# Metal Cutting Band Saw

# Safety

* Rules are different for wood cutting band saw and metal cutting saw. Don’t assume you know how to run the metal band saw if you haven’t had the training.

        **Never leave the saw running unattended**.  Auto shutoff may not work, blade could break or come off or many other problems could occur and fires can result.

        **Use the vice whenever possible**.  This keeps your hands safely out of danger.

        **Unplug the saw** when servicing anything on the saw or changing the blade.

        Keep the saw clean.  **Use a chip brush** to clean, not your hands.

        Keep all guides and guards in place while operating.

# Proper Operation

        Start the saw in the air and gently lower it onto the material, don't start the cut with blade in contact with the material. The Motor should start instantly.  If not, something is probably jammed so unplug and investigate.

       Remove blade tension before first cut, loosen blade, and check for free movement.  Reinstall blade and tension.

       Clamp metal in vice if possible because it is safer.  Both 90 degree and angle cuts possible.  May need shims in vice for short pieces.  If not cutting straight, get help.

        Use lube stick or cutting oil during operation

        May need to manually reduce force on blade for thin stock by holding up the saw.

        Use stops to easily make multiple cuts.

        You can use the saw vertically for free hand operation.  Lock in vertical position and install and use table.

        Don’t change the speed.  It’s going as fast as it can!

# Problems

        Throwing blade off wheels

        Cuts not straight. – Need to adjust guides using wrenches.

        Slow cutting. More lube and more pressure can help

# Clamping and cutting thin stock

# Clamping and cutting long material

        Use outboard support stand at saw height to support long pieces. Material to be cut should be flat on saw table. May need to adjust after each cut.

* Sometimes it is easier to shift the saw a little to get the material flat rather than change the support height.

# Free hand operation

        Never apply force such that your fingers or hand will be pushed into blade if something breaks, slips, or grabs.

        Metal gets hot when you cut it.  Safer to hold with pliers or possible gloves depending on size of piece.

       Cutting can be very slow for thick or tough pieces.  You can’t force the cut, so don’t try to increase the force.

       Throwing the blade happens often from too much force or backing out of a cut.  Too tight a radius also causes this.

       6” radius is about as small as you can get.

# Blade replacement.

* If the blade is broken, determine the root cause and fix (or refer to a steward) prior to replacement. Breaking can be caused poor guide settings, blade fatigue at weld, severe material/blade mismatch. With this saw it’s almost impossible to over tension.
* Bi-metal blades with hardened teeth last longer and cut better than carbon steel blades.
* Blade should ideally have two teeth in contact with the material so for 1/8 stock you need 16 teeth per inch. This limits the depth of cut and helps prevent throwing the blade.
* Sometimes we can’t get two teeth in contact with the metal for thin materials, so reducing the feed pressure can help reduce throwing the blade.
* Fine pitch blades are really slow for cutting thick materials.

# For shop steward

        How to adjust the blade.

        How to check and replace the bearings

        Blade types and TPI