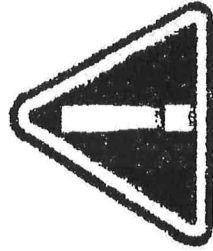


JointABILITY

by  **HAWK Woodworking Tools™**
Bushton Manufacturing • Bushton, KS

Assembly and Operators Manual

Models JA-36, JA-60 and JA-96



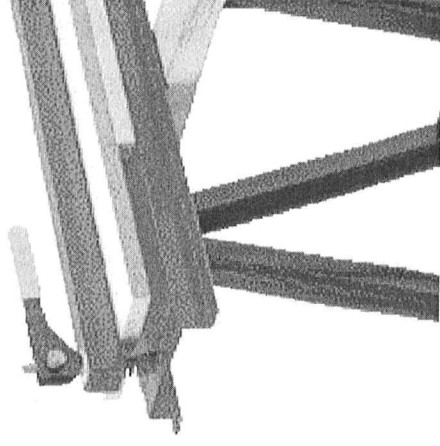
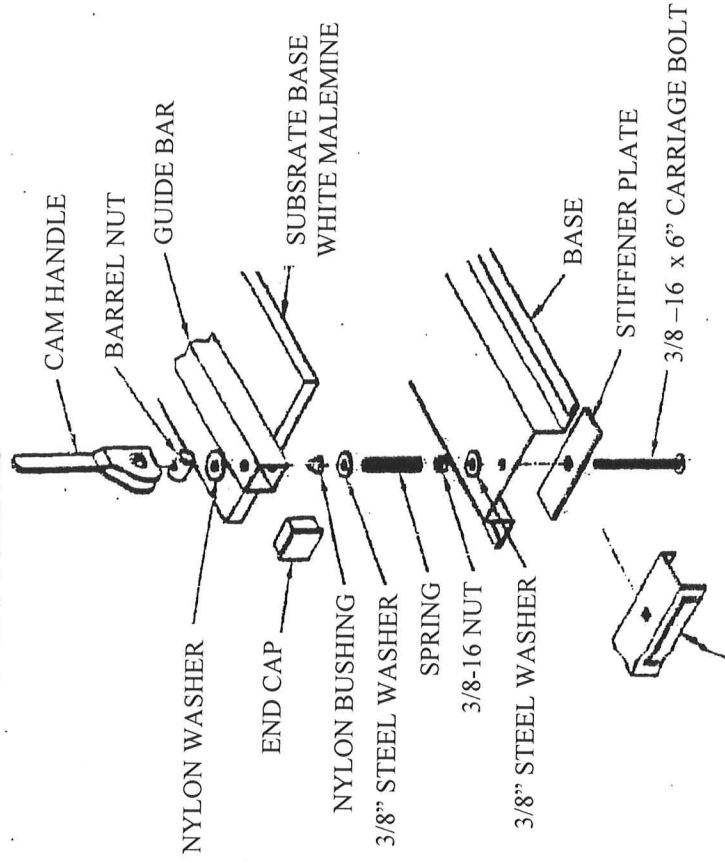
**Always read and follow all operation
and safety procedures.**

Bushton Manufacturing, LLC, P.O. Box 127, 319 South Main Bushton KS 67427
620-562-3557 www.hawkwoodworkingtools.com

Always think safety first

Always wear your safety glasses when operating any power tool.
Always use hearing protection when running noisy machines such as routers.
Never operate in wet conditions.
Keep hand clear of all rotating and cutting edges.

ASSEMBLY INSTRUCTIONS



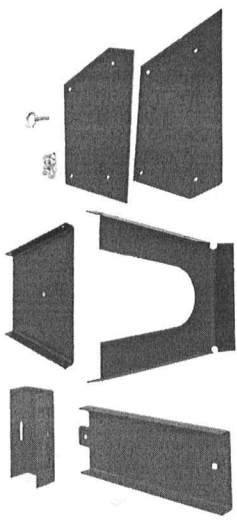
ATTACHMENT PLATE BRACKET MOUNTS IN REPLACEMENT OF THE STIFFENER PLATE

1. Lay the base of the unit on your workbench.
2. Install on a 6" x 3/8" carriage bolts in the pre punched holes in the stiffener plate (or the attachment plate if so desired) in each end then pass the bolts thru the bottom of the red steel base. Place 3/8" flat washer on the bolt then the 3/8" nut. Now, hand tighten the 3/8" nuts.
3. Place a spring over each bolt with a flat washer on top.
4. Press fit the nylon bushing into the pre-drilled hole on the bottom side of the guide bar.
5. Place the guide bar and substrate (white board) on the bolts.
6. Now adjust the bolts in the slotted base. So the guide bar can move freely up and down on the bolts. Once movement is free, tighten the 3/8" nuts (referred to in step 2) with a wrench.
7. Place the nylon washer on top of the guide bar. Cam clamps can now be threaded onto the 3/8" bolts. Be careful not to over tighten the cam action clamps (**CAUTION DO NOT OVER TIGHTEN CAM-ACTION CLAMPS DOING SO CAN DAMAGE THE JOINTABILITY**). Place work piece in the JOINTABILITY, tighten cam clamps. Pull on stock firmly to see if clamps are holding the stock tightly.
Note: pressure on the clamps should not be excessive. A light tension is all that is necessary.

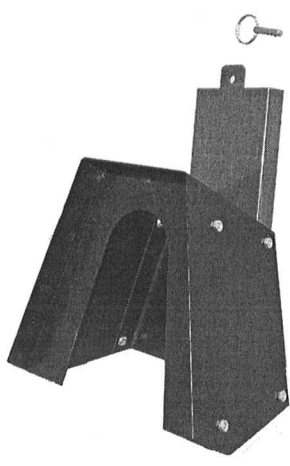
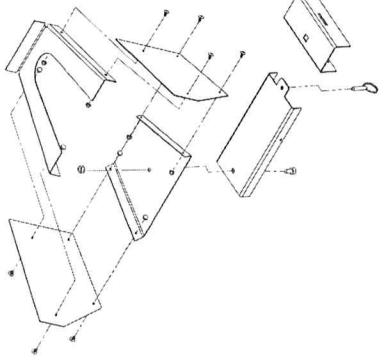
ROUTER HOLSTER/ATTACHMENT PLATE

Shown here are the router holster/attachment plate.

