

# SAWMILL FORUM

CASEY  
CREAMER

SAW  
DOCTOR



**Hi, I am in need of the saw doctor again, question. In this area, (UP of Michigan), I can saw just about everything, except when it comes to bigger white spruce. I use a 50-inch saw, with 9/32 bits, at 600 rpm. The saw tends to dive into the log from time to time. Would a little less tension help this situation?**

I can't imagine that white spruce would give you a problem, unless it is the "bigger" that is causing your problem. Spruce can be a bit fuzzy, so maybe going to 5/16 bits would help. But if you lack side clearance, I would expect the saw to run out instead of in. Is there any chance that you are having issues with the alignment of the spreader, that only show up when sawing big white spruce?

Of course when a saw dives in any direction I always suspect the sharpening accuracy. The bigger the log, the more inaccurate teeth are in the cut at the same time, the more it would tend to dive in the direction that the bits take it. Of course when you are in a large depth of cut there is always the worry about over-feeding, which can make the saw dive just before it gets to the point of overloading the gullets and stalling the saw.

As for the amount of tension, a 50-inch saw at 600 RPM really requires a very minimal amount of tension. If you have more than that, it might be too much.

In general, a saw that doesn't have enough tension will tend to dive in either direction in that it doesn't have what it needs to stand up to the rigors of cutting. A saw that has nowhere near enough tension just won't cut at all. But a saw that is just a little on the low side of the tension it needs, will saw, but won't stand up to an adequate feed rate. In that case you can get by with just feeding a bit slower than you should, until you can get the saw properly hammered.

Given the speed and size of your saw, you only need a minimal amount of tension. If you have less than that, you probably don't have any (neutral tension) or worse yet you could have negative tension. But if you had neutral tension it probably wouldn't saw other species very well, and of course if you had negative tension it wouldn't saw anything properly. It wouldn't

even saw the air properly in that it would do a slow snaky wobble in the shape of a potato chip.

If your saw had too much tension, it would also have as much trouble sawing any of the other species as you are having with the white spruce. I am back to the side clearance and sharpening of the bits.

I have been at this sawmill troubleshooting game for many years now and there are a few things that are quite interesting about it.

In general there are only a few symptoms that really matter. The first symptom is that you are not making accurate lumber. Most of the reported symptoms after that are most likely the result rather than the cause of the problem. For example you report that the saw is running out of the log and heating in the body.

The running out of the log is the one that counts. The heating is a result of that action. As the saw runs out, it bends toward the board side, exposing the body of the saw to rubbing the log, which of course heats it. Conversely, you can start with some heat in the body that expands one side of the saw, which makes it bend or dish towards the board side, which means that it ran out of the log. You can call this "circular logic for circular saws." (Band saws utilize the same logic).

So we start with only one symptom and we quickly realize that there are at least a dozen common causes for that symptom and many more odd ones.

But the reality is that at least 80 percent of the time, the answer lies with how the bits are fitted, meaning sharpening accuracy and the amount and accuracy of the side clearance.

Isn't it funny that the easiest thing to maintain in a sawmill is the bits. And the easiest inaccuracy to detect is at the bits. And the easiest problem to fix is at the bits. Yet the cause of most of the problems are right at the bits, time and time again.

I am considering putting in an automated phone system that says if you are having a problem with your sawmill, dial one,



Troubleshooting most saw problems begins—and often ends—with sharpening.

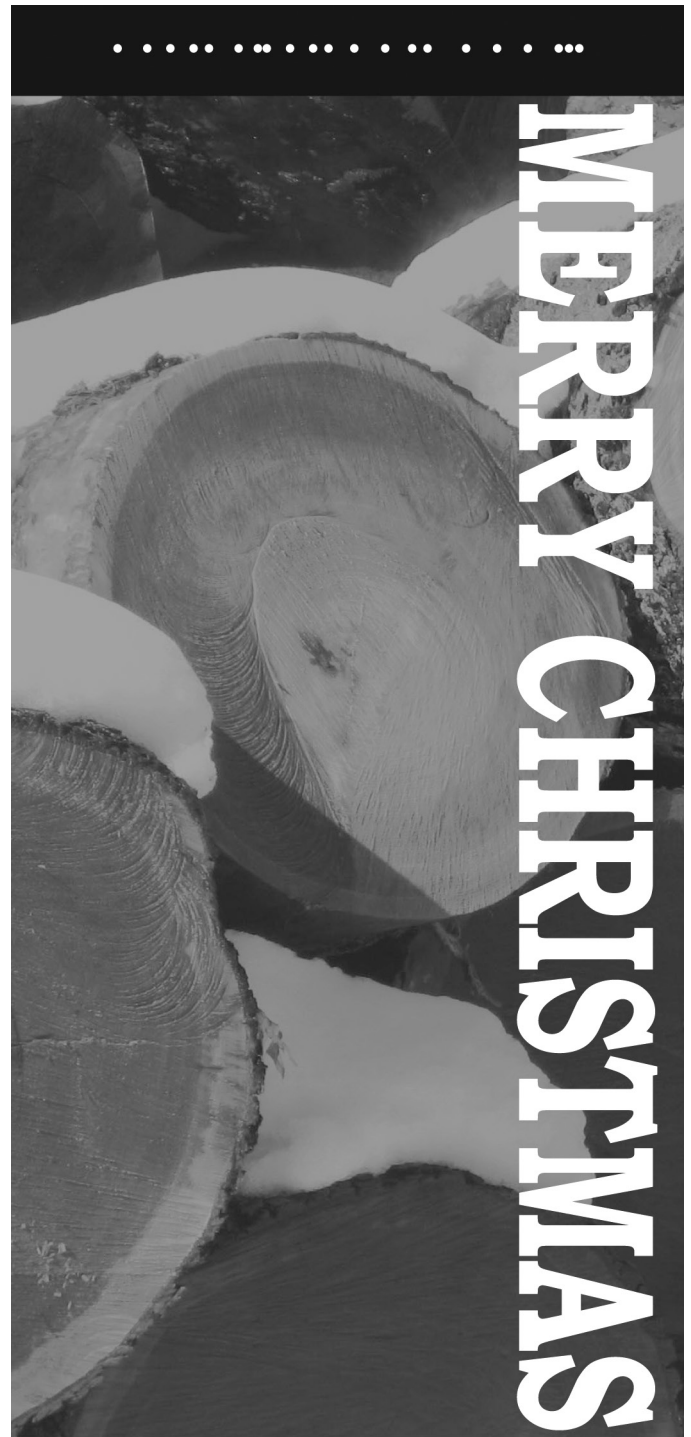
and then after you dial one it says to check and fix the sharpening of the bits.

Having said all of that, I was just troubleshooting a mill yesterday and the first thing I noticed was that the bits were sharpened as well as they could possibly be. Then I had to put on my thinking cap and go for the next common problem in sawmills: the collars. Of course, in the process of any real troubleshooting session, you should collect data on all of the areas that can affect how the saw performs, including alignment and such, because when you find the major cause of the current problem you also have to look at the rest to see what they have mis-adjusted to try to compensate for the problem.

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**Questions about sawmills and their operation should be sent to Forum, The Northern Logger, P.O. Box 69, Old Forge, NY 13420, FAX #315-369-3736.**

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a happy and healthy holiday season  
from all of us at UCC.



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