**Band Saw:**

The band saw is my favorite power tool. It works by *pulling* a thin flexible blade through the wood. Pulling instead of pushing means the blade can by very thin, and cut with a small *kerf*. Since much less wood is being removed, band saws can actually cut much thicker material than table saws. Band saws can also cut curves.

Band saws are less terrifying than table saws, but should be treated with appropriate respect.

Lower the blade guard to the level of the work. Leaving more blade exposed increases the risk of injury – and also makes the cut less accurate.

When you finish using the band saw, lower the blade guard to the level of the table.

While cutting, make sure the work is firmly supported by the table at the blade. If you try to cut work which is elevated off the table surface, the saw can forcefully slam the work down, injuring you or damaging the blade.

For cutting curves, plan ahead to be sure the work can turn appropriately without running into the back of the saw. Flipping the workpiece over often resolves the issue.

There’s a limit to how sharp a curve the blade can cut. Consider drilling some holes in the piece to allow the blade to turn if you have to make sharp curves.

Never back a moving blade out of a cut – it can pull the blade off its wheels. If you have to back out of a cut, turn the saw off and wait for the blade to stop moving, then gently hold the blade back with a piece of scrap while pulling the workpiece forward.

You can’t start band saw cuts in the middle of the piece.\* If you have to make cuts in the middle, use a handheld jigsaw. (\* Actually, metalworking band saw blades are sometimes cut and then welded back together to make cuts inside a piece!)

The band saw can be used to make safe rip cuts. You can use a fence for rip cuts, just as you do on a table saw, but band saw blades sometimes “drift” when you cut with a fence. Another option is to cut close to a marked line with the band saw, then trim off a tiny bit safely with the table saw.

**Generic Power Tool Safety for Robotics Field Builders:**

1. The tool does not know or care about you or the work. The tool’s only goal is to convert electrical to mechanical energy by spinning something very sharp very fast.
2. Your goal is to arrange the world so the tool’s mechanical energy serves to cut wood fibers, rather than hurl projectiles, yank your hair, grab your arm or carve your flesh.
3. Remember chronic injury – use hearing protection and respiratory dust protection.

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