- Top Plate
- Bottom Plate
- 2 Side Plates
- Attachment Plate
- Attachment bracket
- Bag of hardware

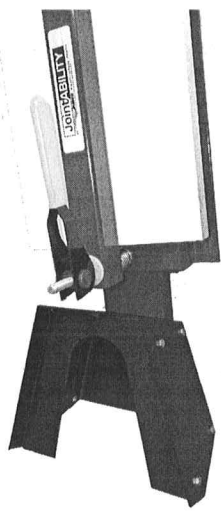
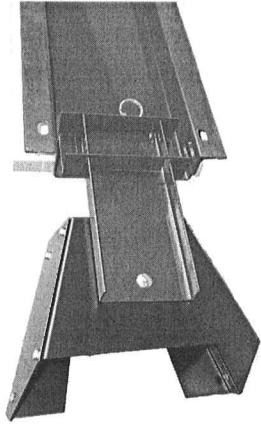


Assemble the holster as shown to the left.



Here is the completed holster. The attachment plate is on the JointABILITY. It can be slid in and out of place on the JointABILITY and lock in place by use of the pin.

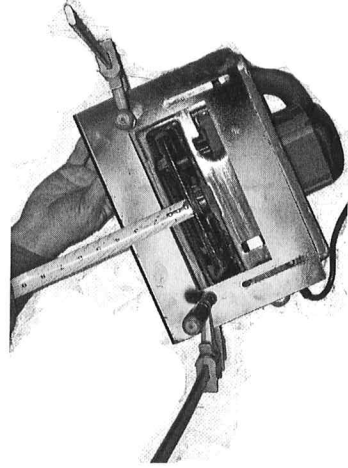
This shows the pin holding the holster on the JointABILITY.



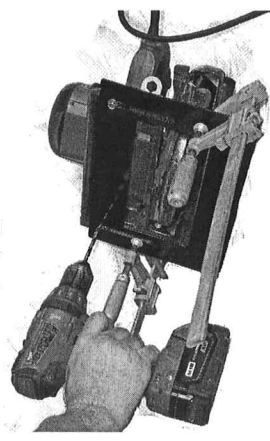
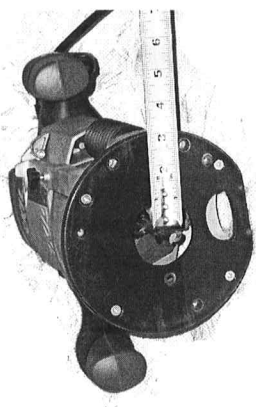
Here is the holster in place on the JointABILITY. You can also use the holster alone just sitting on a bench.

SAW GUIDE PLATE

To attach the saw guide plate to your saw, first, measure the distance from your router bit to the edge of the router base.

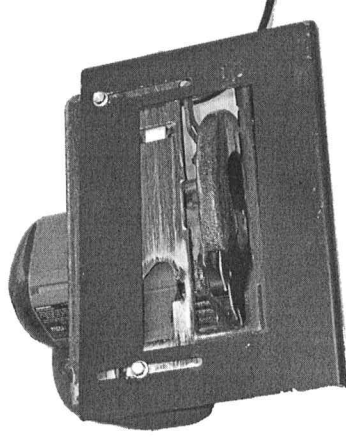


Second, clamp the saw guide plate to the bottom of your circular saw, measuring to ensure that you can adjust it to the distance you measured on your router.

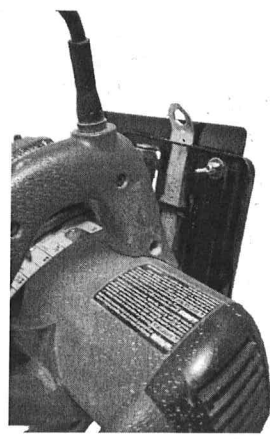


Drill 2 holes in your circular saw base lining them up with the slot on the saw guide plate. Make sure you can adjust the blade to edge distance both ways.

Insert the bolts with the wing nuts up. Note the 2 holes do not have to line up and it might work best if they do not.



Have the wing nut to the top of the saw so that you can set and tighten it later.



PREPARING THE JointABILITY

Place the router bit in to the router (we recommend that you use a 1/2" or 3/4" diameter carbide router bit, spiral bits will yield the best results).

ALWAYS FOLLOW ALL ROUTER AND ROUTER BIT MANUFACTURER'S RECOMMENDATIONS.

Before starting make sure you router has a large enough base so that the bit you are using does not contact the metal base of the JointABILITY. On D-based router you may have to cut on the round (not the flat) to have adequate clearance for you router bit.

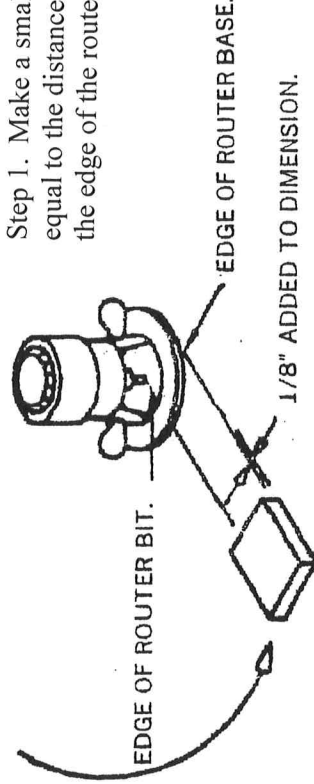
IMPORTANT: Before using your JointABILITY, both sides of the substrate base need to be trimmed. Follow the 4 steps for trimming the substrate on both sides. Completing this will yield a ZERO REPERANCE POINT. Any amount of stock extending beyond this point will be removed. This allows you to align stock easily for dadoing, rabbeting, square panels, glue edges, etc. After the initial trimming of the base, the same router with the same diameter pit should be used.

