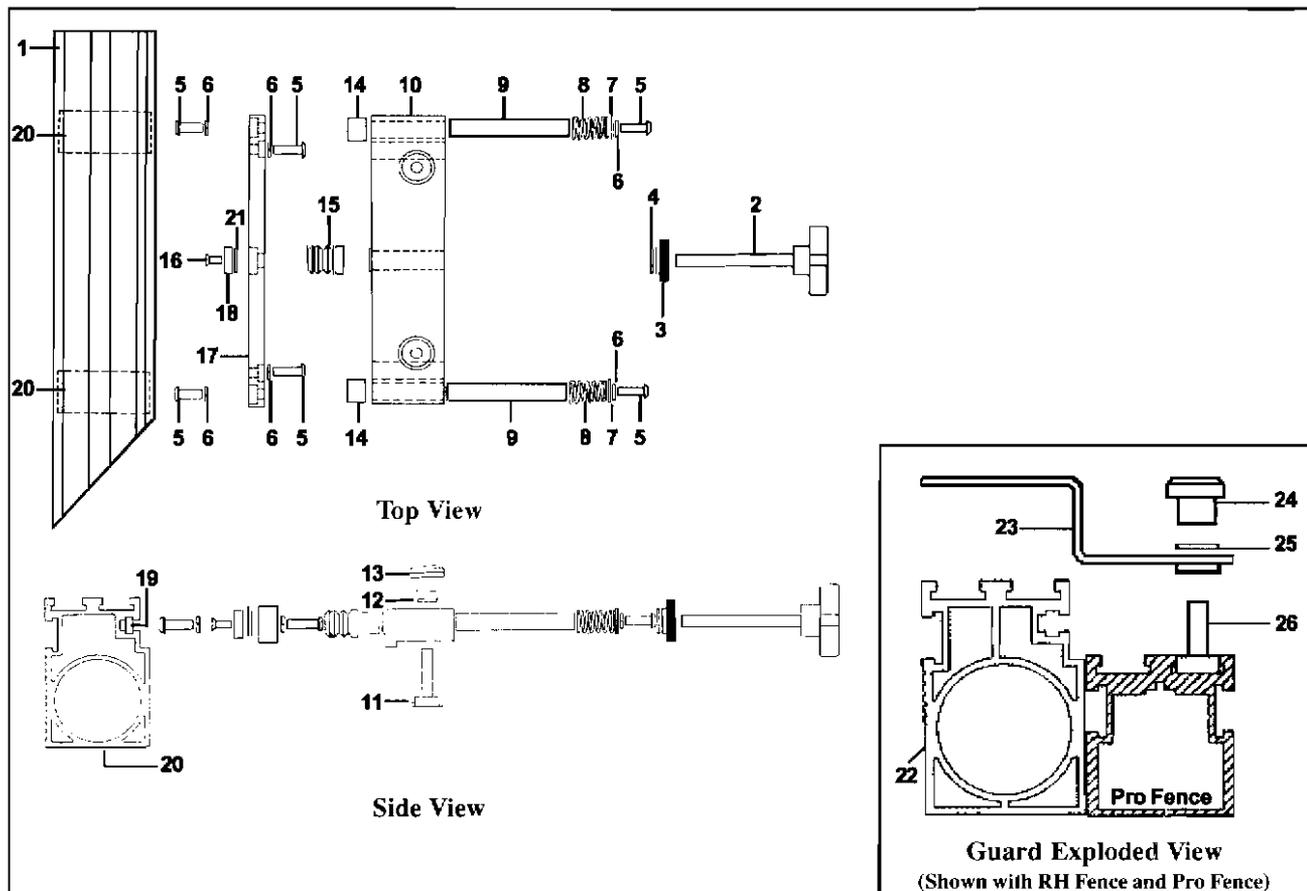




MARK V PRO FENCE ROUTER TABLE FENCE 521963

EXPLODED VIEW



PARTS LIST

Ref. No.	Part No.	Item Description	Qty.
	522016	Left Hand Router Fence Assembly	
1	521965	. Router Table Guide - Left-Hand	1
2	521996	. Threaded Handle	1
3	521972	. Knurled Lock Nut	1
4	120394	. 13/32" I.D. Flat Washer	1
5	521629	. 1/4"-20 Button Head Allen Screw	6
6	120380	. 1/4" I.D. Lock Washer	6
7	120392	. 9/32" I.D. Flat Washer	2
8	521994	. 17/32" Spring	2
9	521970	. 1/2" Steel Guide Pin	2
10	521976	. Front Plate Assembly	1
11	521973	. LONG Sliding Tee-Nut Assembly	2
12	120393	. 11/32" I.D. Flat Washer	2
13	521662	. Plastic Knob	2
14	521978	. Plastic Spacer	2
15	521977	. Bellows	1
16	515999	. 10-32 Flat Head Allen Screw	1

Ref. No.	Part No.	Item Description	Qty.
17	521968	. Mounting Block	1
18	521971	. Delrin Washer	1
19	120372	. 1/4"-20 Square Machine Nut	2
20	521997	. Glide Strip	2
21	513864	. 7/32" I.D. Flat Washer	1
	522015	Right Hand Router Fence Assembly	
22	521966	. Router Table Guide - Right-Hand	1
NOTE: Ref. Nos. 2 through 21 duplicated for Right Hand Fence Assembly			
	521999	Router Fence Guard Assembly	
23	522054	. Guard with Label	1
	522014	. . Warning Label (Not Shown)	1
24	521662	. Plastic Knob	1
25	120393	. 11/32" I.D. Flat Washer	1
26	521855	. SHORT Sliding Tee-Nut Assembly	1
	514521	. Elbow Vacuum Attach. (Not Shown)	1

INTRODUCTION

The *Pro Fence* Router Table Fence has been designed to provide back-up workpiece support and guidance for straight-edged operations performed on the MARK V mounted *Pro Fence* Router Table. The *Pro Fence* Router Table and this Fence can only be used on MARK V's equipped with the *Pro Fence & Table System* upgrade.

This instruction manual covers safety, assembly, alignment, operations and care of the Router Table Fence. For your safety, it is important that you read through this entire manual and understand its contents thoroughly prior to assembling and operating the Router Table Fence.

SAFETY

The MARK V *Pro Fence* Router Table Fence has been designed with built-in safety features to help protect you from injury. However, the effectiveness of these features depends on you. Power Tool safety requires that you exercise common sense. As with any tool, misuse can result in serious injury.

Throughout this manual, we list **WARNINGS**, **CAUTIONS**, and **NOTES**. We advise that you pay particular attention to these headings and read the information listed below them carefully. Their meanings are as follows:

WARNING

A **WARNING** is given when failure to follow the directions is likely to result in injury, loss of limb, or life.



