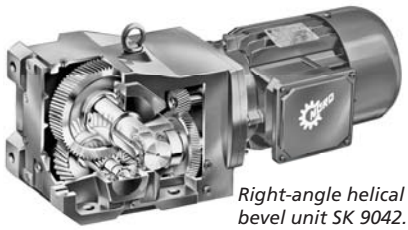
NORD DRIVESYSTEMS
NORD GEAR
APPLICATIONS IN MOTION
A6311

NORD On Cutting Edge

EQUIPMENT USED IN CANADIAN SAWMILL

NORD Gear boxes control each of the 72-inch diameter saws.

Manufacturing material handling systems for the forest industry has always been a matter of pride for Versatile Fab & Machine Ltd. (Kelowna,BC). They have a reputation for making sure that things are done right the first time...no matter what it takes. Case in point: the 13 year process of developing and refining the dual-line, 72-inch diameter, three-saw VFM Traveling Log Cut-Off System. This system was first intro-duced in 2002 as a prototype, and a customized system was recently installed at the Pope & Talbot Ltd., sawmill in British Columbia.


Right-angle helical bevel unit SK 9042.1

The System VFM built for their customer needed to meet some exacting standards. The Pope & Talbot application demanded uncommonly high speeds and high efficiency with minimal maintenance in a compact and extremely versatile design. To guarantee that those specifications would be met,each component of the sawing system was thoroughly researched and tested for quality.

High-performance reducers from-NORD Gear (Brampton,ON) held up to the challenge and formed an integral part of the system's final design. The NORD Technical Representative worked with VFM as well as the end user to ensure that NORD's gearboxes would be well-fitted to the demanding application. A trouble-free year later, NORD's contribution to the system's success is clear. The saws have not had one minute of downtime since installation.

"You can go up there and watch this thing run all day long, and if you put your hand on the gearboxes, they're not even warm,"reports a very pleased Brad Macaulay, VFM's president.

With the system continuously producing over 7,000 blocks of raw lumber in an average 460-minute (7.6-hour) shift, a little heat wouldn't be out of place...if its motion was controlled by anything but NORD reducers. The NORD units have improved heat dissipation for cooler operation and a longer life. Infact, the system's reducers are capable of handling up to 33% more per shift should the mill ever be daring enough to move the 8,000-pound piece of steel downward any faster.

> *"NORD units just seemed to fit the needs we had a lot better than competing gearbox drives"*

This efficiency is not a design anomaly. Since the VFM System was installed in 2004, it has proven to run smoothly at or beyond its specified design capacity in all respects. System speeds top 140 inches per second as competitors' run amere 60

– so throughput is essentially doubled. Blade positioning is accurate to within an eighth of an inch. And maintenance costs are virtually non existent. Pope & Talbot has been pleased with the results so far, to say the least.

At the mill, a broad mix of Western Canadian tree species makes its way toward the VFM Traveling Log Cut-Off System in a continuous flow. Before each stem (a.k.a. log) reaches its blade, it goes through the scanning department where a process known as optimization begins. An X-ray-like machine scans every trunk, and determines where each of the cuts should be made in the stem to minimize waste and optimize the lumber's fetching price through size manipulation.

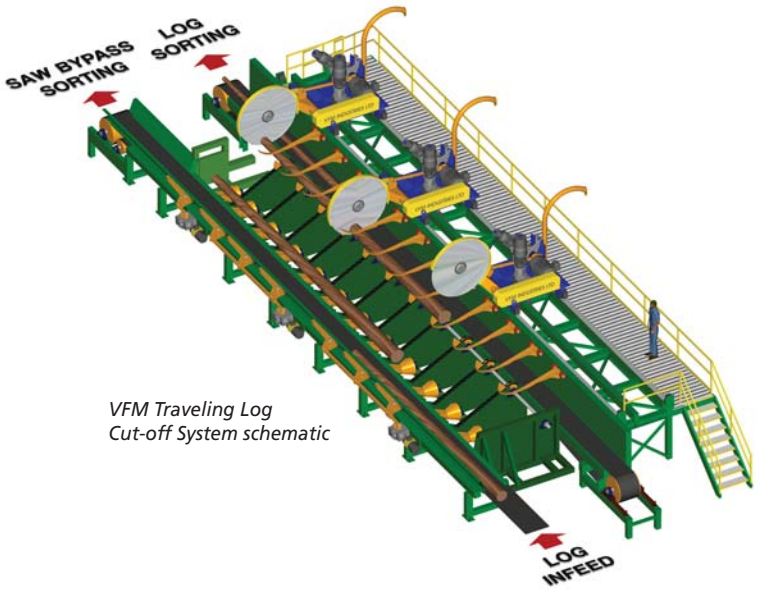
Once the stem is in place, a signal is sent from computers to the VFM Traveling Log Cut-Off System. NORD supplied traveling reducers—one per carriage (an 8,000 pound package that travels up and down the deck)—then move theblades horizontally into their predetermined positions with precision accuracy. Next, a second NORD supplied reducer, a right-angle through-shaft gearbox, controls the vertical cutting motion of each carriage. The end result is up to four perfectly optimized blocks.

Though the system has been run at a speed of 140 inches per second, it typically runs at a slightly less dizzying 120 inches per second. At this speed, the NORD reducers are subjected to over 300 cycles of stopping, starting and positioning perhour. It goes without saying that durability was a key factor in VFM's choice of reducers. NORD's reducers were found clearly superior to those of competitors in this respect.

"NORD units just seemed to fit the needs that we had a lot better than com-peting gearbox drives, which I found were prone to rack, "recalls Brad. "And because I like the technical support, NORD was definitely the route we wanted to go! "

NORD Technical Representative Jude May spent a lot of time with both VF Mand Pope & Talbot, getting a thorough understanding of the engineering aspects of NORD's application on the system. "Speeds and thermal issues were both topics of concern"says Jude. "But the ready acceptance of NORD components was also influenced byNORD's diversity of mounting options and standard availability from one supplier. "Modular design also made the NORD units an ideal choice in consideration of the limited space that had been alotted for the new system. "Standard 'stock 'NORD components were able to accommodate all requirements on a compact platform, "adds Jude.

Less than a year after installing its first NORD-equipped VFM Traveling LogCut-Off System at Pope & Talbot, VFM has already obtained 15 similar proposals from sawmills worldwide.



VFM Traveling Log Cut-off System schematic