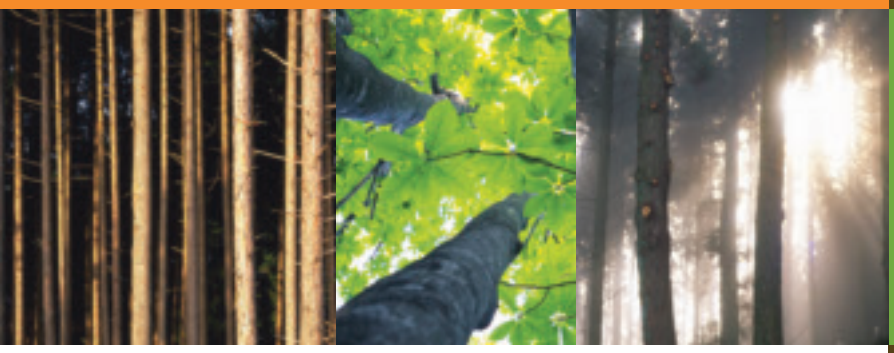

between the BRANCHES

OFFICIAL PUBLICATION OF TIGERCAT INDUSTRIES INC.

GREEN FIELDS

Starting from scratch and the story of PG Bison

— Paul Iarocci

PG Bison, a large, vertically integrated South African company owned by Steinhoff International, manufactures and markets timber, poles, wood-based panel products, decorative laminates and solid surfacing materials.

In 2006, it purchased 82 000 ha of plantation and grazing land from South African forestry company, Mondi. The land, in the vicinity of Ugie and Maclear, in a remote part of Eastern Cape and skirting the famous Drakensberg mountain range, is comprised of a mosaic of pine and eucalypt plantations, intermixed with high quality native grassland, well suited to grazing cattle. PG Bison has 5 000 head of cattle grazing the grasslands. The Nguni breed is renowned for its mottled hides. Diverse native species such as Zebra, buck and wildebeest also frequent the area.

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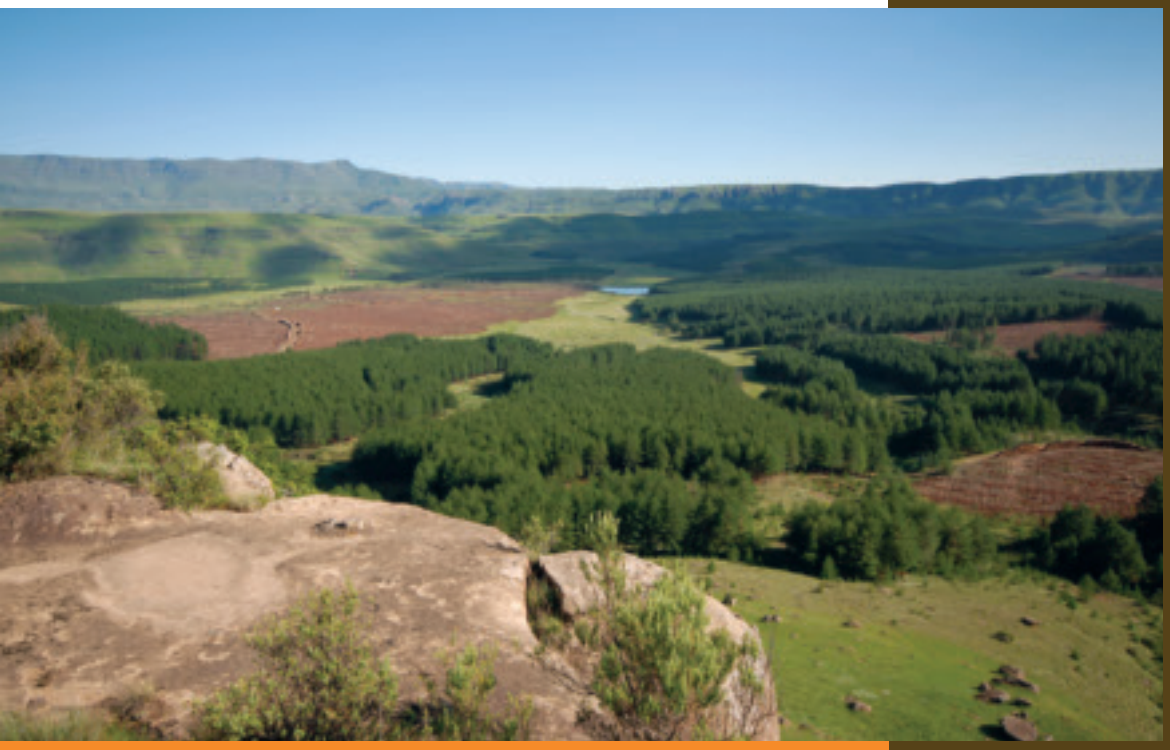
INSIDE



The slopes and valleys that lie adjacent to the Drakensberg mountain range are a patchwork of pine and eucalypt plantations, grasslands and other native flora.

