

# SAWMILL FORUM

CASEY  
CREAMER

SAW  
DOCTOR



**Sometimes when I am trying to figure out what is wrong with my mill, I just don't know where to start. What is the first thing to check usually?**

When it comes to troubleshooting techniques, there isn't much of a difference between saw doctors and medical doctors, except that medical doctors "diagnose" instead of "troubleshoot." Same idea; different terminology.

If you were able to read your doctor's notes after your visit, you would see "r/o" followed by a possible disease and the recommended test or possibly medication. That "r/o" means "rule out." For example, you come in with a nagging cough, so the doctor schedules a test to rule out bronchitis. The idea is to rule out the most probable, and/or common possibility first, and also to use the least intrusive and easiest test first. When a good medical doctor hears hoof prints, he/she shouldn't be expecting to see zebras.

When troubleshooting sawmills, a good saw doctor will operate much in the same manner. You say the saw is running out of the cut. What a surprise. That is about the most common symptom that I hear. Before recommending a particular test to rule out one possibility or another, I ask one very important question to help isolate which system we should be concentrating on first. The medical doctor knows you have a nagging cough, so there isn't much reason to look for arthritis.

I first ask how the saw exits the cut. If the saw is exiting the cut cleanly and without any drama, I would start aiming in the direction of an alignment problem in one form or another.

Most of the time the answer is that the saw does not exit the cut cleanly which means that the saw clearly ran off line, instead of just sawing the wrong line. Now this doesn't rule out an alignment problem completely, but in the early stages it certainly makes you look a bit less at alignment and more at everything from the mandrel to the bits in the saw and everything in-between.

What is the first thing to rule out? Yep, you guessed it. The bits!

The bits are the most probable cause of your trouble and

also the easiest thing to check. There are a number of things that can be wrong with the bits, but the good news is that just one quick check will easily tell you whether you have a problem in that area or not.

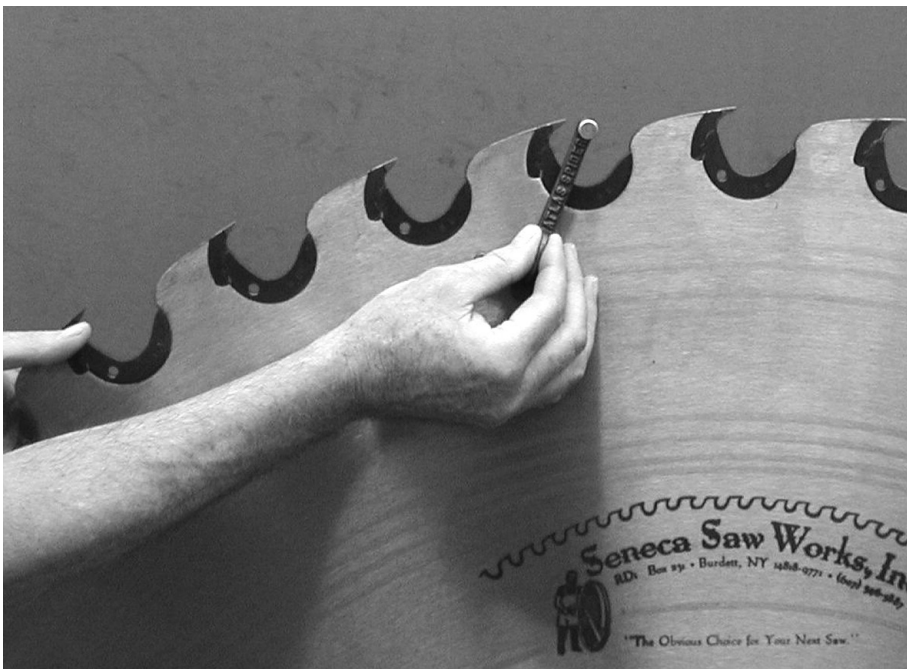
Just use a spider gauge to see if the corners of the bits have the same amount of side clearance on both sides of the blade. If the corners are in good condition and equal from side to side, you have just ruled out a whole bunch of possible problems by clarifying what's going on in that one major area. Now you can go on to checking other things like the collars and bearings, etc.

If the corners do exhibit a problem, all you have to do is to focus all of your attention to determine the exact culprit. Keep in mind that if the saw runs off line because of the bits, it will always run away from the short side and towards the long side. In other words if the board side corners are longer than the log side corners, the saw will tend to run out of the log. If you find a problem with the bits, it should be consistent with the direction the saw is running off line. If not, you will need to correct the problem at the bits and still have to keep looking for the problem in different areas. Simply fixing the problem at the bits in this particular case would make your problem even worse because the bit problem is compensating somewhat for the major problem. Of course it isn't compensating enough, or you wouldn't be aware of a problem.

How many different problems can result in one corner having more side clearance than the other?

Here is a list in order of their likelihood:

1. Bits are dull with missing corners on one side.
2. Bits are sharpened out of square.
3. Bits are swaged harder on one side than the other.
4. Bent shoulders.
5. Bits are mis-manufactured with more side clearance on one side than the other.
6. Vee groove off center. (not a new problem that just appeared).
7. Bits are not sitting squarely in their sockets.



Checking the bits with a spider gauge.

A word of caution: There are two different kinds of troubleshooting to be done in any sawmill. One is immediate troubleshooting. That means that a problem just appeared or at least was just noticed, and there is a limited amount of time (possibly during a lunch break) to find it and fix it for now.

The other is a comprehensive form of troubleshooting where you methodically go through the entire mill from top to bottom looking for anything and everything that might be out of adjustment or alignment, or just plain worn out. You gather all of the data and start analyzing

it until you can paint a complete picture of what condition every aspect of your mill is in. Then you can formulate a plan for both short term and long term fixes or replacements.

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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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