REMEMBER TO COMPLETE THESE STEPS ON BOTH SIDED OF THE GUIDE BAR.

POINTS TO REMEMBER

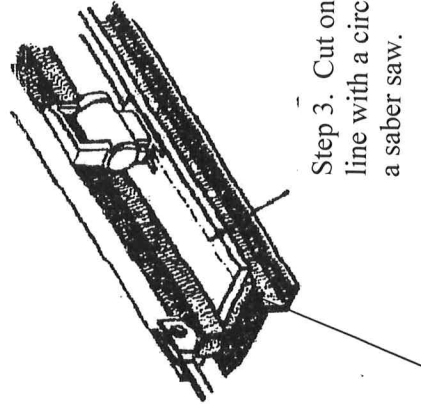
- Always follow the manufacturers instruction, recommendations, safety procedures and warning for your router, circular was, router bits and saw blades.
- Always check your clearances to your router bits an/or saw blades.
- Always run the round part of a d-bass router against the guide bar. The plat might not have adequate clearance to the JointABILITY base.
- For best results use spiral carbide bits of 1/2" or larger diameter.
- Never trim more than one half of the diameter of the router bit per pass. For a 1/2" bit remove no more than 1/4".
- For optimum operating keep the melamine substrate clean and waxed.

FOUR STEPS FOR TRIMMING SUBSTRATE BASE



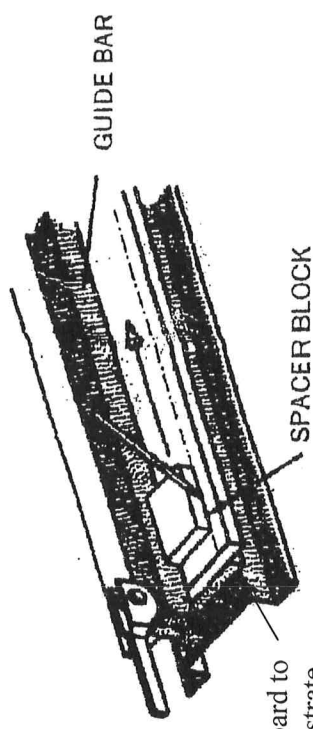
Step 1. Make a small block of wood whose length is equal to the distance from the edge of the router base to the edge of the router bit plus 1/8".

Step 2. Place block against the guide bar and holding a pencil against the outer surface of the block, slide the block mark with the pencil the entire length of the substrate base.



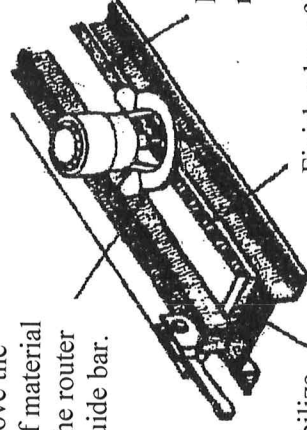
Step 3. Cut on the pencil line with a circular saw or a saber saw.

Clamp a scrap board to stabilize the substrate.



Clamp a scrap board to stabilize the substrate.

Step 4. Remove the final 1/8" of material by sliding the router along the guide bar.



Remove the last 1/8" of material.

Finish edge after the last 1/8" of material has been removed.

TRIMMING A BOARD

Adjust the saw guide plate. The saw wants to be set so that it leaves 1/8" of material to be trimmed off with the router as is shown in figure 1. To set the plate you can use a 1/8" spacer along the melamine substrate pushing the plate against the guide bar and setting the blade against the spacer. Be sure to check the clearance of the blade to the base as seen in figure 2.

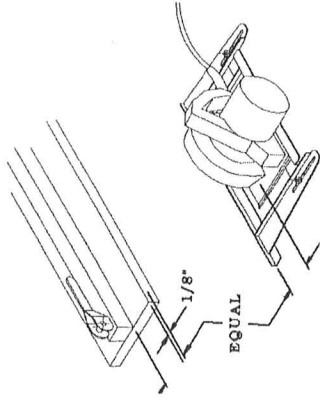


Figure 1. Set the saw guide.

When you set up your router bit be sure to check the clearance of the router bit to the surfaces of the JointABILITY as you did with your circular saw.

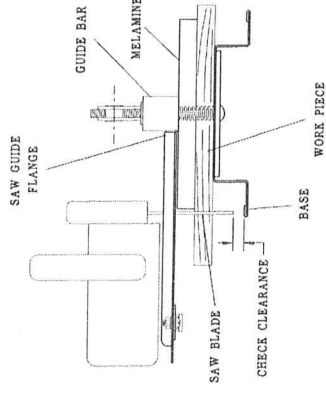


Figure 2. Check the blade clearance.

TO CUT A BOARD FORM A RUFF PLANK

Regardless of how rough the edges of a board (example in figure 3) are you can always true up a board in just 2 paces per side of the board.



Figure 3.

- Take you rough plank and look it over selecting where you want to make the first trim cut.

- Place the plank in the JointABILITY setting the edge where you want the edge of the finished board to be. Figure 4 illustrates this.

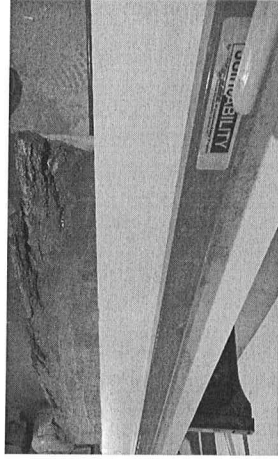


Figure 4.

- Using you circular saw cut along the plank removing the excess waste wood. This is shown in figure 5. This leaves 1/8" to be trim with the router.

