

# Operating Procedure For

## Omga 12”Radial Arm Saw

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### SAFETY:

**Warning! Willful violations of these safety rules, disruptive actions or horseplay may result in loss of the privilege to use the tools and machinery in the workshop.**

As with all machines, there is a certain amount of hazard involved with the use of this radial arm saw. Use the machine with the respect and caution demanded where safety precautions are concerned. **You are responsible for you own safety.**

- 1. DANGER! This saw has a sharp rotating blade that is capable of amputating your hand or arm. Never position your hand or arm in the line of travel of the saw blade.**
- 2. WARNING! Do not use molding cutters on the saw.**
3. Read and understand all safety instructions before operating this saw.
4. Use the appropriate NIOSH approved respirator in dusty work conditions (N95, N100, P95 or P100). Wood dust has been listed as a known carcinogen by the U.S. government.
5. This saw is very different than a table saw. With a table saw, the blade is in a fixed position and the workpiece is pushed past it. With a radial arm saw, the workpiece is stationary and the saw is pulled through the workpiece.
6. Always maintain firm control over material being cut. The workpiece must be held tightly against the fence.
7. Keep the machine guards in working order and in place for every operation for which they can be used.
8. Keep the table/workbench of the radial arm saw clean and free from clutter. Cluttered areas invite accidents.
9. Keep the floor around the machine clean to minimize the danger of tripping or slipping.
10. At a minimum eye protection and hearing protection must be worn when operating this machine. Eye protection must be safety glasses with side shields, or goggles, or face shield in combination with safety glasses with side shields, which meet ANSI Z87.1. Remove tie and loose jewelry. Button sleeves or roll up sleeves above the elbow. Remove loose outer clothing and confine long hair.
11. Maintain a balanced stance and keep your body under control at all times. Do not stretch or overreach to get something when using the saw.
12. Give the work you are doing your undivided attention. Looking around, carrying on a conversation and “horseplay” are careless acts that can result in serious injury.
13. Do not cut boards with loose knots or with or any foreign material on its surface. **Reclaimed, wet or pressure treated wood is not to be cut on this machine.**

14. Do not operate this machine while under the influence of drugs, alcohol, or any medication. Do not operate this machine if you are tired, sick, or distracted.
15. Shut the saw off and wait until the saw blade comes to a complete stop before making any adjustments.
16. Ensure that all locking handles and knobs are tight.
17. Check to make sure that the saw is in proper working order before using the saw. Check the alignment of all moving parts. Make sure that all accessories and guards are in proper working order.
18. The radial arm saw is capable of both cross cutting and ripping. However, in our workshop, ripping will only be done using a table saw or band saw. No boards are to be ripped using the radial arm saw.
19. Make sure the dust collector is operating and the blast gate is open before starting the saw.
- 20. WARNING! Before starting the saw, ensure that the saw is pushed as far back on the track arm as possible. The saw blade must not be in contact with the workpiece when the saw is started. If it is, the saw can lurch forward and cause serious injury. When finished with the cut, return the saw to the rear of the track arm.**
21. Position the workpiece so that the cut-line is lined up with the saw blade. Hold the workpiece firmly with one hand.
22. Using your other hand, grip the saw handle and use your thumb to push the start switch.
23. Firmly hold the workpiece against the fence with one hand and use the other hand to pull the saw forward through the workpiece. Do not pull the blade forward until the blade has come up to full speed.
24. You may either hold the portion of the workpiece to the left of the blade with your left hand and start and pull the saw with the right hand, or hold the portion of the workpiece to the right of the blade with your right hand and start and pull the saw with the left hand.  
**Danger: Never operate the saw cross-handed. Your hands and arms must never be in the path of the saw blade.**
25. Never remove the workpiece from the table until the saw has been returned to the rear of the track arm.
26. The radial arm saw has a tendency to pull itself forward while cutting. To counter this, saw blades with a negative rake must be used. This minimizes the tendency to pull the saw into the work, but does not eliminate it. You will still need to control the feed rate of the saw. Pulling the saw slowly through the workpiece also helps to control this tendency and produces a cleaner cut.
27. The saw is equipped with an electronically activated blade brake that will stop the saw blade within a few seconds after the saw is turned off. If this device fails, do not leave the area until the saw blade stops rotating.

