

SAWMILL FORUM

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Now that winter is coming, what should I be doing differently in my mill?

Actually if you are doing everything properly in your mill, not much should change for you in the winter. But there is one problem with that logic.

Nothing will ever be perfect in anyone's mill. The old expression that comes to mind is "show me something that's perfect and I'll show you something you haven't measured close enough." So how good is good enough?

Because nothing can ever be perfect, the best you can hope for is for everything in your mill to be within a running tolerance. If your machinery is all within a running tolerance and it is all operated correctly, it stands to reason that your final product will also measure to be within the running tolerance that your customers demand so that when they use your product in the manufacturing of their product, (assuming their machinery is also within a running tolerance), their product will turn out within the running tolerance demanded by their customers.

I am not advocating mediocrity in manufacturing here. What I am saying is that because nothing can be perfect, in the process of striving for excellence, you have to stop somewhere. And that somewhere is within a running tolerance. The difference between mediocrity and excellence is how close to perfect your idea of a running tolerance is.

Here is where the difference between winter and the other season known as "not winter" comes in as it relates to sawmills. Winter conditions, specifically frozen timber--and worse yet, partially frozen timber--require slightly closer running tolerances than the other season ("not winter") does.

Remember that having your machinery within a running tolerance is what is needed to produce lumber that is within a running tolerance. During the "not winter" season you can get away with slightly looser running tolerances and still produce a product that is easily within your customer's definition of a running tolerance.

Once the temperature starts to drop, it is time to tighten up that machinery running tolerance if you still want to be able to produce the same quality lumber. Chances are your customers won't loosen up their running tolerances when the temperature drops. They will still expect the same quality product they have grown accustomed to.

Now let's get specific about some areas to pay lots of attention to. What makes sawing in the winter a little tougher, aside from the mechanical difficulties with trying to start your loaders and getting lubrication to work properly in sub-zero temperatures, is the fact that frozen logs have a different hardness from the unfrozen logs of the same species. Frozen hickory and hard maple are particularly tough to handle, but any log will certainly be harder to saw accurately when it is full of frozen liquid.

Keeping your saws sharp enough is always important, but in the winter it becomes even more important. And the same is true with sharpening accuracy.

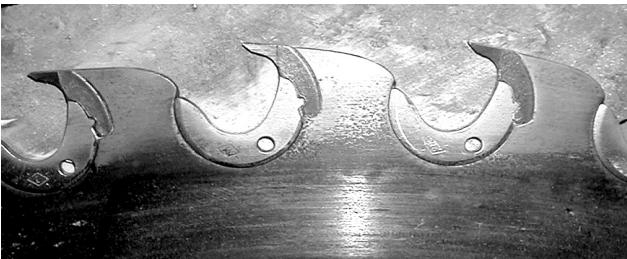
The shanks in your saws have more to do than just hold the teeth in the socket. They have to carry the sawdust while in the cut and eject the sawdust as soon as that shank exits the cut so that it will have room for the next load of sawdust on its next revolution.

The definition of a worn-out shank in an inserted tooth circular saw is that when it measures the same thickness as the rim of the saw, it is worn out. That is true during the "not winter" season. During the winter season as it starts to get even within .005" or .010" of that measurement it should be replaced and the saw should be rehammered because replacing the shanks stretches the rim of the saw and changes the tension in it.

New shanks are usually two gauges heavier than the gauge stamped on them and the rim of the saw. So an 8 gauge shank will measure .203" when new which is two gauges heavier than the rim of an 8 gauge saw which should measure about .165 of an inch. During the "not winter" season I would allow a saw to run shanks that are worn down to .170" but as we are approaching winter, I would advise changing shanks that



Winter bit, regular shank that needs cropping or welding.



Regular bit, regular shank.



Winter bit and winter shank combination won't work.



Regular bit and winter shank.

are that far gone. Of course when an 8 gauge shank gets to .165" it is time to replace it regardless of what season it is.

