CONSOLIDATED STORY BOARDS CONSOLIDATION CREATED SEPTEMBER 2022

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Original Date 3/14/18

Rev 5

Revision Date: 7/2022

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Table Saws #10 & #11 Delta 10" Left Tilt Saw

Access: Gold Card.	Control: None		
Material limitations	For Ripping	Minimum	Maximum
No pressure treated wood	Width	1"	
Wood	Length	12"	
	Thickness	1/4" *	2 ¾"
	*If thinner mater	al See Shop Manag	er/Mentor
Restrictions	OBTAIN PERMISSION TO REMOVE OR ADJUST Splitter / Kickback Dogs/ Safety Guard. No cutting full size sheet goods or free hand cutting No resawing - use Band Saw Thin Kerf blades must be used with proper splitter kit. Blade changing is not permitted unless approved by the shop manager.		
Operations	Turn main power switch off when doing set-up or placing hands near the blade. Inspect Safety guard, Splitter & Kickback dogs. Open Vacuum port. Ripping - use feather boards when possible Use two feather boards for all Dados and Rabbets. Use Miter Gauge or sled when crosscutting. Use the CORRECT push stick when ripping less than 6" wide. Push stock past entire blade before stopping saw. When finished turn main power switch off, close vacuum port, clean up saw and floor.		ogs. e Rabbets. g. less than 6" ng saw.
Tips	Make sure work area is clear & clutter free Use stop blocks for repeat crosscuts where applicable. Dry run your cut to make sure you can complete the full operation.		

Table Saws #13 Delta 10" Left Tilt Saw

Access: Gold Card	Control: None		
Material	For Ripping	Minimum	Maximum
limitations	Width	1 ½"*	
	Length	10"	
	Thickness	1/4"*	2 ¾"
	*If thinner material See Sh	op Manager/Ment	or
Restrictions	NEVER REMOVE OR ADJUST TH	IE RIVING KNIFE	
	Kickback Dogs & Safety Guard sleds & jigs, subject to prior ap Shop crosscut sleds / Incra ang No cutting of full-size sheet go	proval of Shop Mana le jigs / Taper jigs.	ger:
	No re-sawing - use Band Saw.		
	No Dados and Rabbet cutting.	المحفقات محموم طفني	.:4
	Thin Kerf blades must be used Blade changing not permitted		
Operations	Blade changing not permitted unless approved by the shop manager" Turn main newer switch off when doing set up or placing		
Operations	Turn main power switch off when doing set-up or placing hands near the blade.		
	Inspect safety guards / Riving Knife / kickback dogs.		
	Open vacuum port.		
	Ripping - use feather boards when possible		
	Use Miter Gauge when cro	_	. <i>C"</i> i al a
	Use Correct push stick whe	•	
	Push stock past entire blade before stopping saw. When finished turn main power switch off, close vacuum por & clean saw and sweep floor.		
Tips	Make sure work area is cle	ar & clutter free.	
	Make sure correct push sti available when needed.	cks and feather bo	ards are readily
	Use stop block if applicable	e for repeat cross c	utting.
	Dry run your cut to make s operation.	ure you can compl	ete the full

Table Saw # 12 & 14 Saw Stop Unit

Access: Gold Card	Control: None		
Material limitations	For Ripping	Minimum	Maximum
	Width	1" with fence jig, 1 ½" w/o	
	Length	10"	
	Thickness	1/4*	2 ¾"
	*If thinner mate	rial see Shop Manager/M	1entor
Restrictions	NO WET, TREATED OR PREVIO	USLY USED WOOD	
	Do not remove or adjust blade	guard assembly without Sh	op Manager's
	approval.		
	Do not cut full-size sheet good	S.	
	No free hand cutting.		
	No re-sawing. Use band saws		
	Only shop installed blades are	allowed. No dados & rabbe	t cutting is
	allowed.	!!	
	Do not use the Incra gauges w		
	Only use jigs, sleds and miter g		ρ saw.
Operations	Assure main power switch is o		1.6
	LIFT GUARD AND SET UP FOR (CUT (blade height, cut width	and feather
	board) and lower guard.	sit for colid groop light /loft l	ight) to proceed
	Turn on main power switch wait for solid green light (left light) to proceed (3-10 seconds for diagnostic to process). Any condition other than solid		
	green – STOP and inform Man	•	ner than sond
	With Solid green light (the ligh		oull out start/stop
	paddle to start saw blade.		, , , , , , , , , , , , , , , , , , , ,
	Turn off power when doing ad	ditional close to blade set u	p. Do not unplug.
	Ripping - use feather boards w	hen possible	
	Push stock past entire blade b	efore stopping saw.	
	Allow saw to fully stop before	removing stock.	
	When finished with all cuts. T	urn off main power switch a	nd leave saw
	ready for next member. Only		ed with WOOD
	BACK RAILS to be used for cros	sscutting.	
Tips	Keep work area clear &	clutter free.	

Table Saw # 14 Saw Stop Unit.

Supplemental instructions to Managers, Assistant Managers and Mentors

Standby and monitor cuts being made. If saw malfunctions or has diagnostic shutdown put saw out of service and write up for Maintenance.

If brake activates the saw will shut down. Don't touch anything, don't move anything, do not change the setup, do not remove the piece of wood being cut. Maintenance will be keeping a history of what causes the brake to activate. They will need this information.