28. The saw is equipped with a spring-loaded return that will return the saw blade behind the fence if you let go of the saw handle. However, do not rely on this device to return the saw when you finish the cut.
29. Always lockout the saw when changing saw blades or performing maintenance.
30. Always pull the saw toward you. Never push the saw into the workpiece.
31. Do not try to force the machine to do something it was not designed to do. For example, do not try to cut wood faster than the motor can handle. If the saw starts to bog down, you are feeding too fast. Use the right blade for the job.
32. Never leave the saw running unattended.
33. When you are through using the saw, push the off-on switch to the off position and let the blade come to a complete stop before leaving the area.

### Using the Saw

The radial arm saw excels at cross cutting stock, either rough or planed and joined. This is generally true even if the stock is cupped, warped or twisted. It is also capable of ripping boards, cutting dados, rabbets and grooves, and performing molding operations. However, except for cross cutting, there are other methods that are better suited for the saws capabilities. **CAUTION: In the WVWV workshop, the Radial Arm saw will only be used for cross cutting.**



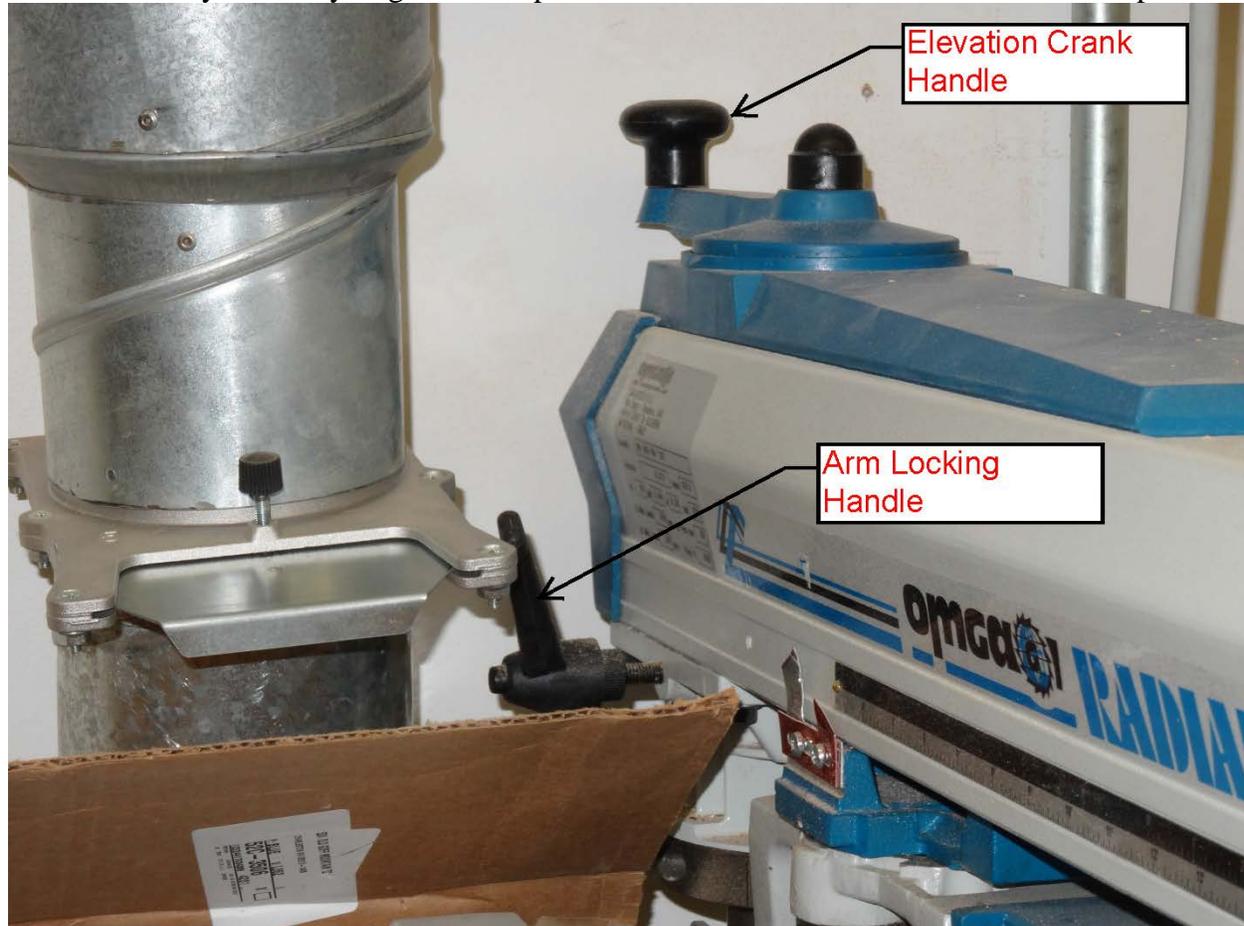


The saw is equipped with a fence that has a stop on it. With this stop, you can set it to the desired length and then make the cut. This is much more accurate than penciling a mark on a board and trying to line up that mark with the saw blade. It also permits cutting multiple boards to the exact same length. Once the stops are calibrated, they are very accurate. However, they must be recalibrated any time the fence is removed and reinstalled, or when the fence shifts