



## Handling the heavy hardwood

Alberta logging outfit Bigstone Forestry turned to Kerik Technologies and Caterpillar for a long, heavy hardwood processing equipment solution—and has been very satisfied with the results.

*By Tony Kryzanowski*

Bigstone Forestry Inc had issues with its three delimiters. Sometimes a delimiter would sit idle for weeks at a time waiting for parts or a service technician.

Meanwhile, the remaining delimiters were under severe stress attempting to keep up with delimiting and processing primarily long lengths of heavy hardwood.

The situation eventually became unsustainable for the Wabasca, Alberta-based company. Even though the delimiters could handle delimiting hardwood logs measuring 65 to 75 feet long and processing them down to 37-foot lengths, the company was really asking the attachments to do something they were not designed to do. The saw on a delimiter is meant as a topping saw—not as a merchandizing saw as on a tree processor. Therefore, Bigstone Forestry was experiencing significant equipment downtime. And as maintenance went up, productivity went down.

Meanwhile, the company was required to deliver 335,000 cubic metres annually to roadside. About 90 per cent of that is hardwood delivered to Athabasca-based pulp producer Alberta Pacific Forest Industries (Al-Pac) or to Tolko Industries in Slave Lake. That's why Bigstone Forestry decided to replace its aging and failing delimiters with two Caterpillar 324DLFM carriers equipped with TreeKing processors supplied by Kerik Technologies Inc (KTI).

Bigstone Forestry general manager David Lloyd says the simplicity, versatility, and ruggedness of the KTI processor combined with the ruggedness of the Cat carrier was the combination that the First Nations-owned logging company was looking for. Thanks to a simple

yet productive design, the company is able to quickly troubleshoot and handle most processor repairs on their own, thus keeping production downtime to a minimum. “From my perspective, the fewer moving parts, the better,” says Lloyd.

Switching to the Cat/TreeKing package was a risk, considering that Bigstone Forestry was purchasing only the first and second units capable of processing 37-foot hardwood logs built by KTI. This was also the first collaborative effort between Caterpillar dealer, Finning, and Grande Prairie-based KTI.

However, given that the processor was being used and promoted by loggers that were harvesting and processing hardwood and softwood very similar to that found in the Wabasca area—coupled with the personal attention provided by both KTI and Finning technical support staff—Lloyd was confident the carrier/processor package was the solution they were looking for. KTI is co-owned by Grande Prairie-area loggers Neil and Les Kerik.

“We thought the size of the carrier was going to be a bigger issue than it was,” says Les Kerik. “But as it turned out, the Cat carrier was actually a perfect match. We extended the boom about a foot so that they could process their 37-foot lengths in two strokes. It was just a matter of engineering the booms and cylinders a little longer.”

A unique aspect to the TreeKing processor is that it does not use feed rollers to control and propel a log as it is being delimited and processed, thus resulting in less wood damage. In addition to producing better quality fibre, Lloyd says that the processor is accurate in its measurements, delivering logs within two inches of optimum. The AI-Pac tolerance is plus or minus six inches.



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The Keriks were introduced to the Scandinavian TreeKing processor prototype in 1996 and, realizing its potential, earned the right to market the product in North America. They modified the original design to withstand tough North American forestry applications as well as the demands of their own logging business.

Les and Neil Kerik are partners in Kerik Bros Enterprises Ltd, which harvests aspen for Ainsworth Lumber in the Grande Prairie

area. At present, their annual cut is about 140,000 cubic metres.

They also do considerable logging in the oil patch, representing about 60 per cent of their business in 2006. The brothers have been in business for over 20 years.

They first became interested in the TreeKing processor as a result of a request by Ainsworth that they adopt cut-to-length harvesting. “We looked at what was out there for processors, but we didn’t like anything we saw for cut-to-length, given the amount of downtime and inaccuracy of lengths being produced,” says Kerik. “The TreeKing looked like a whole lot better system than what was available here, so we jumped on it.”

