



BAND SAW

(Wood Shop)

RIT

The Student Hall for
Exploration and Development

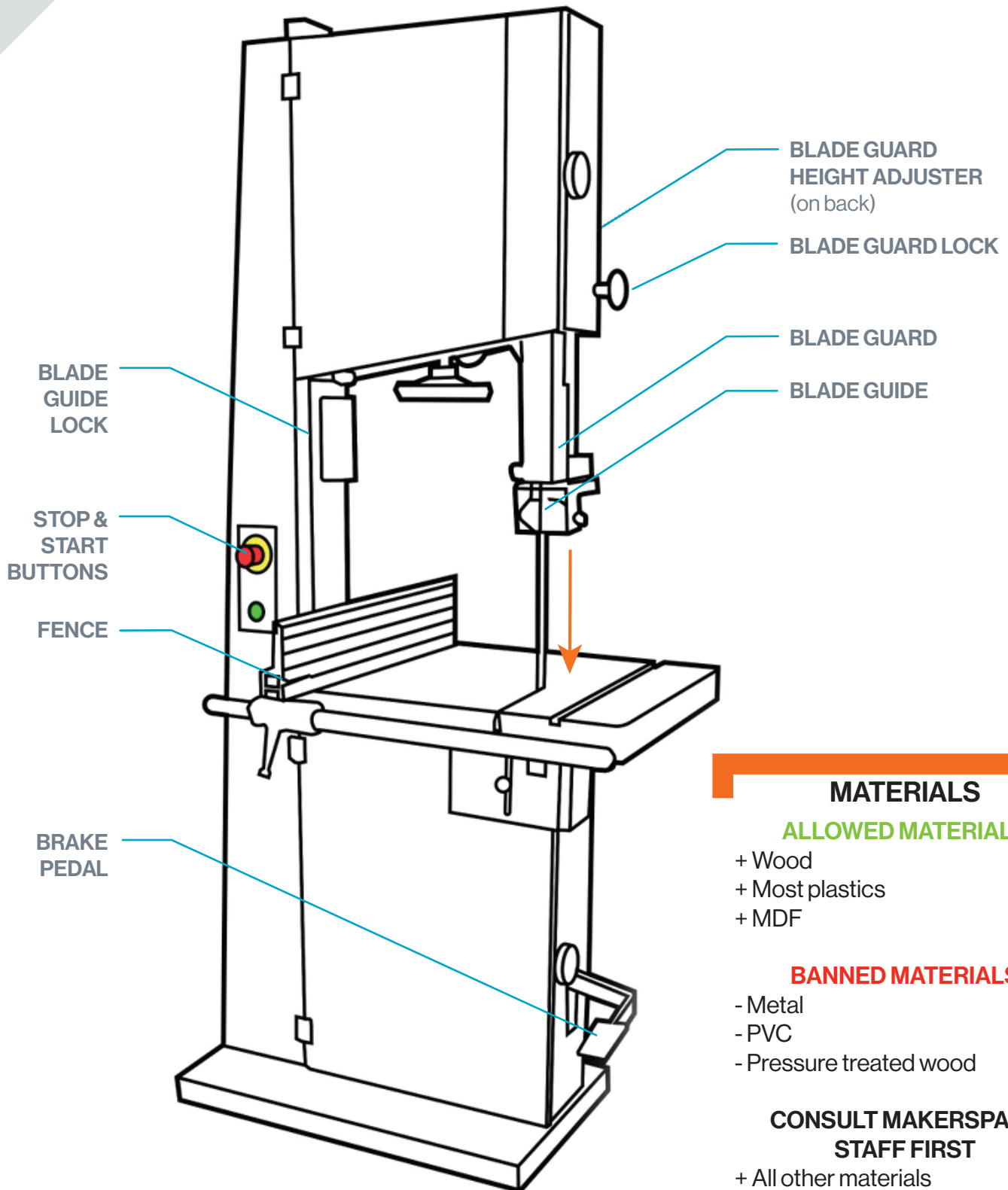
BAND SAW

THE BAND SAW MAKES STRAIGHT AND CURVED CUTS

MACHINE INTRODUCTION

P.2

VERSION #



MATERIALS

ALLOWED MATERIALS

- + Wood
- + Most plastics
- + MDF

BANNED MATERIALS

- Metal
- PVC
- Pressure treated wood

CONSULT MAKERSPACE STAFF FIRST

- + All other materials

BAND SAW

SAFETY

VERSION #

TAKE PROPER SAFETY PRECAUTIONS WHEN OPERATING THE BAND SAW

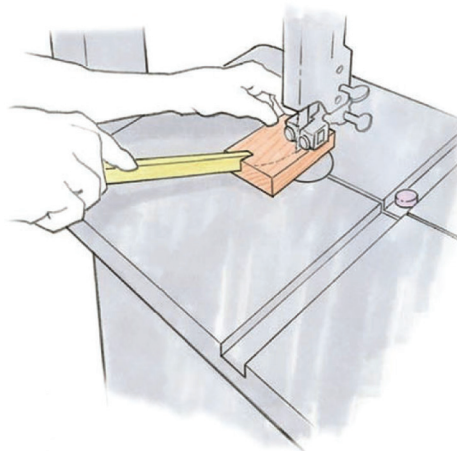
P.3



- Safety glasses required
- Hearing protection recommended (ear plugs or ear muffs)



