Sawmill Forum

BY CASEY CREAMER

Here is an interesting case. I have been doing saws for this mill for many years. They usually bring me around six saws at a time. They rarely have any saw emergencies. The saws show up. I get to them when I get to them. They pick them up and I don't hear from them until the following year, when the process starts all over again.

Every now and then, over the years, the mill manager would let me know that, although usually all of the saws ran great, one of them would give him problems. The symptom was always the same: As soon as he hit the first cut, the saw drastically dove out of the log. I would always ask the standard questions, such as, "What do the teeth look like?" and "Did you check the collars?" I am pretty sure that a few times over the years I also asked whether the saw slid on and off the mandrel easily or if it tended to hang up a little.

You have to understand that I usually would only see the saws once a year, which meant only conversing with the mill manager once or twice a year. As is the case with most mill managers, this one is pretty busy, and since all of the other saws ran fine, getting to the bottom of this saw's problems never became a huge priority. I don't think I knew which one of the saws it was, or that it definitely was always the same saw that had this problem.

I suppose I could have made it more of a priority to figure out which saw it was and what the problem was, but I didn't. My contention was that if one out of six saws didn't quite run as well as it should, then maybe that meant there was a little something I missed in that saw. But the reported symptom was always that it dove out like crazy – something I considered beyond the realm of what I could have missed during the hammering process. If the reported symptom had been something like "one of the saws seems to tend to run out just a little," then I'd have assumed it was something small that I could have missed.

Now, if all of the saws had the same symptom, that would surely be cause for alarm and most likely it would indicate some pretty serious collar trouble, or serious sharpening issues. But when all of the saws except one run okay, that pretty much eliminates everything but the saw itself. (There was an occasion that defied that logic, and perhaps I will tell you about that situation next month as sort of a follow up to this month's "Sawmill Forum.")

After years of dealing with this problem, the mill manager finally put a note on one saw to let me know that this was the saw that, on the first cut, dove out of the log like crazy. I assumed that the saw would look basically okay and that I would have to go on a needle in a haystack mission with this saw, looking for some minute little thing that I could easily miss during a normal saw hammering session.

Remember that a normal saw hammering session means that I have to get the saw to be flat on the log side, with an acceptable amount of wobble, and the right amount of tension in the right location. So, what are the types of things I could miss and still be able to say the saw is flat on the log side, with an acceptable amount of wobble, and the right amount of tension in the right location?

In this type of situation, the first thing I look extra closely at is tension. I do this simply because that is the grayest area in saw hammering, as far as I am concerned. When my saws are flat, they are very flat and it is a strict go-no-go type of measurement. Additionally, an acceptable amount of wobble means plus or minus (+/-) .015" or better. There is no way to fudge that. It either meets the number or it doesn't. So, I look extra closely at the amount of tension and the location of the tension, because the location is as important as if not more important than the amount.

If the tension really looks okay, I take an extra close look at the shoulders of the saw. If all of the shoulders were just slightly bent, I might not have noticed it during a normal saw hammering process. Yes, I should catch that sort of thing, but it is also something that I know I am capable of missing. And if all of the shoulders are slightly bent towards the board side, that could easily cause a saw to dive out of the log on the first cut.

Upon initial inspection after cleaning, it became quite clear that my assumption that this saw would look basically okay was completely wrong. In fact, this saw was very badly dished towards the board side. It almost looked as if the sawyer had made a set in the cut, or the log had rolled over onto the saw a little. Well, I could easily fix this, but that was not going to solve the mystery. Obviously, the saw didn't go out of my shop looking like that. And I had been dealing with this customer for long enough to know that he wasn't mistaken or covering up for anyone or anything. He had told me the symptom and here was the saw. One other thing the mill manager shared with me was that when he did the tighten-the-nut trick to check his collars, it looked like the rim of this saw moved about an eighth of an inch, while when doing the same check with any one of his other saws, the movement is only .005".

It would certainly follow that if the saw dished an eighth of an inch when tightening the nut on the collar, the saw would certainly dive out of the log on the first cut. But to add to that was the fact that the saw now looked severely dished towards the board side. The saw not only didn't leave my shop looking like that, but it also didn't dish when being tightened in my test arbor collars.

So, I hammered the saw. During that process I looked extra close at the flatness of the bore and the collar area to see if I could find something out of whack.

Well, there was quite a bend in that area, but certainly not something that would have been there when the saw left last.

After bringing the saw back to specs, I precisely measured the 2" bore. We refer to that as a 2" bore, but, in reality, it is supposed to be more like 2" plus a couple of thousandths. A 2" shaft will not fit in a 2" bore unless the bore is a couple of thousandths oversized. It turned out that by using dial calipers, I could get a proper measurement. But when I used a 2" plug gauge, it would not quite go in without hanging up. That meant that there must have been enough of a burr somewhere on the bore so that when they put the saw on their mandrel it would hang up on the way on instead of sliding on freely. The scenario that I imagine happened is that when they forced the saw on by hand as far as it would go, and then tightened the nut, it would force the saw at the collar line on without being able to move the saw at the bore, putting the whole thing in a bind and dishing the saw about an eighth of an inch, which would then make it dive out of the log on the first cut. And because the bore was not free to react to the movement of the rim of the saw, it would put a bend in the body of the saw which would not come out without having to be hammered again.

So, I remachined the bore so that my plug gauge slid in and out easily. The saw hasn't had a problem since.

A Note to Readers: Due to an editing error, the wrong response was printed to the reader's question in our June issue. We incorrectly printed the same column as in our May Issue. We apologize for the error, and any confusion it may have caused. Please send future questions about sawmills and their operation to Casey Creamer, saw doctor and president of Seneca Saw Works, Inc., PO Box 681, Burdett, NY 14818, (607) 546-5887. You can also reach out by email: casey@senecasaw.com.