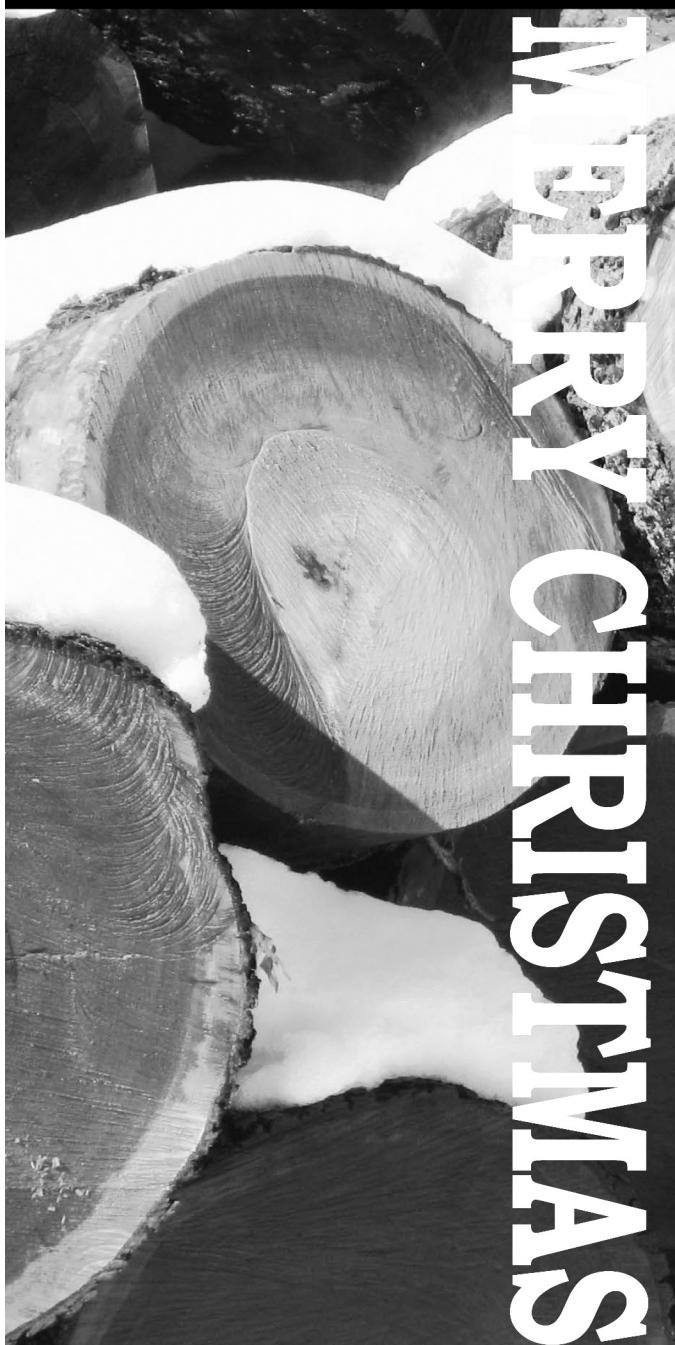
Frozen sawdust tends to be a little smaller than unfrozen sawdust and if it spills from the gullet while in the cut it will rub the blade and create friction, which of course will heat the saw and force it off-line. One of the things you will notice when that happens, aside from miscut lumber, will be frozen sawdust sticking to the board or the cant.

Actually that is sawdust that spilled out of the gullet, then thawed from the friction, then refroze as it came in contact with the frozen log. When you see that evidence, you know you are having winter-time troubles and it is time to correct the situation.

If your shanks are worn, that will be the first thing you have to correct. If your shanks are in good shape, it may just be a matter of feeding too slow. A slow feed rate will cause very fine sawdust, which will have a tendency to spill out of the gullet, even if your shanks are in good shape.

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Another thing that can cause sawdust spillage in the winter, (assuming you have good shanks) is the wrong bit and shank combination. If you run regular bits and regular shanks, you will have a nice rounded gullet area. In the winter, that frozen sawdust as it swirls in the gullet, can break up and become fine because it is brittle from being frozen.

Some bandsaw filers will grind a notch in their gullet area to counteract the swirling action of the sawdust. For circular saws you can change the bit and shank combination to a winter configuration by either running a winter shank with a regular bit or a winter bit with a regular shank. The winter bit and the winter shank each have a nub built into their design that is intended to prevent that swirling action of the sawdust. Unfortunately, if you try to run a combination of winter shanks and winter bits at the same time, the nub on one will line up with the nub on the other, thus canceling each other out.

If you are running carbide bits, they are

almost always produced in a winter bit style, so you should continue to run the regular shanks. If you are running steel or chrome bits, you can get them in regular or winter style, so you have a choice as to which configuration you want to use.

I will say that most mills don't bother changing the configuration for the winter months. They either run winter bits with regular shanks year round, or they run regular bits with winter shanks year round. There is nothing wrong with that strategy as long as you work it out so that you have the freshest shanks going into the winter season.

The bottom line is that if you keep your machinery in good enough condition to saw frozen timber properly, and you continue that practice all year, your mill will run that much better and be a bit more productive in the "not so winter" season.

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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