Woodworking Equipment

This information outlines key information on woodworking tools and equipment available at the ITLP Manufacturing Center.

- Table Saw (Saw Stop ICS)
  - Saw Stop ICS Table Saw
- Compound Miter Saw (Makita LS1221)
  - Makita Compound Miter Saw
- Vertical Bandsaw (Baileigh BSV-24VS)
  - Baileigh Vertical Bandsaw (BSV-24VS)
- Drill Press (Baileigh DP-1250VS-HS)
  - Baileigh DP-1250VS-HS Drill Press
- Combination Disc & Belt Sander (Kalamazoo S612V)
  - Kalamazoo Industries, Inc. Belt/Disc Sander (S612V)
- Oscillating Spindle Sander (Delta B.O.S.S.)
  - Delta B.O.S.S. Bench Oscillating Spindler Sander

Table Saw (Saw Stop ICS)

Saw Stop ICS Table Saw

1. General Info

Purpose:
Designed for industrial-grade precision cutting in wood and compatible materials. Ideal for cabinetry, furniture making, and general woodworking. Features advanced safety technology to minimize injury risk.

> SawStopTableSawM_ICS_UsersManual.pdf

Key Components:

- Control Panel – Houses power switch, safety system indicators.
- Stop Button – Immediately halts blade operation.
- Table – Provides stable surface for material support.
- Rip Fence – Adjustable for straight cuts.
- Blade – 10” diameter; compatible with dado sets.
- Motor Housing – Contains motor and brake cartridge.
- Riving Knife – Reduces kickback; adjustable.
- Brake Cartridge – Detects contact and stops blade.
- Dust Collection Port – Connects to vacuum system.

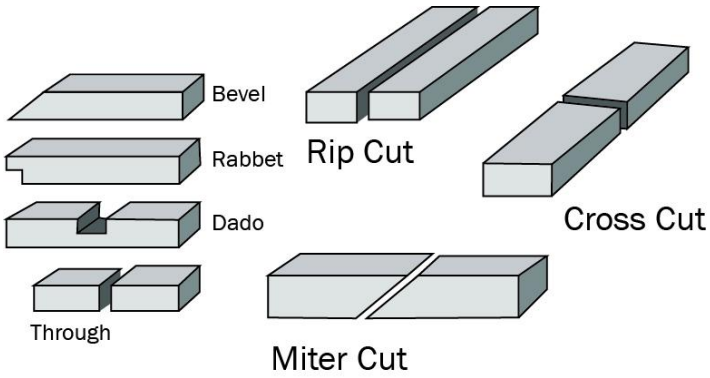
2. Safety

Quick Safety Precautions

- Wear Eye Protection – Safety glasses required; dust mask recommended.
- Keep Hands Clear – Never reach near or over a moving blade.
- Secure Workpiece – Use clamps or fence for stability.
- Avoid Loose Clothing – Tie back hair; remove jewelry.
- Disconnect Power for Maintenance – Always unplug before servicing.
- Never Leave Running Saw Unattended – Wait for full stop before walking away.
- Verify Safety System – Ensure brake cartridge and detection system are active.

