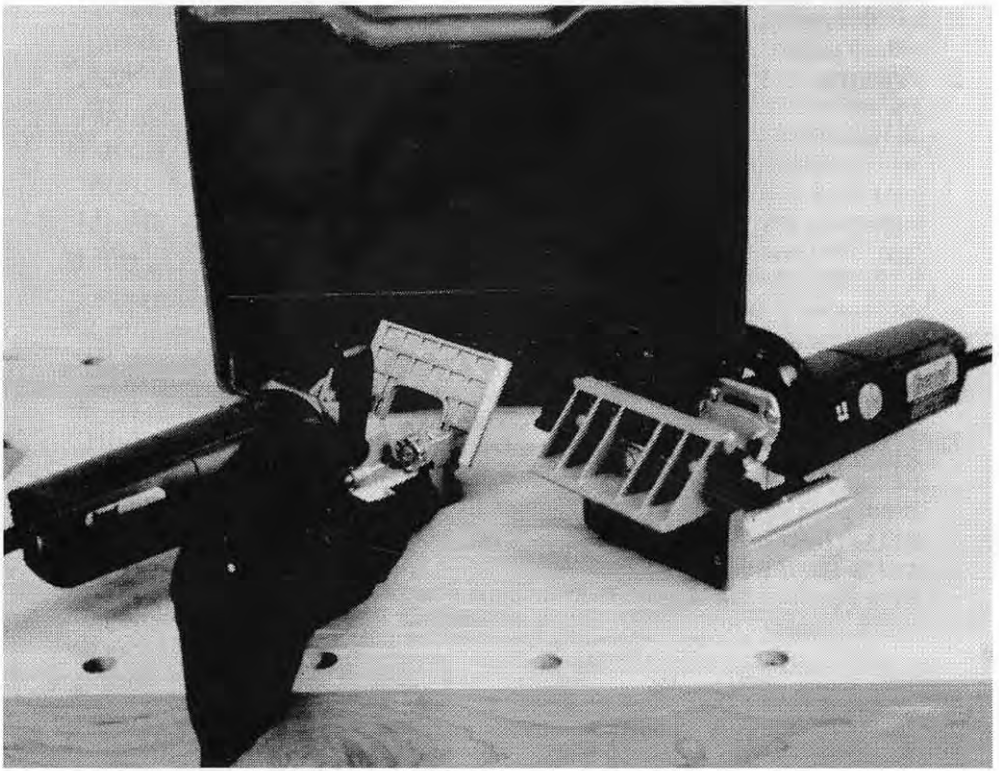
freud®



JS100A & JS102
Instruction Manual

GB F E

Introducing the Freud Joiners

Over the course of assembling three versions of Sterling's Biscuit Joiner Handbook, I've seen a lot of biscuit joiners, just about every model ever made in the world. That's why I was especially pleased when the new, improved Freud joiners arrived in my shop. The JS100A and JS102 have been dramatically improved, so there's no question in my mind about the manufacturer's logo "Precisely what you need." The tool comes with an industrial quality 3-15/16" diameter x 5/32" thick blade (a Freud!) with anti-kickback design. A dust bag is standard; further, given a couple of wraps of friction tape, the new dust chute is a perfect fit for most universal dust hoses. While the dust bag doesn't "blow up" as do many others, it does an admirable job of collecting dust. A six position depth stop makes the tool compatible with all currently available biscuits, splines, hinges, and probably any other joining device that's likely to come along. The well-machined blade housings are certainly better than the housings on other joiners in its price range. The JS102 adds a convenient and accurate variable angle fence to the other improvements in the JS100A; this is sure to delight woodworkers who must join lots of edge miters. Like the JS100A, it is much quieter; its standard dust bag is very effective. On both machines the holding pins on the faceplate have been replaced with rubber bumpers which really are more effective. Both offer a six position depth stop rather than the three position stop that was standard for so long. Both joiners run at 120 Volts, 5 amps, 10,000 RPM. At 6.2 pounds, they are among the lighter units, but they still feel quite substantial. Their aluminum fences have scales in inches and millimeters for accurate alignment. The scale is read against the top of the sliding fence. Both feature substantial 8' electrical cords. Even the noise level is better than on the original Freud joiners; for almost a decade the original JS100 proved to be one of the most reliable tools on the market. Both tools come in form fitted cases which contain the tool, all wrenches and adjusting tools, lubricant, and ten biscuits of each size. Considering all these details, I believe it'd be safe to say the JS100A and especially the JS102 have rendered most of the other joiners at the low-end of the mid-price range irrelevant.

Sincerely,

Hugh Foster

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Safety Instructions

WARNING: When using electric tools, basic safety precautions should be followed to reduce the risk of fire, electric shock, and personal injury, including the following:

READ ALL INSTRUCTIONS

1. KEEP WORK AREA CLEAN - Cluttered areas and benches invite injuries.

2. CONSIDER WORK AREA ENVIRONMENT - Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep work area well lit. Do not use tools in presence of flammable liquids or gases.

3. GUARD AGAINST ELECTRIC SHOCK - Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, refrigerator enclosures.

4. KEEP CHILDREN AWAY - All visitors should be kept away from work area. Do not let visitors contact tool or extension cord.

5. STORE IDLE TOOLS - When not in use, tools should be stored in dry, and high or locked-up places - out of the reach of children.

6. DON'T FORCE THE TOOL - It will do the job better and safer at the rate for which it was intended.

7. USE THE RIGHT TOOL - Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use the tool for purpose not intended - for example - don't use a circular saw for cutting tree limbs or logs.

8. DRESS PROPERLY - Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and nonskid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.

9. USE SAFETY GLASSES - Also use face or dust mask if operation is dusty.

10. DON'T ABUSE CORD - Never carry the tool by the cord or yank it to disconnect from receptacle. Keep cords from heat, oil and sharp edges.

11. SECURE WORK - Use clamps or a vice to hold work. It's safer than using your hand and it frees both hands to operate the tool.

12. DON'T OVERREACH - Keep proper footing and balance at all times.

13. MAINTAIN TOOLS WITH CARE - Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.

14. DISCONNECT TOOLS - When not in use, before servicing, and when changing accessories such as blades, bits, cutters.

15. REMOVE ADJUSTING KEYS AND WRENCHES - Form habit of checking to see that keys and adjusting wrenches are removed from the tool before turning on.

16. AVOID UNINTENTIONAL STARTING - Don't carry tool with finger on switch. Be sure switch is off when plugging in.

17. EXTENSION CORDS - Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your tool will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1.1 shows the correct size to use depending on the cord length and name plate ampere rating. If in doubt use the next heaver gage. The smaller the gage number, the heaver the cord.

Table 1.1 Minimum Gage for Cord Sets

Volts	**Total Length of Cord in Feet**			
120V	**0-25**	**26-50**	**51-100**	**101-150**
Ampere Rating		**AWG**		
0-6 Amps	18	16	16	14
6-10 Amps	18	16	14	12
10-12Amps	16	16	14	12
12-15 Amps	14	12	Not Recommended	

18. OUTDOOR USE EXTENSION CORDS - When tool is used outdoors, use only extension cords intended for use outdoors and are so marked.

19. STAY ALERT - Watch what you are doing. Use common sense. Do not operate the tool when you are tired or while under the influence of drugs, alcohol or medication.

20. CHECK DAMAGED PARTS - Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may effect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use the tool if the switch does not turn it off and on.

21. REPLACEMENT PARTS FOR DOUBLE INSULATED TOOLS - When servicing use only identical replacement parts.

22. POLARIZED PLUGS - To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the other). This plug will fit into a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not still fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

23. NEVER TOUCH MOVING PARTS - While the tool is connected to a power source do not touch moving parts.

SAVE THESE INSTRUCTIONS.

Operating Instructions

Start Up

The voltage in the power source must be AC (alternating current) and must match the requirements on the machine information plate. Be sure the switch is in the off position before inserting the plug into the socket.

Pushing the switch and rocking it backwards turns the machine on. Depressing the front of the switch will turn the machine off automatically.

Machine Maintenance

Always keep slots and vents clear of wood chips or other materials. The blade should be changed or sharpened when it **begins** to become dull. This can be detected when a change in the cutting speed or quality of cut is noticed. A small amount of oil should be placed in each of the tracks of the base plate a couple of times per week during heavy use, but not so often that the oil gunks up the slide assembly. **See Photo 1.1**

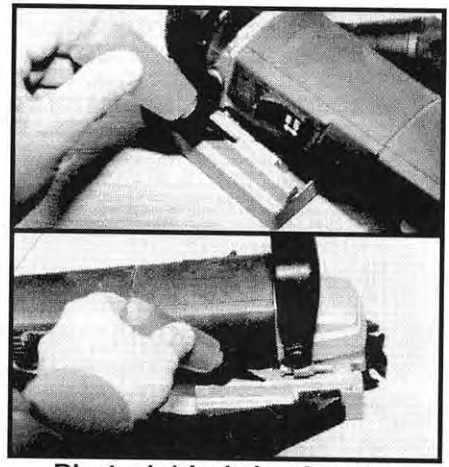

Photo 1.1 Lubricating the sliding channels.