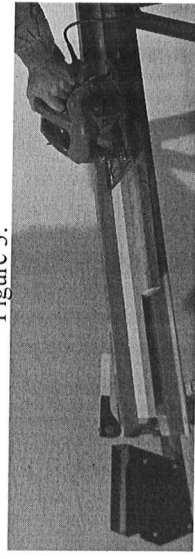


Figure 5.

- Now trim off the last 1/8" with you router as seen in figure 6. This yields a true finished edge board on the first side.

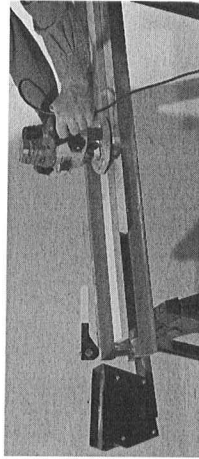


Figure 6.

- Measure and mark the ends of the board to the finished width you want as can be seen in figure 7.

- Place the plank back in to the JointABILITY using the opposite side of the JointABILITY. Lining the marks up with the edge of the melamine substrate. This is shown in figure 8.

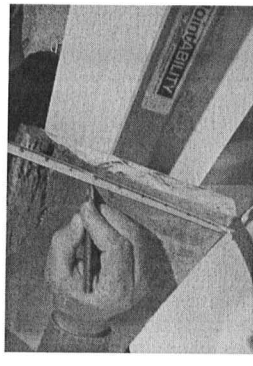


Figure 7.

- Again saw off the excess and trim with your router.
- You now have a finished board with the excess waste cut off of each side as can be seen in figure 9.

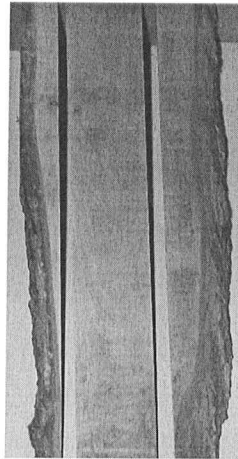


Figure 9.

WHEN WORKING WITH NARROW BOARDS

To use a narrow board a spacer of the same thickness is need . This spacer is to be set on the opposite edge of the JointABILITY to keep the melamine substrate flat when clamped. Damage to the JointABILITY and the board can be done if you do not use this space which can be seen in figure 10.



Figure 8.

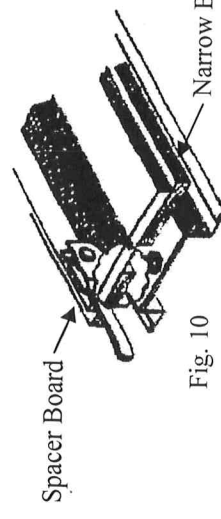


Fig. 10

MAKING A GLUE UP JOINT

The key advantage, of the JointABILITY, is its ability to match the boards of a glue joint. That is one board is cut on one side of the joint ability and the second edge is cut on the other side of the JointABILITY. To show this label the 2 edges of a glue joint 'A' and 'B'. As shown in figure. 1 below. Then label the JointABILITY sides 'A' and 'B'. Figure 2 shown the JointABILITY labeled and a board with the edge label 'B' being slid in on side 'B'. Even though we take several steps to insure the straightness of the JointABILITY, there will be some variation in the joint. By using the two sides of the JointABILITY, those variations will match as can be seen in figure 3.

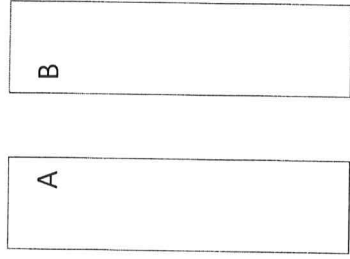


Figure 1. Label Edges.

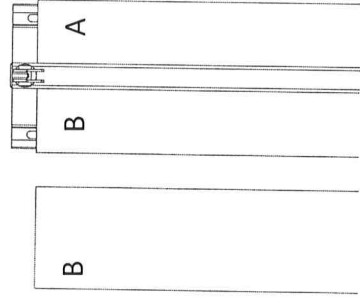


Figure 2. Label JointABILITY.

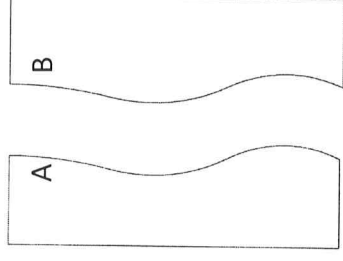


Figure 3. Matching Joint.

Now to create the perfect glued up panel.

- Lay the boards out in your panel paying attention to the color, grain and warpage of the boards. (see dealing with warped boards later in this manual).
- Label the 2 sides of each edge 'A' and 'B' as shown in figure 4. Remember, the 'A' edge and the 'B' edge will be cut with the corresponding side of the JointABILITY (see figure 2)..