3. Setup & Use (Needs to include Crosscutting Sled, pictures or videos demonstrating use)

Types of Cuts



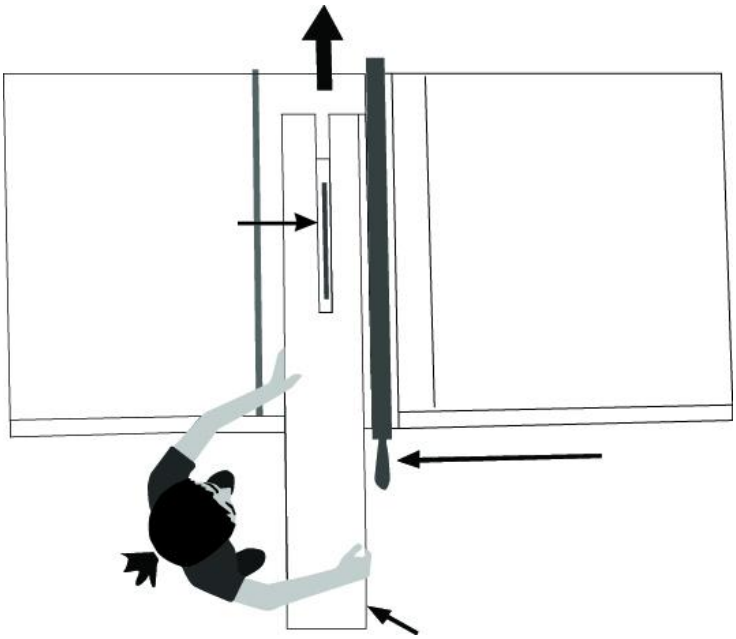
Preparation

- Inspect tool for damage or wear.
- Clear work area.
- Check blade condition and installation.
- Wear proper PPE: glasses, hearing protection, dust mask.
- Remove tools/wrenches from saw area.
- Verify safety system status, watch calibration LEDs after switching the table saw on, wait for red LED to stop blinking.
- Lock fence and miter/bevel angles.
- Ensure the workpiece is completely clear of the blade before activating the saw.
- Test power switch and emergency stop functionality.

Operation

Rip Cut Table Saw Operation Guide

A rip cut is a table saw cut made parallel to the wood grain, typically along the material’s longest edge to make it narrower — making the rip cut both directional and dimensional in nature.



Rip Cut - Setup

- Adjust blade height (and angle if making beveled cuts), we recommend 3 blade gullets above the material.
- Lock the fence in position at desired dimension.
- Place push sticks within easy reach if ripping material less than 6" wide.

Rip Cut - Cutting Position

- Face the blade side of the fence.
- Do not stand directly behind the piece being cut in case the material kicks back.

Rip Cut - Starting the Cut

- Position material at the table edge, away from the blade.
- Turn on the saw.

Rip Cut - Feeding the Material

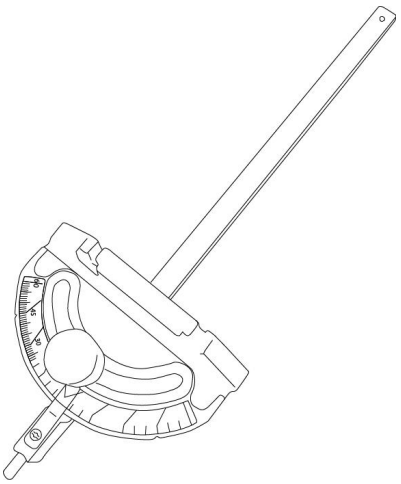
- Use your left hand as your guide hand, pushing your material down on the table and into the fence. Use your right hand to feed the material into the blade.
- Feed it through the blade at a consistent rate.
- Use a push stick to safely feed material between the blade and the fence when making cuts narrower than 6 inches.
- Always feed the material completely past the blade when making a cut. If the material is longer than the outfeed table, have someone assist by supporting and catching the material as it exits the saw.

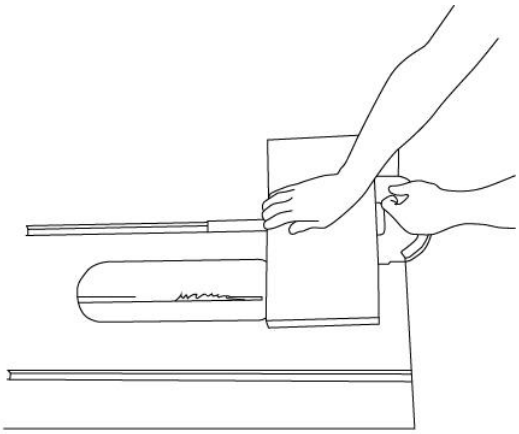
Rip Cut - Finishing the Cut

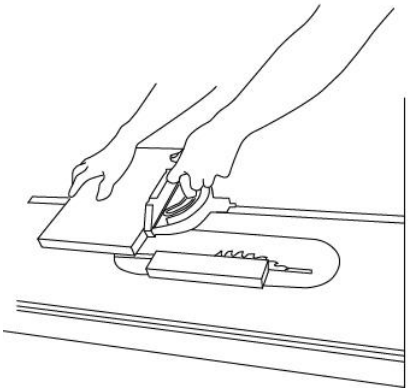
- Never reach over a moving blade to retrieve or remove scrap—even with a push stick.
- Turn off the saw before walking away.
- Wait for the blade to come to a complete stop before removing any material.