A **CAUTION** is given when failure to follow the directions is likely to result in damage to the equipment.

NOTE

A **NOTE** is used to highlight an important procedure, practice, or condition.

To protect yourself from injury...

...read, understand, and follow all the information contained in this instruction manual as well as all information that came with your

Router Motor and the Router Table Plate Package that was included with your *Pro Fence* Router Table.

Read the safety section of this manual, then complete the assembly procedures and check the alignment prior to operating the MARK V *Pro Fence* Router Table Fence.

GENERAL SAFETY RULES

- **Know your power tool. Read the instruction manual thoroughly and learn its applications, limitations, and potential hazards peculiar to it prior to operation.**
- **Ground all tools (unless double insulated). If the tool is equipped with an approved 3-conductor cord and a 3-prong grounding type plug to fit a grounding type receptacle, the green conductor in the cord is the journeying wire. Never connect the green wire to a live terminal.**
- **Always wear proper eye and ear protection, as well as a dust mask..**
- **Keep all safety guards in place. Be sure the guards are in working order, in proper alignment, and in proper adjustment. Most injuries occur on unguarded tools.**
- **Remove all adjusting keys and wrenches.**
- **Avoid dangerous environments. Never use power tools in damp, wet, or explosive atmospheres.**
- **Keep work areas well lit, clean, and free from clutter.**
- **Never force a tool through an operation. It will perform better and more safely at its intended rate.**
- **Use the right tool for the job. NEVER force a tool or accessory to do a job for which it was not designed.**
- **For directional feed, ALWAYS feed the workpiece into the cutter — and against the rotation of the cutter. Avoid feeding a workpiece into a cutter with the rotation of the cutter, as this can cause the workpiece to grab and be thrown.**
- **Check for damaged parts. A damaged guard or part must be properly repaired or replaced before using the tool. If a strange noise or vibration develops, immediately turn off the power, unplug the machine and correct the problem. NEVER operate a power tool that is not functioning properly.**
- **Secure all workpieces. Use clamps, fixtures and other devices to hold workpieces when practical. It's safer than using your hands and frees your hands to operate the tool properly.**
- **NEVER overreach the tool. Keep a proper footing and maintain your balance at all times.**

