SAWMILL FORUM

BY CASEY CREAMER

Wherever you find a sawmill, regardless of what type, you will find that they all have about the same problems as any other sawmill.

I recently received an email from a sawmiller in South Africa. He started with:

Dear Sir,

Could you perhaps advise as to how many mm the light gap should be and where it should be using a straight edge on the radius and where on the blade considering a blade of 950mm running at 940 r.p.m.

Looking forward to your reply

My first thought was that this guy wanted me to be able to teach him how to hammer saws in one or two paragraphs. That was not going to happen. What did happen was that we had a number of emails back and forth with me asking questions to be able to understand what he had to work with.

My first set of questions concerned the blade: "What is the thickness? What kind of tips? What is it cutting? How is it fed? Power feed or by hand? And how are you checking that light gap?"

And his initial response was:

1. Blade thickness 3.5mm
2. TCT
3. Mainly pine and blue gum
4. Carriage fed the machine is a KARA F2000
5. Power Fed
6. Straight edge I cannot get hold of speed gauges in our country
7. 935 r.p.m.

You can look up the KARA F2000 on YouTube and see that it is basically a conventional circular mill except that what we would call the carriage is actually a sliding table that conveys the log past the saw. And instead of an inserted tooth circular saw like we run, he uses a circular saw with silver soldered carbide tips. It is also a lot thinner kerf than what we run on a circular headsaw.

But all of the same principles that we use on our mills apply to this slightly different operation in South Africa. We decided to communicate via WhatsApp and he was able to send me a number of videos of the mill running and of him checking and hammering his saws. He even sent me a picture of his sawdust – because as many of you know, we can tell a lot about how a mill is being run just by looking at the sawdust. Fine dust is a sign of slow feeding which could be an indication of saw problems, or a mill that is set up with too much RPM relative to the feed rate. Good coarse sawdust is about as good a sign as lumber piles that stand straight.

After he watched my YouTube video about how to hammer a circular saw, he decided to check his collars using the "tighten the nut trick" and discovered that he had a problem there and subsequently had his collars machined properly. He assumed that he had found the problem and should now be good to go. I informed him that finding one problem and fixing that, is not enough because there could be other issues in the mill that were either trying to compensate for the collar problem or there could just me more things that are out of adjustment.

Through the videos he sent me and the subsequent lengthy phone conversations we had via WhatsApp, we determined that he indeed did have a number of other issues that were contributing to him not being able to saw properly. It turned out that there were some tension issues with his saws that he was able to correct at my direction related to where the bulk of the tension should be in any circular saw. Additionally, I had him change some pulleys to lower the saw speed a little. It turned out that he didn't have any lead in the saw, so we talked about how to measure that and how to correct it on that particular machine.

In the conversations we had, it seemed that the teeth were being sharpened accurately enough although I would have liked to see a little more side clearance to buy his saws a little more forgiveness. Here we use inserted tooth saws that have bits and shanks. The shank has the gullet that carries the sawdust out of the cut. If the shanks are worn we replace them because a worn shank will start spilling sawdust which will of course heat the saw and force it off line. In the case of a bandsaw, a solid tooth circular saw, or a carbide tipped circular saw, that gullet is part of the saw body, but it can still wear and start to spill sawdust. When you sharpen a bandsaw, or a solid tooth circular saw, you grind the entire rim of the saw, meaning tooth face, tooth top, tooth shoulder and all of the gullet every time you sharpen the saw. When you sharpen any carbide tipped circular saw, you might just grind the face of the tooth, or you might grind the face and the top of the tooth. I prefer to see two surfaces ground to achieve a good cutting edge on carbide. If you have inserted carbide teeth you will just be grinding the face of each tooth though. They are not designed to have their tops ground.

What I found out was that the carbide tips were being ground, but nobody had been paying any attention to the condition of the gullets, and as a result they were very worn and dull to the point where these saws were spilling sawdust on a regular basis.

The wind up was that he resurfaced the collars, got the right amount of lead, changed the saw speed, changed the location of the tension in his saws, and sharpened the gullets in his saws. I spoke with him in mid-November and the mill was running fine. He was able to saw properly for an entire week without any problems or miscuts.

Whether you measure in millimeters or inches, and no matter what language you speak, a sawmill is a sawmill and no matter what the configuration, they will all pretty much share the same problems.

Interested to learn more from Casey Creamer? You can watch our video on how Casey hammers circular saws on The Northern Logger *YouTube page. Just search for "The Northern Logger" on YouTube and click the video entitled "How to Hammer a Circular Saw with Casey Creamer." 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.*