Miter Gauge Table Saw Operation Guide

Using Miter Gauge - A miter gauge is used on a table saw to make precise angled or crosscuts across the wood grain. It keeps the wood stable and aligned at the correct angle as it moves through the blade.







Miter Gauge Safety Precautions & Tips:

- Never reach over or behind the blade while it is running.
- Do not use the rip fence and miter gauge together for the same cut.
- Push the wood forward only—never drag it back against the blade.
- Avoid cutting warped, twisted, or unstable material.
- Always be aware of kickback risks and use proper techniques to minimize them.
- Never reach over or behind the blade while it is running.
- Do not use the rip fence and miter gauge together for the same cut.
- Avoid cutting warped, twisted, or unstable material.
- Always be aware of kickback risks and use proper techniques to minimize them.

Miter Gauge - Setup

- Lock the miter gauge guide into position.
- Place the miter bar in the miter slot of the table saw.

Miter Gauge - Starting the Cut

- Turn on the saw.
- Place material against the fence of the miter gauge.

Miter Gauge - Cutting Technique

- Ensure the stock contacts the full face of the miter gauge.
- Hold the wood firmly against the miter gauge with your guide hand.
- Use your feed hand to advance the gauge and feed the wood through the blade until completely past the blade.

4. Maintenance Schedule

Weekly

- Clean sawdust from motor vents and moving parts.
- Check blade for dullness, chips, or warping.
- Inspect power cord and brake cartridge for wear or damage.
- Test blade guard and riving knife movement.

Monthly

- Lubricate pivot points and moving mechanisms.
- Check alignment of rip fence and blade.
- Inspect brake cartridge and replace if worn.
- Tighten all bolts and fasteners.

Quarterly

- Deep clean motor housing and table surface.
- Inspect safety system functionality.
- Replace blade if performance is reduced.
- Review user manual for any model-specific updates.

Compound Miter Saw (Makita LS1221)

Makita Compound Miter Saw

> MakitaMiterSawUsersGuide.pdf

1. General Info

Purpose:
Designed for precise crosscuts, miter cuts, bevel cuts, and compound cuts in wood and compatible materials. Ideal for framing, molding, and trim work, allowing angled cuts in two planes for complex joinery.

Makita Compound Miter Saw User Manual

Key Components:

- Blade Guard – Protects user; lifts automatically.
- Handle – Controls cutting; includes power switch.
- Stopper Pin – Locks handle for transport/storage.
- Turn Base – Rotates for miter cuts; angle markings.
- Sub-Fence – Adjustable for bevel support.
- Vertical Vise – Secures workpieces vertically.
- Kerf Board – Reduces tear-out.
- Blade – 305 mm (12") diameter.
- 1" Arbor
- Motor Housing – Contains motor and brake.
- Base Mounting Holes – For bench attachment.

2. Safety

Quick Safety Precautions

- Wear Eye Protection – Safety glasses required; dust mask recommended.
- Keep Hands Clear – Never reach near or over a moving blade.
- Secure Workpiece – Use vise/clamp for pieces under 6".
- Avoid Loose Clothing – Tie back hair; remove jewelry.
- Check Blade Guard – Ensure free movement and coverage.
- Disconnect Power for Maintenance – Always unplug before servicing.
- Never Leave Running Saw Unattended – Wait for full stop before walking away.

3. Setup & Use

Preparation

- Inspect tool for damage or wear.
- Clear and light work area.
- Check blade condition and installation.
- Wear proper PPE: glasses, hearing protection, dust mask.
- Remove tools/wrenches from saw area.
- Keep hands at least 6" from blade.
- Secure material- use vice/clamp for pieces under 6".
- Lock fence and miter/bevel angles.
- Avoid loose clothing and jewelry
- Verify blade guard movement.
- Ensure the workpiece is completely clear of the blade before activating the saw.
- Test power switch functionality.