Blade Change Procedure

1. Unplug the Freud joiner machine before beginning the blade changing procedure.
2. Remove the two vertical screws holding the front fence. **See Photo 2.1 for JS100A, See Photo 2.2 for JS102.**

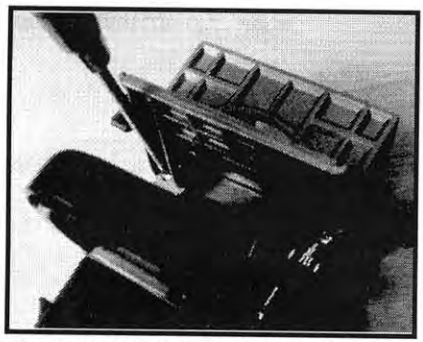

Photo 2.1 Removing the JS100A's vertical screws for disassembly

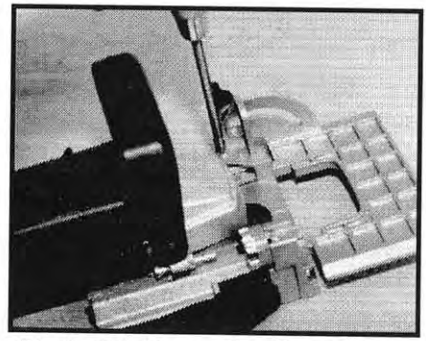

Photo 2.1 Removing the JS102's vertical screws for disassembly

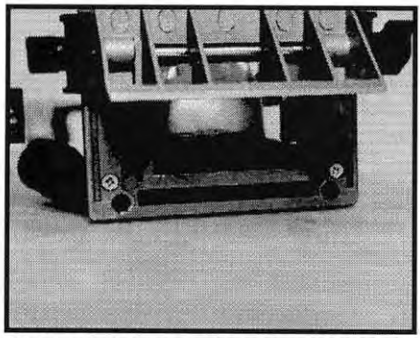

Photo 3.1 Removing the JS100A's horizontal screws for disassembly

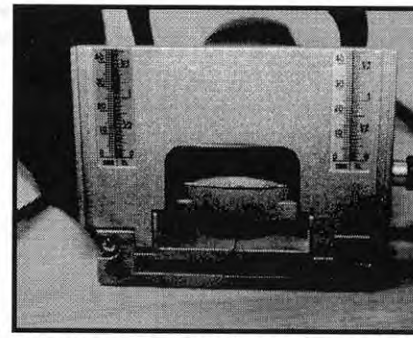

Photo 3.2 Removing the JS102's horizontal screws for disassembly

3. Remove the two horizontal screws holding the front fence. **See Photo 3.1 for JS100A, See Photo 3.2 for JS102.**
4. With the wire hook found in the carrying case, disconnect both springs from the base. One spring can be found on each side of the rear of the base. **See Photo 4.1.**
5. The bottom base can now be slid to the rear and off the machine. This will leave the cutter blade visible.
6. Use the two wrenches found in the carrying case to remove the blade. The spanner wrench (with two studs on the end) is used to turn the upper flange. **See Photo 5.1.** The standard wrench is used to hold the bottom flange stationary.

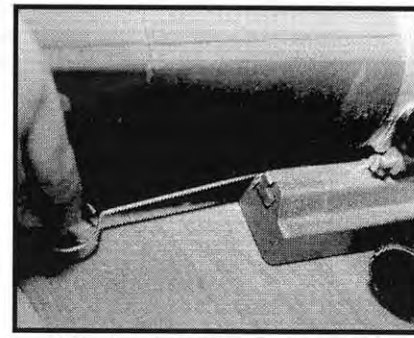

Photo 4.1 Removing the springs for dissembly.

7. Use only the Freud FI-100 (six-tooth original equipment) or FI-102 (eight tooth optional blade) replacement when changing blades. Be sure the blade is mounted to run clockwise (viewing from the top) when installing.
8. Clean dust and debris from inside the tool and from all mating surfaces as you reassemble. Be sure the flanges holding the blade are tight before re-assembling the base. A small amount of oil should be placed in each of the tracks of the base plate after cleaning. The base can then be assembled in the reverse order. Lubricating the slide assembly like this should be done at least a couple of times per week during heavy use, but not so often that the oil gunks up the slide assembly. **See Photo 1.1 Page 6.**
9. Check the depth of cut adjustment

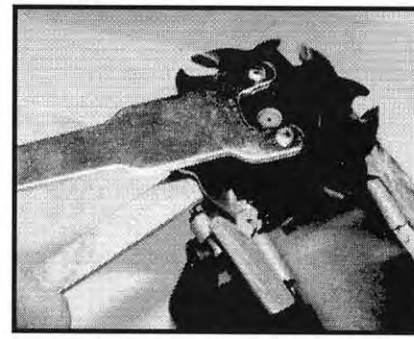

Photo 5.1 Using the pair of wrenches to remove the blade.

after reassembly, and adjust the depth setting if necessary. **See Page 10.**

General Information

The following instructions on the use of the JS100A and JS102 are designed for the beginning to intermediate user. You will find many more uses for your joiner as you become more familiar with its advantages.

The only real difference between the JS100A and the JS102 is that the JS100A does *not* have the JS102's handy variable angle fence mechanism which is one of the neatest, "cleanest" variable angle fences that I've seen. The JS102's variable angle fence permits flat cuts in stock up to 3/4" thick, and the cutting of miters from the outside of the joint rather than the inside; if you'll never cut miters other than 45°, you don't need a variable angle fence on any joiner. The other difference is that the JS100A adjusts with two knobs rather than just one. On the JS100A the fence is flipped for cutting 45° joints. On the JS102, you must use the variable angle fence in conjunction with the attachable fence to cut from either the inside or the outside of the joint. **See Photo 6.1**

A set of gauge blocks for the woods of your most common thicknesses will save you lots of time. Loosen the adjustable face-plate, and set it on the gauge with the base of the JS100A flat on the bench. **See Photo 7.1.**

This set of blocks will also make it easier to set up the tool for stacking biscuits where you need extra mechanical strength in the joint, particularly when joining thicker stock.

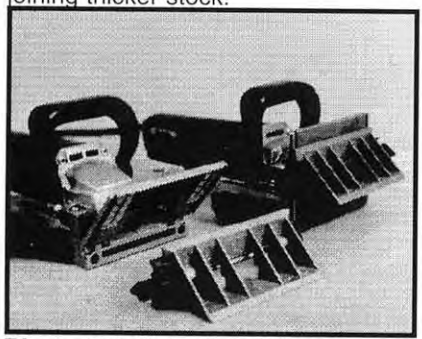

Photo 6.1 Note the difference in the adjustable fence of the JS102.

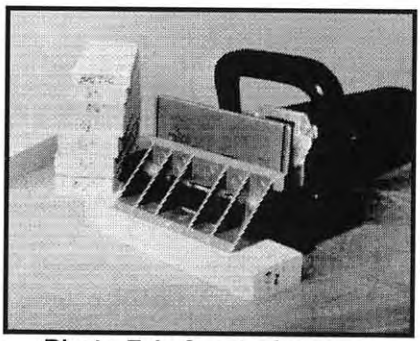

Photo 7.1 A set of gauge blocks will save you lots of time.

Introduction to Biscuit Joinery

Spline joinery is one of the strongest joining methods in woodworking. When glue is properly applied to the spline and the surface of the wood joint, the glue surface area is increased, making the joint stronger. The **Freud Joiner** is a motorized plunge cutter that makes an elliptical or oval dado in the wood surface, which simplifies spline joining and makes it safer. Cutting precise mating cuts is fast and simple with the use of this tool. The splines used with this splining technique are unique wood wafers called "biscuits."

Biscuits work like splines and dowels as they help to line up adjoining surfaces, and since the biscuits swell inside the slots, they help to reduce clamping time. There are three main sizes of biscuits, #0 (5/8 x 1 3/4), #10 (3/4 x 2 1/8), and #20 (1 x 2 3/8). Use the largest biscuit that the pieces you are joining will permit. Each biscuit is approximately .148", slightly thinner than the 5/32" (.156") saw blade which cuts the slots, but they swell rapidly on contact with glue to approximately .164, large enough to grip the slots tenaciously.

When a water based glue (i.e. hide glue, white glue, or aliphatic resin including Carpenters or Titebond) is applied to the slots and the biscuits are inserted into the slots, the biscuits swell, making an extremely strong and firm bond. Joining biscuits are very strong, and they will save you a lot of time because they are faster than, and at least as strong as mortise and tenon joints, doweling, tongue and groove, or standard spline joints. Even load bearing shelves, like those found in book cases, can be biscuit joined into place.

Since the biscuit slots are cut slightly larger than the biscuits are, you needn't line up your cuts perfectly.

While biscuit joining itself goes very fast, you will find it worthwhile to cut the pieces to be joined very accurately and to plan to work these joints logically around your project.

How to Use the Freud Biscuit Joiners

The Freud joiner is a plunge cutting tool. It has a rotating carbide blade that creates a .156" slot or groove. The tool has two basic adjustments. One for the depth of the cut and the other for the location of the cut.

Always clamp the board to be slotted. The cutting or slotting operation is accomplished by pressing the vertical fence against the board to be cut. Rubber tips on the fence hold the machine in place. With one hand on the handle and the other on the joiner's body (**See Photo 8.1**) turn on the motor, align the machine with the layout mark, and push the body forward at a steady pace. The motor assembly and the cutter are spring loaded; with the forward movement the cutter will slide out to cut a groove in the wood. The chips are ejected through an exhaust port on the right hand of the machine base into either a dust bag (**See Photo 9.1**) or dust collector hose (dust collector hose not included).

Photo 8.1 Hold machine with one hand on the handle and the other on the joiner's body. Always clamp work piece.

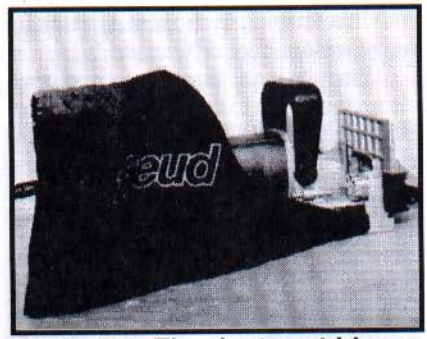

Photo 9.1 The dust port blows the chips into the bag at an angle that keeps the bag from being in the way.

Adjustments for Biscuit Size (depth of cut)

There are three standard cutting depths to accommodate the three standard biscuit sizes and settings for the new A and B settings as well as a maximum setting. Once you have made the proper adjustment for one biscuit size, the other biscuit depths are automatically set.

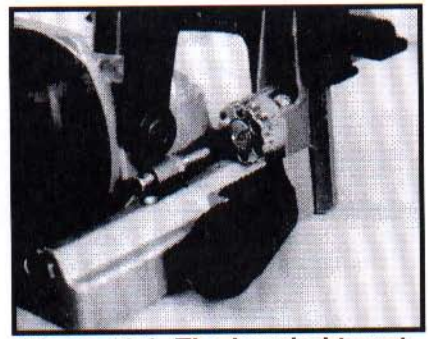

Photo 10.1 The knurled turret rotates left or right to give you the depth of cut you want.