Powermatic 8-inch Jointer # 33 & 35

Access: Gold Card	Control: None		
Material limitations		Minimum	Maximum
	Width	¾ inch	8inches
	Length	8 inches	
	Thickness	½" Face, ¼" Edge	
	FACE CUT – Face jointing, boards must be at least 1/2" thick. Start depth of cut at 1/32" EDGE CUT - Edge jointing, boards must be at least 1/4" thick and at least 3/4 inch wide (surface against the fence). Start depth of cut at 1/16"		
Operations	End Grain jointing, rabbeting and skewing (diagonal running of stock) are not allowed. Do not adjust fence past outer edge of cutter. If Height of stock above cutter is less than 4" use push stick. Use pushstick when jointing (surfacing) face grain. Do not hold hand on top of board directly above cutterhead. Use Double stack Featherboard when edge jointing boards 5 "or higher above cutter head. Always open vacuum port before using machine Always close vacuum port and clean up when finished.		cutter. nan 4" use face grain. ctly above edge jointing machine
Warnings	Never let fingers get within 4" of cutters Never stand directly behind the workpiece. Never remove the guard.		
Tips		a is clear & clutter free of cut & Fence square w	ith table.

SHOP FOX 20" PLANER # 30 GRIZZLY 15 "PLANER # 31

Access: Gold Card	Control: None		
Material limitations		Minimum	Maximum
	Width		20 INCH
	Length	7INCH	
	Thickness	1/4 INCH	8 INCHES
Operations	To Set up planer- With Machine turned off.		off.
	Lower feed table (courthrough easily.	nter-clockwise) un	til stock will slide
	Remove stock, turn or	ı planner & open v	acuum.
	With Stock on feed tal planer feeds stock thro	· · · · · · · · · · · · · · · · · · ·	ckwise) till
	Planer is now indexed for thickness of stock. Run all stock that will be the same thickness throughout the planer before changing settings. Raise feed {No More than} ½ turn (clockwise) to planning stock. Continue this sequence until all bare the thickness you want		ock.
			ness through
			•
	Note:		
	1/2 a turn of wheel = 1/32 of an inch [.7938MM]		7938MM]
	Close vacuum port & c	lean up area.	
Warning	If stock is jammed. Neve r push stock through the planer. Turn off Planer and get help from Managers or Mentor.		•
Tips	Make sure work area is		ee
	Always plane long grain if possible.		
	Alternate feed left/ right/ center. Better for stock & the planer.		
	Wear Hearing protection	on is recommende	d.

SHOP FOX 20" PLANER # 30

Access: Gold Card	Control: None		
Material limitations		Minimum	Maximum
	Width		20 INCH
	Length	7INCH	
	Thickness	1/4 INCH	8 INCHES
Operations	To Set up planer- With Machine turned off.		off.
	Lower feed table (courthrough easily.	nter-clockwise) unt	til stock will slide
	Remove stock, turn on	planner & open v	acuum.
	With Stock on feed tak planer feeds stock thro	•	ckwise) till
	Planer is now indexed	for thickness of sto	ock.
	Run all stock that will be the same thickness through planer before changing settings.		ness through
	Raise feed {No More than} ½ turn (clockwise) to continue planning stock. Continue this sequence until all boards are the thickness you want		•
	Note:		
	1/2 a turn of wheel = 1/32 of an inch [.7938MM]		
	Close vacuum port & c	lean up area.	
Warning	If stock is jammed. Neve r push stock through the planer. Turn off Planer and get help from Managers or Mentor.		
Tips	Make sure work area is		e
	Always plane long grain if possible.		
	Alternate feed left/ riginal planer.	nt/ center. Better f	or stock & the
	Wear Hearing protection	on is recommended	d.

GRIZZLY 15 "PLANER # 31

Access: Gold Card	Control: None		
Material limitations		Minimum	Maximum
	Width		14 7/8 INCH
	Length	7INCH	
	Thickness	1/4 INCH	6 1/8 INCHES
Operations	To Set up planer- With Machine turned off.		off.
	Lower feed table (courthrough easily.	nter-clockwise) ur	ntil stock will slide
	Remove stock, turn on	ı planner & open v	vacuum.
	With Stock on feed tak planer feeds stock thro	•	ockwise) till
	Planer is now indexed for thickness of stock.		tock.
	Run all stock that will be the same thickness through planer before changing settings.		ness through
	Raise feed {No More than} ½ turn (clockwise) to continue planning stock. Continue this sequence until all boards are the thickness you want		•
	Note:		
	1/2 a turn of wheel = 1/32 of an inch [.7938MM]		7938MM]
	Close vacuum port & c	lean up area.	
Warning	If stock is jammed. Neve r push stock through the planer. Turn off Planer and get help from Managers or Mentor.		
Tips	Make sure work area is		ee
	Always plane long grain if possible.		
	Alternate feed left/ rig planer.	nt/ center. Better	for stock & the
	Wear Hearing protection	on is recommende	ed.

IN DOUBT ASK FOR HELP

Original Date: 3-14-18 Rev 1 Revision Date:4/12/18

Radial Arm Saw #16

Access: Gold Card	Control: None		
Material limitations	Crosscut	Minimum	Maximum
No pressure treated wood.	Width	1/2 inch	16 inches
	Length	See First restrictions	
	Thickness	1/4 inch	3 ½ inch
Restrictions	Keep Fingers and Thumb at least 4 inches away from either side of blade. This area is painted red. Obtain Managers permission to adjust SAFETY COVER/Safety Guards. Ripping /Mitre cuts /Bevel cuts are not permitted. Dados operations can only be done with approval of		
Operations Gap toward fence.	Make sure on/off switch is in off position and saw is in home position before you start. Inspect both safety guards and safety cover. Confirm blade teeth are approx. 1/8 inch below surface of table. Open vacuum port. Hold material against fence with left hand pull saw through material with right hand Pull saw slowly though heavy or bowed material to prevent jamming. Bow must face toward fence. Return saw to home position when cut is finished. Use vacuum hose to clean up after use.		n below surface and pull saw material to difence.
Tips	Make sure work area is clear & clutter free Dry run your cut to make sure you can complete the full operation.		