Operation

- Stand to one side of the blade.
- Press the safety trigger and power trigger simultaneously to start the blade.
- Let the blade reach full speed.
- Lower the blade into the material. Cut slowly and steadily—don’t force it.
- Never reach under the blade while blade is activated.
- Wait for the blade to fully stop before raising the blade and removing material.

Post-Operation

- Clean work area of sawdust/debris.
- Inspect for damage or wear.
- Lock saw in down position.

4. Maintenance Schedule

Weekly

- Clean sawdust from motor vents and moving parts.
- Check blade for dullness, chips, or warping.
- Inspect power cord for wear or damage.
- Test blade guard movement and spring tension.

Monthly

- Lubricate pivot points and moving mechanisms.
- Check alignment of miter and bevel angles.

- Inspect kerf board and replace if worn.
- Tighten all bolts and fasteners.

Quarterly

- Deep clean motor housing and fence system.
- Inspect electric brake function.
- Replace blade if performance is reduced.
- Review user manual for any model-specific updates.

Vertical Bandsaw (Baileigh BSV-24VS)

Baileigh Vertical Bandsaw (BSV-24VS)

1. General Info

Purpose:
Designed for industrial-grade vertical cutting of metal, wood, and plastic. Ideal for fabrication shops and metalworking applications. Features variable speed control and blade welding capabilities.

> BaileighVerticalBandsawUsersGuide.pdf

Key Components:

- Blade Guard – Protects user from direct contact with blade.
- Control Panel – Includes power switch, speed control, and digital readout.
- Stop Button – Immediately halts blade operation.
- Table – Provides stable surface for material support.
- Rip Fence – Adjustable for straight cuts.
- Blade – Accepts blades from 1/8” to 5/8” wide.
- Motor Housing – Contains 2HP motor and drive system.
- Base Mounting Holes – For bench or floor attachment.
- Blade Welder – Allows blade cutting and rejoining.
- Dust Collection Port – Connects to vacuum system.

2. Safety

Quick Safety Precautions:

- Wear Eye Protection – Safety glasses required; face shield recommended.
- Avoid Loose Clothing – Tie back hair; remove jewelry.
- Keep Hands Clear – Never reach near or over a moving blade.
- Avoid awkward hand positions where a sudden slip could cause a hand to move into the blade.
- Check Blade Guard – Ensure free movement and coverage.
- Never Leave Running Saw Unattended – Wait for full stop before walking away.
- Never reach over or behind the blade while it is running.
- Avoid cutting warped or unstable material.

- Use proper technique to prevent kickback.
- Do not operate without blade guard in place.
- Keep hands and fingers away from blade path.

3. Setup & Use

Preparation

- Wear safety glasses and hearing protection.
- Use the correct blade for your material and cut type. Ask MCSS or Manufacturing Center Staff
- Ensure blade guard and fence (if using) are properly positioned.
- Set the blade guard about 0.25" (6.35mm) above the material and tighten the knob.
- Position the work lamp to light the cut area without interfering with material control.
- Ensure the work area and table are clear of obstructions.
- Keep a push block within reach, avoiding the blade path and cut line. A dry run without power may help.
- Support both the finished piece and excess material. Ensure both sides of the cut are stable and won’t fall or shift unexpectedly.

Operation

- Press the start button to power the blade.
- Allow blade to reach full speed.
- Set blade speed using inverter control (85–2200 FPM).
- Verify speed setting on digital readout.
- Stop immediately if you hear abnormal sounds or vibrations.
- Place the material on the table.
- Feed it into the blade with a smooth, steady motion.
- After the cut, press the red stop button **(do not press emergency stop unless in an emergency)** and wait for the blade to stop before removing material.

Post Operation

- Clean work area.
- Inspect blade and machine for wear or damage, tell MCSS or MC staff or if you notice any defects in the blade.

4. Maintenance Schedule

Weekly:

- Clean sawdust and metal shavings from vents and moving parts.
- Check blade for dullness or damage.
- Inspect power cord and switches.

