



## How long should a freshly hammered saw last?

This is a common question. It often comes from someone who is having saw trouble for one reason or another. The short answer is quite simple. If your saw was hammered correctly and your mill is set up properly and maintained properly, and you sharpen your saw accurately and in a timely fashion, that saw should last until you do something wrong to it. That is a lot of ifs, or what we like to call “variables.”

Theoretically, if the freshly hammered saw runs properly when you first put it on, then it was hammered properly and if it doesn't last long enough, you should start looking closer at the mill or how you are operating that saw.

But the problem is that the saw running properly is a relative term. Maybe it wasn't hammered as well as it should have been and although it works way better than it did when you took it off and sent it out to be hammered. It works, but not really as well as it should. In that circumstance it will sort of saw okay, but because it isn't quite right, it really won't last very long.

Let's first look at what makes a properly-hammered saw stop running right. There are essentially three factors that will cause a saw to need to be hammered:

1. Heat.
2. Shock force.
3. Lateral force.

Heat is a constant enemy that you have to diligently guard against. Sometimes you will get the saw very hot and after it cools off you find that no harm was done. And then there are times when after cooling down, the saw is unusable until it is hammered again. There are too many variables to be able to predict when the heat will just affect the saw temporarily and when it will cause it to be rehammered.

But I can tell you that steel has memory in it and the straighter the saw is during its lifetime, the better chance you have of getting it hot and then being able to saw with it after it has cooled down. And after a saw has been extremely bent by being set in the cut, even though it has been rehammered

properly, chances are that the first time you get it hot you will have to send it out to be hammered again. That is where the memory in the steel applies and is brought out by the heat.

Shock force happens when you hit the leading end of the log too hard with the saw instead of easing into the cut. It also happens when you hit large metallic objects in the log, or just stall the saw by overfeeding it.

Lateral force is anything that will push the saw towards one side or the other and it is usually pushing it towards the board side. If the log moves and rolls over onto the saw, that is lateral force. If the setworks tend to creep a little, that is lateral force. If you make a set while in the cut, that is major lateral force. If you hit some metal and knock off all of the log side corners on the teeth, that will create major lateral force as the saw drastically runs out of the log. Even a little bit of sharpening inaccuracy that makes the bits out of square will generate lateral force on the saw until you find the problem and correct it. And by then it may or may not be too late.

I think the problem is that a lot of sawyers really are not sure when they put a saw on as to whether it was really hammered correctly or not. One way that circular saws are different from band saws is that band saws either run or they don't. When a circular saw isn't hammered quite right, there are a lot of little tricks that a sawyer can do to keep it cutting. Of course as far as I am concerned, if you have to do things to make it run, then it is not running properly and you either need to have it hammered correctly or start looking at the rest of the mill to isolate the problem.

It is a tough situation in that no saw is perfect and even fewer mills are perfect. So trying to find the problem can be a challenge because you don't have all of the data you need. By that I mean that when I give you a freshly hammered saw, you really don't know if I hammered it correctly or not. Of course I told you it was hammered correctly. But I could have made a mistake.

Just like you need some basic tools to be able to check out your mill, you should invest in some basic tools and also some

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basic training so that you have a way to know for sure whether your saw was hammered correctly or not. And of course those tools and training would be just as useful to determine when it is time to send your saw out to get it hammered.

Speaking of knowing when to send your saw out: There are some sawyers who take great pride in how long their saws can run before they need to be hammered. If the saws are lasting a long time because the sawyer is treating them properly, then that is and should be a great source of pride. But if, on the other hand, the sawyer is inclined to take a saw that is ready to be sent out and just keep on running it until it won't rotate anymore, that has nothing to do with pride. And if the sawyer is running the saw too long because he thinks he is saving his boss some money, he is wrong again.

When you continue to run a saw way past when it should have been sent out, you are saving the price of getting it hammered, but you are costing the company in lost production, increased mis-cuts, and you are hurting the memory in the steel so that when you do finally get the saw hammered, it is not likely to run past the first time you get it hot enough to bring out some of that memory. As a business, is your goal to see how long you can go without getting the saw hammered, or to be as profitable as possible?

The better you treat your saws, they better they will treat you, which will mean increased production, accuracy, and presumably higher profits.

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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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