

Concord Makerspace SawStop CheckOut

READ THIS FIRST!-MISTAKES CAN BE EXPENSIVE!

SAFETY SYSTEM / Safety break: The SawStop is equipped with an electronic monitoring system. It works by putting a slight electrical charge on the blade, if it senses a change in that charge, it assumes that it's your finger causing it and will activate the safety system.

When tripped, it does two things: the blade and arbor unit will drop below the table and the brake slams into the blade. The Break and the blade are no longer usable.

The safety system can also be tripped for other reasons. As a rule anything that conducts electricity or can have a static charge is likely to set off the safety break. Use another method of cutting the wood (panel saw, circular saw, etc.

Examples of materials that are well known to set off the SawStop safety break.

- Green (freshly cut) wood, wet or rained-on wood, etc.
- Pressure treated wood (this wood contains copper and other conductive metals and is often still wet when you purchase it.) It is never ok to cut pressure treated wood with the Sawstop table saw.
- Metal (foil faced insulation, aluminum, brass, etc.), it is never ok to cut metal no matter how soft with the Sawstop table saw.
- Wood with nails, screws, staples, or other imbedded metallic/conductive material
- Material that has been burnt or cut with a laser. The carbon from this process is conductive. It is never ok to cut material that is made of or has carbon traces in it.
- Wood that has uncured/dried glue or beads of wet glue.
- PVC or other material that can become staticly charged from the cutting process. This includes most plastics.

IN CASE OF ACTIVATION: If the brake fires, the system will need to be reset.

- a. **RESET THE ARBOR:** Turn the side wheel to bring the saw to 0°. Next turn the front wheel to lower the blade/arbor all the way. This will reset the arbor retraction bracket.
- b. **REMOVE THE BRAKE:** The brake and (usually) the blade will need to be replaced. Remove the throat plate, undo the arbor nut, and undo the red brake key. Work the brake and blade back and forth to pull them away from the arbor and brake mounting pins. Insert a new brake and insert the brake key. Install a new blade and check the clearance (see below “Changing the Blade”) then reinsert the throat plate.

Procedural notes: Safety break is a consumable device and as such when the break is triggered, it will need to be replaced. It's really important to notify the shop manager and to share what you think caused the event. **The cost of the replacement is 50% of the device the first time it is triggered and 100% thereafter per individual. Current pricing as of this writing is \$100 for a replacement break module.**

Members failing to report a triggering event will be required to pay 100% of the cost of the replacement of the break. They may also be asked to terminate their membership.

Yes, there is a way to turn off the Safety break for a single on / off session. It requires a key and we are not providing this to members at this time.

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General Table Saw Checkout:

The volunteer should identify the following features of the saw and review proper use and details specific to the saw.

- ☐ on/off switch
- ☐ Start stop switches
- ☐ Review the Safety Break operation as described in this document.
- ☐ Review the location of the error codes (red and green light blink patterns). Hint, its side of on off switch.
- ☐ Table top (metal and wood) review the proper use case for the saw and point out that it is not a work surface and it should never be exposed to glue, tape or other chemical adhesives or abrasive cleaning products and tools. It should never be used as a workbench.
- ☐ Blade height adjustment (How to lock, Leave the blade below the table when not in use, Unlocked)
- ☐ Blade angle adjustment (How to lock, leave the blade at 90 deg when not in use, Unlocked)
- ☐ Blade guard/writhing blade.
- ☐ Fence and fence lock (protect the fence when doing close up cuts)
- ☐ Proper use of push sticks or push blocks.
- ☐ Review that gloves should not be used.
- ☐ Review air units and power / timer options.
- ☐ Review dust collector system and how to empty the dust bin.
- ☐ Review clean up requirements. Shop vac and how to check and empty and clean if needed.
- ☐ Review location of push blocks and other jigs.
- ☐ Review requirements for moving the saw. (Must be leveled when returned to normal location)
- ☐ Show a simple cross cut of a scrap board.
- ☐ Have member being checked out do the same cut.
- ☐ Remind member that when working on any of the equipment in the shop you should unplug it.
- ☐ Review with the member how to remove the Writhing blade and insert it again.
- ☐ Review the removal and reinstall of the break module. This is to enable members to use the dado break and blades. Be sure to review how to test the distance for the blade to the break.
 - ☐ Review how to use the hex tool to adjust. Note that in most cased it should not need to be adjusted. If adjusted for a personal blade, it must be restored to the shop blade.
- ☐ Review the location and use of tools to remove and replace the saw blade.