IN DOUBT ASK FOR HELP

Original Date: 3-14-18 Rev 1 Revision Date: 11-14-18

Sanders Miscellaneous #60A, B, C, 61 & 63A

Including: Powermatic Belt and Disc #60A and 60B,

Grizzly Combination #60C, Delta Combination #63A, Delta 12" Disc #61

Access: Gold card	Control: None	
Material Limitations	No pressure treated wood.	
Restrictions	Make sure the conveyor belt and/or disc material are in good condition. Report damaged sanding material. Sand on left side of disc only.	
Operations	When sanding small pieces, use push stick, eraser or other fixture to keep fingers away from sanding material. When finished, carefully clean the sandpaper with the eraser stick and clean the table with hand brush or vacuum. Sweep floor.	
Tips	You don't need apply too much pressure. Let the sander do the work.	

Powermatic 22-44 Drum Sander # 67A, B and C

Access: Gold card	Control: Sign out form and key access.		
Material Limitations Sandpaper: 80 grit	For Sanding	Minimum	Maximum
	Width	3/4" (19mm)	22" (559mm) one pass
	Length	2 3/8" (60mm)	
8	Thickness	1/32" (0.8mm)	4" (102mm)
Restrictions	This sander has a mini- computer in it. If you are not sure how to INDEX the machine, get the Mentor to show you.		
	Make sure the conveyor belt and sanding drum are in good condition.		
	This machine is NOT a planner, jointer, or glue removal tool – don't attempt to use it as one.		
	No glue, nails,	oil finishes, paint,	or dirt/gravel in wood
	Don't stand directly behind conveyor belt in case of kickback.		
Operations	Review the operation instructions attached to machine for detailed explanation of how to operate the controls. Be sure conveyor is off and emergency shutoff is not engaged. Turn on main power switch Register/INDEX sanding drum to wood surface. See poster on wall for steps 1 to 7 and below for step 8. 8) DO NOT take more than 1/8 th turn of the wheel or 0.010 of an inch before next pass. Display will read - 0.010. For best results make 3 passes before changing setting. If working with stock of varying thickness, always start with thickest board before running all boards at the same setting.		
Tips	Keep fingers a	rk area is clear & cl way from in-feed a to avoid being pind	nd out-feed table rollers
	When finished stick and clear	l, carefully clean the the conveyor web	e drum with the eraser with hand brush or air I before you leave it.

Sliding Compound Miter Saw #15 and #17

Use: For prepared lumber	Control: Use only for planed and edged wood. No Pressure treated lumber.		
Material limitations		Minimum	Maximum
	Width	1/4"	14"
*If less See Manager.	Length	<u>2"</u>	<u>None</u>
	Thickness	1/4"*	4 ¾"
Restrictions	CROSS CUT ONLY. NO RIPPING ALLOWED.		
	Never cut with finge	rs closer than 4"	to blade.
	Keep fingers off trigger until actually ready to cut.		
Operations	Cut boards with 3 point contact only (cut twisted or bowed pieces on Saw #18).		
	Use sacrificial fence if wood does not touch both sides of fence, except when cutting off an 1/8" or less.		
	Use bridge clamp to hold pieces shorter than 4".		
	When using stop block – cl between blade and block.	amp or hold piece se	curely by hand
	Cuts wider than 4" require	slide motion to cut.	
	Proper sequence for cuts:		
	1) Bring blade to full sp	eed.	
	2) Pull saw on slide all the way out.		
	3) Pull saw down all the	e way.	
	4) Push saw back throu and steady motion)	gh material complete	ely (slow
	5) Hold saw down until	l blade stops complet	ely.
Tips	Use built-in light to line up saw cut. Turn light off when finished.		light off when
	Do not allow material to pile up around saw.		
	Use vacuum to clean up	saw and work are	ea.

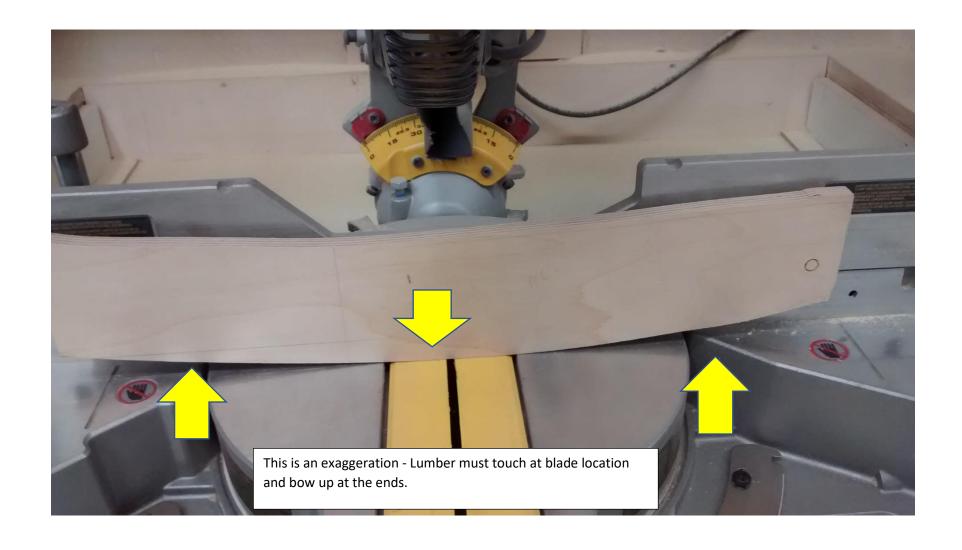
Sliding Compound Miter Saw #18

Use: Mainly for rough lumber	Control: Saw has an ag sawed wood. No press		
Material limitations		Minimum	Maximum
de 11	Width	1/4"	14"
*Subject to Managers judgement	Length	<u>2"</u>	
	Thickness	1/4"*	4"
Restrictions	CROSS CUT ONLY. NO RIPPING ALLOWED. Never cut with fingers closer than 4" to blade. Keep fingers off trigger until ready to cut.		
Operations	All rough lumber must be Bowed wood – have crow and clamped on one side Never cut with fingers clo to hold stock closer than 4 Pieces being cut must tou sacrificial fence. When using stop block – c between blade and block. Cuts wider than 4" require Proper sequence for cuts: 1) Bring blade to full s 2) Pull saw on slide all 3) Pull saw down all th 4) Push saw back throu and steady motion)	clamped on one side on of bow toward fen only. ser than 4" to blade. 4". ch fence on both side clamp or hold piece see slide motion to cut. peed. the way out. ne way. ugh material complete or than normal or displaced to the cutting. Use 1/3 de	ce (see graphic) Use bridge clamp es of blade or use ecurely by hand tely (slow etely. tortion in wood pth of cut to make
Tips	Hold saw down until blade stops completely.		•
	Do not allow material to pile up around saw. Use vacuum to clean up saw and work area.		
ı	Ose vacuum to clean u	P saw allu wolk al	ca.









<u>Ultimate Power Sharpener 81 A&B</u>

Access:	Only Wood Carving SIG members who have completed the training may use this equipment.
Restrictions	Only wood carving tools may be sharpened on this equipment.
Operations	Belt runs away from the tool being sharpened.
	Make sure the tool contacts the belt where it is supported by the backing plate.
	Determine the correct angle for the tool to contact the belt and maintain that angle at all times.
	When sharpening a curved tool make sure to continuously roll the cutting edge of the tool on the belt so cutting edge does not develop a flat spot.
	Start with the correct grit belt and progress to finer grit belts and finally to the leather honing belt.
	It is recommended that compound be applied to the leather honing belt each time it is used.

#94 Router/Planer Sled Instructions

- Slide right side guard to the right until workpiece fits between the blue edges.
- Install shims on each side so that workpiece rest ¼" to 3/8" above blue edge.
- Place workpiece behind black mark, on blue edge.
- Tighten bar clamps snug, do not over tighten.
- Move router back over the top of the workpiece.
- Loosen router motor key (red knob) and turn motor clockwise until bit just touched the workpiece surface. Index zero ring.
- Move the router back behind the workpiece.
- Rotate motor to desired depth of cut, maximum of 1/8", tighten motor key.
- Turn router on and make a clockwise cut around the perimeter of the workpiece. Then travel back and forth across until the surface is complete.
- If necessary, lower bit and repeat cutting.
- Never leave a running machine unattended.
- Clean up.

IF IN DOUBT ASK!!

Equipment - RIKON Grinder

Access:	Only Members who have been trained by Lathe Instructor
Restrictions	High speed steel tools only. Carbon steel will quickly destroy the diamond like grinding wheel and should never be sharpened on this grinder. If there is doubt whether a tool is High Speed Steel, DON'T use this grinder until you have spoken to the Shop Manager or Lathe Mentor.
Operations	Never walk away from the grinder until the grinding wheels have completely stopped. Use the wheel brake to stop the grinding wheel. Do not use excessive force. Use light force on the brake to slowly stop the grinding wheel. DO NOT over tighten the arms, on the Wolverine clamping fixture. Once the position of the tool-rest is correct, a GENTLE PUSH BACK on the handle is all that is necessary to lock the tool-rest in place. Keep the tool moving on the 2" grinding surface to facilitate even wear of the grinding wheels.
Tips	CBN (cubic boron nitride is as hard as diamond) wheels cut extremely fast. There is NO need to apply excessive pressure to the wheel with the tool being sharpened.

Band Saw #29 1/8 or 3/16" Blade

Access: Gold card	
Material Limitations	No pressure treated wood.
Restrictions	This is NOT to be used for standard band saw cutting activities. No ripping, no cross cutting, no circle guide usage, no large radius cuts.
Operations	This saw is for small radius cutting as small as 3/16-1/4". Relief cuts are not needed for these tight radii. Adjust blade guard to approximately 1/2" above wood. Make sure hands are not in direct line of cut. Use push sticks when near blade. Steer the wood through the cut straight or around a curve. Do not push wood against the side of the blade. When backing up, turn off the saw, use a scrap piece of wood in front of blade and back up slowly.
	Clean up.
Tips	Cut to one side of the line and sand wood to line.

Band Saw #29 Carter Stabilizer 1/8 or 3/16" Blade

Access: Gold card	
Material Limitations	No pressure treated wood.
Restrictions	This is NOT to be used for standard band saw cutting activities. No ripping, no cross cutting, no circle guide usage, no large radius cuts.
Operations	This saw is for small radius cutting as small as 3/16-1/4". Relief cuts are not needed for these tight radii. Adjust blade guard to approximately 1/2" above wood. Make sure hands are not in direct line of cut. Use push sticks when near blade. Steer the wood through the cut straight or around a curve. Do not push wood against the side of the blade. When backing up, turn off the saw, use a scrap piece of wood in front of blade and back up slowly.
	Clean up.
Tips	Cut to one side of the line and sand wood to line.

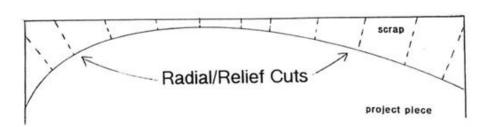
Band Saw #24 1/8 or 3/16" Blade

Access: Gold card	
Material Limitations	No pressure treated wood.
Restrictions	This is NOT to be used for standard band saw cutting activities. No ripping, no cross cutting, no circle guide usage, no large radius cuts.
Operations	This saw is for small radius cutting as small as 3/16-1/4". Relief cuts are not needed for these tight radii. Adjust blade guard to approximately 1/2" above wood. Make sure hands are not in direct line of cut. Use push sticks when near blade. Steer the wood through the cut straight or around a curve. Do not push wood against the side of the blade. When backing up, turn off the saw, use a scrap piece of wood in front of blade and back up slowly. Clean up.
Tips	Cut to one side of the line and sand wood to line.