- Test emergency stop and blade guard movement.

Monthly:

- Lubricate blade guides and tensioning mechanisms.
- Check alignment of rip fence and blade.
- Inspect weld station and clean contacts.
- Tighten bolts and fasteners.

Quarterly:

- Deep clean motor housing and table surface.
- Inspect inverter and speed control system.
- Replace blade if performance is reduced.
- Review user manual for updates or recalls.

Drill Press (Baileigh DP-1250VS-HS)

Baileigh DP-1250VS-HS Drill Press

1. General Info

Purpose:
Designed for high-speed, variable-speed drilling in metal and compatible materials. Ideal for industrial fabrication, maintenance, and precision drilling tasks. Features include digital RPM readout, MT3/MT4 spindle taper, and adjustable table height.

> Baileigh DP-1250VS-HS Drill Press User's Manual

Key Components:

- Control Panel – Houses power switch, RPM controls, and digital readout.
- Emergency Stop Button – Instantly halts machine operation.
- Drill Head – Contains motor, spindle, and gear selector.
- Table – Adjustable height; supports workpiece.
- Column & Gear Rack – Supports vertical movement of table and head.
- Chuck & Spindle – Accepts tooling; MT3/MT4 taper.
- Coolant System – Optional pump for cooling during cutting.

2. Safety

Quick Safety Precautions

- Wear Eye Protection – Safety glasses required; hearing protection recommended.
- Keep Hands Clear – Avoid contact with rotating tooling.
- Secure Workpiece – Clamp securely to prevent movement.
- Avoid Loose Clothing – Tie back hair; remove jewelry.
- Locate emergency stop.
- Never Leave Running Machine Unattended – Wait for full stop before walking away.

3. Setup & Use

Preparation

- Inspect machine for damage or wear.
- Remove tools/wrenches from table and chuck area.
- Select and install appropriate drill bit.
- Adjust table height and position for workpiece.
- Secure work piece to table using vice, angle vice, clamps, fixture or other working holding. **All work pieces should be secured to the table.**
- Lock table and head securely.
- Use a sacrificial board if drilling through work piece. **Do not drill into Drill Press tables.**
- Set spindle speed using digital RPM control. To Find RPM 3.82 x SFM / Diameter of drill.

Operation

- Keep clear of rotating components.
- Turn on power and allow spindle to reach full speed.
- Monitor RPM readout for correct speed range.
- Lower spindle using feed handle.
- Apply steady pressure; do not force the tool. Use Peck Drilling as necessary.
- Retract spindle after completing hole.

Post Operation

- Turn off power.
- Wait for spindle to stop completely.
- Clean table and remove chips or debris.

4. Maintenance Schedule

Weekly

- Clean drill press surfaces and remove metal chips.
- Inspect tooling and chuck for wear.
- Check guard and limit switch operation.

Monthly

- Lubricate feed handles and gear rack.
- Inspect spindle taper and chuck alignment.
- Verify RPM control and digital readout accuracy.

Quarterly

- Deep clean motor housing and electrical enclosure.
- Inspect belt and gear selector mechanism.
- Review user manual for updates and perform full inspection.

Combination Disc & Belt Sander (Kalamazoo S612V)

Kalamazoo Industries, Inc. Belt/Disc Sander (S612V)

1. General Info

Purpose:
Designed for industrial-grade sanding, deburring, and finishing of wood, metal, and other materials. The S612V features a 6" x 48" belt and 12" disc sander with a vacuum base for dust collection.

> KalamazooBeltDiscSanderS612V-MANUAL.pdf

Key Components:

- Belt Sander – 6" x 48" sanding belt for flat surfaces and edge work. IMPORTANT: The belt sander is intended for WOOD ONLY.
- Disc Sander – 12" disc for end grain and curved surfaces. IMPORTANT: The disc sander is intended for METAL ONLY.
- Work Tables – Adjustable tables with miter slots for accurate sanding angles.
- Control Panel – Power switch and motor controls.
- Dust Collection – Integrated vacuum base with replaceable filter.
- Tension Lever – For belt changes and adjustments.
- Tracking Knob – Aligns belt on platen.
- Safety Guards – Protects user from moving parts.

