

# HIGH QUALITY

# STACKUP

By  
**Dan Shell**

**MoCo Engineering blends performance and durability with lower costs, resulting in more productive and consistent stacking and drying.**

SPOKANE, Wash.

**T**he old photos they keep at the office say it all: Grinning at the camera inside in an unheated garage, with a chain hoist hung from a wooden rafter, MoCo Engineering principals Erik Humble and Chuck Moles are having a blast as they start a decade-plus journey that's taken their company from small-time lumber stacker service jobber to major stacker manufacturer with growing market share as industry increasingly appreciates MoCo Engineering's high-performance stacking systems.

Key to the MoCo stacker is its innovative, patented sticker placement system and use of tempersonic cylinders that

allow infinitely variable sticker placement. Stickers are placed in a "pan" alongside each stacking fork, and the top of the stick is above the top of the sticking fork. As the fork rises to lift lumber from a transfer chain, the stick is locked into place by the lumber's weight. This allows consistent placement of stickers within 1/2 in. deviation of a vertical column, and allows accurate sticker placement closer to lumber ends, resulting in greatly reduced degrade from lumber checking and problems caused by improper stick positioning.

The system handles stickers from 4 to 10 ft. long. MoCo's accuracy provides for more consistent, quality drying, with better air flow, resulting in fewer hot and cold spots in the kiln, Humble says. The variable spacing capability allows plenty of flexibility for various drying schedules and kiln-load configurations.

"For many equipment manufacturers, the stacker is just part of their equipment line," says Humble. "But for us, the stacker is everything. Some companies are good at a lot of things, but our total focus is on stackers."

Started in 1995, MoCo Engineering began as a service company, working primarily on Lunden stackers, and both Humble and Moles are former Lunden employees. Humble left because he wanted to pursue development of a more engineered, higher-performance

product, and Moles left because he didn't see any real advancement opportunities with the company.

While considering his future prospects, Moles' phone began ringing with stacker service calls only weeks after leaving Lunden. Within two months, Moles and Humble had formed the company and had 10 or so stacker service/rebuild jobs lined up. The two started the company with less than \$5,000 and in addition to using the garage chain hoist hung from a rafter, they also occasionally scoured scrap yards for parts, or pieces that would make good parts.

The company grew steadily the next six years, handling more and more stacker service work and gradually adding employees before eventually moving to a new location with more room and fabricating facilities.

Yet all the while when doing service



**Erik Humble, left, and Chuck Moles**



**New facility in east Spokane is 72,000 sq. ft., with plenty of room for MoCo Engineering to operate and grow.**



All MoCo Engineering systems are fully wired and test-run at the plant, a practice that makes startups much easier.



Beefed-up components equal consistency.

work, Moles and Humble would listen closely to customer feedback while developing their own ideas for stacker design and operation. They found a winning combination: high performance, efficiency and innovation built on long-term reliability and backed by easy operation and maintenance.

“We were the guys turning the wrenches and making all these service calls, so when we got ready to build a stacker, we knew what to do,” Moles says.

## BIG STEP

MoCo Engineering’s first OEM-type installation was at Rocky Creek Lumber in Mexia, Ala. in 2001. A greenfield timbers mill, Rocky Creek bought a MoCo stickering stacker, and General Manager Randell Robinson has been nothing but impressed with the machine’s accuracy, ability to handle bent and bowed sticks and ease of maintenance.

In a testimonial letter, Robinson called the MoCo stacker “the most mechanically sound stacker we have ever seen,” and was especially impressed with the company’s installation and service after the sale.

MoCo Engineering now has 75 machine centers in operation, mostly stickering stackers and stick recovery systems. Along the way, the company has made continuous improvements and refinements to its manufactured systems while still performing a significant

amount of service work on stackers supplied by other manufacturers.

Humble says he’s seeing a big emphasis on reducing stick costs, and he wants MoCo’s stackers known for their ability to handle lower quality sticks accurately while still maintaining the accuracy, efficiency and safety that the customer expects.

“We believe we’ve ‘nailed’ the stick reclaim system,” Humble says, citing the MoCo Sticker Accumulation System, which handles sticks from 48-120 in. long, automatically sorts out broken sticks, eliminates the need for stick banding and also eliminates the almost full-time position some mills have for stick handling. The stick accumulator comes fully wired, with a built-in PLC control system and operator’s console. The only labor required for operation is a forklift operator to load empty bunks into the system and unload full bunks from the system.