- Wear short sleeves or roll up long sleeves
- Secure any loose clothing (zip up jackets, tuck in strings, etc.)
- Tie up and tuck in long hair
- Remove jewelry and lanyards, etc.
- Do not wear gloves



Use a push stick when your fingers are within 4" of the blade
Lower the blade guard to be 1/4" above the workpiece

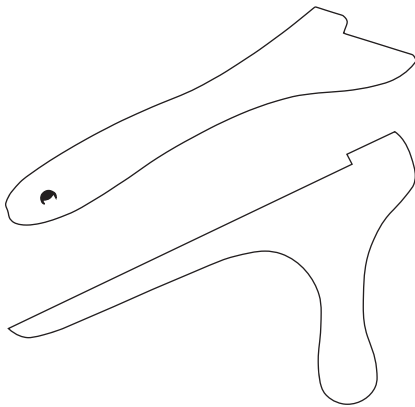
BAND SAW

WHAT TO BRING

VERSION #

TOOLS AND MATERIALS NEEDED

P.4



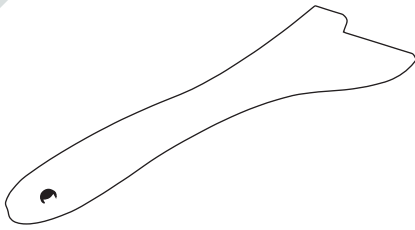
MATERIALS

- What we offer
 - 1/8" plywood
- Common places to buy these materials:
 - SHED Makerspace Materials Shop
 - ID Shop
 - Foundations 3D Design Shop
 - Lowe's
 - Home Depot
 - Any wood/lumber store

If bringing your own material, you must provide a receipt or MSDS as proof of what it is

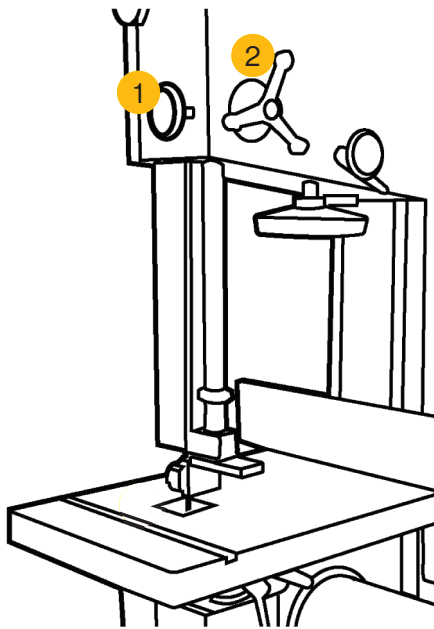
TOOLS

- What you need
 - Push stick



LOADING AND SECURING MATERIALS

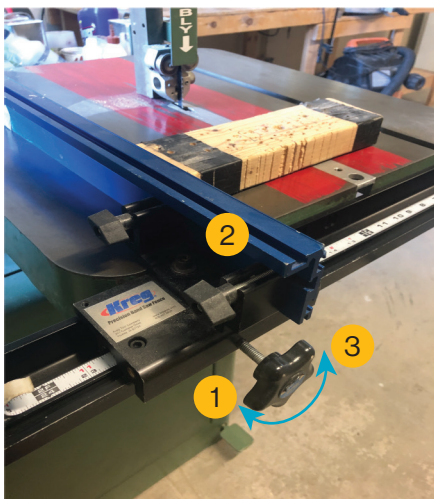
- Always use both hands to firmly yet gently guide the material through the cut.
- Any pieces close to 4" in any dimension should be pushed through with a push stick.
- Do not cut anything smaller than 4" in length.



ADJUSTING THE BLADE GUARD & GUIDES

The blade guard helps to prevent contact with the exposed blade. **Use it every time.**

1. Loosen the lock knob slightly.
2. Positioning your material next to the blade, Use your hand to push the upper guide assembly up or down until it's a **1/4" above the material.**
3. Once in position, turn the adjustment knob to tighten it until it's snug.



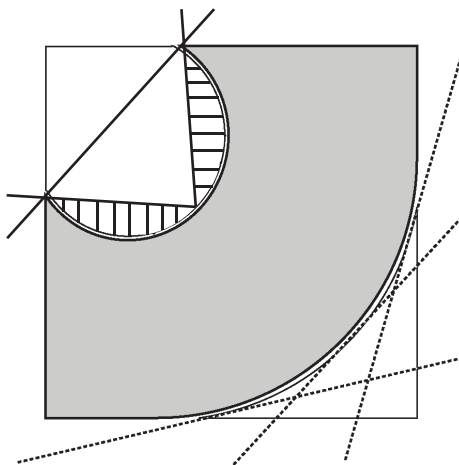
ADJUSTING THE FENCE

1. The fence helps to guide straight and consistent cuts.
2. Turn the knob counter clockwise to loosen the fence.
3. Move the fence to create the width needed or remove to make curved and freehand cuts.
 - To remove the fence, slide it off the edge of the table.
 - If removing the fence, set it down somewhere safe nearby (**NOT on the floor**) and always put it back on when done.
4. Tighten the knob clockwise to secure it in place.