left or right. Also, banging a board up against a stop can move the stop. To calibrate the stop, use either a 12" or 24" Starrett machinist's scale. Lay the scale on the table so that the end of the scale is touching the edge of the saw blade. Bring the stop up to the other end of the scale and tighten it so that the scale just fits between the stop and the blade. The stop has two cursors. The left-hand cursor is used when the stop is on the left side of the fence and the right-hand cursor is used when the stop is on the right-hand side of the blade. Adjust the cursor on the stop to read 12" or 24" as appropriate.

If the cursor cannot be moved enough for it to align with the 12" or 24" mark, the fence will need to be shifted left or right enough to bring the cursor within its adjustment range. To slide the fence, or to remove the fence, loosen the two knobs at the rear of the table. Be sure to retighten these knobs after the fence has been repositioned. The fence with the stops is only to be used when making cuts that are square to the table and fence. If it is desired to make angled cuts, the fence will need to be replaced with a fence of the same dimensions, but without the track on top or the stops. There is a crank on the top of the saw column that is used to raise or lower the blade. If the depth of cut is critical, the depth of cut should be set while raising the saw. This will

eliminate any tendency of the saw to drop while in use due to the slight backlash in the raising mechanism.

The saw rolls from rear to front and back on ball bearings that ride in tracks in the track-arm. These tracks tend to accumulate sawdust and need to be cleaned periodically so that the saw will travel smoothly. A dry rag can be pushed into the tracks and the sawdust wiped out.