The depth adjustment housing is located on the right side of the machine. The three biscuit sizes (#0, #10, #20) are marked and calibrated on the housing as well as the new sizes A, and B and a maximum setting. Simply turn the knurled turret to match the desired size making with the indicator point. The turret is equipped with indents to prevents the turret from turning during operation. **See Photo 10.1 Page 10.**

With the tool unplugged, check your depth of cut. It has been set at the factory, so it should be okay. After you have done this the first time, you are set for cutting all three size biscuits, and you will need to check the setting only occasionally. It is easy to check and adjust depth with #20 biscuits rather than with a ruler. A #20 biscuit is approximately 7/8" wide, so a slot just barely shy of 1/2" makes a good fit. When the depth stops are lined up for one size cut, they're correct for all the sizes. To make this adjustment, use the 6 MM wrench to loosen the locating nut and the depth stop rod in or out using a standard screw driver. (**See Photo 11.1**)

Photo11.1 Adjust depth stop with included 6mm wrench.

Clamp a piece of scrap wood securely to a firm surface. Make a test cut with the depth stop set to #10, and insert a #10 biscuit into the slot. The slot should be deep enough to allow slightly more than half of the #10 biscuit into the slot. This additional fraction of depth will allow for proper alignment of the wood being joined. If the depth setting needs adjustment, move the depth stop rod forward for a shallower cut or backwards for a deeper cut.

Fence Adjustment

On the JS100A, the fence will make either 90° or 45° cuts. It is used to position or center the slots in the exact location on the mating pieces of wood. By loosening the wing nuts on both sides of the fence you can adjust the vertical movement of the fence to center it or otherwise position it to where you want to make the slot. Be careful not to overtighten the wing nuts on the fence.

On the JS-102, the variable angle fence can be adjusted up or down for cutting miters from 90° or 45°, or any angle along the way in 3/4" material. It can be used without the fence attachment for cutting slots in edges of material up to 3/4" thick. With the attachment fence, the JS-102 can be used to cut miters at 90° and 45° angles from the outside of the joints on thicker material.

Slot Alignment and Cutting

The red indicator lines on the front of the fence and the front of the base plate are used to align and position the center of the blade with the lay out lines drawn on the mating pieces of wood. **See Photo 12.1 for JS100A, Photo 12.2 for JS102.**

The number of slots or grooves cut into each joint depends on the thickness of the wood. Generally one biscuit is sufficient for 3/4" stock. It is often a good idea to use two biscuits for 2" stock and more for thicker boards. The size or length of the biscuit used is determined by the width of the joint. Use the largest biscuits possible. When making edge miter cuts in 3/4" stock or frame miter cuts in narrow stock, use the smaller biscuits. When gluing table tops or cutting boards or similar edge to edge projects, the more biscuits you use, the stronger the joint will be.

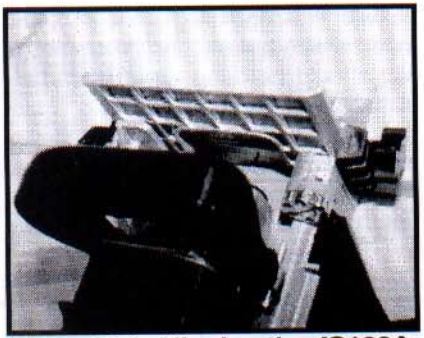

Photo 12.1 Aligning the JS100A is only a bit less handy than the JS102.

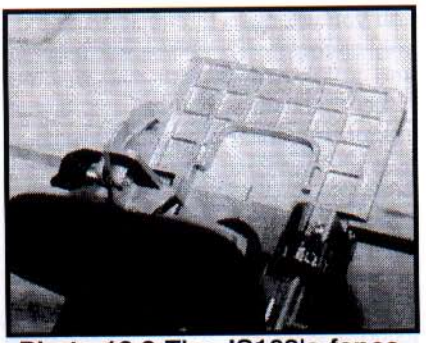

Photo 12.2 The JS102's fence can be dropped to 90 degrees for joining in the edges and ends of 3/4" stock.

Making the Basic Biscuit Joints

As you gain experience with the use of this tool you will find many other applications for its use

Marking Out Your Work

Accurate set-up is the key to accurate work.

If speed of joinery matters to you, that's the main reason to be interested in plate joining. There is no comparison with doweling or with dovetailing. Part of its speed begins with layout. Whether working with edge joining or perpendicular surfaces, pencil in lines two inches from each end and four to six inches on center in between (nearly twice that far if edge joining). Make parallel rows (one or more from each side) if the workpieces are 1" or more thick. Layout is fast; after you have used the machine an hour or so, you'll be able to mark out quite handily by eye rather than with a scale or a template. **See Photo 13.1.** Mark the location of the biscuits, so you can cut them off somewhere other than in mid-joint. This is not an issue of strength, but an issue of beauty. **See Photo 14.1**

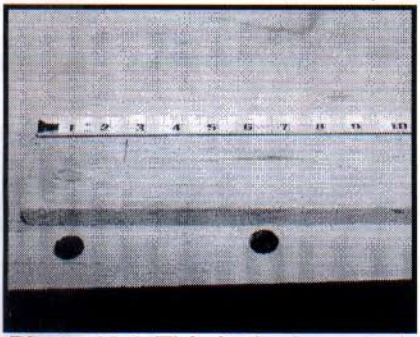

Photo 13.1 This is the layout of an edge joint. The layout lines are drawn approximatly 2 1/2" from the end and approximatly 8" apart. It is not necessary to use a scale, laying out by eye is perfectly okay.

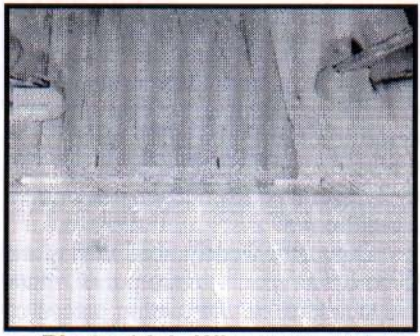

Photo 14.1 When you cut through a biscuit, the results are not at all pretty -- and very difficult to hide.

When laying out an interior joint, such as on a drawer frame or shelf, layout is to one side of the member rather than to its center. Lay out the pieces must be laid out logically. Since you will be marking sides (top or bottom, front or back) of the joints, use the **same** side all the time. Be sure to label where the pieces go; unless your memory is better than mine, you'll forget the assembly order, and, sooner or later, that will lead to errors that in turn will lead to unsquare assemblies.

Edge to Edge Joints

The edge to edge joint is one of the easiest joints to construct. The biscuit system essentially creates blind splines that add tremendous strength. When you are gluing up panels, you'll spend only an extra half a minute per joint cutting slots and inserting splines, and your joint will clamp up without sliding around. The purpose of these biscuits is alignment as well as strengthening the joint. The quick swelling of the biscuits in the slots means you can cycle your clamps much faster, and is a real bonus.

Layout the wood pieces as they are to be assembled. With a pencil, mark the locations on the mating pieces of wood for the cuts. This joint will be stronger if you use multiple biscuits placed 4" to 6" apart.

Adjust the fence so that the groove for the spline is centered. For 2" stock you may wish to stack biscuits. Simply re-adjust the fence for the second cut above or below the first. Leave approximately 1/4" to 3/8" between the cuts. With one hand on the body of the machine and the other on the handle, start the machine, and place the fence against the surface of the wood. Align the red indicator mark on the fence with the pencil marks on the wood. With a steady motion push the machine body forward and make the cut. Repeat this process for each marked area on the wood pieces.

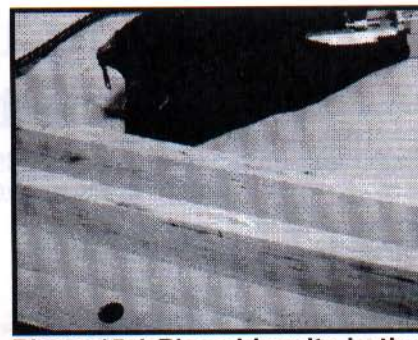

Photo 15.1 Place biscuits in the slots on one of the pair of boards to be joined. Then make a dry test fit.

Place biscuits in the slots of one board **See Photo 15.1**. Bring both mating pieces together. Make certain there is enough vertical play in the boards to allow for proper alignment. Disassemble, glue, reassemble, and clamp. To ensure the flattest possible work, glue only two pieces together at a time. **See Photo 16.1 & 17.1**

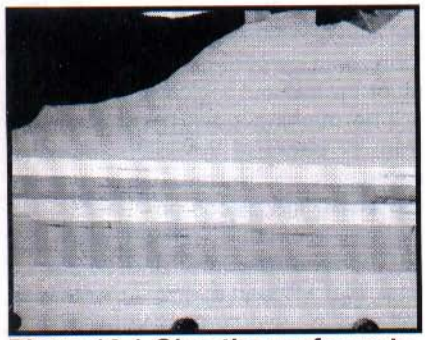

Photo 16.1 Glue the surfaces to be joined and the slots

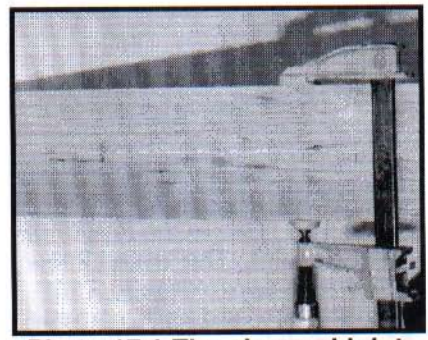

Photo 17.1 The clamped joint should have a bit less glue squeeze-out than this

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The edge to edge joint is one of the easiest joints to construct. The biscuit system essentially creates blind splines that add tremendous strength. When you are gluing up panels, you'll spend only an extra half a minute per joint cutting slots and inserting splines, and your joint will clamp up without sliding around. The purpose of these biscuits is alignment as well as strengthening the joint. The quick swelling of the biscuits in the slots means you can cycle your clamps much faster, and is a real bonus.

Layout the wood pieces as they are to be assembled. With a pencil, mark the locations on the mating pieces of wood for the cuts. This joint will be stronger if you use multiple biscuits placed 4" to 6" apart.

Adjust the fence so that the groove for the spline is centered. For 2" stock you may wish to stack biscuits. Simply re-adjust the fence for the second cut above or below the first. Leave approximately 1/4" to 3/8" between the cuts. With one hand on the body of the machine and the other on the handle, start the machine, and place the fence against the surface of the wood. Align the red indicator mark on the fence with the pencil marks on the wood. With a steady motion push the machine body forward and make the cut. Repeat this process for each marked area on the wood pieces.