“It’s truly automatic, and all a customer has to do is hook electricity and air to it and they’re up and running. These things pay for themselves in no time,” Humble says, adding that he’s seen cases of large mills spending almost \$300,000 annually in stick costs alone.

## OPERATIONS

Just as with the sticker accumulation systems, all machines leaving MoCo Engineering’s manufacturing facility are fully wired, plumbed and test-operated



All MoCo fabrication is in-house.

prior to shipping, and MoCo provides at least one service tech for the full installation and startup period.

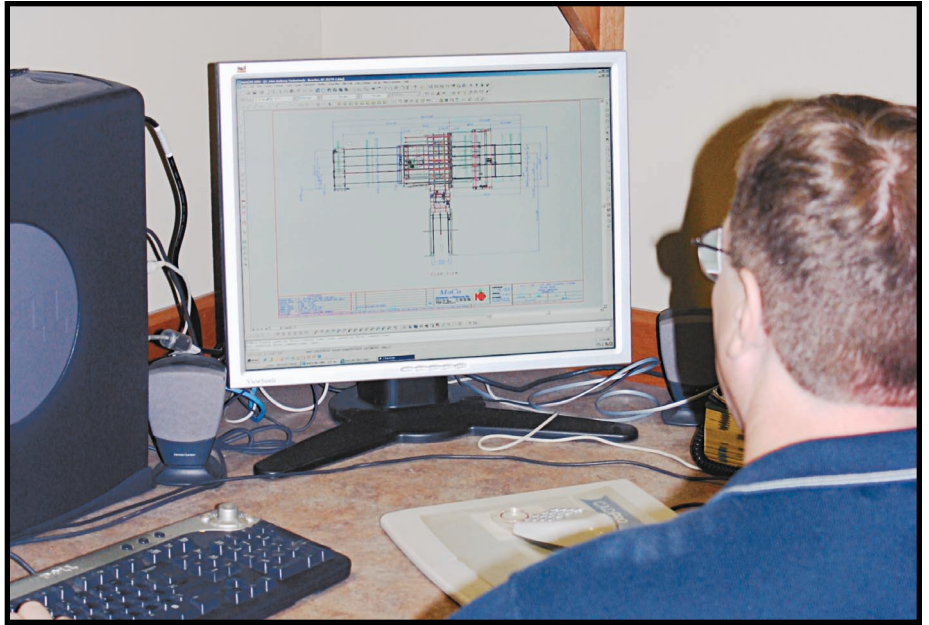
“Those kinds of things are what can make the difference between a three-day or a three-week startup, and we’re focused on giving the customer an easy startup, low downtime and high quality service,” says Moles, noting that MoCo Engineering has paid less than \$4,000 in warranty claims since its inception.

Earlier this year, MoCo Engineering bought and moved into a new facility in east Spokane, a former ice hockey rink operation. The 72,000 sq. ft. facility provides MoCo Engineering with plenty of room to operate and also has space for expansion.

The company employs 30, including five engineering and design professionals, four electrical technicians and eight highly qualified service people. Humble notes that the company benefited when USNR purchased Lunden and moved its operations to Hot Springs, Ark., leaving some very qualified individuals available for hire.

MoCo Engineering completely designs, fabricates and tests all equipment in-house, hydraulic and electrical design and work-up and control systems. (Some intricate laser-cutting work is farmed out.) The facility also includes a new paint booth and all new crane systems.

“We’ve invested a lot, but we’re already seeing the efficiency gains,”



Safety and efficiency are hallmarks of MoCo’s engineering and design.

Humble says, noting that the company has already begun replacing some of its competitors’ new-style stackers and seeing more inquiries about retrofitting MoCo components onto existing stackers from other OEMs.

MoCo’s commitment to quality is apparent through design and materials, as both Humble and Moles point out during a quick plant tour: Instead of using spur gears that are heat-shrunk onto shafts, MoCo uses special-built QD style clamp-on gears. Other components throughout the company’s stackers, such as bearings, shafts and lift chains, are upsized from normal to minimize potential problems.

In addition to accuracy, both Moles and Humble stress durability and consistency as hallmarks of MoCo stacker operation. “People talk about stacking cycle times, but efficiency is where production really comes from,” Moles says.

One innovation is the extensive use of digital photos of parts and machine assemblies in MoCo service manuals, which greatly aids in troubleshooting because mill personnel can see the exact component in the manual without using an IPL graphic. PLC codes are also fully documented, making troubleshooting and modifications easier.

