriy Torokhov, general director of Canadian Forestry Machines explains that each winter month 20 000 m<sup>3</sup> (5,500 cords) is transported 300 km (185 mi) by truck over the frozen river to the paper and saw mills further south. The Angarsky Les harvest crew is currently producing 30 000 m<sup>3</sup> (8,275 cords) in 20 days, so the excess is stockpiled. It will be floated to the mill over the summer to ensure a steady wood supply when soft ground conditions limit harvesting capacity.

We are met at the cut block by Vladimir Konstantinov and Igor Pervokhov, general and deputy directors of Angarsky Les. The first thing that strikes me is that this is neither a true clear fell or a selective cut operation but something in between. Vladimir explains that the feller buncher clears 4-5 m (13-16 ft) wide corridors spaced about 5 m apart. The large trees between the corridors are also felled, leaving the younger growth to regenerate the block. According to the forestry engineers from Bratsk State University, this is the most effective means of natural forest regeneration and looking at some of the areas harvested in past years, it seems to work well.

Angarsky Les is felling with a TigerCat L870C equipped with a 5702 saw and 110 degree wrist. At the time of the visit the machine has just over 3,000 operating hours and Vladimir comments favourably on the performance and production rates. The L870C is cutting up to 1,2 m<sup>3</sup> (0.33 cord) pine and larch with butt

## Canadian Forestry Machines Ltd.

Yuriy and Yana Torokhov are the owners of Russian Tigercat distributor, Canadian Forestry Machines Ltd. They initially conducted extensive research into what makes a successful dealership in the Canadian forestry market and emulated this business model in Russia. Only three years into the forestry game, Yuriy and Yana have built a highly successful business and an entirely new concept of a Russian equipment dealership.

Canadian Forestry Machines' central office is located in Perm, just west of the Ural mountain range and well positioned to service the region's forestry areas. After successfully launching operations in Perm, the company quickly focused on the Irkutsk region of Siberia, one of the largest forestry sectors in Russia with a current allowable cut of 90 million m<sup>3</sup> (25 million cords) per year, about 55% of Russia's total volume.

To support Irkutsk, Canadian Forestry Machines partnered with Viktor Mishurov of Husqvarna Siberia which has eight service facilities in the region. Service coverage for Tigercat machines in Siberia is now three times more extensive than any other major harvesting equipment supplier. In addition, Canadian Forestry Machines has invested heavily in a spare parts stock valued at two million (US) dollars for the Tigercat machines working in Siberia. Aside from normal consumable items like filters, saw teeth, bars and chains, this stock includes complete axles, gearboxes, cylinders and other large items that will prevent costly down time. Response from contractors and mills in Siberia has been very positive, proving that Yuriy and Yana have found a winning approach to supplying equipment to the Russian forestry industry.

diameters approaching 80 cm (32 in) and the operator is quite pleased with its ability to handle the large timber.

The corridor system works very well for transporting. Each of the two 630C skidders runs up and down its own corridor; the two machines do not interfere with each other. Both skidders have worked without issue over eight months of operation.

At roadside, a TigerCat T240B equipped with a Rotobec 6606HD grapple and a dead heel handles the loading duties. This configuration coupled with 30 m (100 ft) log lengths presented the operator with a bit of a learning

curve. The typical loading method in the southern US where the stem is hooked around the rear bolster and dragged up the trailer cannot be used with these extremely large logs due to the damage caused to the bolster. Instead the loader operator places the butt of the tree into position



Each system utilizes two 630C skidders for transporting

against the headache rack of the trailer, then picks it up closer to the tip to lift and clear the bolsters for placement onto the trailer.

The T240B is currently loading a truck with approximately 25-30 tonnes (27-33 tn) of wood in 10-15 minutes. The next loader purchased by Angarsky Les will use a

Butt N' Top grapple configuration to give the operator more control of the larger trees. Igor expects loading time to decrease dramatically with the extra control of a Butt N' Top grapple.

Darkness falls and we head back to Ust-Uda where Vladimir and Igor treat us to a traditional Russian meal complete with the mandatory vodka (for more on vodka, Russian style, see side bar.) After an excellent meal, we pour ourselves back into Viktor's truck and head back to Bratsk for a few hours sleep before the next leg of our journey.