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Zebra graze a recently harvested compartment in front of PG Bison's high tech, continuous press board mill.

The forestlands, occupying about 33 000 ha of the total land holdings, were planted by Mondi in the early 1990s after the land was acquired in parcels from a number of farmers and individual landowners. Although Mondi maintained the plantations, the company never actually commenced harvesting operations.

By 2008, PG Bison had completed construction of the Ugie Board Plant. The only of its kind in South Africa, the state of the art continuous press board mill utilizes the very latest German technology. Building the mill in a remote, rural community was only one of the challenges that PG Bison faced. On the forestry operations side, the company was basically starting from scratch. As Operations Manager, Pieter de Wet, puts it, "When we started four and a half years ago, this was a green fields operation."

When PG Bison came to purchase the land from Mondi, the Ugie-Maclear region suffered from extremely high unemployment and poor infrastructure. Additionally, the labour force was unskilled and not ideally suited to operating modern harvesting equipment. "You must remember that we operate in an area with 71% unemployment rate and with very low skills base," Pieter emphasizes. "So we had to go through a selection process, get the right people and train them even before the machines arrived so as to try and shorten the learning curve."

Harvesting manager, Mark Wells, weighs in on the challenges PG Bison faced. "When we started here we had no infrastructure at all. We had to build a workshop from scratch. It took a lot of interaction with individuals who had the expertise that were not in the area."

Weighing a myriad of factors, Pieter settled on a CTL harvesting system. One of the primary reasons for a harvester-forwarder system was an environmental consideration. The plantations often climb out of wet, environmentally sensitive valleys, necessitating extended transporting distances over soft terrain – not the best options for grapple skidders. "We went through quite a detailed study on the different harvesting systems," says Pieter. "We operate in one of the most sensitive forestry areas in the country and the cut-to-length is a bit softer on the environment."

Another factor for Pieter was the structure and geography of the plantations. Falling within a 65 km radius of the mill, the plantation compartments are a patchwork of multiple species of pine and eucalypt stands depending on soil conditions and elevation. In order to harvest in a sustainable way and meet the demands of the board plant and PG Bison's sawmill customers, the machines are often moving from one small compartment to another and it is necessary to harvest at multiple sites simultaneously. As Pieter

points out, "Sure we could have accomplished the same production numbers with a single skidder-feller buncher system, but that would not allow the flexibility that we require." A single high production system would limit PG Bison's ability to harvest pine and eucalypt at the same time. In addition, a feller buncher tends to get well ahead of the processors and Pieter explains that having wood sitting for extended periods seriously affects the ability of the processors to debark.

The LH830C equipped with the Log Max E6. The E6 is proving to be highly effective for debarking 0,15-0,3 m^3 stems.

The board mill consumes 1 500 tonnes of fibre per day and accepts 3 m lengths. To achieve that daily production, PG Bison purchased four CTL systems. The harvesters are either Tigercat H822C or LH830C track carriers with Log Max heads. (The newer E6 is proving to be a particularly capable eucalyptus debarking head for trees in the 0,15-0,3 m^3 range.) The forwarders are Tigercat 1065 models. In addition, PG Bison purchased a used LH830C with a Tigercat TH575 harvesting head for felling and processing pine saw logs. Each system is producing on average 20 m^3 per hour with stem sizes in the 0,2-0,3 m^3 range. In total, PG Bison harvests 450 000 m^3 annually. (PG Bison also purchased truck mounted Tigercat 220 loaders for loading trucks.)

Pieter leaned toward the Tigercat brand for a number of reasons but in the end, they mostly relate to uptime. Pieter comments, "We went through quite a rigorous process and the whole issue about training and back-up service was a major consideration and why we eventually decided to go with Tigercat machines. I must say that Tigercat came to the party. There were people here when the machines were commissioned and every year so far there were technical courses that we could send our people on."

Land stewards. As a major landowner in Ugie, PG Bison not only maintains its plantations and roads but has taken responsibility for large expanses of land that remain in a natural state. The flowering plant, Protea, is native to South Africa.

