

Investment in Technology Balances Optimum Sawmill Performance With Environmental Concerns



Simpson Lumber Company, LLC, Tacoma Washington, has been in the forest products business since 1890. They operate facilities in Washington State where they produce Douglas fir and Hemlock dimension lumber, and Georgia and South Carolina where they produce Southern yellow pine dimension lumber used in home construction. With a strong environmental policy, Simpson prides itself on using every part of the tree, as they say, “except its shadow.” Bi-products of Simpson Lumber’s manufacturing operations such as chips, bark, sawdust and shavings are sold to make paper, other construction products, or landscape materials.

Simpson has a long history of working together with neighbors, governmental agencies, conservationists and others to address environmental issues in ways that benefit all of us. Simpson has voluntarily implemented a number of projects to improve the environmental performance of its operations. This strong concern for being a responsible environmental partner has also led them to investment in and utilization of the latest technology available for optimum saw mill performance. Innovations such as laser-guided saws ensure the most lumber out of every log. What can't be turned into building materials is sold as wood chips which are made into pulp and paper. Bark and sawdust are sold for use in

landscaping and particleboard.



The Filing Operation at Simpson Timber

The Simpson Culture

It is in this work culture that Steve Newby is the Supervisor of Simpson's Saw Filing Room for the Commencement Bay operation. "Consistency and quality is really what saw filing and saws is all about," said Newby. "This mill was constructed 10 years ago. It was or has been the largest producing single line saw mill in the world." According to Newby, the single line means that there is only one flow through the mill and all product moves through it. He also noted that the record amount cut in a single 10-hour shift is about 928,000 board feet, with a single record year that consisted of approximately 390 million board feet.



CA100 sharpens special 36 tooth circular saw

With that type of volume and all from a single line, it is understandable that maximum up-time and cycle times are critical. “In my filing room right now, we’re running two shifts,” stated Newby. “We’re running 80 hours, four days a week, so four ten-hour days and four ten-hour swing shifts. His staff consists of seven people in the filing room taking care of a six-foot quad band mill. Behind that is a double arbor curve gang saw, as well as two board edgers.

With that type of production, Newby stated that saw blades need to be changed every five hours. To assist in providing consistently high quality cutting edges on those blades, Newby purchased a model CA100 from Vollmer of America (Carnegie, PA). The CA100 provides either top and face grinding or full profile grinding if required. Newby was led to CA100 because of Vollmer’s reputation in the industry, as well as an installed base in the majority of Simpson sawmills.

The Vollmer CA100



Newby continued by stating, “ The CA100 had all the features that I’ve been waiting for someone to make, actually. And of those features, one major requirement is speed.” In many filing room operations, there is one machine to face and another to top grind. Newby was drawn to the fact that the CA100 performed both in a single set-up. “So in the steps in the process of sharpening the saw or producing a round saw,” said Newby, “if I can remove a step out of the process, then that’s money ahead. That’s money I’m saving, that’s time I’m saving, all of that. This machine does that for me.”

For the Simpson filing room operation, the CA100 not only removes one full step from the process of sharpening a saw, Newby noted that it will face and top in a single pass and “do it faster than pretty much anything out there.” “Since I’ve had the machine,” said Newby, “I had a special wheel built for it and I’ve run that wheel for almost a year. We just changed it last week.” In that amount of time, the initial wheel has been sharpening an average of 400 round saws a week, which comes out to about 1600 a month, or 19,200 per year.

Newby explained their saw sharpening process with the CA100. By utilizing a full flood coolant, Newby’s team is able to utilize CBN grinding wheels. According to Newby, these wheels deliver a better finish and much smoother finish, which makes for a sharper tip. The accuracy of the CA100 also enables control of stellite removal, which is the cobalt-based material that Simpson uses as a coating for their saw tips. Newby noted that stellite has been running between \$80-\$110 a pound. Newby noted, “It’s greatly reduced the amount of stellite we use. It has reduced the number of what we call retips, which is each time we weld a new tip on a saw. Now we can re-run it and re-sharpen more times before we have to re-tip again. So it’s reduced (tipping) by about a third.”



Maintaining dimensional accuracy is critical in the Simpson filing room. With the double arbor saw, Newby pointed to several things they lose plate over.

Occasionally the CNC part of the machine crashes resulting in bending the saws and wrecking them. The other major thing is where after tipping and grinding, an actual loss of diameter on the saw occurs and then the plate is no longer useable on that machine. Since the installation of the CA100, machine operators have noted a significant increase in saw life due to diameter loss. With sharper teeth and a smoother finish combined with greater control of stock removal.

For Newby, it all adds up to maximum performance and increased profitability in his filing room operation. “Not only less stellite use and less loss of saw diameter,” he said, “but it means less tipping, less annealing and less side dressing. It’s also less employee time, more machine uptime and that is money in the bank for us.” As far as the machine itself, the CA100 has been in operation for about a year. Simpson has not had to replace a single part on it other than the wheel – one wheel in a year. Maintenance has been nothing other than cleaning and lubricating. Newby discussed how the CA100 is basically a simple cam-driven machine that his staff can work on should anything go wrong. The CA100 matched operators’ need for easy of use. “I’m amazed at how heavy this machine is,” commented Newby. “When it’s operating and running, there’s absolutely no vibration to it. So it’s basically simple, cam-driven and extremely fast for what we need to do. And that’s what we need here with the way we operate the saw mill, especially with the amount of saws we go through.”

Steve Newby finished by discussing the great support Simpson received during start-up. “We had a support team spend almost a whole week here during start-up which was appreciated but probably wasn’t needed because the machine worked so well,” he said. “Because the CA100 is almost 100% exactly what they’ve been working with, all of it was very fast and very easy for my people to learn operating the machine.” Since the CA100 was installed, Steve Newby estimated that it has sharpened 1,382,400 tips with a single wheel. “Needless to say,” he concluded, “I’ve been really, really pleased with it.”