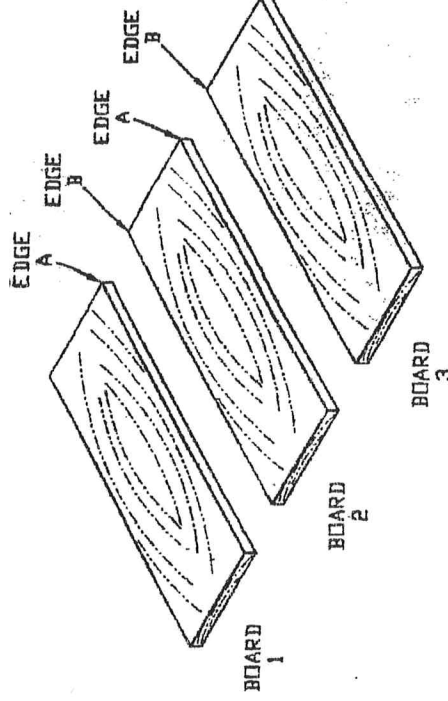


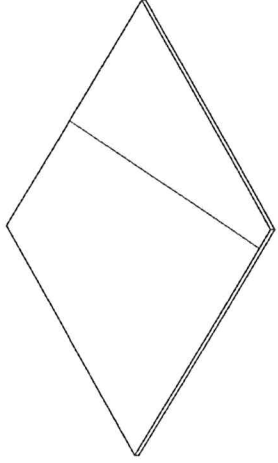
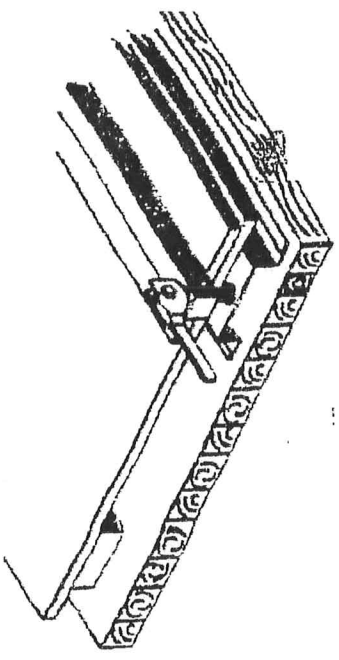
Figure 4. Three board laid out and labeled for jointing.

- With the JointABILITY set up for use (that is the substrate has been trimmed and the sides have been labeled) you can now clamp the first edge into the JointABILITY and prepare to trim it. That is place board '1' edge 'A' into the JointABILITY lining up with edge 'A'.
- You can trim 1/2 of the diameter of the router bit per pass. That is if you are using a 1/2" bit do not trim more than 1/4" off in one pass.
- If you need to trim more than your router can do in one pass then you can use your circular saw to trim it down. Then use the router for the finish cut. Be sure that your saw is set to leave 1/8" to be finished trimmed by the router.
- Now repeat this process with board '2' edge 'B' and edge 'A'. Then on to board '3' and so on.

Note: By cutting on both sides of the JointABILITY, edge 'A' of board '1' will match perfectly edge 'B' of board '2' and so on as was above.

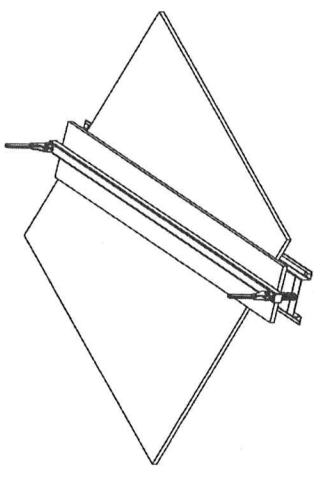
CUTTING LARGE SHEETS

When cutting large sheets, a 2 x 4 spacer board must be used as a spacer. The figure to the side shows the 2 x 4 being used for a large sheet on a work bench.



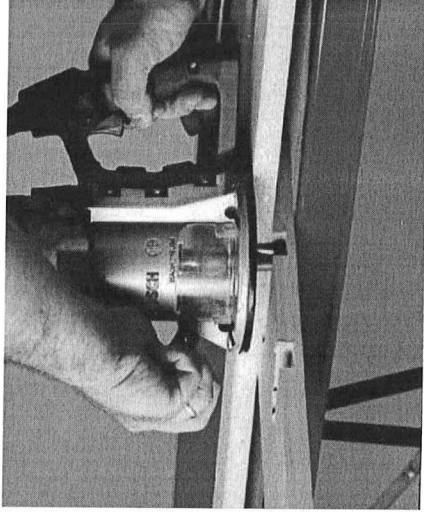
Measure and draw lines on your sheet as to where you want to cut it. You do not have to cut square line it can be at an angle.

Line up the edge on the melamine substrate with the line of the sheet. Use your circular saw on the saw guide plate to cut the sheet down. This will leave the 1/8" to be trimmed in the second pass by the router.



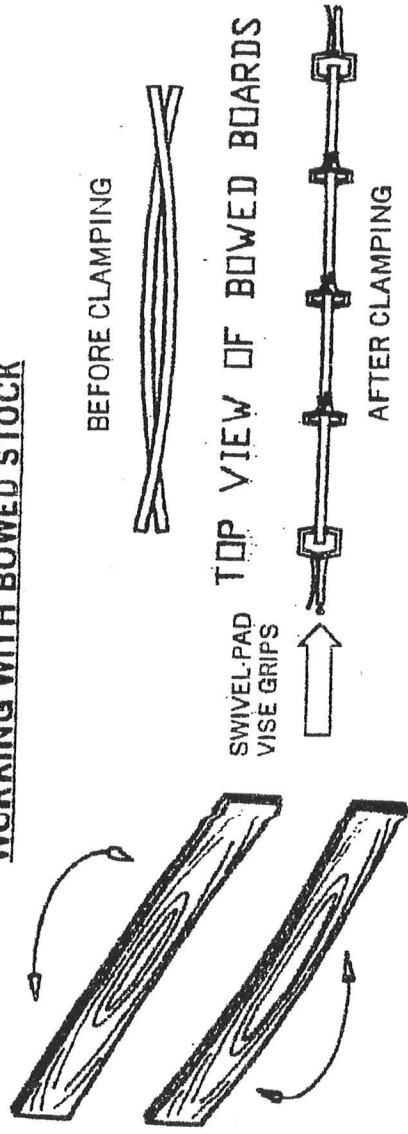
CUTTING DADO AND RABBET JOINTS

To cut dado and rabbet joints, first lay the joint out on your board/boards and draw a line where they are to go making on which side of the line to cut. Second, align the line up with the melamine substrate of the JointABILITY. Third, set the depth of your router bit to 3/4" plus the depth you wish to cut into the work piece. Cut the dado or rabbet. If your bit is smaller the joint you wish to cut then you will need to make multiple passes. Make each pass and move the board to the next line and make the next cut.



