



## In your last Sawmill Forum you wrote about how soon a saw should need to be hammered again and some of the causes. Do you have any tricks for how to make a saw last longer?

I have many. Think of the things that will cause the saw to start having trouble and then think about how to prevent those situations. Make sure your collars are in proper shape by checking them with what I call the “tighten the nut trick.” That involves tightening the nut hand tight, setting up a dial indicator at the guideline of the saw, tightening the nut with a wrench, and measuring how much the rim of the saw moved when you tightened the nut. And if it is moving more than one or two thousandths, get the collars machined properly. And immediately after being machined, you should check them with the same method to verify that the job was done properly. Having collars that dish the saw even a few thousandths means that you will be trying to saw with a saw that is slightly dished. That will only make the saw worse and cause it to need to be hammered sooner.

Sharpening is always critical for these saws. It has to be done accurately and it should be done soon enough. Meaning before the teeth are dull. I know you want to wait until break time to shut down to sharpen the saw, but if the teeth are dull, or you nicked a bunch of corners, waiting until break time will only cost you more money than the extra downtime would have cost you. You might be ruining some of your lumber, and you will certainly be pushing the saw that much closer to getting hammered again.

You all know the old expression “haste makes waste.” I know you can lose a little production by taking the extra time to make sure a crooked log is properly dogged and secure on the carriage, but not taking that extra moment can end up costing you not only production, but when that log slips and rolls over onto the saw, it could cost you a new saw, or at least a sooner trip to your local saw doctor. Overfeeding will stall the saw, shear the pins, and hurt the saw. And after shearing

the lug pins, you will have to get your collars machined again too. On the other hand, underfeeding will cause saw dust spillage which will generate heat, and we all know that the more you heat the saw, the sooner it will have to be hammered again.

Here is one that I think a lot of sawyers miss. Any sawyer will run into a situation where a small wedge or sliver gets jammed between the saw and the husk or between the saw and the frame of the offbearer belt. Those things just happen. The distance between that offbearer belt frame and the saw can play a role here. If it's too close to the saw, as soon as the saw runs out a little, the body of the saw will come in contact with the frame of that offbearer belt and that will leave metal deposits on the saw and of course seriously heat the blade. If there is too much room, that will allow even bigger pieces to get jammed there and the bigger the piece, the harder it jams and the more damage it does to the blade. A few mills even have a little flap that they can activate remotely from the sawyers booth to clear the wedge without shutting down or getting out of the booth. But no matter what you do, sooner or later something will get jammed there and put a lot of heat into your saw. The big trick is what you do after that happens.

The absolute worst thing you can do is to pour or spray water or oil on a hot saw to attempt to cool it quickly. Worst case scenario is that if it is hot enough, spraying water on it at that moment could actually crack the saw and that is the end of that saw. If it doesn't crack, cooling it quickly will still cause some problems that will certainly send it to the saw shop. I know that you all understand that heat is a big enemy to your saw. It is sort of natural for you to think that since the heat is so wrong for your saw, it would be best to get it cooled down as soon as possible.

But that is definitely not what is best for the metal in your saw.

So, what should you do about a saw that you just got very, very hot, regardless of how it happened? I have heard many sawyers say that they were taught to let the saw cool by letting it run free until it stops wobbling. Of course, there are a few cases where the saw is so hot and wobbles so much that you don't even dare to let it run free. Either way, you are not doing it any favors by letting it run free to cool itself down. It's not as bad as pouring water on it, but by air-cooling it, you are still trying to cool it a little too quickly. The best thing for that saw is to let it cool as slowly as possible. And there is another thing that happens when you try to air-cool it. You let it run free until it stops wobbling so much and seems to be standing fairly straight. Then what do you do? Because you think it has cooled down, you go right back to sawing. The only problem is that it hadn't really cooled all the way down. It is most of the way there, but not quite perfectly cool. So now you are trying to saw with a blade that is already a little warm. We all know how that is going to go.

My recommendation is that when you get a saw seriously hot, you instantly shut down and change the saw. Let the hot one cool down for at least an hour or even the rest of the day. Then put it back on tomorrow morning and see how it does. Maybe it got so hot and the steel had so much bad memory that now the saw is dished and will not run properly until you get it hammered. On the other hand, it is very possible that when the saw was able to slowly cool all the way down on its own, it actually went back to being straight and now it's saying put me back in, coach. I'm ready for the toughest logs. Let's go make some lumber.

*The Sawmill Forum is a bimonthly column. Search “The Northern Logger” on YouTube to watch Casey explain how to hammer a circular saw. Please send future questions about sawmills and their operation to Casey Creamer, president of Seneca Saw Works, Inc., PO Box 681, Burdett, NY 14818, (607) 546-5887. Email: casey@senecasaw.com.*