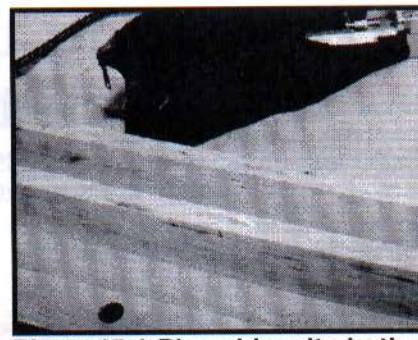

Photo 15.1 Place biscuits in the slots on one of the pair of boards to be joined. Then make a dry test fit.

Place biscuits in the slots of one board **See Photo 15.1**. Bring both mating pieces together. Make certain there is enough vertical play in the boards to allow for proper alignment. Disassemble, glue, reassemble, and clamp. To ensure the flattest possible work, glue only two pieces together at a time. **See Photo 16.1 & 17.1**

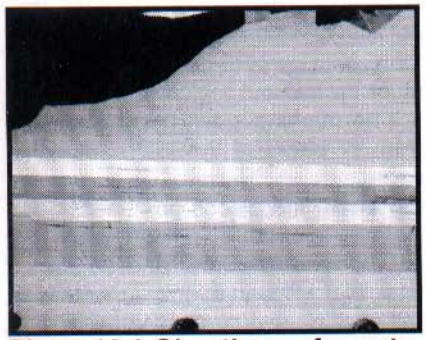

Photo 16.1 Glue the surfaces to be joined and the slots

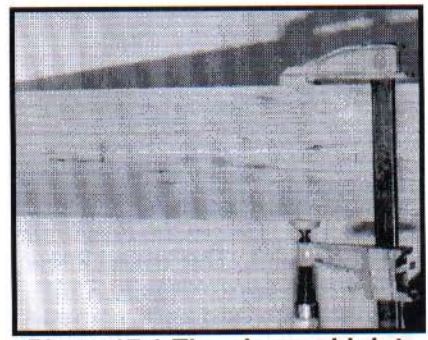

Photo 17.1 The clamped joint should have a bit less glue squeeze-out than this

Butt Joints

The butt joint is the weakest joint in woodworking. Normally, you are mating the end grain of one board with the grain of another board. This type of glue surface is poor. However, with the Freud joiner system and the use of biscuit splines, you can create a tenon effect between the mating pieces of wood which creates a very strong joint.

To make spline slots for butt joints, align the two pieces of wood to form the horizontal or flat board and the vertical board (end grain). Draw a center line on the two boards where you want the spline centered **See Photo 18.1**. Make all of the cuts in the vertical board first. Make the cuts in the horizontal boards next. If an off set is necessary adjust the fence accordingly. If the wood is more than 1" thick, more than one biscuit may be required.

Dry assemble all pieces to make certain they fit properly **See Photo 19.1** then glue and clamp.

When joining table legs and rails it may be necessary to offset the rails to the center of the legs.**See Photo 20.1** In this case the fence needs to be re-adjusted to slot the legs properly.

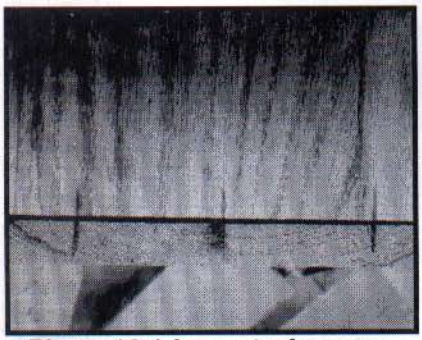

Photo 18.1 Layout of corner butt joints.

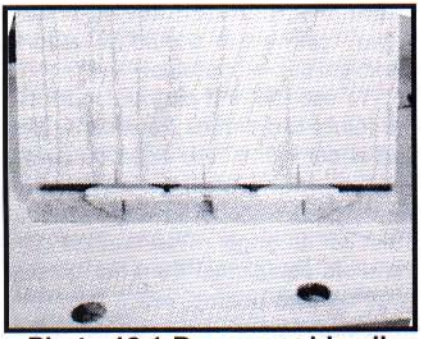

Photo 19.1 Dry assemble all pieces to make certain they fit properly .

If you wish a 1/8" offset, readjust the fence up 1/8" after all the rails have been cut to make the appropriate cut in the legs. For example: align the rail flush with the outside of the leg to make your mark on both pieces of wood for the center of the spline cut. Make the cut in the ends of the rails. Adjust the fence up 1/8" and keeping the horizonal fence on the outside edge of the leg make the appropriate slots in the legs. Simple, if you wanted a 3/8" offset, move the fence up 3/8", etc.

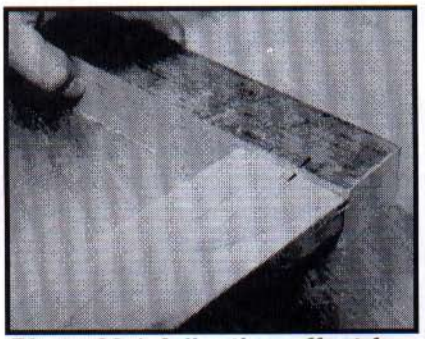

Photo 20.1 Adjusting offset for rails joined to table legs.

There are two ways to make the standard corner butt joint. You are sure to decide a preference after trying both, and to rely upon that one method most

of the time, but each has its advantages, and neither should be used to the exclusion of the other.

To use the first method, mark out the joints two inches from either end and about four inches apart on center in the middle. One of the pieces to be joined is slotted on its face, and the other on its edge. This method puts the slots equidistant from the outside edge on both boards, which is exactly what you're after, but it can get out of square if you don't cut accurately into the sides.**See Photo 21.1**

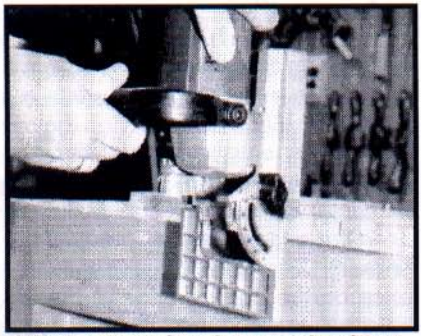

Photo 19.1 Cutting each piece the first way.

To use the second method, lay out a piece of material the same thickness as that being joined adjacent to the work; this material is used to support the machine as it works through the same kind of joinery as is used on an internal T joint (See Next Section). Stand the pieces edge to edge, perpendicular to one another; carefully lay the vertical piece over on the axis which is its inside edge. You might do well to have a scribed line at that inside edge to ensure accurate positioning. Clamp the vertical piece to the horizontal piece so that the surfaces to be joined are at right angles to one another **See Photo 22.1**; mark out the joints, again 2" from either end, and about 4" apart in between. Using the

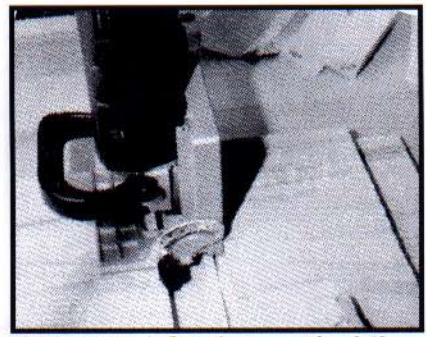

Photo 22.1 Cutting vertical the other way is much like cutting a "T joint," and it is very likely a more accurate approach.

extra piece to help support the joiner squarely, cut first the vertical slots, then, after sweeping away the chips, the horizontal. After unclamping the pieces, put glue in the slots, insert the biscuits, and assemble. There is no need to glue the end grain to the long grain, so it might pay to do some preliminary finishing work before assembling.

Making "T" Joints

Making internal "divider" or "T" joints is one of the machine's main uses. No more will you have to cut notches with your router or spend great amounts of time making doweled joints. All you have to do is mark the joint, cut the slots, and glue the biscuits into place. The important factor here is laying out the joints carefully. The "trick," if indeed it is a trick, is to do all the layout from the same side. Measure everything from the top or from the left and mark or label everything. Again, mark $2^1/_2$" from the ends, 4" on center in between, and cut the slots. Apply the glue, and assemble. Failing to assemble all members that were cut from

a same part of the logical sequence will mean omitting those parts, so a dry run is a good idea.

A "T" joint is typically used in the construction of bookcases, where shelves are required. It is used when it is necessary to add support members to strengthen a frame.

Let's use the example of putting a shelf in a bookcase frame. The shelf represents the horizontal board and the bookcase side is the vertical board. We must put slots in the end of the horizontal shelf board. That's the same application as used in edge to edge joining. Putting slots in the side of the vertical board, (the bookcase side) requires a new application of the machine.

Lay the vertical board down and place the horizontal board, (the shelf) where you want it to fit. Draw light pencil marks along the edges of where the boards meet. Draw marks on both boards, indicating the center of the slot locations. Adjust the fence to center your cuts in the horizontal board (shelf) and make all the cuts. Remove the horizontal fence. Notice the red centering mark on the vertical fence. Set the machine aside.

Centering the cuts on the vertical board, (bookcase side) requires practice and accuracy. It is necessary to clamp a fence or support board to the vertical board in order to make the cuts accurately. Determine where you want the center cuts to be made. If you are going to center the cuts in the horizontal board, and you want the same fit in the vertical board (bookcase side) measure the distance from the bottom of the cut in the horizontal board. Clamp the wooden fence on the vertical board the same distance from where you want the cut. Rest the Freud joiner on the fence, align the red centering mark on the machine with the centering mark on the wood. Make the plunge cut. **See Photo 23.1 & 24.1.**

The bottom lip of the cutter is located approximately 5/16" from the bottom of the machine. If you are working with a three inch board and you need two splines one inch apart, simply use a one inch spacer board between the machine and the wooded fence for the second cut.

Any other variation must take into account the distance from the bottom of the machine to the bottom of the cutter. It's that simple.

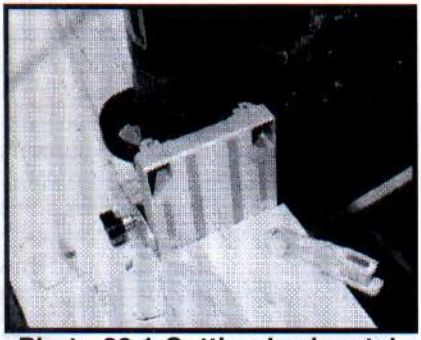

Photo 23.1 Cutting horizontal slot for a T joint.