The next day we drive northeast to Ust-Kut, the location of a new sawmill being constructed by Trans-Siberian Forestry Company (TSFC). Although the mill is not scheduled for completion until fall, TSFC has already started harvesting operations using three sets of Tigercat machines. Each system consists of an L870C feller buncher with 5702 felling saw feeding two 630C skidders, two H860C harvesters at roadside and a T240B loader. Recently TSFC added more to its



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Tigercat machine stable. An L870C equipped with a Pierce Pacific PSB3440 bar saw head is slated for the few areas with trees over 1,5 m (4.9 ft) in diameter. Five new T250B loaders with Rotobec 8806 1 m<sup>2</sup> (10.7 ft<sup>2</sup>) grapples will assist in the mill yard and the forest. Finally, we have come to start up and provide initial operator training for the new H860C equipped with Tigercat's TH575 harvesting head.

At the mill site we are greeted warmly by Anatoly Yakimov, general director of TSFC. Construction is well underway and Anatoly gives us a tour of the main buildings, in-feed and sorting systems and drying kilns. Ust-Kut is far removed from the urban areas of Irkutsk and Bratsk, bringing a unique set of challenges to a construction project of this magnitude. Concrete is made on site using local aggregates. The outer mill structure has been imported from China complete with the labour. The in-feed and sorting systems are of Anatoly's own design using components from Europe and Canada. TSFC has even gone to the extent of building a hotel on site to house the many European workers and specialists



that will come to install and commission the wood processing equipment. The mill will be the most advanced of its kind in Russia with wood consumption estimated at nearly 5 million cubic metres (5 million tons) of round wood per year.

After the tour we head 160 km (100 mi) north to the main camp where the machines have been harvesting Siberian pine and larch at a rate of 30 000 m<sup>3</sup> (8,275 cords) per month per machine set. We meet with Pavel Tribunsky, director of forestry operations and make our way to the new H860C. After an initial inspection and orientation, the excited operators take it for a spin while we await the

**Each skidder travels within its own corridor**

**cont. on pg. 18**



**A view of the corridors from roadside**

arrival of Tigercat operator trainer Pierre Fortin.

While the H860C is out for its test drive, I take the opportunity to watch the other machines work. The L870C has no difficulty handling the 1 tonne trees, laying them in neat bunches ready for the 630C to transport 200-300 m (650-1,000 ft) to roadside. There, the older H860C equipped with an AFM 80

Magnum harvesting head is quickly processing the trees into 5 m (16 ft) lengths. The T240B loaders can be seen over the hill working on the timber stacks already processed by the H860C. The site is as well run as any I've seen. Pavel has done an excellent job training the Russian operators for this new corridor-type harvesting technique previously unused in Siberia. ■

## Vodka, Russian Style

Vodka is well known throughout the world for its Russian roots. Lesser known are the three Russian rules governing the spirit: Vodka must be Russian, it must be cold and it must not be mixed with anything. Russians cringe at the thought of us poor, uninformed saps in the rest of the world drinking non-Russian vodka mixed with tomato juice, orange juice or heaven forbid, Red Bull. And saints preserve us if we should happen to toss in an ice cube! No, vodka drinking is a fine art and if you find yourself at a dinner party in Russia where vodka is being served, here are a few helpful tips to make the experience an enjoyable one.

First, the vodka will be served in a bottle or carafe that has come straight from the fridge, or better yet, the freezer. It will be poured into shot glasses, one for each guest. Do not drink yet. The dinner host will initiate the first round by picking up his glass. This is a signal that a toast is about to occur and you should also pick up your glass. If you don't like vodka, tough, you should not have sat down at the table in the first place.

Second, you shouldn't drink vodka without something to follow it, so while preparing for the toast be sure to grab a piece of bread or pickled herring. Don't worry, there will be lots of both on the table in front of you and Russian bread is made for the express purpose of drinking vodka.