Mark adds, "Tigercat was the only company that was actually prepared to give us a commission training period where they would bring in expertise and professionals that were able to help us out and get our operation going."

Durability was an important requirement because the machines

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The 822C In addition to the four Log Max equipped harvesters, PG Bison uses one LH830C equipped with a Tigercat TH575 head for harvesting pine saw logs..

were to be used for operator training. With the high turnover that PG Bison is still experiencing, operator training has been ongoing and continues to this day. One must not underestimate the additional punishment CTL machines suffer when piloted by inexperienced operators. The durability and build quality of the Tigercat product has gone a long way toward maintaining acceptable availability rates as well as overall machine lifespan. "We have been training for four and a half years," explains Mark. "It has been an ongoing exercise where we've introduced new people continuously to the machines. The machines have outperformed any view we might have had from the beginning."

Pieter especially appreciated that the carriers were purpose-built with proper attention paid to hydraulic efficiencies and cooling capacity. (Summer temperatures can exceed 35°C and, oddly enough, knee deep snowfalls are routinely experienced in winter.)

Another equally important factor is related to the remoteness of the operations. "Due to us being remote, we had a unique risk profile," explains Pieter. The product support offered by Tigercat dealer, AfrEquip, as well as the direct factory support was far beyond what other suppliers were willing to offer. AfrEquip has a full time service technician, Rudy Ferreira, in place in Ugie to exclusively look after PG Bison's Tigercat fleet.

People focused

PG Bison is a progressive company and there could be no one better to head operations than Pieter. For a forestry guy, his human resource management skills are exemplary. In May 2011, PG Bison's Training and Development Centre officially opened. It aims to provide professional and up-to-date forestry training accredited by the Forest Industries Education and Training Authority and the Transport Education and Training Authority.

As Pieter explains, PG Bison's operator training is open to anyone, not just its own employees. The program takes individuals who may never have driven a car before and teaches them the intricacies of operating harvesters and forwarders as well as teaching basic life skills such as how to manage household finances. PG Bison's pay scale and benefits are well beyond the average for the community and employee health and safety standards are of paramount importance. The benefits to the community are extensive and difficult to quantify. The company has greatly improved the infrastructure of Ugie and the surrounding area.
Overall the PG Bison Ugie operations employ nearly 3,000 local people. ■

It's been a tough four years…PG Bison runs four 1065 forwarders. Durability was an important purchase criterion. The machines have had multiple operators and new operator training is ongoing.

Minimize drag resistance.

FUEL ECONOMY COUNTS

Adapted with permission from FPInnovations' Guide "In Forestry Operations: Fuel Economy Counts! 2nd Edition".

The design, maintenance practices and operating conditions of forestry machines, as well as how they are used influence fuel consumption. As the owner of forestry machines, you can reduce the impact of increased fuel prices by purchasing new equipment that is proven to have low fuel consumption. You also need to be well informed on how to adequately maintain and correctly operate your equipment so as to reduce fuel consumption.

According to various experts, fuel consumption differs among the different types of equipment. These differences can be explained by three main factors: the design of the machine, the engine technology and the operator's work methods. Purchasing the wrong machine for the job can clearly have a considerable impact on fuel consumption.

Equipment choice and fuel efficiency

Choosing accessories wisely and using them appropriately can have a strong impact on fuel consumption.

Engine power

Diesel engines provide a wide range of power outputs but operate at different degrees of efficiency for each power level. In general, these engines are most efficient when operating at the speed where they develop their maximum torque and use 75% of this torque. An engine operated in this manner will consume less fuel. Therefore, when the machine requires less power, operators should reduce engine speed so as to maintain a high output torque. [BTB editor's note: This does not apply to machines that require full

engine speed in order to maintain hydraulic flow to an attachment.]

Remember that the combination of high engine speed with low output torque increases fuel consumption. Operators of forestry equipment should avoid traveling in the woods at excessive engine speed. The use of moderate engine speed can save fuel and reduce maintenance and repair costs without decreasing productivity.

Pollution controls and fuel efficiency

Emissions Tiers were initiated in the 1990s by the US Environmental Protection Agency (EPA), with the goal of reducing particulate matter, unburned hydrocarbons, carbon monoxide (CO) and oxides of nitrogen (NOx). This goal was realized but fuel consumption increases were commonly observed. With the introduction of Tier IV Interim, fuel consumption improvements have been observed and Tier IV Final engines should result in even better fuel efficiency in most operations.