- Turn off the tool and wait until it comes to a complete stop before removing workpieces and scraps.
- NEVER try to stop a tool by grabbing the workpiece or any part of the tool. Turn off the tool and let it come to a complete stop by itself.
- NEVER leave a tool running unattended. Turn off the power and don't leave the tool until it comes to a complete stop.
- Avoid unintentional starts. Be sure the switch is in the "off" position before plugging-in or unplugging the tool.
- ALWAYS turn off and unplug tools before changing accessories or setups, making adjustments or performing maintenance or repair operations.
- NEVER stand on or lean on a tool. You could fall into the tool or it could tip over, injuring you and/or damaging the tool.
- Maintain your tools properly by keeping parts and tools sharp, clean, and in good working order, according to the instruction manual.
- Make your workshop childproof. Use padlocks, master switches and removable starter keys to prevent unauthorized operation.
- Keep children away. Be sure all visitors stay a safe distance from power tools and wear ear and eye protection while visiting.
- NEVER permit anyone who is inexperienced to use your tools without proper supervision.

SAFETY RULES FOR THE SHOPSMITH MARK V PRO FENCE ROUTER TABLE FENCE

- Read and understand all of the information in this manual before using the *MARK V Pro Fence Router Table Fence*. NEVER use the *MARK V Pro Fence Router Table Fence* unless you are sure it is assembled properly, all safety devices are installed and you understand the operations you are attempting.
- Keep the guard in place, clean, and in good working order at all times.
- Keep your hands, fingers and other parts of your body at least 3" away from the rotating bit at all times.
- Use push sticks, push blocks, fixtures, or other safety devices to maneuver workpieces into a rotating bit. If a kickback occurs, these devices will help to protect your hands and fingers from injury.
- Use only Shopsmith parts and accessories on your *MARK V Pro Fence Router Table Fence*. NEVER use non-Shopsmith replacement parts or accessories. Using non-Shopsmith parts or accessories may create a hazardous condition and will void your warranty. Follow your router motor manufacturer's recommendations as to replacement router motor parts.
- NEVER rout second-hand lumber. If you hit a nail, screw, or other foreign object, you could be struck by pieces of metal or experience a dangerous kickback.
- NEVER "freehand" rout stock less than 12" x 12" square or equivalent.
- ALWAYS support long boards and sheet materials with a roller stand(s), placed 1' to 4' from the table.
- Whenever possible, use a fixture, fence, feather board and/or starter and guide pins to help control the workpiece during a cut.
- Keep a firm grip on the workpiece at all times. Never hold the workpiece with your hands positioned in line with the router bit.
- ALWAYS use a feather board or similar device to hold or guide narrow workpieces. Also, use a push stick, push block or long piece of scrap stock to feed narrow workpieces under the guard when making a cut.
- ALWAYS cut with the grain of the wood instead of against it. You will get a smoother cut and the operation will be safer.
- Avoid standing in-line with the workpiece being fed. In the event of a kickback, you could be struck by it.
- Feed the workpiece into the bit slowly, using extra care when routing workpieces with figured grain or knots, as these are more likely to cause kickbacks.
- When stop routing, use a stop block(s) to control the length of cut. Failure to use stop blocks could cause the bit to grab and throw the workpiece.
- Do not work with stock that is too small or too large to handle safely; that is warped, bowed, or cupped; or that has loose knots or other defects.
- Plan every operation before you begin. If you are in doubt about how to complete an operation safely, do not attempt it. Contact a Shopsmith Service Representative for advice.
- The minimum length of stock should be no less than 8". You should also use a push stick and/or push block on any stock between 8" to 18" long.