Third. The host will proceed with the toast, the content of which will be undecipherable to

you. However, this is just a means to an end so the content is not really important. After the toast there will probably be discussion amongst the guests about the toast. As the lone English-speaking person you will not be expected to join this conversation. Eventually the talk will end and everyone will drink their vodka. Watch for the tell-tale raising of the shot glasses and follow suit. Now, this is where those with good poker faces will really benefit. Try not to make a face, contract your neck muscles or worse, fall to the ground gasping for breath. Remember that piece of bread or pickled herring you obtained earlier? Eat it now.

Fourth. It is customary that the time between the first and second glass of vodka can be no longer than a gun shot, so while you are trying to recover from the first drink, your glass will be magically refilled. Again, don't drink your vodka yet as another toast is coming. This time somebody else will do the honours, most likely not you so don't get concerned yet. Have more bread or pickled herring in hand and drink with the rest of the guests.

Fifth, sixth, seventh, ninth... This process will repeat itself many times over the course of the dinner. Eventually everyone will look to you to make a toast. Don't panic! By this point you should be vocally well lubricated. Just keep it short and simple. A nice thank you to your hosts and a toast to everyone's continued success will suffice. If you have managed to get yourself into the delicate situation of speaking fluent drunkenese, don't worry, your interpreter will sort it out for you.

за ваше здоровье! (Cheers!)

## PRODUCT NEWS

### B-Series Forwarders

Tigercat's extreme duty forwarder line has been redesigned with the operator in mind. The first B-series model to hit the market is the 1075B, Tigercat's extreme duty 20-tonne (22 ton) capacity machine. It debuted in March at AUS Timber 2008 in Mount Gambier, Australia.

Most of the B-series changes have taken place in the cab and operators will immediately notice increased comfort levels and reduced fatigue over long shifts. The cabin interior has been significantly upgraded with improved ergonomics and an automotive style finish. The joystick pods are easier to operate with only one function per control. The potentiometer (controlling maximum speed) is helpful in tough terrain.

Visibility has been enhanced by reducing the width and moving forward the structural door post. An optional



The cab has been completely redesigned for improved operator comfort, ergonomics and visibility.

HID lighting package significantly improves visibility during night operation. The air conditioning, heating and defogging systems have been enhanced for more effective climate control.

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**The first 1075B working in a pine plantation in Australia.**

In-cab sound levels have been reduced by approximately 5-10 db (depending on engine rpm) with initial testing producing levels under 66 db at full 2,200 rpm engine speed.

The next generation control system with an improved display interface allows operators to set their own password protected crane settings -- an asset in multiple-shift applications. Alternatively, the crane setting adjustments can be locked out altogether.

Tigercat forwarders have always led the industry in service access. Both sides of the engine are easily accessible via the hand tilting hood enclosure. All valves are accessed in one location at working height. The B-series forwarders also have improved access to the electrical systems.

The 1075B is likely the highest capacity, lowest cost per tonne forwarder available for high production forestry operations. With Tigercat's unique centre section design, an oscillation lock is not required. Unlike any other forwarder, the unmatched stability of the 1075B allows the operator to comfortably reach the boom over the side of the machine to pick logs while travelling for improved productivity.

The wide-spread 20 tonne (22 tn) bogie axles significantly reduce ground pressure when equipped with tracks and improve performance on steep slopes by reducing bogie lift. ■

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## TIGERCAT NEWS

### Co-op Student wins Award

Tigercat co-op student Mike Yoell recently received the Canadian Manufacturers and Exporters Recognition Award for academic excellence. The Canadian Manufacturers and Exporters is Canada's largest trade and industry association. Yoell maintained a 4.0 GPA over a three-year Manufacturing Engineering Technology program at Fanshawe College in London, Ontario.

### Tigercat skidder dominates Texas race course

At the 2008 Forest Family Fun Day & Equipment Show, held on May 10 in Lufkin, Texas, a Tigercat 620C skidder, operated by Sean Schlagg of Josh Seizmore Logging won the Bull in the Woods skidding competition. Competing against a Timberjack 648H TC, a John Deere 648H and a CAT 525C, Schlagg piloted a lightly loaded 620C around a course consisting of flat, dry ground interspersed with soft ground and deep mud holes in 1 minute 58 seconds. The next fastest time was 2:23.



**District manager for south central US Heinz Pfeiffer congratulates Bull in the Woods winner, Sean Schlagg.**

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