The fan

Thermostatic fans and hydraulically driven variable-speed fans improve fuel consumption only if the machine's cooling system is up to the job. In general, the fan should not be required to work at full speed under all working conditions. A fan that operates continuously at full speed consumes 1-2 L/h. [BTB editor's note: For a Tigercat 800 series machine, the range is 2-7 L/h, running the fan at low speed versus full speed.]

The power train

The power train must be matched to the engine capacity to operate efficiently. Mechanical transmissions should provide a range of gear speeds so the operator can reduce engine speed to the lowest speed needed. Hydrostatic transmissions are often equipped with an electronic control. The acceleration pedal then signals the desired travel speed to the computer, which adjusts the engine speed and fuel flow in response. This approach minimizes fuel consumption.

Differential lock

Automatic differential locks sometimes engage at inappropriate times and the resulting slippage of one or more wheels increases fuel consumption. A manual differential lock, used when needed, is more efficient. The use of manual differential locks at appropriate times can reduce fuel consumption. However, operators must pay careful attention to wheel behavior to obtain good results.

Swing level. Tigercat paid close attention to fuel efficiency, designing an energy recovery swing system into the LS855C.

Hydraulic systems

The effectiveness of a hydraulic system depends on several factors that are difficult for a buyer to determine. It is possible to lose considerable efficiency through a poor choice of the mechanical and hydraulic components of a forestry machine. Load-sensing hydraulic control systems are generally the best choice for forestry machines, followed by constant-pressure systems. Load-sensing systems regulate the hydraulic pump's pressure and flow to meet the demands of the machine's hydraulic

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functions. Load-sensing systems are particularly appropriate for situations in which the load varies.

It is preferable to install flexible hydraulic oil hoses of appropriate diameter and to be particularly careful to avoid elbow fittings or tight bends in the lines.

Hydraulic oil cooler

Hydraulic oil coolers should be equipped with a thermostat that lets the oil warm more rapidly and maintain its optimal temperature longer. Oil viscosity varies depending on the type of oil used (summer vs. winter). Too-thick oil slightly increases fuel consumption, whereas too-thin oil increases component wear.

Maintenance and optimal machine use

Optimal use of a machine and good preventive maintenance are effective means of saving fuel. Here are some other simple, practical tips that can help:

- Use work lights only when required. Their use can increase fuel consumption by up to 0,5 L/h.
- For machines equipped with a loading boom, fuel consumption during boom use can be reduced, up to 5%, by moving the machine close to the load and not maximizing boom reach.
- Choose tires of adequate dimensions so as to minimize sinking and loss of traction. According to studies conducted by FPInnovations, skidders equipped with high-flotation tires have lower fuel consumption than skidders with narrow tires on soils prone to rutting. However, the narrow tires provide greater mobility in deep snow. Thus, it would be best to use different tires in each season.
- Keep all tracks and chains properly tensioned. Slack chains or tracks increase fuel consumption due to excessive slippage.
- Keep the fuel-supply system components in good shape, since leaks and spills increase fuel costs.
- Minimize engine idling. A typical feller buncher engine can consume up to 2,5 L/h while idling.

ER improves fuel economy (or production) for lower cost per tonne.

- Follow the cold weather start-up procedures specified for your machine so as to shorten the warm-up period. Depending on the temperature, let the engine idle for 5-10 minutes. Next, use the hydraulic functions slowly, keeping the engine speed at around 1 100 rpm. If you hear noise from the pumps, reduce the speed.
- Keep the radiator and oil cooler clean. This helps keep the oil at the right temperature, thereby reducing fan operation for thermostat-controlled fans.

Per hour or per tonne?

Dividing daily fuel use by hour meter reading will yield liters consumed per hour. However, lower values may not necessarily indicate a more efficient machine, as long idle durations or low productivity can create the illusion of good fuel economy. In other words, low fuel consumption per hour does not pay if there is very little production. A better measure is liters of fuel consumed per cubic meter (or tonne) of wood produced. This measure of fuel intensity is the best method for measuring your cost of production in terms of fuel use and will help you gauge improvements in operator methods or work practices. Measuring productivity on a daily basis can be challenging, but newer machines with on-board computers can track productivity on a relative basis.

Measuring fuel is the first step in managing fuel

Fuel filters

In the woods, fuel tanks are rarely fitted with a fuel filter, but their use is essential to maintaining your equipment. Installing fuel tank filters is easy and less costly than machine downtime. It is recommended that filters that remove water (water separator) in addition to particles be used to ensure clean and dry fuel.