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General SAW OPERATION

1. **START UP:** Start the SawStop computer by turning on the yellow/red power switch. The saw and safety system are ready when green light stays on. The saw will not operate under any other condition. The red and green lights indicate different conditions by blinking or staying on. The panel to the left of the paddle switch shows each status code.
2. **OPERATING THE SAW:** With a solid green light, pull red paddle switch to start the blade spinning. To shut off the saw, push or knee the paddle switch. **DO NOT** touch the blade during coast down; the safety system is still on!
3. **CHANGING THE BLADE:** Shut off the yellow/red power switch and unplug the machine. Remove the throat insert. If top guard is installed, flip it up out of the way. The splitter (sometimes called riving knife) doesn't need to be removed. Use the wrenches to undo the arbor nut. Change blades and retighten the nut. Now check the blade-to-brake clearance with the special gauge/tool that's attached to the saw stand. Adjust if needed using the hex wrench on the yellow knob just to the left of the blade. The proper clearance is important so that the safety system can operate correctly. Reinsert the throat plate and flip down the top guard and restart the computer. Note: because of the safety system, you can only use 10" blades on this saw. (dado blades excepted, see below)
4. **DADO BLADE INSTALL:** Shut off the yellow/red switch and unplug the machine. Remove the narrow throat insert; flip up the guard release lever and remove the top guard or splitter. Undo the arbor nut and remove the 10" blade. Remove the standard brake by turning the red key 90° clockwise and pulling it out. Work the brake off of the pins and insert the dado brake and red key. Next install the 8" dado blades, tighten the arbor nut, check and adjust the blade/brake clearance (if needed), flip the splitter lock lever down, install the wide dado throat insert. The dado is now ready to use. (Note: the top guard and splitter cannot be used with the dado blades.)
5. **SHUT-DOWN:** Crank the blade below the table, center the fence over the insert, shut off the computer with the yellow/red switch.

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Additional Safety tips:

BLADE GUARDS: Some tablesaw accidents are caused by kick back. Kick back occurs when the leading edge of the material comes away from the fence forcing the material being cut to be pushed against the back edge of the saw blade. The rising teeth catch the material and lift it up and further away from the fence as the teeth grab harder and eventually spin the piece toward the operator. This happens in an instant! The SawStop safety system does NOT prevent this kind of accident. The top guard or the splitter's purpose is to prevent kick back from occurring by not allowing the material to catch the back teeth at all. The SawStop has a lever under the throat plate and behind the blade that is used to quickly add or remove the guards. (Note: guards aren't used with dado sets.)

Top guard: this provides the most protection but does limit some of the uses of the saw.

Limitations: You can't partially cut through a board; it must be a through cut.

Narrow rip-offs may get stuck in the guard. Tilting the blade also gets tricky. These and other reasons are why one rarely sees the top guard on the saw.

Splitter: this is a thin metal piece behind the blade that travels up and down and angles with the blade. It provides good kick back protection and, unlike the top guard, can handle narrow cuts, non-through cuts, and angles. This type of guard works well 99% of the time. Use it! NOTE: the kerf on some ultra-thin blades may not be wide enough. The wood will feel like it's getting stuck at the splitter.

GLOVES: For your own safety, don't wear gloves! Cloth and leather aren't conductive but can get snagged by the teeth, drawing your hand into the blade. Instead of getting just a finger nick, your hand may sustain more damage before the brake activates.

Member checked out (sign and print): _____

Volunteer Reviewing material (sign and print): _____

Date: _____

Notes: