

Troubleshooting

Making the most of Thin-Kerf, Narrow-Band Blades

Proper blade maintenance and careful attention to recommended applications for certain profiles are key to getting the longest blade life possible, while assuring you get the most accurate cuts. It's important to discuss the different selections with a Wood-Mizer blade specialist (call 1.800.553.0182). Together, we'll find the right blade for the job.

Very few problems will slow down your operation more than premature blade breakage. Fortunately, most causes for this are preventable.

The first step is always making sure the blade is properly sharpened and set. If you buy Wood-Mizer's DoubleHard or SilverTip blades and use our Re-Sharp service, you likely won't experience any premature blade breakage. That's because we use the most up-to-date equipment, including our own CBN wheel grinder and our computerized setter. Many of the problems addressed below are not common concerns for customers who choose Wood-Mizer blades.

Here are some of the common problems that lead to blade breakage.

- Using too slow a feed rate during cutting.
- Not enough or too much hook angle.
- Not enough or too much set in the teeth.
- Teeth too tall.
- Too sharp a radius at base of tooth.
- Inconsistent gullet.
- Severe pitch buildup on teeth.
- Grinding wheel maintenance. Dressing the grinding wheel incorrectly changes the angles and contours that make up the blade profile, which in turn, changes the cutting characteristics of the blade.
- Set point too low on tooth. If the bend point (where the setter pushes the tooth) is too low, the band will become bent instead of the tooth, resulting in wavy cuts, reduced cutting speeds, and premature blade breakage.

10 Ways to Increase your Blade's Life Expectancy

- 1 Take advantage of Wood-Mizer's Re-Sharp service. We specialize in thin-kerf, narrow band blade manufacturing and sharpening. No one can match our experience or attention to detail. Only Wood-Mizer sharpens your blades before and after setting to provide the highest level of quality.
- 2 Pay attention to detail. The sawyer has control over many of the cutting conditions that affect the blade. Monitor wood cleanliness, blade tension, feed rate, blade guide position, etc., and cut as fast as possible while still maintaining a straight cut.
- 3 Use larger logs. Smaller logs have value and can be cut at a faster rate of speed, but will use more blade flex life to produce the same volume of wood as a larger log. Logs ranging from 18" to 36" in diameter will increase the total board feet a single blade can produce.
- 4 Understand different wood species. All trees vary in density. Softwoods have inconsistent densities (growth rings, knots) and require careful monitoring of feed speeds. Hardwoods usually have a more consistent density (except in very low grade logs) and will allow faster and steadier cutting speeds.

Some examples of wood densities include:

Extremely Soft	Balsam, Aspen, Cotton wood
Medium to Hard	Red Oak, Yellow Poplar, Most Pines

Extremely Hard	White Oak, Osage Orange, White Ash, Hickory, Sugar Maple
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- 5 Beware of moisture content. Wood density changes as the log dries, requiring different cutting speeds. In some species, an extremely soft wood that has dried will cut like an extremely hard wood. Dry wood is more abrasive, too, causing the blade to dull more quickly.
- 6 Clean the wood. Dirt, rocks, sand, and other foreign material that may be in the log will wear the teeth considerably faster than the wood you are cutting. Dull blades require slower cutting speeds. One common and effective solution is the Wood-Mizer debarker.
- 7 Measure blade tension. Proper tension is critical for maximum blade performance and cutting speeds.
- 8 Examine blade wheel belts. The blade wheel belts must be in good condition. Worn belts (less than 1/32" thick) can allow the blade to contact the metal blade wheel, resulting in early blade breakage. The belts must also be of uniform thickness. Non-uniform belt thickness causes additional stress to a blade, resulting in mill vibration and reduced blade life. It is also important to keep the belts free of sawdust buildup.
- 9 High feed rate. Feed rates should be as fast as possible while still maintaining a straight cut. Cutting at slower speeds reduces overall blade life.
- 10 Examine blade guide position. The blade guides must be positively aligned to provide blade stability and allow the maximum cutting speeds. If the blade guides are tipped upward or downward, they will cause the blade to cut in the same direction.