Fuel meters

The first step in reducing fuel consumption is measuring how much you currently consume. Simple, inexpensive mechanical flow meters will provide the required information and are available from any fuel supply company. Properly maintained and calibrated, most are capable of an accuracy of 1-2%. Nutating disc meters are recommended for their high tolerance to dirt and foreign objects, rugged construction, and compact design. Follow the manufacturer's instructions for calibration and take note that they are not as accurate as meters intended for commercial fuel sales.

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Using fuel meters and recording the information will let everyone on the crew know that fuel tracking and use is important! Furthermore, it provides the operator with a benchmark that allows comparison between operating conditions and is the first step towards embarking on a fuel conservation effort. Many operations claim "noticeable" reductions in fuel consumption following the implementation of a simple fuel monitoring program.

Operating tips for reducing fuel consumption

Track feller bunchers and harvesters

- On firm ground with few obstacles, try to work using the middle range of the boom's reach (4-6 m) in front of the harvester; this reduces the energy required to move the boom. [BTB editor's note: On a Tigercat with an ER boom, it is most efficient to move the boom and not the machine, similar to the point about telescoping booms below.]

MEASURING ACCURACY TIPS

Remember, the first step in managing fuel consumption is to measure your fuel consumption. To increase accuracy of your fuel meter, here are a few simple tips:

Where possible, avoid pumping small volumes. Refill less often but with larger volumes.

Avoid interruptions during the fueling event. Each time the nozzle trigger is stopped, the system starts to drain itself back into the tank.

Fully depress the nozzle trigger. Half flow volumes can increase "false flow" readings.

Stop the pump if you have emptied the dispensing tank of fuel. The airflow from the pump will be recorded by the meter. The meter does not recognize the difference between fluid and air.

- On soft or stony ground, or when travel becomes more difficult, try to harvest the maximum number of trees while staying at the same position.
- Telescoping booms permit faster movement of the felling head towards the tree, require less power and reduce fuel consumption.
- Avoid sharp changes in direction during travel; gradual turns produce less skidding and consume less fuel than sharp turns.
- For machines equipped with a cab-leveling system, use the hydraulic cylinders provided for this purpose to keep the cab level; swinging a tilted cab requires more power and consumes more fuel.
- Avoid unnecessary swing and boom movements.

Harvesting heads

- Exert as little pressure as possible on the delimbing knives and feed rollers while still maintaining high delimbing quality.
- Use the energy of the falling tree to help you move forward or to delimb the stem. This move requires considerable skill. However, the energy provided is free.
- Keep the saw chain and delimbing knives sharp; cutting and processing of logs requires more power, and thus more fuel, when the cutting surfaces grow dull.

Felling heads

- Immediately replace damaged or worn saw teeth; this will require less power, thereby increasing productivity and improving the cut quality.
- Stop the saw motor during prolonged travel on the cutover.

Skidding and forwarding

- Minimize turns while traveling with a load; it's preferable to turn gradually, since this consumes less fuel than sharp turns.
- Install landings and extraction trails at the most appropriate locations; this approach both decreases fuel consumption and increases productivity.

- Try to travel on soils with a good bearing capacity; traveling in soils with poor bearing capacity requires more power, thus consuming more fuel.
- Use tire chains or tracks only when required to provide better mobility or flotation; these accessories require more power, thus more fuel.
- Where possible, plan work so that landings are located downhill. Moving loaded equipment uphill requires more fuel.

Skidders

- Transfer as much of the load as possible onto the skidder. By raising the load higher and closer to the cab, you reduce the friction of the tops on the ground and thus decrease fuel consumption.

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- Balance the pressure between the front and the rear tires. The rear tires deflect more, increasing the amount of friction against the ground, when the machine is under load.

Forwarders

- For cranes with a telescopic extension, pull the logs as close as possible to the machine using the telescoping feature before lifting the logs onto the forwarder; lifting the logs at full extension requires more power and thus more fuel.
- Avoid raising the logs high above the stakes. Position the forwarder as close as possible to the log piles and try to pass the logs between the stakes rather than above them, since fuel consumption increases the higher you raise the logs.