EYE PROTECTION

Always wear eye protection when you use power tools. Using goggles, safety glasses or a face shield will protect your eyes.

- Goggles completely surround and protect your eyes. Many goggles will also fit over regular glasses. Be sure your goggles fit closely, but comfortably.

- Safety glasses don't fog as easily as goggles and can be worn at all times. Regular glasses normally have only impact-resistant lenses and will not provide the same protection as safety glasses.
- A face shield will protect your entire face, as well as your eyes.

HEARING PROTECTION

Prolonged exposure to high intensity noise from high-speed power tools can damage your hearing.

- Hearing protectors are designed to screen out noise levels that can damage your ears and are recommended for use at all times when working with routers and router tables.

GUARDING FOR ROUTING

Most shop accidents happen to woodworkers who fail to follow instructions or fail to use guards and safety devices. Although the use of guards and safety devices often requires additional setup, the added protection for you and your family is well worth the effort.

DRESS

Loose hair or clothing which could be entangled in rotating bits are very hazardous. **ALWAYS** tuck long hair under a hat or tie it up above your shoulders and roll your sleeves up above your elbows. **NEVER** wear ties, gloves, loose clothing, rings or other jewelry.

ELECTRICAL REQUIREMENTS

Follow the electrical requirements outlined in the instruction manual that came with your Router Motor. Do **not** overload your electrical circuits

ROUTER MOTORS

The router motor is not included with the MARK V Pro Fence Router Table Fence. You will need to purchase a router motor or use one that you already own. Any UL approved router can be used. The specifications for the router that you can use are:

- Use only UL approved router motors.
- The router motor must not exceed 3 hp.
- The router switch is best located so it faces toward the front of the Mark V Pro Fence Router Table. It can then be easily and safely reached during operations.
- The router switch must be able to stay in the "on"

position without being held by hand. It also must easily switch off, as needed.

- The Shopsmith Accessory Switch is recommended if the switch on your router motor does not meet the above criteria.

SAWDUST AND CHIPS

Sawdust and chips can be a fire hazard and breathing sawdust can be a health hazard. The sawdust from some woods is toxic. To help protect yourself from sawdust:

- Attach your MARK V Pro Fence Router Table Fence to a dust collection system.
- Wear a dust mask and clean or replace the filters in the mask regularly. Also, open a window and/or use a fan to help exhaust dusty air from the shop area.

TYPES OF ROUTER BITS

Router bits are designed to be used at very high speeds and come in a wide variety of shapes and sizes. The part of the bit mounted in the router chuck is called the *shank* and the rounded extension beyond the cutter on some bits is called the *pilot*. The cutting edge of the bit is called a *flute*.

Router bits typically have one, two or three *flutes*. The more flutes a bit has, the more cuts it will make with each revolution. A higher number of *flutes* reduces the load on the motor and produces a smoother cut.

With the exception of straight bits, core box bits, veining bits, dovetail bits and a few other specialized bits, the majority of the bits in use today are piloted bits, used for shaping an edge on a workpiece. During the cut, the pilot rides against a portion of the edge that remains, even after the cut is made. When shaping the edge of a curved or irregular shaped workpiece, you must use a piloted bit to control your depth of cut.

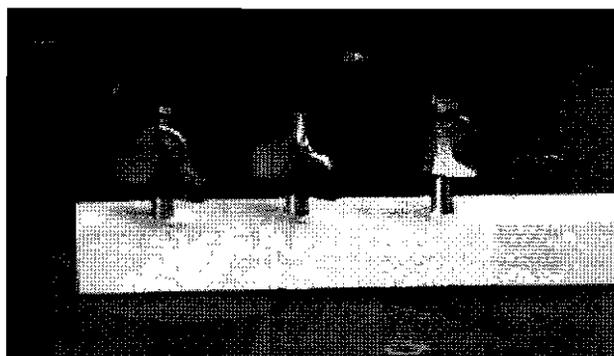


Figure 1 (L to R) Solid pilot bit, unpiloted bit, and bearing pilot bit

If you're using a piloted bit, the pilot will control your depth-of-cut and a fence will not be required. However, if you're using a bit with a solid pilot (not a bearing pilot), the friction created by the pilot rubbing against the edge of your workpiece could cause unsightly burning. In this case, using a Router Fence to control your depth-of-cut could eliminate this burning.