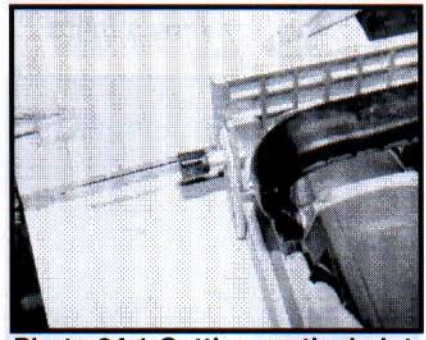

Photo 24.1 Cutting vertical slot for a T joint.

Miter Joints

The hardest thing about making miter joints is preparing the stock before you begin cutting the joint.

There are two types of miter joint splines that can be cut with the Freud joiner: Flat miters and Edge miters.

A flat miter, such as in a picture frame, usually requires a blind spline. Put the mating pieces of wood together and with the help of a miter square draw the line for the positioning of the cutter. **See Photo 25.1.** Adjust the fence to center the cut and make the appropriate cuts. Assemble the pieces to make certain everything fits and glue and clamp accordingly. **See Photo 26.1, & 27.1.** Nothing to it. If however you wish to put a compound miter together, see the section on edge miters.

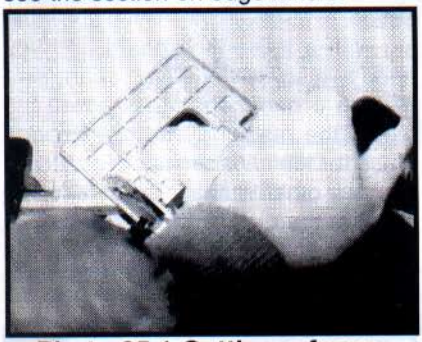

Photo 25.1 Cutting a frame miter.

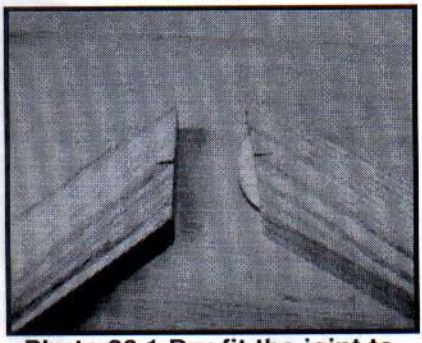

Photo 26.1 Dry fit the joint to insure a good fit.

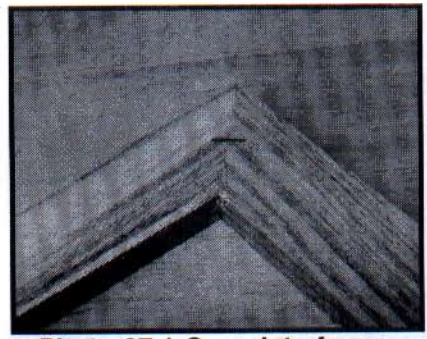

Photo 27.1 Complete frame miter joint.

Making a frame can be much simplified with the biscuit joiner so long as each mitered piece is at least 1 3/4" wide so the diagonal portions of the miters are 2 1/2" apart so they can be slotted for the biscuits without cutting through the sides. I have found it best to cut the biscuit slots before cutting the rabbets which hold the picture and the glass. Be sure to complete your sanding before assembling the unit:

Position the JS100A or JS102 carefully on this narrow work; cut slowly for precision. You can see that the slots more or less fill these miters. The finished mitered frame is much stronger and more handsome than one that has been just glued or glued and nailed. If the frame is large enough to take even a size #0 biscuit, a single biscuit in each corner is superior to even cross nailing in both strength and ease of application.

Edge miters are helpful when making boxes or things where you don't want to show the end grain of the wood. The Freud joinery system makes this joint especially strong.

By inverting the fence of the JS100A or setting the JS-102's variable angle fence to 45°, you can make 45° cuts. Use the center bar of the fence to center the cut. Make the cuts close to the inside of the miter for stronger

joints. Be sure not to cut too deep and use #0 biscuits in stock under 1" thick **See Photo 28.1, 29.1, & 30.1.**

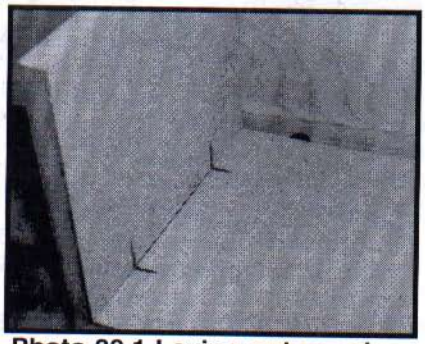

Photo 28.1 Laying out an edge miter.

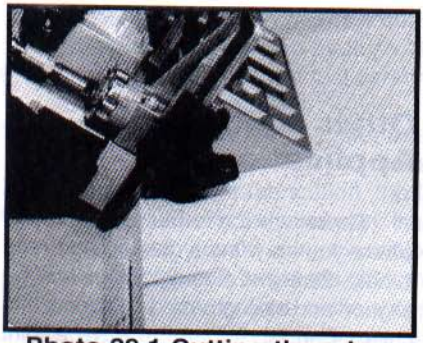

Photo 29.1 Cutting the edge miter with the JS100; this machine matches the joints from the inside of the stock.

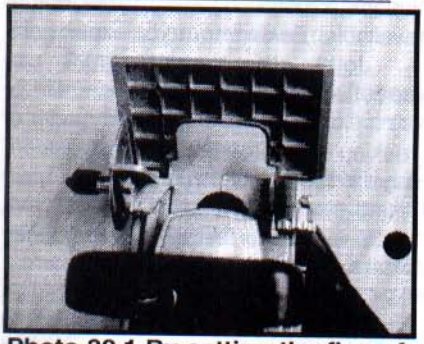

Photo 30.1 By setting the flap of the JS102 to 45 , you can also miter corners from the inside.

After the miters are cut and the pieces are ready for joining, mark the stock on the mitered faces, adjust your depth of cut, and cut your slots, two inches from edges and about 4" on center between them. After the cuts have been made, the pieces are ready to join. After any internal pieces have been cut and fitted for biscuits, the whole unit can be glued (remember, only in the slots!) and assembled, preferably in some sort of band clamp.

Line up the center bar with the pencil marks. Make certain the wood is clamped down and the 45° fence is flat on the horizontal wood surface. Make all your cuts, insert biscuits and dry assemble **See Photo 31.1.** Add glue and clamp in place. Web clamps are great for box assemblies.

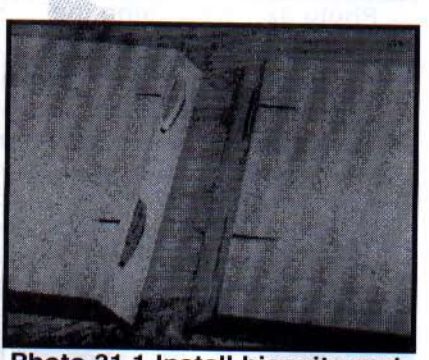

Photo 31.1 Install biscuits and test fit your miter joint.

You can cut any angle of miter with the Freud JS100A joiner with a wedge. This wedge cut with the same angle of the miters of the wood to be joined. For example, to join two piece of wood each with a 15° miter, you'll need a wedge with a 15° right angle triangle. You can attach the wedge to the bottom of the fence with the use of double sided tape or hot melt adhesive. For large production jobs, drill holes in the fence

and attach the wedge with screws. The JS-102 permits making a variety of angle joints without using wedges **See Photo 28.1, 29.1, & 30.1**.

The JS-102 with the accessory fence permits joining from the outside of the joint rather than from the inside.

Photo 32.1 By putting the auxiliary fence on the JS102, you can miter from the outside of the stock.

Photo 33.1 Check the setting by holding the piece to be joined into the miter set on the joiner; adjust as needed so the cut will be nearer the inside of the stock; you certainly don't want to cut through the miter!

Photo 34.1 Cut the miter with the JS102 on the outside.

Other Joints and Applications

There will be other applications where you may find a use for the Freud joiner. Butt and Rabbet joints can be aligned and strengthened by adding biscuits. End lap joints that have a joint depth of more than 1 inch can use a biscuit spline as a locking mechanism. Experimentation with other applications will unlock a world of joinery never before available. Be careful as you experiment.

Joints other than 45° or 90° can be cut almost as easily as can the 45° or 90°. Cutting these is a simple matter of making an appropriate shim and fastening it to the fence of your JS100. I have found that hot glue or duck tape work quite well for this fastening, but you may want to resort to something more permanent if you have many joints to cut. The 2 x 5" shim may be attached to either the square or miter face, whichever you find to be easier and more accurate. Clean-up is surprisingly easy.

Hugh's Tips & Pointers

1. Measure twice and cut once. Always double check your measurements.
2. Mark joint locations clearly.
3. Wear eye protection when using power tools.
4. Never attempt to adjust a power tool while it is plugged into electric service.
5. The more biscuits you use, the stronger the joint will be. Biscuits are preferable to dowels since they provide a greater wood-to-wood surface gluing area, but you want to use as many of them as possible since they are the only source of structural integrity.
6. Clamp matching joints very square to one another.
7. Never, never, never use the joiner on a board that is not clamped down. Always clamp the board before cutting slots.
8. It is always a good idea to test fit the piece with dry biscuits before gluing. The grooves are cut a bit deeper than the half the biscuit's width to accommodate the glue, this also makes them slightly longer than the splines, thus allowing nearly a quarter inch of lengthwise play so that you can adjust the pieces to be flush at the ends.
9. Read the instruction manual carefully. Follow the directions for the proper care of your Freud joiner.
10. Mark your layouts much lighter than they are shown in this book; they are marked this dark here *only* to make the layout visible to the camera; in my usual furniture fabrication, the layouts are all but invisible.
11. Glue carefully: for the most part, inside the biscuit slots is usually sufficient; except when you are using biscuit joinery to align board for edge gluing. The idea of the gluer is to get the glue onto the sides rather than the bottom of the slots. Light squeeze-out is acceptable, even desirable. Get rid of the squeeze out early in the process. Clamp at fairly close intervals. You don't have to leave the clamps in place more than about 20-30 minutes. The biscuits will swell and lock the joint long before the glue is dry. Organization of the task is more important than clamping; using the JS100A assures both accurately aligned surfaces and quick clamp removal. Indeed, if clamping a joint would prove awkward, it can be held together by hand for about 10 minutes.
12. Check out the wide range of accessories for biscuit joining offered by Freud. These devices will help to make your biscuit joining easier and more pleasant.
13. Store your biscuits in relatively air-tight containers, away from humidity. Humidity swells the biscuits, making them harder to use effectively.
14. Try to avoid placing biscuits closer than about 1/4" from the surface of a joint. Should you sand a surface too soon after the joint has been biscuit joined together, there is likely to be a visible biscuit-shaped dip in the work.
15. Plan your projects with biscuit joinery in mind, and you'll build more than you've ever built before.