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FPInnovations is a world leader that specializes in the creation of scientific solutions in support of the Canadian forest sector's global competitiveness and responds to the priority needs of its industrial and government members and partners. It is ideally positioned to perform research, innovate and deliver state of the art solutions for every area of the forest sector's value chain, from forestry operations to consumer and industrial products. The following reprint by Tigercat, a leading forestry equipment manufacturer, underscores the practical value of FPInnovations' work in promoting fuel efficiency in all phases of forest operations. ■

UP AND COMER

Kane Mueller, son of Tigercat feller buncher owner, Dave Mueller says, "When I grow up I am going to own a Tigercat."

Dave operating his machine in coastal British Columbia.

IN THE THICK OF IT

Jimmy Glotfelty wrestles with giants as he tiptoes through West Virginia's natural mixed hardwood forests.

— Paul Iarocci

According to the West Virginia Forestry Association, West Virginia is the third most forested state in the US with nearly 12 million forested acres (4,8 million ha), 94% of which are comprised of hardwood species. It is in this richly endowed region that Mt. Lake Park, Maryland contractor J&B Logging Inc. operates in.

Owner, Jimmy Glotfelty started logging with his brother in 1995 and went on to form his own company, J&B Logging Inc., in 2003. It was initially a hand falling operation. As mechanization took hold, Jimmy like many other contractors in the area, invested in a Timbco zero tail-swing feller buncher equipped with a bar saw. This was an ideal combination for selective felling large, top-heavy hardwood trees on steep slopes.

West Virginia's steep terrain and often wet soil conditions limit the mobility and effectiveness of grapple skidders so additional duties were piled on to the track feller bunchers – namely removing large limbs, topping the trees and shovelling the wood within easier reach of the skidders.

The J&B Logging Inc. crew soon after taking delivery of the LX830C in late 2010. (L-R) Tigercat district manager Jerry Smeak, Eric Savage (hand faller, dozer operator), Lynn Sisler (LX830C operator), Jimmy Glotfelty (owner) and Brad Beckman (240B loader operator). Skidder operator, Terry Alexander, is absent.

Jimmy bought his first Tigercat – a 240B loader – from Lyons Equipment back in 2004. The machine has since accumulated over 12,000 virtually trouble free operating hours. "I've never touched the 240," asserts Jimmy. "It is a good machine." The loader is equipped with a bar saw slasher. Its main duties are sorting, bucking and loading shortwood logs and pulpwood.

Based on the performance and reliability of the 240B and Jimmy's relationship with Lyons Equipment salesman Jerry Smeak, (now Tigercat district manager for Pennsylvania, Maryland, Ohio and West Virginia) Jimmy bought a 630C skidder in the summer of 2007, replacing a smaller Timberjack 460. "It is my main machine," he emphasizes. Jimmy has since purchased another small skidder to work in conjunction with the 630C.

Again, it is the reliability and high uptime rates that have impressed Jimmy because machine availability is crucial to his operation. He runs a tight four-machine felling, skidding, loading and hauling operation. There is very little wood on the ground and the terrain leads to very small decking areas and hence not much of a buffer. A machine failure can quickly bring the operation to a standstill.

Shovel logging duties.

Jimmy's 12 000 hour 240B looks like new.

The 630C is usually confined to the main skid trail. The terrain and road layout often necessitate steep, uphill skidding. "The terrain is normally straight up and down, all uphill skids," explains Jimmy and then nodding toward the current tract, which sits on a gentler ridge, he says, "This terrain is pretty good."

Jimmy's latest Tigercat acquisition came in fall 2010. He purchased from Ricer Equipment (based in Lucasville, Ohio) an LX830C leveling feller buncher originally fitted with a third party bar saw. "I've had a couple of Timbcos and then I thought I'd try this Tigercat which I think is going to do a pretty good job and last a little longer," commented Jimmy upon taking delivery of the machine.

Jimmy notes that the LX830C is a bigger machine than a Timbco 445. "This machine is a lot heavier. It takes more to move it around. Hopefully we only move at the most six times a year."

Operator Lynn Sisler comments that the machine feels more stable. Jimmy concurs, adding, "It is a foot longer and six inches wider." When asked if there are

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Operator Lynn Sisler flicked the trees backward with the previous head, contributing to the problems. The superior structure of the 5185 coupled with the 340 degree wrist should address these issues.

any disadvantages to running a bigger machine than the 445, Jimmy responds, "You learn how to run it in the tight spaces. You can actually do better in the woods with a machine selective felling than you can do by hand. I felled by hand for probably the first eight years."