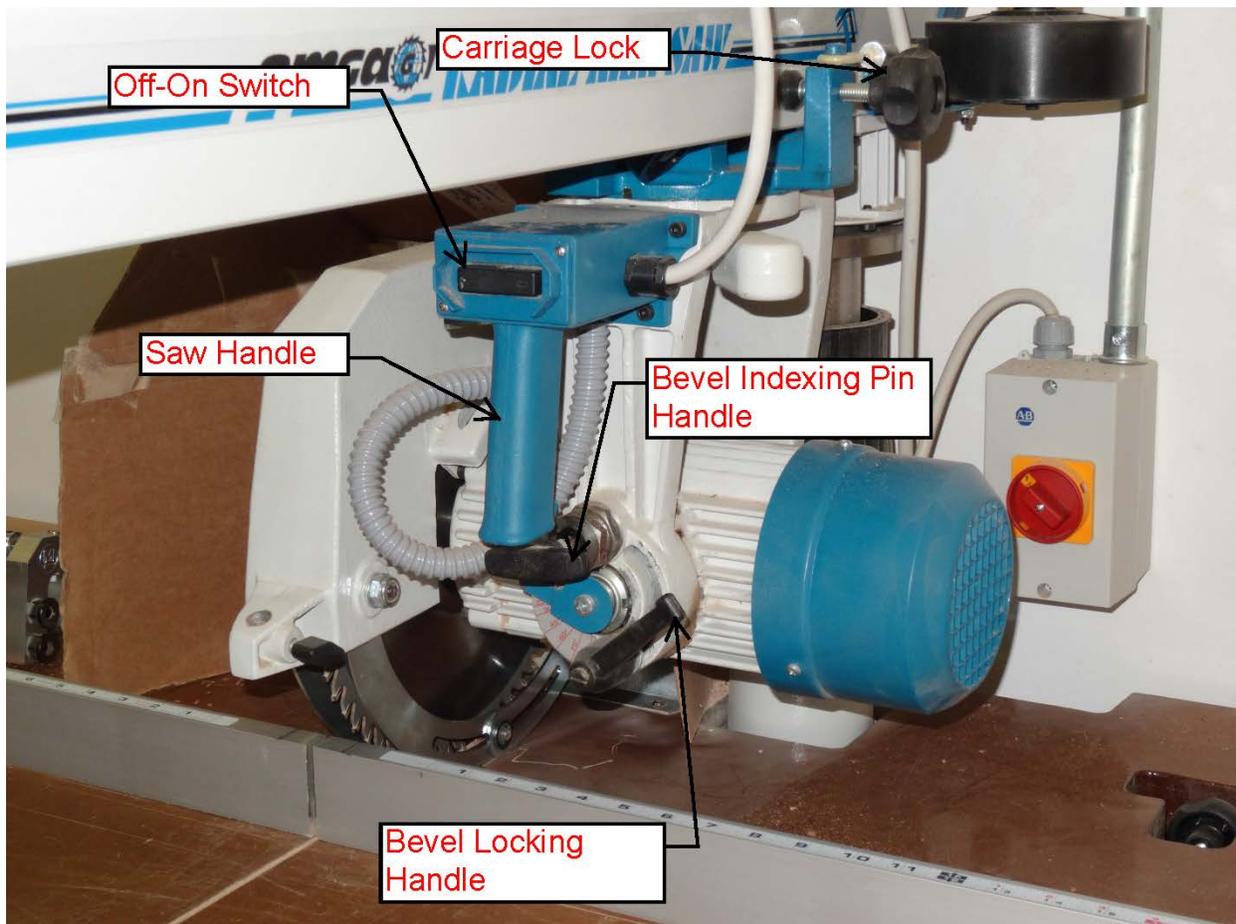


- Adjust the Miter angle of the saw (if any). **(CAUTION! For all miter cuts, the standard aluminum fence (containing the scale and stops) must be replaced with a wood fence of the same size.**

The saw can cut miters from  $-45$  to  $0$  to  $+45^\circ$ . To adjust the miter angle, raise the saw blade so that it is above the table. Loosen the miter angle locking handle and pull the Arm Lock forward. Rotate the track arm to the desired angle. The miter indexing pin can be used to position the track arm at exactly  $-45$ ,  $0$ , and  $+45^\circ$  angles to the fence. The approximate miter angle is indicated on the miter angle scale. The indexing pin is tapered on the end and fits into a tapered slot. To ensure that the spring loaded pin is fully seated in the slot, jiggle the turret arm before tightening the miter angle locking handle.

- Adjust the blade tilt (if any). **CAUTION! For all bevel cuts, the standard aluminum fence (containing the scale and stops) must be replaced with a wood fence of the same size.**

The saw blade can be tilted from 0 to 45° from horizontal. To tilt the saw blade, raise the saw blade about 3” above the table. Then loosen the bevel lock handle and retract the bevel indexing pin handle. The indexing pin can be used to position the blade at exactly 0 or 45°. The approximate tilt angle can be read on the tilt angle scale. The indexing pin is tapered on the end and fits into a tapered hole. To ensure that the spring loaded pin is fully seated in the hole, jiggle the saw head. This will ensure that the blade is either 90 or 45° to the table. Tighten the bevel locking handle when the desired angle is reached. Lower the saw so that the blade cuts about 1/8” deep into the table.



- Adjust the blade guard so that the bottom of the guard is parallel to the table.
- Adjust the blade height using the crank on the front of the saw. For through cuts the blade should be adjusted so that it is about 1/8” below the surface of the table.
- Turn on the dust collection system and open the blast gate for the saw.
- Ensure that the saw is at the rear of the table.

- Grasp the saw handle with one hand and start the saw.
- If you are using the fence stops, hold the end of the board that is against the stop with one hand and pull the saw through the cut with the other hand. This prevents having a section of the workpiece 'trapped' and potentially being thrown at you.
- Hold the workpiece tight against the fence and pull the saw through the cut.
- Return the saw to the back of the table.
- When finished with the saw, turn it off, wait until the blade stops rotating, turn off the dust collection, close the blast gate and clean off the table.