



# Drum Thickness Sander Safety Rules

The Drum Thickness Sander, also known as a “Drum” Sander is similar to a thickness planer in that it removes material from the surface of a board. However, instead of using a series of rotating knives and shaving the material, it uses sandpaper attached to a drum to abrade material from the workpiece. The sanding drum spins above the workpiece that feeds through on a conveyer belt. A special feature found on some drum sanders is an open side that allows work pieces wider than the drum to pass through. To avoid accidents, the following safety rules must be observed by everyone working on the Drum Sander. Failure to follow the safety rules may result in a loss of shop privileges.

## Start with a Risk Assessment to ensure a safe work area:

1. Follow all procedures in **CHARLOTTE WOODWORKERS’ ASSOCIATION Shop Rules and Guidelines**.
  2. Safety glasses with side shields or a face shield must be worn. Everyday eyeglasses are only made of impact resistant glass, they aren’t safety glasses. If you’re not wearing actual safety glasses, wearing safety goggles over your regular glasses can provide the protection you need.
  3. Hearing protection should be worn. A filtering face mask or respirator is also recommended while using the Thickness Sander.
  4. Some dust created by power sanding contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
    - Lead from lead based paint.
    - Crystalline silica from bricks, cement and other masonry products.
    - Arsenic and chromium from chemically treated lumber.
- Your risk of exposure varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, either avoid power sanding materials of this sort or work in a well-ventilated area and work with approved safety equipment, such as face or dust masks that are specifically designed to filter out microscopic particles.
5. If warning labels on the machine have become obscured or appear to have been removed, contact the Shop Foreman so that arrangements can be made to have them replaced.
  6. Drum Thickness Sanders are designed and intended for use by properly trained and experienced personnel. If you are not familiar with the proper and safe operation of the sander, do not use it until proper training and knowledge have been obtained. If you are not totally certain that you know how to use the Thickness Sander properly for the task you want to accomplish, get instruction on how to use it properly **before proceeding**.
  7. Make certain the machine is properly grounded. If you don’t know how to determine this, ask the Shop Foreman to help you find someone who can assist you.
  8. Make sure the sander is firmly secured to the stand or a stable work table before using it.
  9. **Check that the Thickness Sander is in good working order with no obvious problems or issues.** Check for damaged

parts. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect the Drum Sander's operation. Before using a machine that only appears to have cosmetic damage, any part that appears damaged should be carefully checked to ensure that it will operate properly and perform its intended function. A guard or other part that is damaged in a way that might impair performance should be properly repaired or replaced. If you don't have the proper level of experience to determine whether a problem needs to be corrected, or if you know that corrective action is necessary but need help to make the repair properly, contact the Shop Foreman to get someone who can assist you. **Don't operate a damaged machine until the problems have all been corrected and verified.**

10. Check the integrity and tracking of the conveyor belt on the machine before turning it on. Any ripped belts or burn marks should be reported to the Shop Foreman and should be repaired before using the Thickness Sander.
11. If you are working alone, ensure that any necessary infeed and outfeed support rollers, tables, or similar are in place and leveled with the infeed or outfeed tables as needed.
12. If the stock you want to sand is too large for you to handle easily alone, get help before proceeding.
13. Remove loose fitting clothing, ties, rings, wrist watches, and other jewelry or other items that can be caught in the belt or drum.
14. Roll back long sleeves.
15. Tie back, or otherwise secure, long hair.
16. Non-slip footwear or anti-skid floor strips are recommended.
17. Do not wear gloves while operating the Thickness Sander.

### **Operational Safety Rules:**

1. Approach your work in the shop and on the Drum Sander with a safe attitude!
2. Read this entire document and understand all of it before you use this machine. If you

have any questions, contact the Shop Foreman and either they will answer your question or direct you to someone who can.

3. Read and understand the warnings posted on the machine and in this document and the documents it references. Failure to comply with all of these warnings may result in serious injury.
4. Ensure that a **four (4) foot** perimeter around the Thickness Sander and the area where you'll be feeding stock in and out of the machine is clear of scrap, sawdust and everything else that might cause you or a helper to stumble, trip, or fall. Make sure you have enough in-feed and out-feed clearance to maneuver the material you'll be working with.
5. Drum Thickness Sanders typically have separate switches to control power to the drum and the conveyor. This allows the conveyor to be turned on separately from the drum and the drum to be turned on without starting the conveyor. On the Performax 16-32, the drum switch turns the drum on or off and the conveyor switch both turns the conveyor on and sets the speed at which the conveyor feeds stock.
6. **Make certain that BOTH power switches (drum power switch and conveyor power switch) are in the OFF position before connecting the machine to the power source.**
7. The sanding drum can cause serious abrasive burns if skin is accidentally caught between the sanding drum and conveyor belt. Be alert and careful to avoid having this happen to you or a co-worker.
8. Do not sand pieces too small to be safely supported through the machine. **The minimum material length is 6 inches.**
9. The guard over the drum must be completely down while the machine is in operation.
10. **A suitable 2 ½ in or larger shop vacuum or a dust collector must be connected to the unit for dust control and it must be turned on prior to starting the sander.** This is necessary for respiratory safety **AND** **for the machine to operate properly.**

