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The Davco mobile twin-cut
sawmill – the brainchild of
Dave Fenton & Lester Oilund



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The Davco mobile mill (above) is getting high praise from sawmiller Cliff Krahn. "It's hard to find something that is so easy to run that requires so few people," says Krahn. "I think it's an exceptional mill."

The Davco mobile twin-cut sawmill—the brainchild of Dave Fenton and Lester Oilund, developers of the Ultimate harvester/ processor head—is now proving itself for experienced Alberta sawmiller Cliff Krahn.

By Tony Kryzanowski

The Davco Solutions twin-cut mobile automated sawmill, unveiled at the Northern Alberta Forestry Show in 2005 and displayed with design improvements at this year's show, has now proven itself in a commercial sawmilling application in an environment where it is probably well-suited.

Experienced sawmiller Cliff Krahn of LaCrete, Alberta, is the first to purchase a Davco sawmill. This past winter, he was producing about 10,000 board feet of 2x12 aspen lumber in a 10-hour shift, as well as some x10 and x12, and a small amount of spruce lumber.

Krahn says that he believes the sawmill is easily capable of 20,000 board feet per 10-hour shift, once Davco has successfully dealt with an issue related to heat buildup in the arbor shaft that was slowing production.

Mike Dyck, Davco Solutions operations manager, says the company is working on a solution to deal with this challenge and ultimately hopes to refine the sawmill to the point where it can achieve that 20,000 board feet production mark.

The company is pleased that an experienced sawmill owner and operator like Cliff Krahn put the mobile sawmill to work this past winter. Dyck says the feedback Davco has received from Krahn, like the issue with the arbor shaft, is exactly what they were hoping for—the company can now tweak the sawmill’s design based on his suggestions. Krahn’s suggested modifications, aimed at increasing sawmill production, will be included in newer generation models of the mobile sawmill.

The company anticipates that a sawmill with all the options will cost in the range of \$250,000 to \$300,000. They are also evaluating different configurations, such as mounting it on a skid unit so that it can be transported on a flatbed.

Krahn has experience designing, building and operating his own sawmill. His sawmill was designed to produce pallet stock, starting with using a trimsaw to chop eight-foot-long logs in half. These shorter logs were processed through a scragg, with the freshly-sawn boards proceeding through an inline edger. Each board was then manually graded. After grading, the stringers were automatically notched and stacked. He operated that sawmill for four years before selling his share to his partner last year. That person is still operating the sawmill.

Davco Solutions felt Krahn’s feedback on their twin-cut mobile automated sawmill would prove invaluable. Based on its performance so far, Dyck says there is no doubt that the twin-cut, circular saw concept works.

Krahn also feels that he has made a good investment, and is looking forward to using it in a variety of sawing applications. “It’s hard to find something that is so easy to run that requires so few people,” says Krahn. “I think it’s an exceptional mill.”



This past winter, Cliff Krahn was sawing lumber from salvaged logs recovered from oilfield roads and leases owned by Provident Energy. The Calgary-based energy company wanted to use the salvaged logs to produce lumber for quad trail mats and helicopter landing pads in muskeg.

The concept was developed by a couple of prominent Grande Prairie, Alberta area inventors and metal fabricators, Dave Fenton and Lester Oilund. Together, they developed the Ultimate harvester-

processor head and were coowners of Ultimate Forest Products, before Quadco purchased the company’s assets. More recently, they designed and built this completely

mobile, high production sawmill that features circular saw technology capable of cutting in both directions.

However, since 2005, development of the sawmill slowed primarily because of the strong demand for Davco's metal fabricating services in the booming Grande Prairie area. The company's Mike Dyck says it was hard to find the time and space to continue research and development on it. Finally, the company found the time to address some of the design challenges identified during testing of the prototype.

"We felt there was a bit of an issue with accurate sawing performance, so we added a guiding system at the bottom end of the headrig to actually keep the saws in line," says Dyck. "That was the major modification made to this current model." Krahn says he is satisfied with the accuracy he is achieving with the mill—it fits well with the lumber quality he needs to produce to satisfy his client.