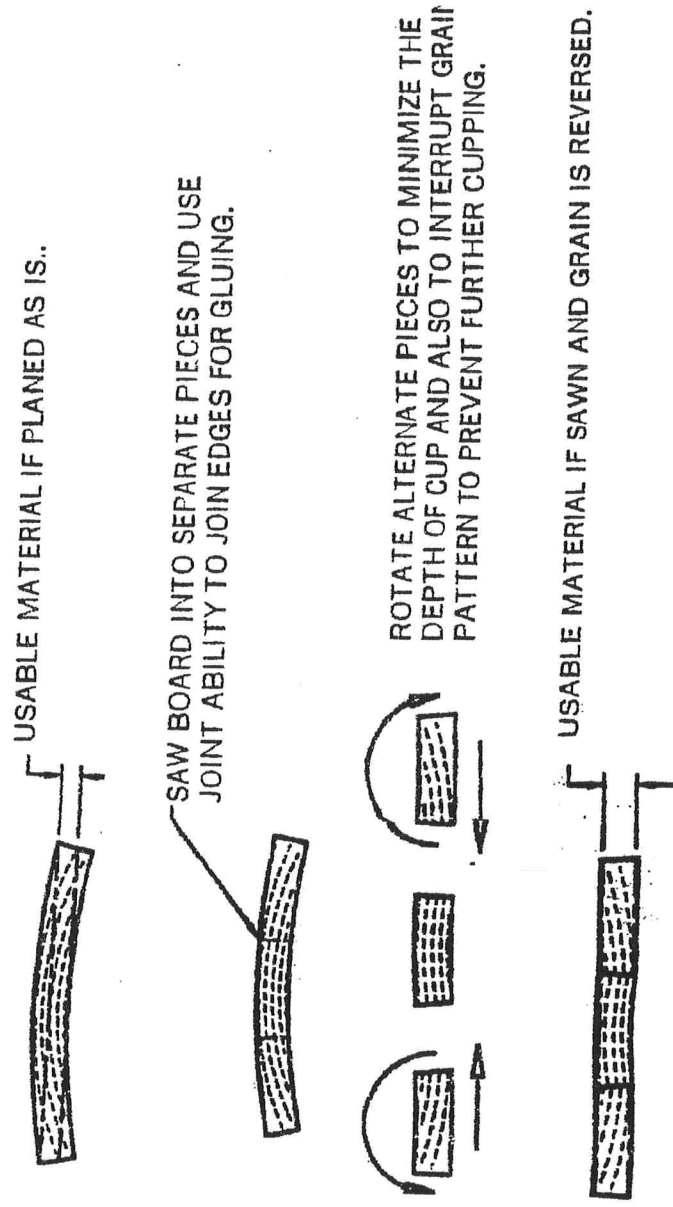
WORKING WITH WARPED BOARDS

WORKING WITH BOWED STOCK



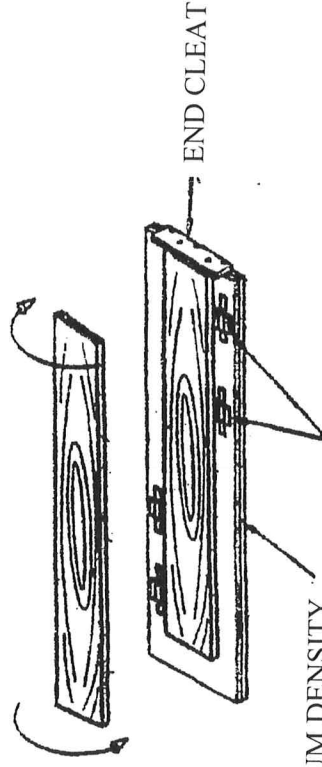
BOARDS THAT ARE BOWED FROM END TO END BUT OTHERWISE FLAT CAN BE GLUED USING THE METHOD SHOWN. JUST POSITION ONE BOARD WITH BOW IN ONE DIRECTION AND THE OTHER IN OPPOSITE DIRECTION.

WORKING WITH CUPPED BOARDS



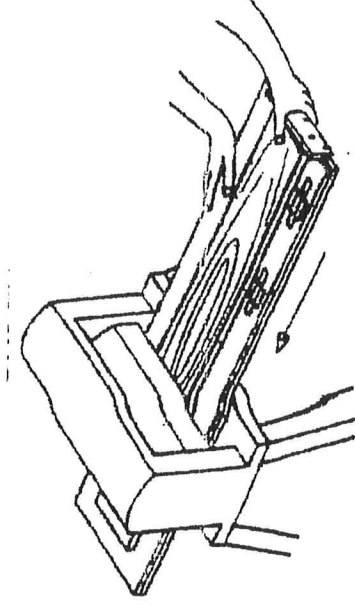
THIS METHOD GIVES 2 ADVANTAGES: IT PREVENTS FURTHER CUPPING
IT MINIMIZES AMOUNT OF WASTED STOCK

PLANING TWISTED BOARDS



CARRIER: MEDIUM DENSITY
PARTICLE BOARD OF
PLYWOOD.

SHIMS: PLAYING CARDS TAPED TOGETHER
MAKE GOOD SHIMS IF YOU DO NOT HAVE
TAPERED DOOR SHIMS AVAILABLE.



STEPS FOR PLANING A TWISTED BOARD

1. As shown above shim the twisted board on a carrier board until it is secure. Playing card or tapered door/window shims work well.
2. Pass the board on the carrier board thru the planer. Be sure to take very thin passes for safety reasons. Repeat this set until the top side is flat.
3. Remove from carrier board. Flip board over and plane the other side. Continue to plane second side until it is flat.