Small Band Saws # 22, 23 and 24

Access: Gold card	Control: None
Material Limitations	None
Restrictions	The tightest cut allowed for the ¼" blade is a curve with a radius no smaller than 1 ¼". Use relief cuts to minimize damage to blade and saw. See diagram below. When cross cutting round stock use a V block.
Operations	Adjust blade guard to 1/8" to 1/2" above wood. Make sure hands are not in direct line of cut. Use push sticks when near blade. Steer the wood through the cut straight or around a curve. Do not push wood against the side of the blade. When re-sawing, use a fence. When backing up, turn off the saw, use a scrap piece of wood in front of blade and back up slowly. Clean up.
Tips	Cut to one side of the line and sand wood to line.

^{*} WHEN CUTTING ARCS SMALLER THAN THE MINIMUM DIAMETERS ALWAYS CUT RADIAL RELIEF CUTS EVERY 3/4"-TO 1" AS SHOWN



Original Date: 3-26-18 Rev 2 Revision Date:12/2021

Band Saw #29 1/8 or 3/16" Blade

Access: Gold card	
Material Limitations	No pressure treated wood.
Restrictions	This is NOT to be used for standard band saw cutting activities. No ripping, no cross cutting, no circle guide usage, no large radius cuts.
Operations	This saw is for small radius cutting as small as 3/16-1/4". Relief cuts are not needed for these tight radii. Adjust blade guard to approximately 1/2" above wood. Make sure hands are not in direct line of cut. Use push sticks when near blade. Steer the wood through the cut straight or around a curve. Do not push wood against the side of the blade. When backing up, turn off the saw, use a scrap piece of wood in front of blade and back up slowly. Clean up.
Tips	Cut to one side of the line and sand wood to line.

Small Band Saw # 27

<u></u>		
Access: Gold card	Control: None	
Material Limitations	None	
Restrictions	The tightest cut allowed for the ¼" blade is a curve with a radius no smaller than 1 ¼".	
	Use relief cuts to minimize damage to blade and saw. See diagram below.	
	When cross cutting round stock use a V block.	
Operations	Adjust blade guard to 1/2" to 1/2" above wood. Make sure hands are not in direct line of cut. Use push sticks when near blade. Steer the wood through the cut straight or around a curve. Do not push wood against the side of the blade. When re-sawing, use a fence and feather blocks. When backing up, turn off the saw, use a scrap piece of wood in front of blade and back up slowly. Use foot brake to stop the blade and lower blade guide completely down before you leave the machine. When backing up, turn off the saw, use a scrap piece of wood in front of blade and back up slowly.	
Tips	Cut to one side of the line and sand wood to line.	

* WHEN CUTTING ARCS SMALLER THAN THE MINIMUM DIAMETER ALWAYS CUT RADIAL RELIEF CUTS EVERY 3/4"-TO 1" AS SHOWN

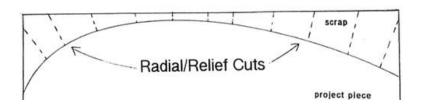


Table Router

Horizontal Router #91 (controlled Tool)

Never attempt to machine on this router table with the

Cutter Bit above the material

<u>ALWAYS</u> feed work from <u>left to right toward cutter</u> (Unique to this tool)

No Jointing allowed on Router.

There is a list of advisors on this tool posted here to help you safely set up this tool. PLEASE ASK for their HELP.

Make sure Router is set for correct R.P. M's for size of cutter bit

Ensure Router is unplugged before installing and removing cutter bit.

Never use a dull, bent or damaged cutter bit (see Tool Room Monitor.)

Do not adjust bit elevation or fence position while router is running.

Do not try to make your complete cut in one pass (maximum depth of cut is $\frac{1}{4}$ "), rather make multi passes and keep adjusting bit height. Smaller cuts equal smoother finished products.

Many accessories available to make operation safer & to achieve better results. ASK Advisor for help.

Never leave a running machine unattended.

Keep Work area clean!!!

IF IN DOUBT ASK!!

Jet Oscillating Spindle Sander #64

Access: Gold card	Control: None
Material Restrictions	Pine and pressure treated wood not permitted
Precautions	Keep clothing and hair away from spindle Make sure the spindle sanding drum is in good condition. Report damaged sanding material. When sanding inside a hole, the size of spindle must be no more than one half the diameter of the hole and workpiece must be on the table before starting sander.
Operations	Mount the desired size spindle. Install best fitting spacer. Hand tighten only, don't overtighten spindle or nut. Ensure rubber shield is reinstalled. The table may be tilted down. Do not tilt the front of the table up past level. When finished, clean the drum with the eraser stick, clean the table and sweep floor.
Tips	For best result push against the rotation of the spindle. You don't need to apply much pressure.

IN DOUBT Please ASK FOR HELP

Original Date: 5-30-18 Rev 2 Date: 6/8/2019

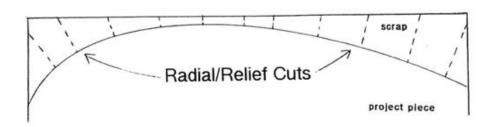
Jet 10-20 PLUS SMALL DRUM SANDER 66 A & B

Access: Gold card	Control: Sign out form and key access. Sandpaper: 80 grit			
Material Limitations		Minimum	Maximum	
	Width	1/4"	7"	
	Length	2 1/4"		
	Thickness	1/32"	3"	
Restrictions	If you are not sure how to INDEX the machine get the Mentor to show you. Make sure the conveyor belt and sanding drum are in good condition. Check with Shop Manager. This machine is NOT a planner, jointer, or glue removal tool – don't attempt to use it as one. No glue, nails, oil finishes, paint, or dirt/gravel in wood Don't stand directly behind conveyor belt in case of Kickback.			
Operations	Keep stock between Feed Lines			
	Register/INDEX the sanding drum to wood thickness. (See poster at Sander _67B_ for indexing procedure.)			
	DO NOT take more than 1/8 turn on the handle before next pass. For best results make 3 passes at same setting.			
	If working with stock of varying thickness, always start with thickest board before running all boards at the same setting.			
Tips	Keep fingers away from in-feed and out-feed table rollers while sanding to avoid being pinched.			
	When finished, carefully clean the drum with the eraser stick and clean the conveyor web with hand brush or air hose.			