A second challenge Davco had prior to Krahn's interest in the sawmill was finding someone with experience willing to prove the concept in an actual commercial setting. Krahn came along at an opportune time.

"I saw the sawmill at the forestry show in Grande Prairie and never forgot about it," he says. "I liked the double cut system and the way it is set up. It seemed pretty user friendly."

A business opportunity—sawing lumber from salvaged logs recovered from oilfield roads and leases owned by Provident Energy—recently came his way. The Calgary-based oil and gas company wanted to use the salvaged logs to produce lumber for quad trail mats and helicopter landing pads in muskeg.

Since Krahn had sold his custom built sawmill to his partner, he needed a replacement sawmill in a hurry. He purchased the new and improved Davco sawmill in December 2006, and so far has tested its mobility, sawing performance, and the functionality of its automated systems. Krahn says as far as he knows, he is the only person in the LaCrete area offering this mobile lumber manufacturing service to oil and gas customers. He hopes his ability to manufacture lumber from salvaged logs right on site will evolve into more opportunities with oil and gas customers in future.

Many oil and gas companies are active in the area, and a number of local loggers are supplementing their forestry income with oilfield salvage logging. Some have even decided to build their businesses entirely on salvage logging.

However, many of those salvaged logs have historically been transported to local sawmills rather than being manufactured into lumber for use by companies working in the oil patch.

One of the unique features of the Davco mobile sawmill is that it sits on tandem wheels like a trailer so that it can be transported by truck from one location to another. It is designed with retractable features, making it highway legal throughout North America.

Davco Solutions says that once it is on site the sawmill can be set up to operate within an hour, and Krahn had an opportunity to test that claim. He originally had it set up at a location south of LaCrete near Paddle Prairie, but was requested by Provident Energy to relocate to Rainbow Lake. "It's quite possible to set up in half an hour if you have fairly level ground," says Krahn. "An hour is definitely enough time."

The mobility factor is a major advantage to the sawmilling service he provides, especially with his plan to offer custom sawmilling to private landowners. "The landowner saves on hauling the logs, which is quite an expense," says Krahn. He operates the sawmill with a three man crew. One operates the sawmill from the enclosed cab, another stacks lumber from the outfeed, and the third man operates a JCB 407 loader to place logs onto the mill infeed. Powering the sawmill is an Isuzu 174 horsepower diesel engine. Krahn says it burns about 120 litres in a 10-hour shift, which he considers reasonable.

The sawmill comes with an eightfoot long, chain driven, log deck that is retractable for transport. The headrig consists of two, 26-inch saws, each with a 5/16ths inch kerf and with eight teeth per saw. Krahn says he is using steel teeth on the saws and sharpens them every 2 to 2.5 hours. It takes five to 10 minutes to sharpen the blades.

He has sawn logs from about six to 24 inches in diameter. The majority of the salvage logs are between eight and nine inches in diameter. The sawmill headrig is capable of sawing logs up to 28 inches and up to 20 feet long. It can saw logs as small as five inches in diameter and eight feet long.

Krahn says the twin cut feature on the Davco sawmill is efficient. "In the time that you would typically be bringing back the headrig for another pass, with this sawmill you are already setting up for your next cut on the way back," says Krahn. The sawmill comes with computer networks, allowing the operator to choose from a variety of lumber widths automatically. For example, if the sawing contract calls for one-inch material, the computer can be set to automatically saw one-inch thick lumber until the entire log is sawn. Krahn adds that the computer networks are very easy to understand and use.

The sawmill also comes with an optional edger, capable of edging lumber from two to 12 inches wide, as well as an optional slab waste conveyer. Krahn's sawmill is equipped with both of these features.

He adds that there is very little maintenance required on the sawmill, besides sharpening the blades at regular intervals. So far, they've only had to change a couple of hoses.

Krahn hopes to attract more interest from the oil patch, but realizes that this business opportunity is limited to the winter months when the ground around LaCrete is frozen. In the summer months, he plans to develop a log cabin construction business, using the sawmill to manufacture his own building material.