2. Safety

Quick Safety Precautions

- Always wear safety glasses.
- Wear a dust mask or respirator when sanding for extended periods.
- Keep hands clear of sanding surfaces, avoid sanding pieces that are shorter than 1 inch.
- Do not wear gloves, jewelry, or loose clothing.
- Tie back long hair.
- Operate in a well-ventilated area.
- Do not use near flammable materials.
- Disconnect power before maintenance or belt changes.
- Let machine come to a full stop before adjustments.

3. Setup & Use

Preparation

- Inspect machine for damage or wear.
- Check belt and disc condition.
- Verify dust collection system is operational.
- Wear appropriate PPE.
- Use miter gauge or fixtures for precision sanding.
- Keep workspace clean and free of obstructions.
- Confirm belt tracking and tension.

Operation

- Stand clear of sanding surfaces.
- Turn on power and allow motor to reach full speed.
- Place the workpiece on the table for sanding—use the belt sander for wood only, and the disc sander for metal only.
- Sand on the downward travel side of the disc.
- Feed material steadily without forcing.
- Use fixtures or miter gauge for repeatable angles.
- Keep hands at least 6" from sanding surfaces.

Post Operation

- Turn off power
- Clean work area.
- Wait for sanding surfaces to stop completely.
- Empty dust collection filter if needed.

4. Maintenance Schedule

Weekly

- Clean dust from motor vents and sanding area.
- Inspect belt and disc for wear or damage.
- Check filter and replace if clogged.

Monthly

- Lubricate moving parts and tension mechanisms.
- Inspect electrical connections and switches.

Quarterly

- Deep clean vacuum base and motor housing.
- Verify alignment of worktables and sanding surfaces.
- Review user manual for updates or service notices.

Oscillating Spindle Sander (Delta B.O.S.S.)

Delta B.O.S.S. Bench Oscillating Spindler Sander

1. General Info

Purpose:
Designed for freehand sanding of wood, especially for creating round or organic profiles.

> Delta Bench Oscillating Spindle Sander.pdf

Key Components:

- Sanding Guard – Protects user from direct contact with spindle base.
- On/off – Controls on/off of machine.
- Table – Provides stable surface for material support.
- Dust Collection Port – Connects to vacuum system.

2. Safety

Quick Safety Precautions:

- Wear Eye Protection – Safety glasses required; face shield recommended.
- Avoid Loose Clothing – Tie back hair; remove jewelry.
- Keep Hands Clear – Never reach near or over a moving spindle.
- Avoid awkward hand positions where a sudden slip could cause a hand to move into the spindle.
- Never Leave Running Sander Unattended – Wait for full stop before walking away.
- Avoid sanding unstable material.
- Use proper technique to prevent kickback.
- Keep hands and fingers away from spindle.

3. Setup & Use

Preparation

- Wear safety glasses and hearing protection.

- Use the correct spindle size for your material. Ask MCSS or Manufacturing Center Staff for assistance otherwise.
- Ensure the work area and table are clear of obstructions.
- Support both the finished piece and excess material. Ensure both sides of the object are stable and won’t fall or shift unexpectedly.

Operation

- Press the start button to power the spindle.
- Allow spindle to reach full speed.
- Stop immediately if you hear abnormal sounds or vibrations.
- Place the material on the table.
- Feed it into the spindle with a smooth, steady motion.
- Use rubber stick to clean grit of sandpaper to extend longevity

Post Operation

- Clean work area.
- Inspect spindle and machine for wear or damage, tell MCSS or MC staff or if you notice any defects in the spindle.

4. Maintenance Schedule

Weekly:

- Clean sawdust and metal shavings from vents and moving parts.
- Check spindle for tears or damage.
- Inspect power cord and switches.

Monthly:

- Tighten bolts and fasteners.

Quarterly:

- Deep clean motor housing and table surface.
- Inspect inverter and speed control system.
- Replace sandpaper if performance is reduced.
- Review user manual for updates or recalls.