MACHINE PARTS ALIGNMENT AND SET UP (MAKERSPACE STAFF ONLY)



- Blades with a higher TPI (teeth per inch) cut slower but make cleaner cuts.
- Wider blades can't cut smaller circles.
- The saw is usually equipped with a general purpose blade. All material must be at least 3 blade teeth thick to cut on the band saw.
- There are a variety of blades available, see Makerspace Staff for assistance.
 - There is rarely a reason to change them.
- Blade speed should not be adjusted.
- Only Makerspace Staff can adjust blade tension.

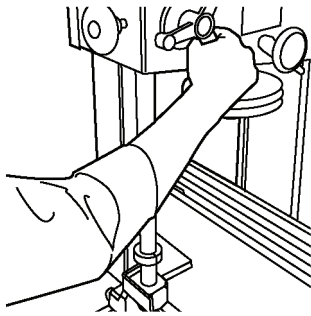


RELIEF CUTS GUIDE

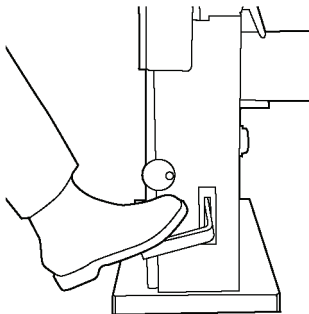
USAGE TIPS

- **Making curved cuts:**
 - Each blade has a minimum cut radius it is capable of based on the blade width.
 - Forcing a cut with too tight a radius will damage both the blade and the material being cut.
 - Reference the image to the left to make relief cuts when making curved cuts.
 - **DON'T FORCE A TURN!**
- **Making straight cuts:**
 - The band saw is often used for straight cuts.
 - Using the fence helps to guide straight and consistently sized cuts.

ADJUST THE BLADE GUARD BEFORE EVERY CUT



USE THE BRAKE TO STOP THE BLADE AFTER PUSHING THE RED BUTTON



USE A BRUSH TO CLEAN OFF THE TABLE WHEN THE BLADE IS STOPPED



QUICK CHECK BEFORE STARTING

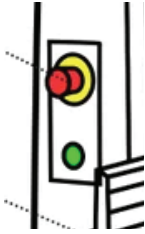
1. Put on safety glasses. Hearing protection is highly recommended.
2. Make sure the table is clear of everything except for the material you are cutting.
3. Locate your band saw's push stick and make sure it is within arm's reach.
4. Confirm that your material is at least 3 teeth tall.
5. Turn the dust collection on.

DURING THE JOB

1. Press the green button to turn the band saw on and give it a moment to come up to speed.
 - Blade will be a consistent blur and the sound will be a consistent pitch.
2. Hold the material with both hands to gently guide your material through the cut.
 - Take your time. Excessive force will damage the blade and make a messier cut.
3. If you need to back out of a cut, press the red stop button and step down on the brake pedal until the blade has come to a complete stop before taking your material out.
4. If any cut off material needs to be cleared off while working. **USE THE PUSH STICK TO DISCARD CUT OFF EXCESS INTO THE BUCKET**
5. Control the material with both hands until it has fully cleared the blade or the cut is done.
6. When finished, press the red stop button and gently hold the pedal down until the blade has come to a complete stop.

CLEANUP

1. Confirm that the blade has come to a complete stop.
2. Use a brush and dustpan to clear off any scraps and saw dust from the cutting table.
3. Lower the blade guard back down to the table.
 - This helps to prevent injuries from occurring.
4. Place any usable sized scraps into the scrap bin.



BAND SAW ISN'T STARTING AFTER HITTING THE START BUTTON

- Make sure you have swiped in to unlock the machine and have completed the training for it.
- Check that you have properly turned the machine on.
- If it's still not unlocking or starting, talk to a Makerspace Staff for help.

CUTS AREN'T COMING OUT STRAIGHT / BLADE IS WANDERING

- Make sure you are guiding wood along the fence.
- If the blade is visually wobbling, ask a Makerspace Staff to make adjustments to the blade guides.

WHEN IN DOUBT ASK A MAKERSPACE STAFF

ADDITIONAL MACHINE INFO CAN BE FOUND HERE:














Hazard Communication Standard Pictogram

The Hazard Communication Standard (HCS) requires pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

HCS Pictograms and Hazards

Health Hazard  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	Flame  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	Exclamation Mark  <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  <ul style="list-style-type: none"> • Gases Under Pressure 	Corrosion  <ul style="list-style-type: none"> • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals 	Exploding Bomb  <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  <ul style="list-style-type: none"> • Oxidizers 	Environment (Non-Mandatory)  <ul style="list-style-type: none"> • Aquatic Toxicity 	Skull and Crossbones  <ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

For more information:



U.S. Department of Labor



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