FREUD LIMITED ONE YEAR POWER TOOL WARRANTY

Freud warrants to the original consumer purchaser that each new Freud power tool shall be free from defects in material and workmanship for a period of one (1) year from the purchase date. When warranty service is requested, proof of purchase (e.g., invoice) is required. Should the power tool fail within thirty (30) days from the date of purchase, it will be repaired or replaced AT THE CUSTOMER'S OPTION, subject to the Guidelines below. Thereafter, upon verification of failure or malfunction, at its option, within sixty (60) days, repair or replace the power tool, subject to the Guidelines below.

GUIDELINES

1. In the event of failure or malfunction, return the product, properly packaged and postage prepaid, to Freud at the address listed below or to an authorized Freud tool service station. See back of price list for authorized repair dealers. You may also contact Freud at 336-434-8300 for instructions on returns and technical advice.

2. All implied warranties for Freud's power tools (INCLUDING MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE) are limited to the period of one year from the purchase date. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

3. A warranty claim shall be limited to repair or replacement as stated in Freud's Limited Power Tool Warranty, and in no event shall Freud be liable for any other direct, indirect, incidental or consequential damages, costs or expenses. INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE EXCLUDED UNDER ALL WARRANTIES. Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

4. Freud warranties give you specific legal rights, and you may also have other rights which vary from State to State.

5. Freud warranties shall not be deemed to have failed their essential purpose while Freud is willing to repair or replace defective products.

6. Freud assumes no liability for defects or damage caused by abuse or misuse of any product or unauthorized service of any product. The product must have been used for its recommended purpose and not modified by sharpening or other changes. Normal wear and tear are not covered under Freud warranties.

7. Any action for breach of warranty must be commenced within one year after the accrual of the cause of action.

To obtain service under Freud warranties, contact an authorized repair station or: **Freud Inc., Attn: Customer Services**
Post Office Box 7187
High Point, NC 27264 **336-434-8300**

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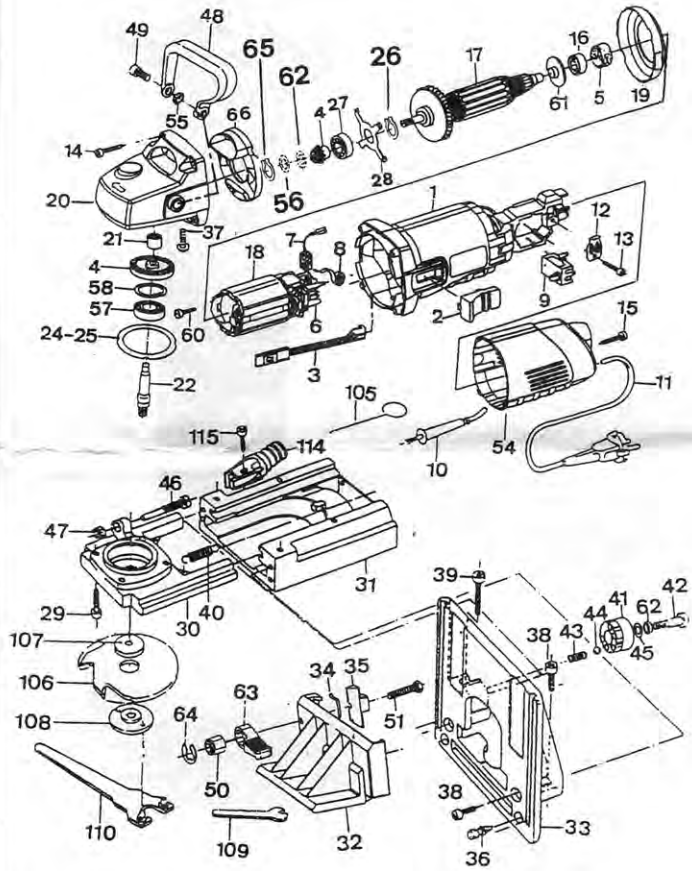
SPARE PARTS LIST

JS100A
Joiner Machine

Pos.	Code	Description
1	13434.1033	Motor cover
2	13434.4021	Switch control button
3	13434.4201	Switch control
4	13431.9284	Gear pair
5	13013.1601	Ball bearing bushing
6	13434.9111	Brush holder
7	13433.9071	Carbon brush
8	13431.2251	Brush spring
9	76325.5021	ON-OFF Switch
10	13431.4181	Sleeve
11	76766.0500	Cord set SJ 16x2
12	13413.4231	Cord clamp
13	84480.0027	Screw 3,5x14 TP
14	84480.0050	Screw 4x19 TP
15	84480.0048	Screw 4x16 PZ
16	71206.0702	Ball bearing 607-ZZ
17	13623.9131	Armature 120V
18	13434.9124	Fiel 120V
19	13434.2611	Air guide
20	13435.1018	Gear box
21	71372.1080	Needle bushing HK0810
22	13623.3011	Spindle
24	13431.1591	Washer 0,1
25	13431.1592	Washer 0,2
26	87510.1010	Ring 10 DIN 471
27	71200.0035	Ball bearing
28	13434.1341	Ball bearing cover
29	84480.0052	Screw 4x25 TP
30	13623.1081	Guide plate
31	13622.9752	Base
32	13622.6211	Sliding angle plate
34	13622.5661	Strip steel
35	13622.5302	Wedge key
36	13620.5521	Rubber stop
37	84913.1216	Screw CL89Z 3,5x10
38	84030.6293	Screw M5x20 DIN933
39	75700.0202	Spring
40	75701.0700	Spring
41	13620.5051	Regulation ring
42	84410.5283	Screw
43	75700.0351	Spring
44	71390.0233	Ball D.6 DIN5401
45	87080.0611	Washer 6x11x0,5
46	84900.0451	Screw
47	86020.1050	Hex nut M5 DIN934
48	13623.5021	Auxiliar handle
49	84201.0372	Screw M8x18 DIN912
50	71390.0170	Ball D.4 DIN5401
51	13622.5751	Rear cover
52	13621.5632	Wing screw
53	13622.5373	Bushing
54	13434.1063	Cover
55	87401.0084	Washer 5,4 DIN6797
56	87080.0711	Washer
57	71202.0135	Ball bearing 6201
58	87600.1032	Ring segment 32 DIN472
59	13622.5633	Wing screw
60	84480.0011	Screw CL81Z 3,1x12
61	13432.1868	Obturation ring
62	74210.0620	Ring joint OR6x2
63	13622.4021	Lever
64	87570.0080	Ring H8
65	87510.1007	Ring 7 DIN 471
66	13431.2621	Air deflector
83	13622.6501	Special nut
105	13601.7001	Spring hook
106	46420.1002	Cutter F1-100B
107	13601.3141	Cutter support flange
108	13601.3391	Cutter fixing flange
109	13570.5211	8mm open end wrench
110	13410.9521	2-hole spanner wrench
114	91925.0000	Dust collector
115	84907.3140	Screw M4x8 DIN7500M
118	79313.0002	Scale label
119	79313.0001	Degrees scale
s/n	91928.0001	Dust bag



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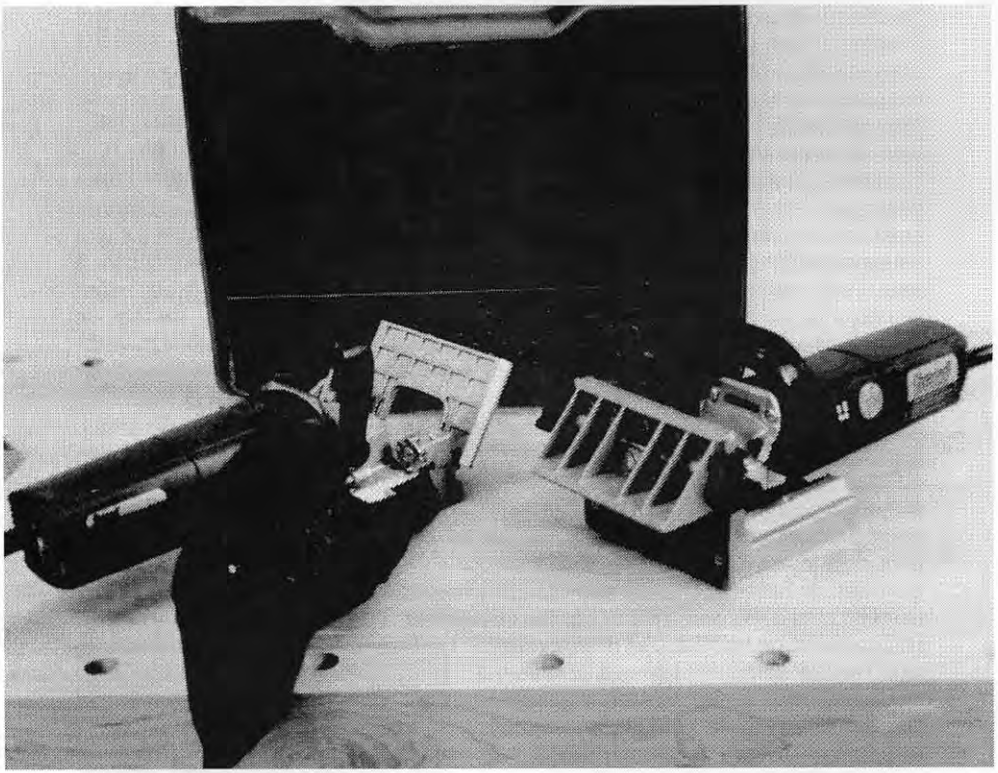

JS100A et JS102
Guide d'utilisation

F

Mesures de sécurité

MISE EN GARDE: Lors de l'utilisation d'un outil électrique, des mesures de sécurité de base doivent être respectées afin de réduire les risques de feu, de chocs électriques et de blessures. Voici quelques-unes de ces mesures.