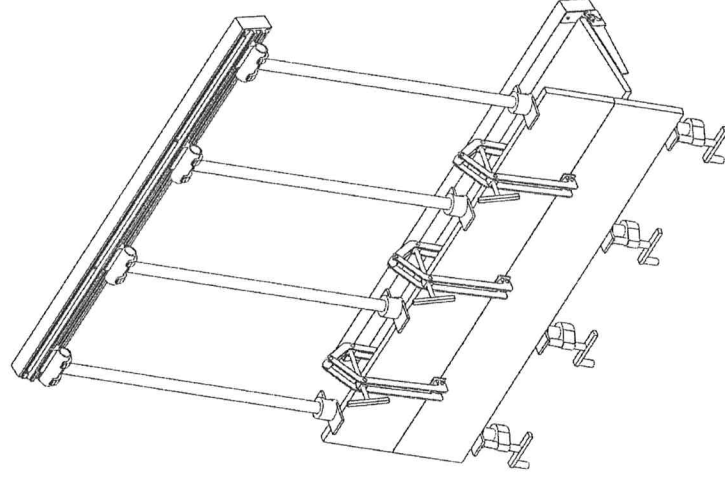
TO GLUE UP ONE JOINT AT A TIME USING CLAMPS TO HOLD THE JOINT FLAT.

This method will yield flat joints and will eliminate the need for planing and reduce the amount of sanding required to smooth up the board.

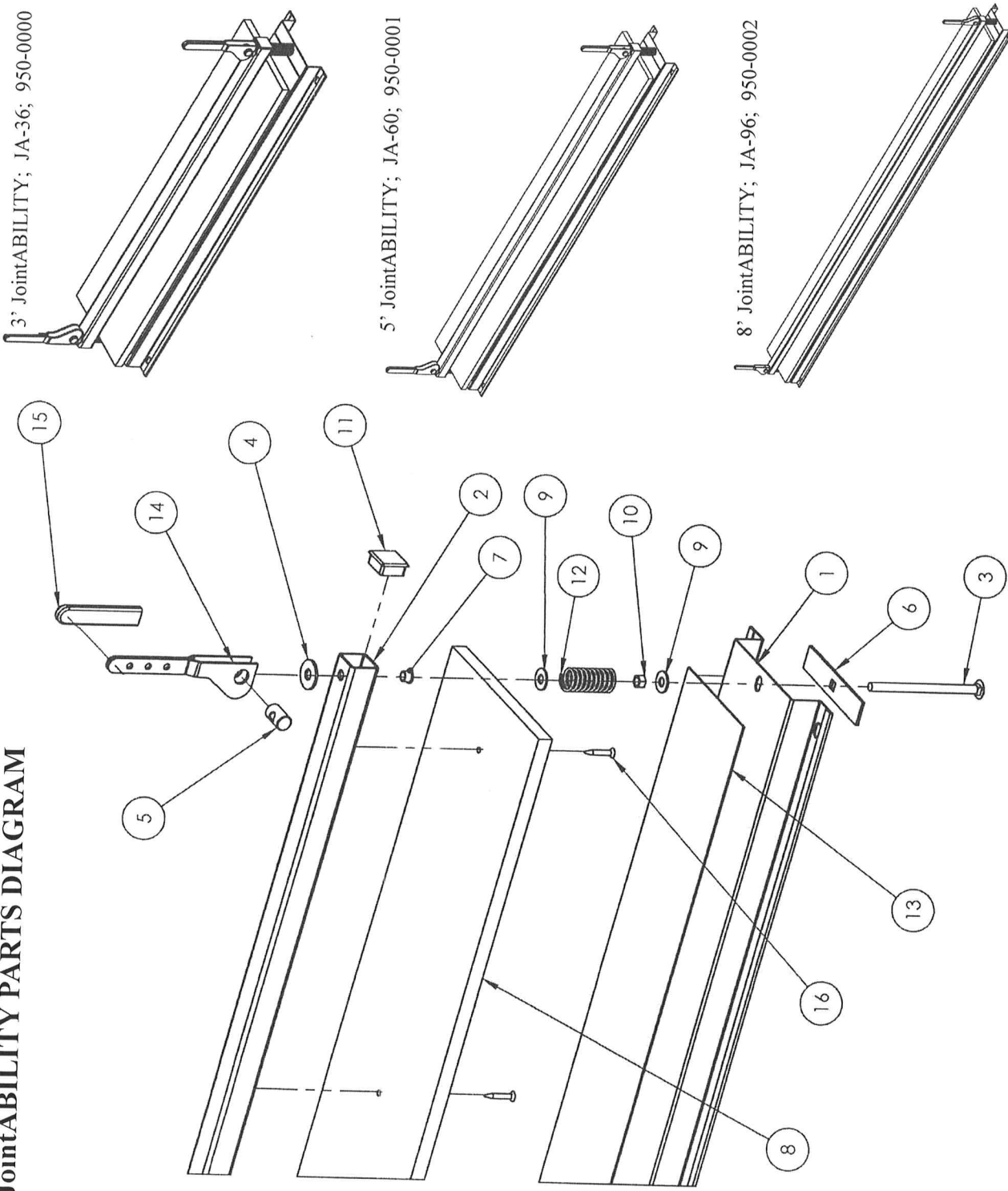
- Place your first board in the VerticalCLAMP. Glue the edge of the board
- Glue the mating edge of the second board and place it in the Vertical clamp.
- Snug up the clamps on the VerticalCLAMP
- Using swivel pad clamps like the HAWK FaceCLAMP, clamp the face of the edge to hold them flat as since in the figure below.
- Clamp all the clamps tight once they have been pulled up and everything is aligned.
- Let the glue dry for 20 to 30 minutes and then add the next board and repeat the process.