Powermatic Bandsaw #21B

Access: Gold card	Control: None	
Material Limitations	Cutting pressure treated wood is not permitted.	
Restrictions	Tightest curve that may be cut with a 1-inch blade is an 8" radius. Use relief cuts on all tight curves. When cross cutting logs or other round stock use a V block sled. When resawing logs use jointer to create a flat surface to place on table. Cutting lathe waste blocks is only allowed with faceplate jig.	
Operations	Adjust blade guard to 1/2" to ¾ inch above wood. Set fence in desired location. Use low clearance fence jigs as needed to allow the blade guard to be as low as possible. When re-sawing, use the highest fence possible and feather boards. Table may be tilted. Return table to the flat position when complete and verify with square. Press green button to start. Make sure hands are not in direct line of cut. Use push sticks when near blade. Steer the wood through the cut straight or around a curve. Do not push wood against the side of the blade. Use red stop button to stop machine when completed. Press foot brake to stop blade. Disconnect machine before clean blade with wire brush. Clean up around machine including the floor.	
Tips	Cut to one side of the line and sand wood to line.	

^{*} WHEN CUTTING ARCS SMALLER THAN THE MINIMUM DIAMETERS ALWAYS CUT RADIAL RELIEF CUTS EVERY 3/4"-TO 1" AS SHOWN



Original Date: 5-30-18 Rev 3 Revision Date: 12/2021

Powermatic Bandsaw #21A

Access: Gold card	Control: Controlled	
Material Limitations	No logs - No southern pine - No pressure treated wood	
Restrictions	This saw is for resawing only.	
	Material for resawing must have flat surface on fence and table.	
	Tilting table is not permitted.	
Operations	Resawing –	
	Set fence in desired location.	
	Adjust blade guard to 1/4" to 3/4" above wood. Use low clearance fence jigs as needed to allow the blade guard to be close to the wood while supporting as much of the height of the wood as practical.	
	Use feather blocks to hold material against fence	
	Press start button.	
	Make sure hands are not in direct line of cut.	
	Use push sticks when near blade.	
	Press red stop button when finished.	
	Use foot brake to stop blade.	
	Clean up around machine. Sweep floor.	

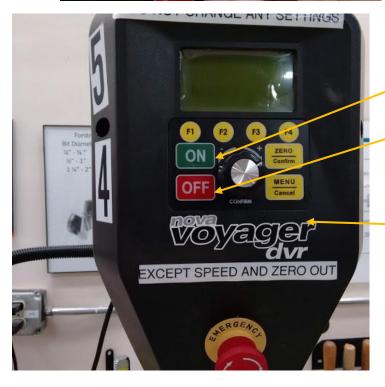
Original Date: 5/30/18 Rev 3 Revision Date: 12/2021

Nova 54, 55 & 58 Drill Press

Access: Gold card	Control: None	
Material Limitations	NO Burls/Logs/Branches or Pressure Treated wood	
Restrictions	Tilting table is not permitted.	
Operations	Install bit and tighten using at least two of the holes.	
	All bits 2 inches and greater must have hex shafts to prevent chuck damage.	
	Turn on the main power switch. Screen will light up.	
	Adjust speed before turning on the spindle.	
	Securely clamp or hold material to be drilled.	
	Clean up around machine. Sweep floor.	



First - Using the dial adjust the speed based on the bit and type of material. Press knob in while turning to get to the exact speed.



Second - Press the ON button to start the drill

When complete press OFF button.

See Manual for detailed instructions for use of other

Original Date: 9/30/18 Rev 4 Revision Date:3/33/2022

Forstner Bit Speeds

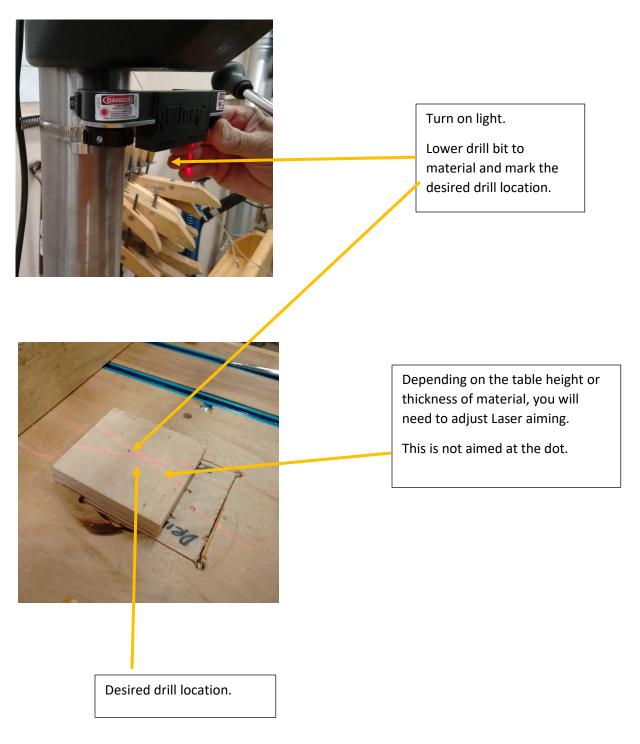
Nova Drill Chart Hardwood

Bit Diameter	Max. R.P.M.
1/4" - 3/8 "	800
1/2" - 1"	500
1 1/8" - 2"	250
2 ¼" – 3"	250