11. If a board jams in the Thickness Sander, turn the machine **OFF** and get assistance from the Shop Foreman to resolve the issue.
12. Remove any loose items and unnecessary work pieces from the area before starting the Drum Sander.
13. **Basic Operating of the Sander Proceeds in this order:**
  - 1) Set the depth of cut.
  - 2) Start the dust collector.
  - 3) Start the drum.
  - 4) Start the conveyor.
  - 5) Feed the stock through the Sander.
14. **Factors that Impact Setting the Depth of Cut:**

A combination of variables will determine the proper depth of cut to use. These factors include the following:

  - 1) Abrasive type and grit size.
  - 2) Width of the workpiece being sanded.
  - 3) Hardness of the workpiece.
  - 4) Feed rate of the conveyor belt.

Each of these factors plays a role in determining how much material can be successfully sanded in a single pass. Wider workpieces require greater power to sand properly. Thinking about what you're asking the machine to do can help a lot in making sense of how these factors impact depth of cut.
15. A proper cut is achieved by balancing the depth of cut with the feed rate, keeping in mind the qualities of the material being sanded. A soft wood can have a greater depth of cut and rate of feed than a hard wood of the same width.
16. For best results, use scrap wood to practice setting the proper depth of cut and sanding to develop skill and familiarity with the machine before doing finish work.
17. Remove all adjusting keys and wrenches before starting the machine. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
18. **Setting the Proper Drum Height**
  - 1) To establish drum height, position the stock to be sanded under the drum. Do NOT start the drum.

- 2) Lower the drum to the stock thickness, making sure drum can be rotated by hand while contacting the stock. **Do not start the drum while the drum is in contact with the stock!**
  - 3) Without changing the drum height, turn on the **CONVEYOR** at 50% of full speed and run the stock out from under the drum.
  - 4) Start the sanding drum in preparation to sand stock at that same position.
  - 5) With the drum operating, feed stock under the drum from the infeed side and against the rotation of the drum. Always maintain control of the stock to avoid kick-back and/or slippage.
 

**NOTE:** If the motor heats up during operation, depth of cut may be too great for the size of grit and/or the feed rate may be too fast. Make necessary adjustments and try again.
- 19. WARNING: Never start the sanding drum while it is in contact with the material to be sanded!!!** Set the drum height following the procedure shown above, then once the stock is clear of the machine, start the drum and with the drum and conveyor running, feed the stock into the sander.
20. When feeding stock into the machine, keep your hands clear of the conveyer belt, hold the material onto the infeed side of the conveyor and push it forward until the drum catches it. When the material starts to feed under the drum, remove your hands and let the material pass through the machine.
  21. When feeding parts onto the Drum Sander the part will be forced down as it begins to feed under the sanding drum, causing a pinching action between the part and the conveyor bed. If your fingers are between the stock and the conveyor, they can be pinched severely and your hand could potentially be fed under the sanding drum if you aren't able to pull free. Avoid this situation by exercising care and a reasoned approach to feeding the stock.
  22. Do not attempt to remove large quantities of material in a single pass. Doing so increases the wear on the machine and

increases the danger of kickback substantially.

23. Give the work your undivided attention. Looking around, carrying on a conversation and “horse-play” while working with a power tool are careless acts that can result in serious injury.
24. Maintain a balanced stance at all times so that you do not fall or lean against moving parts. Do not over-reach or use excessive force to perform any machine operation.
25. Stand to one side of the conveyor and make sure no one else is standing in line with the conveyor while feeding stock into the machine. Should a part slip while being fed, it may exit the machine at a high rate of speed and can cause injuries to anyone standing directly in front of the infeed area.
26. Always feed stock against the rotation of the drum (from the infeed side of the machine).
27. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
28. Never reach into a running machine. Turn the sander **OFF** and **disconnect the power** before attempting to retrieve parts from within the machine.
29. Turn the machine **OFF** and **disconnect the power** before cleaning. Use a brush or compressed air to remove chips or debris — do not use your hands.
30. Do not stand on the machine. Serious injury could occur if the machine tips over.
31. Maintain the Drum Thickness Sander with care. Keep abrasives clean for the best and safest performance. Follow instructions in the applicable manuals for lubricating the machine and changing accessories. If you don't have a copy of the correct manuals, contact the Shop Foreman to find someone who can help you find them.
32. **Turn off and unplug the machine from the power source before making any machine adjustments or performing any maintenance.**