Even at 36 000 kg (80,000 lb), the bar saw equipped LX830C is a very versatile and extremely agile machine in these tight selective felling applications and ironically is dwarfed by the large hardwood in the stand. Generally, the trees are felled and where possible, laid parallel to the tracks, alongside the machine. This reduces track travel by shortening the distance to the top end of the tree. This motion was limited by the 40 degree maximum rotation of the original head. Lynn would compensate by opening the bottom arms first, tilting the head and flicking the tree backwards to bring it parallel to the tracks and as far rearward as possible.

In fact, when Jimmy received the machine, he immediately cut off the top horn, shortening the overall height of the head in order to allow Lynn to more easily flip the butts forward.

After felling a large tree, Lynn tracks or reaches back to the top end of the tree, removes the large limbs, tops the tree and bucks it into manageable lengths if necessary. Finally the trees are shovelled to the skid trail and bunched at approximately a 45 degree angle with the butts lined up on the trail.

Tigercat district Manager Jerry Smeak, squeezes past a bunch laid out over the skidder trail.

Although Jimmy says that on most of his tracts the timber is quite a bit smaller, these trees are big, sometimes requiring double and triple cuts. With very large limbs, they are also top-heavy and hard to handle. Despite the difficulty in dealing with the large, awkward trees, "It is easier to get the production with bigger timber," says Jimmy.

After only a week or two in this tough duty cycle – the extra handling and shovelling of the oversized wood – the trouble began. The bar saw began to break down on a weekly basis, failing the lower clamp arm or the saw unit. The situation was causing a great deal of lost production and reflecting negatively on the LX830C carrier.

Duane Barlow, Tigercat product manager for attachments explains, "The head looked robust and was said to work well in the Pacific northwest. Unfortunately it was not robust enough for West Virginia select cut hardwood."

Tigercat president, Tony Iarocci, visited Jimmy and promised a resolution of the issues with the head. Tigercat attempted to work with the head manufacturer but the company failed to provide a viable and timely solution for the structural or saw unit issues.

Then Barlow and his team looked for an alternative head among a half dozen different manufacturers. "None of them provided the combined features of durability, simplicity and cost effectiveness to suit the application," says Barlow. "Jimmy's comment was, 'Why doesn't Tigercat just build a bar saw?' So we did a basic layout starting with the saw box design from our harvesting head, with two arms and our 340 degree wrist. The concept was reviewed and we got the green light to move forward."

In the thick of it. The LX830C adeptly cuts and controls the large timber within the tight natural stand.

The detailed design process began with a review of the specific application and other heads used in similar applications. The layout was completed with the idea of building a strong, simple, productive head that would provide superior versatility for felling, limbing, topping and shoveling.

"A compact head design with thick, high-strength plate used in a fully boxed construction gave the needed durability," explains Barlow. "Adapting our proven 340 degree wrist with a new control manifold would provide the needed dexterity. A grapple-like pair of clamp arms was designed with one double-tine arm and one single tine, using independent

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Sisler routinely limbs and bucks the trees in-stand.

cylinders for maximum control. The arm pivot pins are three inch diameter and similar in design to those used in our skidder grapples."

Using design knowledge from the harvesting head program, Barlow's team designed a new high-performance 19 mm (¾ in) pitch saw unit. Mounted on two pins with spring support to allow the saw unit to move when loaded vertically, the design minimizes bent bars. The saw is available with a manual tensioner or an optional hydraulic tensioner as well as optional saw *home* and *position* sensors. The saw control manifold is available with either pilot or solenoid control to suit the carrier and application. Jimmy opted for simplicity, choosing the manual tensioner, no sensors and full pilot control. He did purchase the optional 340 degree wrist.

The hydraulic control is designed to work with Tigercat carriers, providing fast arm speeds, superior grip and enhanced saw performance. Electronic control of the sawing functions was optimized with input from Jimmy, providing full manual control plus automatic features to suit the select cut and limbing applications, with adjustments to suit operator preference. Jimmy says he is extremely happy with the Tigercat 5185 and that it was worth the wait. The head has worked over 550 hours with no mechanical failures or downtime.

Back at roadside, the 240B is loading shortwood saw logs onto one of Jimmy's two trucks. He contracts out a third truck, which provides enough hauling capacity for the six to seven loads that J&B produces daily.

Jimmy and his crew are felling high value hardwood used to produce high grade boards. "This load will go to the Allegheny sawmill in Kingwood, West Virginia. We cut cherry, soft and hard maple, white and red oak, beech, birch and hickory."