All bits 2 inches and greater must have hex shafts to prevent chuck damage. 3/22/2022

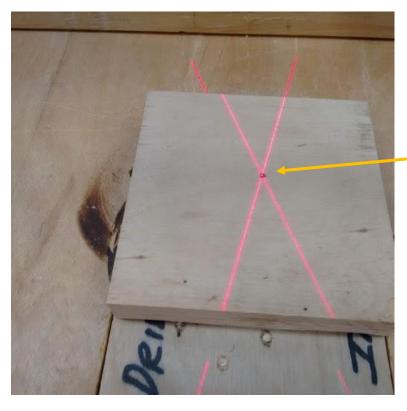


#54 Nova Drill Press Supplement – Laser Light





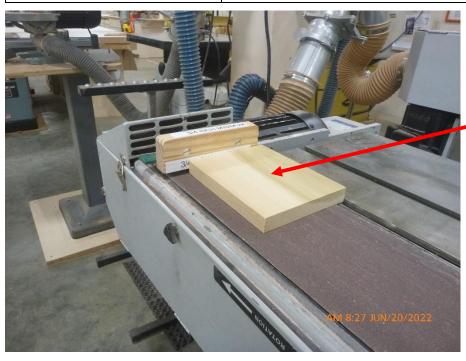
Using the two knobs on the lights, turn until lines cross at the marked dot.



Lines correctly set.

Oscillating Edge Sanders #62 a and b

Access: Gold card	Control: None		
Material Limitations	Minimum thickness -		
	62A - 3/4 inch 62B – 3/8 inch		
	Pine and pressure treated wood not permitted		
Restrictions	Scrape glue before sanding. Make sure the belt sanding material is in good condition. Report damaged sanding material.		
Operations	Keep control of your work. Apply even, light pressure. Place work against stop to increase your control. Do not let the belt grab your work and launch it into the shop.		
	When finished, carefully clean the belt with the eraser stick and clean the table with hand brush or vacuum. Sweep floor.		
Tips	You do not need apply too much pressure. Let the sander do the work.		



Work piece must be at least 3/4" thick.

Saw Trax #2640 Panel Saw (#20)

Access: Gold Card Control: None

Material limitations		N dining	Marriagna
iviaterial illilitations		Minimum	Maximum
	Vertical Cuts (before cut	18" or larger	
	Horizontal cuts (same)	6" or larger	
	Thickness	3/8" *	2 1⁄4'
	* To cut thinner material see Shop Manager.		
Rotate saw for vertical or horizontal cuts	 handles. It makes r Pull the 2 small blace and then release the spinning the saw meaning the saw mea	feed is correct	r. otate saw carriage, ete rotation by s reset in the new
Tips	 If you are unsure how to use this saw, <u>ASK for Help.</u> In addition to the on-duty Mentor, Sal Livigni, Mike Antonelli, Mitch Hubelbank, Jim Bedient, Nick DiMona, Neal White, and Jim Scott are very knowledgeable in using this tool. You get less tear out if you cut with good facing to rear. Ensure material lays flat against saw table. Double check your dimensions of cut. When finished, clean up saw and area around it. 		

Nertical Cuts Recommended: Largest section of panel should be under the hold down brackets	 See directions above to rotate saw, if needed. Ensure saw carriage is locked in Vertical position and slides freely on tubes. Make sure saw carriage is fully above top of stock to be cut. Insert material with largest part under the hold-down brackets. Slide stock to left till front edge lines up with desired dimension on the measuring tape. Located on bottom rail. Ensure stock is sitting tight to saw table. Turn on saw and cut from top downward. Wait till blade stops completely before you raise saw carriage and remove stock.
Horizontal Cuts Recommended: Feed stock on to Saw. Right to Left	 See directions above to rotate saw, if needed. Ensure saw carriage is locked in Horizontal position. Set upper marker (<u>Highlighted in GREEN</u>) to desired dimension for cut. Secure the saw by tightening both large black Tee handles. Ensure material is sitting tight to saw table and outfeed area is clear. Start saw. Support your stock as you push toward blade. Safely push or pull stock through blade to complete the cut CAN NOT use fingers
If feeding stock Left to Right	 Similar to above, except you use the lower marker (<u>Highlighted in Red</u>) Can use fingers: See photos below Please return fingers to original position and tighten knob

Original Date: 3-14-18 Rev 3 Revision Date:12/2021



Turn pipe with fingers to the right to apply pressure against wood.

Scroll Saw JET

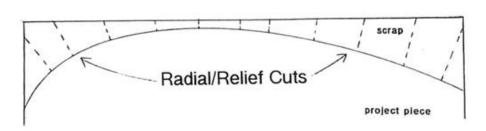
Access: Gold Card	Control: None
Safety	Keep fingers away from moving blade.
	Properly tensioned blade before operating. Failure to do so could result in blade breakage and possible injury.
	Never start saw with workpiece contacting the blade.
	Always hold stock firmly against table.
	Never reach under the table while blade is moving.
Operations	Turn off saw before backing stock out of an incomplete cut or removing jammed cut-off pieces.
	Make "relief" cuts before cutting long curves.
	When cutting large or oversize stock, always make sure material is supported at table height.
	Do not feed workpiece too fast.
Changing Blades	Remove the blade clamp from below the cutting surface.
and Adjusting Tension	Place the blade clamp in the cut-out space on the right side of the scroll saw base. Loosen the clamp screw slightly.
	Find the top of the blade by directing the teeth in a downward direction. Insert the bottom of the blade into the hole in the blade clamp. The blade should extend through the hole about ¼" and the teeth should be facing upward. Secure the blade by tightening the clamp screw.
	Thread the top of the blade through the hole in the cutting surface from below. Place the blade clamp into the slot provided.
	Be sure the tension lever is pushed all the way forward into its unengaged position.
	Guide the top of the blade into the center of the top blade clamp slit. Push the tension lever backward to secure the top of the blade.
	Feel the blade to be sure that the tension is taught yet slightly flexible