BIEN LIRE TOUTES LES DIRECTIVES

1. GARDER LES LIEUX PROPRES - Les surfaces et établis encombrés favorisent les accidents.
2. TENIR COMPTE DE L'ENVIRONNEMENT DE L'AIRE DE TRAVAIL - Tenir les outils électriques à l'abri de la pluie. Ne pas utiliser d'outils électriques dans un endroit mouillé ou humide. Assurer un bon éclairage de l'aire de travail. Ne pas utiliser d'outils en présence de gaz ou de liquides inflammables.
3. PRÉVENIR LES RISQUES DE CHOCS ÉLECTRIQUES - Prévenir les risques de contact du corps avec les surfaces de mise de terre. Par exemple, les espaces réservés aux tuyaux, calorifères, cuisinières, réfrigérateurs.
4. GARDER HORS DE PORTÉE DES ENFANTS - Tenir tout visiteur loin de la zone de travail. Ne pas laisser un visiteur toucher à un outil ou à une rallonge.
5. RANGER LES OUTILS INUTILISÉS - Lorsque non utilisé, un outil doit être rangé dans un endroit sec, élevé et sous clef - hors de la portée des enfants.
6. NE PAS FORCER UN OUTIL - L'outil fait un meilleur travail et de façon plus sécuritaire à la vitesse admissible pour laquelle il a été conçu.
7. UTILISER LE BON OUTIL - Ne pas utiliser un accessoire ou un outil trop petit pour faire le travail d'un plus gros accessoire ou outil. Ne pas utiliser un outil pour des fins auxquelles il n'a pas été conçu. Par exemple, ne pas utiliser une scie circulaire pour couper des grosses branches ou des rondins de bois.
8. PORTER DES VÊTEMENTS APPROPRIÉS - Ne pas porter de vêtements amples ou de bijoux. Ceux-ci peuvent s'accrocher dans des pièces mobiles. Nous recommandons le port de gants de caoutchouc et de chaussures à semelle antidérapante lors d'un travail à l'extérieur. Porter un couvre-chef pour ramasser les cheveux longs.
9. PORTER DES LUNETTES DE SÉCURITÉ - Porter aussi un respirateur ou un masque antipoussière dans des conditions poussiéreuses.
10. ÉVITER UNE MAUVAISE MANIPULATION DU CORDON - Ne jamais déplacer l'outil en le tenant par le cordon. Ne jamais tirer sur le cordon pour débrancher l'outil. Tenir le cordon loin de la chaleur, de l'huile ou d'objets tranchants.
11. FIXER LA PIÈCE DE TRAVAIL - Utiliser un serre-joints ou un étau pour maintenir la pièce de travail. C'est plus sécuritaire que de le tenir à la main et cela permet de manoeuvrer l'outil à deux mains.
12. NE PAS S'ÉTIRER POUR PRENDRE DES OBJETS - Garder toujours un bon équilibre, les deux pieds au sol, en tout temps.
13. PRENDRE SOIN DES OUTILS - Garder les outils bien acérés et propres pour un rendement plus efficace et plus sûr. Suivre les directives pour la lubrification et le changement des accessoires. Vérifier périodiquement le cordon des outils et si endommagé, le faire réparer par un centre de service autorisé. Vérifier également les rallonges et les remplacer en cas de dommages ou usure. Garder les manches propres, secs et libres de toute huile ou graisse.
14. DÉBRANCHER LES OUTILS - Lorsque non utilisés, avant d'entretenir et lors du changement d'accessoires tels que lames, forets ou couteaux.

15. ENLEVER LES CLAVETTES DE CALAGE ET CLÉS DE RÉGLAGE - S'habituer à vérifier que toute clavette ou clé de réglage soit enlevée avant de faire fonctionner l'outil.

16. ÉVITER TOUTE MISE EN MARCHE ACCIDENTELLE - Ne pas déplacer l'outil avec le doigt sur la gâchette. S'assurer que la commande est en position d'arrêt avant de brancher.

17. RALLONGES - S'assurer du bon état de la rallonge. À l'utilisation d'une rallonge, s'assurer qu'elle soit d'une puissance suffisante pour porter l'intensité du courant nécessaire à l'outil. Un cordon d'une puissance trop faible provoque une baisse de tension causant ainsi une perte de puissance et une surchauffe. Le Tableau 1.1 indique la grosseur adéquate du cordon selon la longueur de ce dernier et la valeur nominale d'ampères figurant sur la plaque signalétique. En cas de doute, utiliser un calibre plus élevé. Plus le nombre du calibre est petit, plus le cordon est puissant.

Tableau 1.1 Calibre minimal pour les cordons

Volts	**Longueur totale du cordon en pieds**			
120V	**0-25**	**26-50**	**51-100**	**101-150**
Valeur nominale d'ampéres	**Jauge américaine de fils (AWG)**			
0-6 Amps.	18	16	16	14
6-10 Amps.	18	16	14	12
10-12Amps.	16	16	14	12
12-15 Amps.	14	12	Non recommandées	

18. UTILISATION DE RALLONGES À L'EXTÉRIEUR - Lors d'une utilisation d'outils à l'extérieur, n'employer que des rallonges conçues pour une utilisation extérieure et qui sont ainsi identifiées.

19. ÊTRE VIGILANT - Rester attentif à ce qui se fait. Utiliser le bon sens. Ne pas employer d'outil lorsque fatigué ou sous l'influence de drogues, d'alcool ou de médicaments.

20. VÉRIFIER L'ÉTAT DES PIÈCES - Avant d'utiliser un outil, le garde ou autre pièce endommagé doit être soigneusement vérifié pour déterminer s'il peut toujours fonctionner adéquatement et accomplir la tâche comme il le devrait. Vérifier l'alignement et l'assemblage des pièces, voir s'il y a gauchissement ou bris des pièces mobiles et examiner pour déceler toute autre condition qui pourrait en altérer le fonctionnement. Un garde, ou toute autre pièce, endommagé doit être adéquatement réparé ou remplacé par un centre de service autorisé à moins d'indication contraire dans le présent guide d'utilisation. Faire remplacer toute commande défectueuse par un centre de service autorisé. Ne pas utiliser l'outil si la commande ne parvient pas à en faire la mise en marche ou la mise en arrêt.

21. PIÈCES DE REMPLACEMENT POUR OUTILS ANTICHOC - Lors d'une réparation, n'utiliser que des pièces de remplacement identiques.

22. FICHES POLARISÉES - Pour réduire les risques de chocs électriques, cet appareil est muni d'une fiche polarisée (une lame est plus large que l'autre). Cette fiche s'insère dans une prise polarisée d'une seule façon. Si la fiche ne s'insère pas complètement dans la prise, la renverser. Si elle ne s'insère toujours pas bien, appeler un électricien qualifié pour l'installation d'une prise adéquate. Ne pas modifier la prise d'aucune façon.

23. NE JAMAIS TOUCHER À UNE PIÈCE MOBILE - Lorsque l'outil est branché à une source d'alimentation, ne jamais toucher aux pièces mobiles.

CONSERVER CES DIRECTIVES

Mode d'emploi

Mise en marche

La tension de la source d'alimentation doit être sur CA (courant alternatif) et doit être conforme aux exigences de la plaque signalétique de l'appareil. Assurez-vous que la commande est en position d'arrêt avant d'insérer la fiche de l'appareil dans la prise.

Poussez la commande et la basculer vers l'arrière pour mettre l'appareil en marche. Le fait d'appuyer sur l'avant de la commande à bascule arrête automatiquement l'appareil.

Entretien de l'appareil

Gardez toujours les rainures et évents libres de tous copeaux de bois ou autres matières. Il faut changer la lame ou l'affûter lorsqu'elle commence à s'émousser. Un changement dans la vitesse ou dans la qualité de la coupe est l'indice d'un besoin d'affûtage. Appliquez une petite quantité d'huile dans chaque rainure du socle une couple de fois par semaine lors d'une utilisation intense mais pas au point que l'huile ressorte du montage à glissière. **Voir Photo 1.1.**

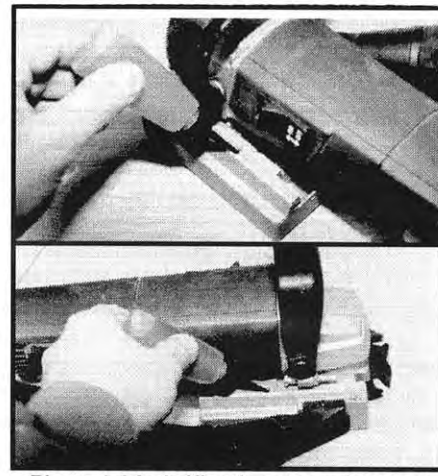

Photo 1.1 Lubrification des rainures à glissière.

Procédures de changement de la lame

1. Débranchez la machine à rainer Freud avant d'entamer les procédures de changement de lame.
2. Retirez les deux vis latérales qui retiennent le garde avant. **Voir Photo 2.1 pour la JS 100A et Photo 2.2 pour la JS102.**

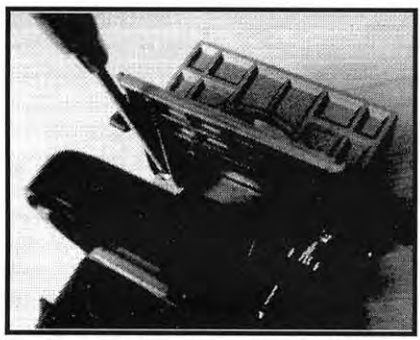

Photo 2.1 Enlèvement des vis latérales pour démontage d'une JS100A.

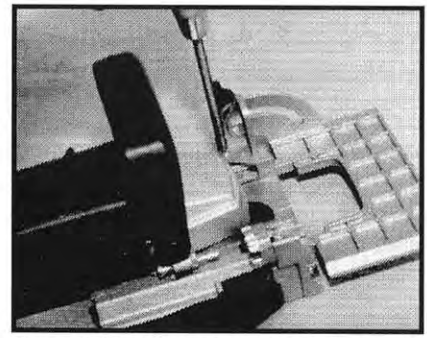

Photo 2.2 Enlèvement des vis latérales pour démontage d'une JS102.