Moles stresses that safety during maintenance and operation is a major concern when MoCo is designing its

systems. “We want to be as operator- and maintenance-friendly as we can, and we do everything we can to keep the operator off the stacker. Efficiency and reliability equals safety.”

## FUTURE

In addition to its stickering stackers and sticker recovery systems, MoCo Engineering also provides more than a dozen other lumber handling-related products, including planer mill stackers, unstackers and tilt hoists, board feeders, transfer chains, rollcases, control cabinets and operator consoles.

MoCo has an innovative “smart” tilt hoist system working at a plywood plant, and Humble says the company has had inquiries from other industries for steel stud and pallet stacking systems. Yet MoCo remains firmly focused on lumber for the time being, he says, adding that the company’s first export order is almost finalized, with other overseas installations coming soon.

According to Humble, MoCo wants to continue to improve on what the company does best: helping mills make more money by improving lumber stacking quality while reducing stacking costs.

“Mills spend millions on their sawing systems,” Humble says, “and a lot of them don’t really look closely at their stacking—but we do.”

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# PLANER MILL VIRTUAL SHOWCASE



**MoCo Engineering & Fabrication**—MoCo Engineering & Fabrication, manufacturer of automated stickering stackers, has another product that has clearly set itself apart from the others in the lumber industry. It is MoCo's automated stand alone sticker accumulation system.

This system is typically located at the planer mill tilt hoist and used to reclaim the stickers from the kiln dried units as they are broken down. MoCo has designed this system to be a manless, automated system that separates out broken sticks and accumulates full length sticks into storage bunks. The empty storage bunks are loaded into the system by the forklift operator and are automatically advanced, filled and indexed to be removed by the forklift operator. The accumulator can also be ordered with an optional bolster removal system, separating and accumulating the bolsters independently of the stickers.

MoCo is finding that many mills have some type of sticker reclaim system in place and are still needing to man the system in order to keep from having major hang-ups. Customers of the MoCo system have been quoted as saying, "This system truly is automatic and hassle free." MoCo has even replaced other manufacturers' so-called "automatic systems" that were only a few months old.

Each system comes complete with its own Allen-Bradley PLC, motor control cabinet, and operator's console. The system is fully assembled and tested prior to delivery to the mill site, ensuring fast and trouble free startup. The only requirements from the mill are air and 480 volt power. Call 509-226-0199.

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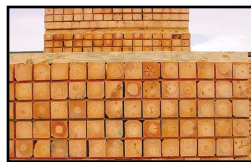
## MoCo STICKERING STACKER SYSTEMS...

### FEATURING:

- ◆ New patented sticker shuttle system design has greater ability to handle bent or bowed sticks – and unloads sticks back out of the fork pans if needed.
- ◆ Sticker Stacker has a heavier design than other stackers – has fewer wear parts for increased repeatability and unmatched stacking efficiency.
- ◆ Optional course gapping feature allows controlled gaps between each board in each course of lumber, a major aid to drying lumber 4" thick or more.
- ◆ Ideal for hardwood as well as softwood applications.
- ◆ Sticker lengths from 48" to 120".



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NEW HIGH SPEED LINEAR CYLINDER  
DRIVEN STACKER SYSTEM**



### WHERE CUSTOMER SERVICE IS PRIORITY #1

- "... the best lumber stacker on the market..."  
**Randell L. Robinson**, General Manager – Rocky Creek Lumber
- "It has been almost two years now that we've been running your stacker and I am happy to say that it is, and can do everything that you promised and more. Many days we have stacked 55,000 ft/hr for 11 continuous hours with no problems..."  
**Micky Scott**, President – Collum's Sawmill, LLC
- "Your company has met and exceeded all our expectations. We will be happy to show anyone interested in buying your equipment what you have done here..."  
**Bill C. Howard**, CEO – Claude Howard Lumber Company
- "Both machines were installed in the summer of 2003, and after eight months of operation, we are absolutely convinced we made the right decision. The stacker is extremely rugged, easy to operate, and the packages it creates look perfect..."  
**Tom Plaugher**, Operations Manager – Allegheny Wood Products
- "Thanks for a successful on time/budget project that will pay back very quickly. We set an all time production record for the week – the first week it ran after the conversion..."  
**David L. Richbourg**, Plant Manager – H.W. Culp Lumber Company

### "THE STACKER PEOPLE"

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### SPECIALIZING IN:

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- ▶ Planer Mill Stackers
- ▶ Automated Stick Recovery Systems
- ▶ Board Unscramblers, Package Chains & Peripheral Equipment

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