IN DOUBT ASK FOR HELP

Small Band Saws # 22, 23 and 24

Access: Gold card	Control: None
Material Limitations	None
Restrictions	The tightest cut allowed for the ¼" blade is a curve with a radius no smaller than 1 ¼".
	Use relief cuts to minimize damage to blade and saw. See diagram below.
	When cross cutting round stock use a V block.
Operations	Adjust blade guard to 1/8" to 1/4" above wood. Make sure hands are not in direct line of cut. Use push sticks when near blade. Steer the wood through the cut straight or around a curve. Do not push wood against the side of the blade. When re-sawing, use a fence. When backing up, turn off the saw, use a scrap piece of wood in front of blade and back up slowly. Clean up.
Tips	Cut to one side of the line and sand wood to line.

^{*} WHEN CUTTING ARCS SMALLER THAN THE MINIMUM DIAMETERS ALWAYS CUT RADIAL RELIEF CUTS EVERY 3/4"-TO 1" AS SHOWN



SANDERS 68A

Access: Gold card	Control: None
Material Limitations	None
Restrictions	Make sure the conveyor belt and/or disc material are in good condition. Report damaged sanding material.
Operations	When sanding small pieces, use push stick, eraser or other fixture to keep fingers away from sanding material.
	When finished, carefully clean the drum with the eraser stick and clean the table with hand brush or vacuum.
Tips	You don't need apply too much pressure. Let the sander do the work.

IN DOUBT ASK FOR HELP

Sanders Miscellaneous #60A, B, C, 61 & 63A

Including: Powermatic Belt and Disc #60A and 60B,

Grizzly Combination #60C, Delta Combination #63A, Delta 12" <u>Disc #61</u>

Access: Gold card	Control: None
Material Limitations	No pressure treated wood.
Restrictions	Make sure the conveyor belt and/or disc material are in good condition. Report damaged sanding material. Sand on left side of disc only.
Operations	When sanding small pieces, use push stick, eraser or other fixture to keep fingers away from sanding material. When finished, carefully clean the sandpaper with the eraser stick and clean the table with hand brush or vacuum. Sweep floor.
Tips	You don't need apply too much pressure. Let the sander do the work.

IN DOUBT ASK FOR HELP

Powermatic 22-44 Drum Sander # 67A, B and C

Access: Gold card	Control: Sign	out form and key	y access.
Material Limitations Sandpaper: 80 grit	For Sanding	Minimum	Maximum
	Width	3/4" (19mm)	22" (559mm) one pass
	Length	2 3/8" (60mm)	
8	Thickness	1/32" (0.8mm)	4" (102mm)
Restrictions	This sander has a mini- computer in it. If you are not sure how to INDEX the machine, get the Mentor to show you.		
	Make sure the conveyor belt and sanding drum are in good condition.		
	This machine is NOT a planner, jointer, or glue removal tool – don't attempt to use it as one.		
		· •	or dirt/gravel in wood
	Don't stand di kickback.	rectly behind convo	eyor belt in case of
Operations	Review the operation instructions attached to machine for detailed explanation of how to operate the controls. Be sure conveyor is off and emergency shutoff is not engaged. Turn on main power switch Register/INDEX sanding drum to wood surface. See poster on wall for steps 1 to 7 and below for step 8. 8) DO NOT take more than 1/8 th turn of the wheel or 0.010 of an inch before next pass. Display will read -0.010. For best results make 3 passes before changing setting. If working with stock of varying thickness, always start with		
	setting.		boards at the same
Tips	Make sure work area is clear & clutter free.		
	Keep fingers away from in-feed and out-feed table rollers while sanding to avoid being pinched.		
	stick and clear	n the conveyor web	e drum with the eraser with hand brush or air I before you leave it.

IN DOUBT ASK FOR HELP

There is a list of advisors qualified on this tool posted here to help you safely set up this tool. PLEASE ASK for their HELP.

No Jointing allowed on Router.

In-Feed and Out-Feed fence are fixed on both Woodpecker tables. No Adjustment allowed. There is a 38" straight edge on the accessory board to check zero offset, if adjustment needed get the help of the advisor.

Make sure Router is set for correct R.P. M's for size of cutter bit

There is a full chart showing the proper ways to use the new Woodpecker tables please review before you start,

Ensure Router is unplugged before installing and removing Cutter Bit.

Never use a dull, bent or damaged Cutter bit (see Tool Room Monitor.)

Do not adjust Bit depth (except for plunge cuts) or fence position while router is running.

Do not try to make your complete cut in one pass, <u>(maximum depth of cut is ¼")</u> rather make multi passes and keep adjusting bit height. Smaller cuts equal smoother finished products.

Use feather boards as necessary. Use push tools such as GRR-Riper or Coping Sled or push blocks for small pieces. Many accessories available to make operation safer & better results. ASK Mentor for help.

Never leave a running machine unattended.

Never attempt to machine on the router table with the material position between the fence and the cutter bit

ALWAYS feed work from right to left toward cutter

Keep Work area clean!!! IF IN DOUBT ASK!!

#50 Drill Presse

Access: Gold card	Control: None		
Material Limitations	No pressure treated wood		
Restrictions	Tilting table is not permitted.		
Operations	Install bit and tighten using at least two of the holes.		
	Adjust speed while drill is running as shown below. Recommend - Adjust speed to desired speed before installing bit.		
	Securely clamp or hold material to be drilled.		
	Clean up around machine. Sweep floor.		



Adjust speed before installing bit, based on the bit and type of material.

Crank to change speed.



Adjust speed before installing bit, based on the bit and type of material. Loosen black handle and pull or push to adjust speed and tighten.

Original Date: 10/30/18 Rev 1 Revision Date: 9/2022