CLAMPING ACCESSORIES

Check your HAWK Wood Working Tools Catalog or go on-line at www.hawkwoodworkingtools.com to check the price for the 950-0100 VerticalCLAMP and the 950-200 FaceCLAMP

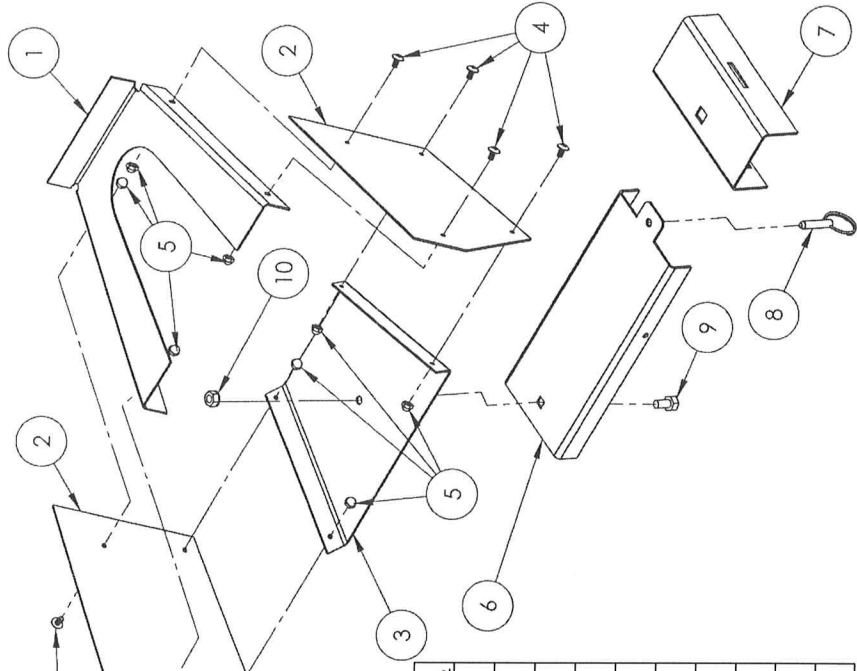


JointABILITY PARTS DIAGRAM



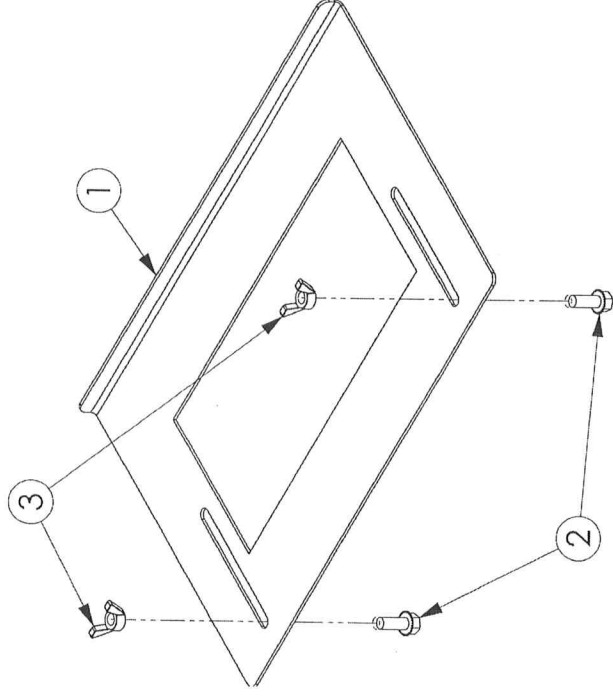
KEY NO.	3' JA-36 -		5' JA-60 -		8' JA-96 -		DESCRIPTION
	PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.	
1	750-0028	1	750-0028	1	750-0029	1	BASE
2	750-0024	1	750-0024	1	750-0023	1	TUBE BRACE
3	750-0005	2	750-0005	2	750-0005	2	3/8-16 X 6" LG. CARRIAGE BOLT
4	750-0004	2	750-0004	2	750-0004	2	.530" ID X 1-375" OD X 1/8" THK.
5	650-0006	2	650-0006	2	650-0006	2	BARREL NUT
6	650-0003	2	650-0003	2	650-0003	2	STIFFENER PLATE
7	750-0003	2	750-0003	2	750-0003	2	NYLON SHOULDER WASHER .400" ID X 1/2" OD X .31 THK.
8	650-0015	1	650-0015	1	650-0013	1	MELAMINE BOARD
9	770-0050	4	770-0050	4	770-0050	4	3/8" FLAT WASHER
10	770-0058	2	770-0058	2	770-0058	2	3/8-16 HEX NUT
11	750-0002	2	750-0002	2	750-0002	2	PLASTIC END CAP
12	750-0007	2	750-0007	2	750-0007	2	COMPRESSION SPRING 1" OD X 2-1/2" LG.
13	750-0025	3	750-0025	5	750-0025	8	NEOPRENE GRIP STRIP, BY THE FOOT
14	750-0012	2	750-0012	2	750-0012	2	CAM LEVER ASSEMBLY
15	750-0013	2	750-0013	2	750-0013	2	CAM HANDLE GRIP
16	750-0040	2	750-0040	4	750-0040	6	#12-24 X 1-1/8" LG. SELF-TAPPING SCREW, FLAT HEAD

ROUTER HOLSTER — 950-0003



KEY NO.	PART NO.	DESCRIPTION	QTY.
1	650-0008	TOP, ROUTER HOLSTER	1
2	650-0009	SIDE, ROUTER HOLSTER	2
3	650-0010	BOTTOM, ROUTER HOLSTER	1
4	755-0026	#8-32 X 5/16" LG., TRUSS HEAD	8
5	791-0049	#8-32 ACORN NUT	8
6	650-0011	ATTACHMENT PLATE, BAR, ROUTER HOLSTER	1
7	650-0012	ATTACH. PLATE, BRACKET, ROUTER HOLSTER	1
8	750-0018	DETENT RING PIN	1
9	725-0043	1/4-20 X 3/4" LG. HEX HEAD BOLT	1
10	745-0223	1/4-20 WHIZ NUT	1

SAW GUIDE PLATE — 950-0005



KEY NO.	PART NO.	DESCRIPTION	QTY.
1	650-0101	PLATE, SAW GUIDE	1
2	715-0902	1/4-20 X 5/8" HEX FLANGE WHIZ BOLT	2
3	745-0176	1/4-20 FLANGED WING NUT	2

**IF YOU HAVE A QUESTION OR NEED PARTS
CONTACT OUR CUSTOMER SERVICE**

at

620-562-3557

or

customerservice@hawkwoodworkingtools.com

www.hawkwoodworkingtools.com

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BUSHTON, KS 67427