What they liked about it was its design simplicity, its delimiting force and its processing accuracy. However, it needed a major engineering redesign and beefing up to withstand North American logging conditions. In the process, the brothers and a couple of partners, Rolly Lint and Davco Solutions Inc, established Kerik Technologies Inc, or KTI.

At present, the logging company has three model 5.5 M TreeKing processors working. While they are approaching 60,000 combined operational hours, they are still highly productive.

Kerik says there's no doubt that Bigstone Forestry has benefited from the research and development knowledge Kerik Brothers Enterprises has gathered on the processor through using it themselves in an actual logging environment. "We have totally re-engineered the processors and have over 50,000 hours of R & D time on them," says Kerik. "I don't think there is anyone out there that can say they've got that much R & D time on a machine before they sent it out to industry."

In addition to the two processors supplied to Bigstone Forestry, one other unit was sold to a Russian forestry company harvesting a similar diet of wood. With about 2,000 hours on each carrier/processor unit, Lloyd says there is no doubt that Bigstone Forestry made the right choice after an extensive and exhaustive investigation of what was available to replace the company's delimeter fleet.

"Our operators' coveralls are not getting as dirty as they used to because we are not doing as much mechanical work," says Lloyd. "In fact, they can probably go a full two-week session without having to look for a second pair."

His quality of life has also improved considerably. "I can sleep at night," says Lloyd. "I haven't been dragged out to the machines yet during the evening. That's how I gauge everything—quality of life." Making the switch from delimiting to processing at roadside was definitely a learning challenge for Bigstone Forestry's operators. After a month, they were processing about as much wood with the processors as they were with the delimiters. However, the major dividend was in equipment uptime, which is exceeding 95 per cent availability.

Operations manager Glen Gladu says the carrier offers a comfortable operating environment with excellent visibility. The carrier/processor package has exhibited plenty of power to handle the heavy and long lengths of hardwood, and maintenance is much easier than on the older delimeter units, with all the grease points easy to reach.

Lloyd says he was concerned whether the Cat 324DLFM carrier was properly sized for the TreeKing processor, which is a dangle head that weighs in at 3,696 kilograms (8,150 pounds). Bigstone Forestry uses motion meters to monitor vibration to determine if a carrier is the proper match for the attachment. "We had a heck of a time to find a place on the machine that would send a vibration to the motion meter to put a black line on the recording card," says Lloyd.

Given the size and constant movement of the attachment, he was also concerned whether the carrier could keep its balance. But with more than three months under its belt in an actual working environment, feedback from operators indicates that the carrier is well balanced. Kerik says the attachment needs about a 22-ton carrier.



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Lloyd wanted a rugged carrier that could take the beating from the constant movement of a heavy processor attachment. The company had experienced a number of expensive car body rotation bearing failures with other equipment brands. Bigstone Forestry has noted that the interfacing double roller bearing on the Cat 324DLFM carrier is able to

withstand the stress of almost constant car body and attachment rotation, as well as the side motion of the attachment when processing trees. The KTI processor is capable of 180 degree rotation.

So far, Lloyd says the Cat carrier has met all expectations. Taking a tour of the Cat factory where the carrier was built also helped to assure him that the company was making the right decision. "I've been in places where they brag about the trim, finish and paint," says Lloyd. "When I went to the Caterpillar factory, they were almost fanatical about the quality of the steel they use and they also ultrasound all their welds."

Complementing the assurance Lloyd had that the Cat carrier could withstand the wear and tear of processing with a heavy attachment were the upgrades that KTI Forest Industries made to its processor, including rollers on the sliding boom, to accommodate Bigstone Forestry's particular needs. Kerik says KTI also ensures that operators and technicians are well trained on how to maximize productivity from the processors and they also directly supply parts and service support.

Along with the processor packages, Bigstone Forestry also purchased a new Cat 521 feller buncher, based on what they witnessed at the factory in terms of how much steel goes into the feller buncher's construction and how well they are built.

