



## SUCCESS STORY

# K&B Lumber Innovates Sawmill Technology to Increase Production of High-Quality Lumber

Parker Hydraulic Pumps and Motors provide accurate control in a high-performance power source

### CHALLENGE

K&B Lumber, a one stop shop for logging and millwork, was in search of a more energy efficient sawmill that produced higher quality lumber for furniture than a typical sawmill.

For most conventional sawmills, the log moves back and forth past the saw and cuts in only one direction. As a result, the operator's view of the log can be obstructed when it is on the far side of the saw, which can affect lumber quality.

K&B Lumber's goal was to develop a sawmill that utilized a moving saw, which cuts lumber in both directions and provides the operator visibility to the log while it is being cut. These two features increase the production of the high-quality lumber over a traditional sawmill.

K&B Lumber collaborated with Mill Innovations & Design (MID), an original equipment manufacturer of sawmill equipment, to build a sawmill featuring a 6-foot Double Cut HeadRig that was energy efficient and capable of producing furniture grade lumber.

The new HeadRig consisted of a 12" wide band saw with teeth on both edges running on 6' diameter wheels requiring 250 horsepower (HP). The challenge was finding enough real estate to fit a 250 HP motor on a moving saw.

A second challenge was finding a carriage drive that could accurately control the 30,000 pound saw with a high number of direction changes, 4000+ in an eight hour period.

### Market

Forestry

### Customer

K&B Lumber and Mill  
Innovations & Design

### Application

Sawmill Equipment for  
Furniture Grade Lumber

### Solution

Parker Gold Cup Pump and  
Motor and Parker F12 Series  
Bent Axis Motor

### Results

- Compact Design
- Safer Equipment
- Greater Energy Efficiency
- Increased Production



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## SOLUTION

Due to the sawmill's space restrictions with the moving saw carriage, K&B Lumber and Mill Innovations Design chose closed-circuit hydraulics over an electric system to power the equipment.

With a hydraulic system planned, K&B Lumber and MID worked with Parker Hydraulic Pump and Power Systems (HPS) and a Parker distributor to select high-performance hydraulic components to power the sawmill's saw and carriage drive.

For the saw's power source, a Parker Gold Cup P14S Pump was selected, driving a Gold Cup M20R Motor stacked with a Parker F12 Series Bent Axis Motor on the back. This powerful combination allowed for additional system displacement.



Gold Cup Series Pump

## RESULT

Using the Gold Cup hydrostat to power the saw, provided the sawmill's operator the ability to change speeds on the fly, which is critical for cutting different wood species efficiently.

An additional benefit of the saw's Gold Cup system was a smooth, controlled stop while shutting down the saw voluntarily or in an emergency stop situation.

In terms of the 30,000 pound carriage drive, each direction change means decelerating and accelerating the load in a controlled manner. According to LeRoy Kuhns of K&B Lumber, the Parker F12 Series Motor on the carriage drive has close to a million direction changes and still continues to run flawlessly.



F12 Series Bent Axis Motor

Overall, K&B Lumber has benefited by a smaller, safer sawmill. The new sawmill has also resulted in more efficient energy usage, while producing more output.

In the near future, K&B Lumber plans to enhance their hydraulic system by adding Parker's Gold Cup - IE (Intelligence Enabled). Gold Cup - IE will monitor their Gold Cup pump to obtain longer service life, and help reduce downtime and service costs with actionable, real-time insights.

