Name FIRST Robotics Team 4153
SAFETY RULES & BASICS FOR BAND SAWS
Band saws are designed for cutting metals, plastics, and wood. The moving blade presents a dangerous safety risk if not used properly. Be sure to always follow good safety practices in the shop as described in General Robotics Safety Rules. Specific rules for the band saw include:
Always keep fingers out of the path of the blade and a safe distance from the blade.
Hold any work firmly on the table and not up off the table.
Feed material into the blade at a moderate rate of speed, DO NOT force material into the blade. If it appears that the blade is not cutting the piece, stop the machine and check the blade condition and speed setting to ensure proper setup. If the blade is worn or cracked, unplug the machine and notify a mentor.
If the saw stalls in the work piece, turn the power off, up plug, and reverse the blade by hand (use the drive wheel to do this) to free the blade from the work piece.
Set the upper blade guide ¼ inch or less above the work to be cut.
Use the proper pitch blade for the thickness of the material to be cut. There should be at least two teeth per material thickness when cutting aluminum and three teeth when cutting steel.
When operating the machine, keep well balanced and stand carefully to avoid injury from unexpected slips or falls.
When handling long pieces of material, get help to support the end of the work piece and do all the pushing yourself.
Keep the table clear of scraps and clean table of scraps after the blade stops moving. Never pick pieces of wood from the machine while it is in motion and then it is wise to use a push stick or brush.
Plan cutting procedures so there is a maximum of forward feed and a minimum of backing out.
Allow the machine to come to a complete stop before backing out of a long cut. Do not back out of a cut with the machine running. This can pull the blade off of the wheels.
Turn off the power after using the band saw and stand by until the machine has come to a complete stop.
When a band saw blade breaks or comes off the wheels, step away immediately, shut off the power without endangering yourself, and then notify a mentor.
I have read and understand these rules. I realize I must be tested and checked-out on the band saw operation and safety by a mentor before I am allowed to use it.

Signature	Date		
Mentor Test & Check-out Signature		Date	

## FIRST Robotics Team 4153 - Band Saw Qualification Test

- 1. When you have to back out of a long cut on the band saw, you should:
  A. Continue to saw forward.
  B. Try to turn the work on the table.
  C. Carefully back the work away while the blade is moving.
  - C. Carefully back the work away while the blade is moving
  - D. Stop the machine, then back out of the cut.
- 2. If while inspecting the band saw blade you find it to be cracked, the safest thing to do is:
  - A. Notify all the students.
  - B. Notify the shop manager.
  - C. Unplug the machine and notify a mentor.
  - D. Hang and "Out of Order" sign on the machine.
- 3. What is the first thing you do before beginning to use the band saw?
  - A. Put on your safety glasses.
  - B. Check the blade for cuts and cracks.
  - C. Clean off the band saw table.
  - D. Make all necessary adjustments.
- 4. When operating the band saw, you should
  - A. Keep well balanced and stand carefully.
  - B. Keep fingers out of the blade path.
  - C. Shut off the machine when backing out of cuts.
  - D. All of the above.
- 5. You should plan your cuts on the band saw so that:
  - A. Small curves can be easily cut with wide blades.
  - B. There will be minimal scrap left on the table.
  - C. Back-outs can be made after each ½ inch of forward feed.
  - D. Forward feed is maximized and backing out is minimized

6.	If a band saw blade breaks or comes off, you should:
	A. Call another student to shut off the power.

- B. Step away immediately, shut off the power without endangering yourself, and notify a mentor.
- C. Continue cutting until the blade comes to a stop.
- D. Back your project away from the blade immediately to avoid damage to your project.
- 7. It is best to set the upper guide of the band saw:
  - A. Tight against the work piece.
  - B. When the power is off and the machine is coasting.
  - C. ¼ inch or less above the work piece.
  - D. ½ inch or less above the work piece.
- 8. When using the band saw, it is important to always:
  - A. Feed the material at a moderate rate of speed.
  - B. Keep fingers in the path of the blade.
  - C. Hold the material off of the table.
  - D. Make all adjustments while the machine is off.
- 9. When handling long pieces of work:
  - A. Always do the cutting by yourself.
  - B. Stand closer to the saw.
  - C. Get help to support the material and do the cutting yourself.
  - D. Avoid cutting long stock on the band saw.
- 10. After using the band saw, you should:
  - A. Be sure to turn the machine off.
  - B. Allow the blade to coast to a stop before walking away.
  - C. Clean the table of all scraps and shavings.
  - D. All of the above.