Allegheny not only demands a quality product but also emphasizes the importance of preserving the standing timber. "The residual timber we are leaving? That's why I got Logger of the Year. You just don't go in and cut a tree here and there," says Jimmy, gesturing toward the stand with a wave of his arm. "You can look in there – the tops aren't broke out. They want to come back every ten to twelve years and cut'em again." ■

It took a year but Jimmy finally received his new Tigercat bar saw. He says it was worth the wait.

TIGERCAT AND CBI COLLABORATE

New CBI Flail is equipped with new Tigercat 215 loader.

For the past couple of years, Tigercat has been collaborating with Continental Biomass Industries. CBI is marketing a new high-capacity chipping and flailing system designed to maximize throughput, minimize downtime, increase production and reduce operating costs. Tigercat developed the 215 loader, specially designed to be mounted on the CBI Magnum Force Flail 604. In addition, the chassis of the flail itself is being fabricated by Tigercat for CBI.

This flail system is operating in Brazil in conjunction with a Tigercat T250B loader.

The compact 215 loader is powered by a Caterpiller C4.4 Tier III 96 kW (129 hp) engine. The unit weighs 7 650 kg (16,860 lb) and has a maximum reach of 8,25 m (27 ft).

An efficient load sensing hydraulic system provides quick boom cycles, while swing priority speeds up swing cycles. In addition, it achieves high volume per grapple load. This results in higher operating performance in high production eucalyptus debarking and chipping applications.

The upper frame design is compact without sacrificing service access and the operator's station is large and well finished.

Currently, there is one Magnum Flail operating in Brazil and an integrated flail-chipper system working in Western Australia. Two more units have been completed and shipped.

The Magnum Force 604 is a four-roll flail engineered for the highest volume debarking while reducing fibre loss, chain wear and fuel consumption. Full width, large diameter feed rolls ensure continuous positive feed and provide the highest throughput available at over 140 tonnes per hour.

The Magnum Force DC 754 is equipped with a four-knife, 1 905 mm (75 in) chipper disc and boasts a large 660 mm (26 in) feed opening. To reduce landing costs, the trash separator and bark pusher both discharge on the opposite side of the chip discharge, allowing a trailer to park parallel with the chip system while being loaded.

For more information on CBI, please visit: www.cbi-inc.com

CBI flail-chipper system.

DISTRIBUTION CHANGES IN AUSTRALIA

Tigercat is pleased to announce that Onetrak Pty Ltd has been appointed as Tigercat distributor in the Australian states of Tasmania, South Australia and Victoria effective March 1, 2012. Forest Centre Pty Ltd has been the Tigercat dealer in Australia for the past twelve years and will continue to operate in Western Australia, New South Wales and Queensland.

Onetrak is a dynamic heavy equipment retailer servicing clients within the forestry, civil construction and extractive industries. Full sales, parts and service coverage is currently available for the Hyundai, Furukawa, Ammann product lines.

Onetrak managing director, David Hazell, comments, "Onetrak is very pleased to announce the new relationship with Tigercat. To date Onetrak has had great success in the forestry sector with the Hyundai brand and expanding this market has been a core strategic ambition. Being able to do this with a product like Tigercat is a great opportunity and we are very proud to be representing a product of this pedigree. Their machines are second to none and their people are focused, down to earth professionals who specialize in the forestry industry and contractors' requirements."

"We believe the Tigercat product fits perfectly within our existing business structure and with Onetrak's forestry related background. We have the infrastructure, knowledge and industry commitment that will benefit our customers and build upon the strength of the already established Tigercat brand here in southeastern Australia," David asserts.

"We look forward to meeting and reacquainting ourselves with the many Tigercat customers within our area of responsibility."

Forest Centre will continue to represent the Tigercat product range with renewed focus in its newly defined territory, providing comprehensive sales, service and parts support to Tigercat customers. Customers in Onetrak's territory can feel confident with the knowledge that the company will receive all necessary training and support from Tigercat. Furthermore, Tigercat, Onetrak and Forest Centre will work hard to ensure that the changeover of representation in the affected regions is a very smooth process with no interruption in services to Tigercat customers.

About Onetrak Equipment

Incorporated in 2006, Onetrak Pty Ltd has rapidly grown into a major player in the Australian construction equipment ranks. Employing over 20 people across Victoria and Tasmania, Onetrak prides itself on the quality of its people, carefully chosen from a diverse range of backgrounds within the industry and with one common trait – a desire to provide exceptional customer service.

Branches are currently located in South Dandenong, Victoria and Brighton, Tasmania. Both of these facilities boast state of the art service facilities and are supported by several field service units to cover work in any region – no matter how remote. ■

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