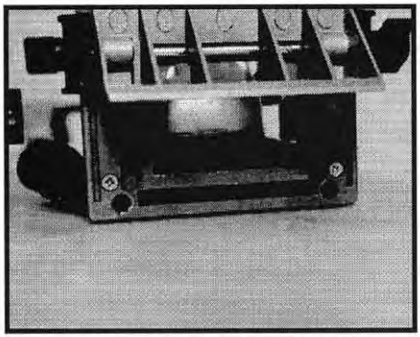

Photo 3.1 Enlèvement des vis horizontales pour démontage d'une JS100A

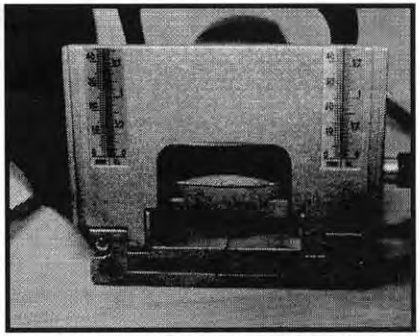

Photo 3.2 Enlèvement des vis horizontales pour démontage d'une JS102

3. Enlevez les deux vis horizontales qui retiennent le garde avant. **Voir Photo 3.1 pour la JS100A et Photo 3.2 pour la JS102.**
4. En utilisant le crochet métallique qui est dans le coffre, détachez les deux ressorts du socle. Les ressorts se trouvent à l'arrière, de chaque côté de la base. **Voir Photo 4.1.**
5. Le fond du socle peut alors être glissé vers l'arrière et retiré de l'appareil. Cela met la lame de couteau à jour.
6. Utilisez les deux clés qui se trouvent dans le coffre pour retirer la lame. La clé à fourche (avec deux ergots à l'extrémité) sert à tourner la bride du haut. **Voir Photo 5.1.** La clé standard est utilisée pour maintenir fermement la bride du bas.

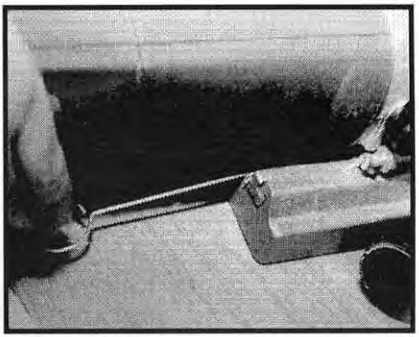

Photo 4.1 Enlèvement des ressorts pour démontage.

7. N'utilisez que la lame de remplacement FI-100 de Freud (équipement original du fabricant à six dents) ou la FI-102 (lame optionnelle à 8 dents) lors d'un changement de lame. Assurez-vous que la lame est assemblée pour fonctionner en se déplaçant dans le sens des aiguilles d'une montre (vue de haut) lors de l'installation.
8. Nettoyez l'intérieur de l'outil et toutes les surfaces adjacentes pour les libérer de toute poussière et de tout débris lors du réassemblage. Assurez-vous que les brides qui retiennent la lame soient bien serrées avant de réassembler le socle. Mettez un peu d'huile dans chaque rainures de la plaque de base après nettoyage. Le socle peut alors être réassemblé en inversant les étapes de démontage. Une telle lubrification du montage de la glissière devrait être faite au moins une couple de fois par semaine lors d'une utilisation intense mais pas au point que l'huile puisse ressortir du montage à glissière. **Voir Photo 1.1 en page 6.**

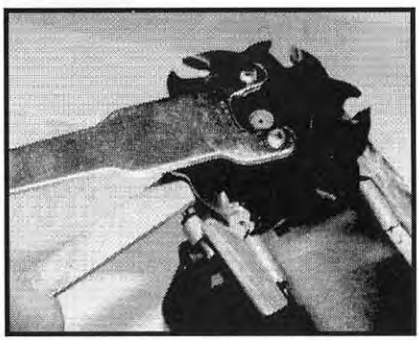

Photo 5.1 Utilisez la paire de clés fournies pour retirer la lame.

9. Vérifiez le réglage de la profondeur de coupe après réassemblage et ajustez au besoin la valeur de la profondeur. **Voir page 10.**

Renseignements généraux

Les directives suivantes portant sur l'utilisation de la JS100A et de la JS102 ont été rédigées tant à l'intention de l'utilisateur novice que de l'utilisateur intermédiaire. Vous trouverez un bon nombre d'autres utilisations au fur et à mesure que vous connaîtrez mieux les caractéristiques de votre machine à rainer.

La seule véritable différence entre la JS100A et la JS102 étant que la JS100A *n'est pas munie* du mécanisme de garde à angles variables si pratique qui est, en fait, le garde à angles variables le plus formidable, le plus sensationnel que j'ai jamais vu. En effet, le garde à angles variables de la JS102 permet une coupe plane sur un matériau dont l'épaisseur peut aller jusqu'à 1,9 cm (3/4 po) ainsi que la coupe de joints à onglet à agrafage extérieur du joint plutôt qu'à agrafage intérieur. Si vous n'avez jamais coupé d'onglets autres que ceux de 45°, vous n'avez pas besoin d'un garde à angles variables sur une machine à rainer. Autre point qui différencie les appareils, la JS100A s'ajuste à l'aide de deux boutons au lieu de un. Le garde de la JS100A se soulève pour la coupe de joints à 45 °. Avec la JS102, vous devez utiliser le garde à angles variables en conjonction avec le garde attachable pour couper de l'intérieur comme de l'extérieur d'un joint. **Voir Photo 6.1.**

Un ensemble de blocs de calibrage pour les épaisseurs de bois que vous utilisez le plus souvent peuvent vous sauver beaucoup de temps. Desserrez la plaque avant réglable et fixez-la sur le calibre, la base de la JS100A étant d'aplomb sur l'établi. **Voir Photo 7.1.**

Ce jeu de blocs facilitera également la préparation de l'outil pour l'agrafage des biscuits lorsqu'une force mécanique additionnelle est nécessaire dans le joint, particulièrement lors du jointement de matériaux plus épais.

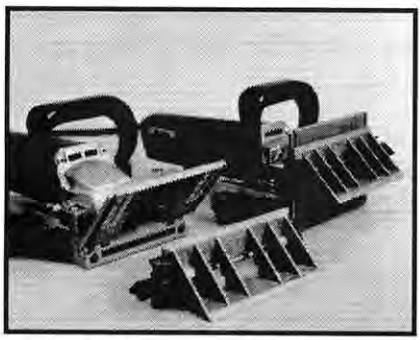

Photo 6.1 Notez la différence entre le garde réglable de la JS102.

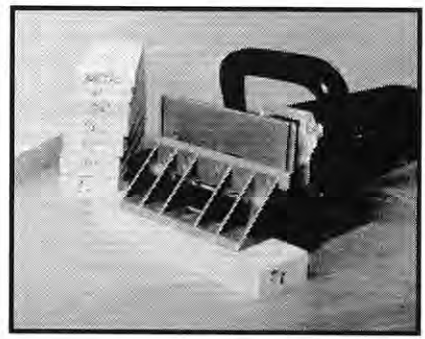

Photo 7.1 Un jeu de blocs de calibrage pour vous sauver beaucoup de temps.

GARANTIE LIMITÉE DE UN AN POUR OUTILS ÉLECTRIQUES DE FREUD

Freud offre au consommateur, qui est l'acheteur original d'un outil électrique de Freud, une garantie sur l'outil contre tout défaut de fabrication et ce, pendant une période de un (1) an, à compter de la date d'achat. Lors d'une demande de service de garantie, le consommateur doit soumettre une preuve d'achat (c.-à-d. le coupon de caisse). Si l'outil électrique est défectueux dans les trente (30) jours de l'achat, l'outil est réparé ou remplacé, À LA DISCRÉTION DU CLIENT, sous réserve des conditions plus bas indiquées. Dans les soixante (60) jours qui suivent cette période de Trente (30) jours si, après vérification, l'outil devait être jugé défectueux, il sera, à la discrétion de Freud, réparé ou remplacé sous réserve des conditions plus bas indiquées.

DIRECTIVES

1. Si l'appareil est défectueux, retournez le produit, adéquatement emballé et affranchi, à Freud à l'adresse indiquée plus bas ou à un centre de réparation d'outils Freud autorisé. Voir au verso de la liste de prix pour les nom et adresses des centres de réparation autorisés. Vous pouvez également communiquer avec nous en composant le 336-434-8300 pour plus de renseignements sur les retours ou pour un soutien technique.

2. Toutes garanties implicites pour les outils électriques de Freud (Y COMPRIS LA QUALITÉ LOYALE ET SA VALEUR MARCHANDE QUANT À DES FINS PARTICULIÈRES) sont limitées à la période de un (1) an et ce, à compter de la date d'achat. Certains états ou certaines provinces n'acceptent pas la limite de la durée d'une garantie implicite aussi, cette limitation ne s'applique pas nécessairement à vous.

3. Toute demande de règlement sous la garantie se limite à la réparation ou au remplacement, tel qu'indiqué dans la garantie limitée d'outils électriques de Freud. En aucun cas, Freud ne peut être tenu responsable de dommages directs ou indirects, de coûts ou de dépenses. LES DOMMAGES ACCESSOIRES SONT EXCLUS DE TOUTES GARANTIES. Certains états ou certaines provinces n'acceptent pas l'exclusion ou la limitation de dommages accessoires aussi, cette exclusion ou limitation ne s'applique pas nécessairement à vous.

4. La garantie de Freud vous donne des droits particuliers, il se peut que vous ayez d'autres droits qui varient d'un état ou d'une province à l'autre.

5. La garantie de Freud ne doit pas être considérée comme ayant failli à son principal objectif si Freud accepte de faire la réparation ou le remplacement d'un produit défectueux.

6. Freud décline toute responsabilité pour tous défauts ou dommages causés par un abus ou une mauvaise utilisation du produit ou la réparation de l'outil par un centre non autorisé. Le produit doit avoir été utilisé aux fins recommandées et ne doit pas avoir été modifié par un affûtage ou autres changements. La garantie ne s'applique pas dans le cas d'une usure normale.

7. Toute action pour bris de garantie doit être intentée au cours de la première année suivant l'avènement du bris.

Pour obtenir un service de réparation durant la garantie de Freud, prendre contact avec un centre de réparation autorisé, ou encore, écrivez à l'adresse suivante :

Freud Inc. Service à la Clientèle
P. O. Box 7187
High Point, NC 27264 Tél. N° : 336-434-8300