Many woodworkers feel that it's a good idea to use a fence to gain added control when straight-line edging, even if they are using a piloted bit. Of course, if you're using an unpiloted bit to cut a full profile on a straight edge, you must use a fence to control your depth-of-cut.

Quality bits are made of high-speed steel, solid carbide or carbide-tipped steel. High-speed steel bits are heat treated for extra hardness and to hold keen cutting edges. Carbide bits (solid or tipped) are the finest bits available today. Although more expensive, they will outlast high speed steel bits by a 15 to 1 ratio on softwoods and are highly recommended when cutting or shaping hardwoods, plastic laminates, plywood or particle board.

Router bits are generally classified into four different categories: grooving bits, edge-cutting bits, panel bits and laminate & veneer trimming bits.

MOUNTING ROUTER BITS

- **ALWAYS** turn off and unplug the router motor before mounting router bits.
- Follow the recommendations of the router motor manufacturer as to the sizes and types of bits to use.
- Make sure the router bit is secured properly in the collet. Loose bits could work free and cause serious injury. Insert the bit all the way into the collet, then retract it about 1/8" to avoid transferring heat and vibrations to the motor armature.
- If you're using a component-type router bit set where the bit shaft and cutting edges may be assembled in different configurations, be sure the cutting edge **ALWAYS** faces to the right.
- Listen for chatter or signs of looseness at start-up. If you hear, see or suspect problems, stop the tool immediately, unplug it, and check the tool thoroughly. Correct any problem before proceeding. If you are unable to locate the problem, you can contact your Shopsmith Service Representative for advice. Never operate the Mark V Router Table if it is not functioning properly.
- Always keep bits clean, maintained and sharp.
- Don't try to make your own collet adapter to hold different sized bits. Balance is important at high speeds, so always buy appropriately sized collets for the bits you're using.

ROUTER BIT CARE AND MAINTENANCE

Proper handling, use and sharpening of your router bits will result in a longer life .

- Use router bits only for the job they are intended to do.
- Make sure the bit is mounted firmly in the collet.
- Cutting your workpiece at the proper speed will prevent workpiece burning, as well as heat buildup that can cause the loss of bit temper. Some router motors have a variable speed control. Aftermarket electronic router speed controls are also available. These units plug into the wall, then your router plugs into a receptacle on the control. A speed dial allows you to select the best speed for the job. Typically, slower speeds are best for working with hard woods.
- Between operations, store your bits in a safe place where their cutting edges will not come in contact with those of other bits or metal tools.



Never use a solvent to clean a bearing-piloted bit without first removing the bearing from the bit. Solvents will destroy bearing lubricants, resulting in extensive bearing damage.

- **ALWAYS** clean bits thoroughly after each use.
- Sharpen your bits using a small slip stone or oil stone lubricated with oil. For carbide bits, use a diamond slip stone. Hone only the face of each cutter with light strokes in one direction. Never hone the outside edges of the cutter as this will reduce its outer diameter. Hone each cutter edge with the same number of strokes.
- If the cutting edge is nicked, take the bit to a professional sharpening service or replace it.

GETTING STARTED

The Shopsmith *Pro Fence* Router Table Fence attaches to the T-Slot track in the top surface of your Shopsmith MARK V's *Pro Fence*...and is designed for use only with the Shopsmith *Pro Fence* Router Table.

Begin by attaching the *Pro Fence* Router Table to your *Pro Fence*-equipped Shopsmith MARK V, according to the instructions in your *Pro Fence* Router Table owner's manual. The Table Insert should be in position with your router motor attached.

TOOLS NEEDED

There are no tools required to attach your *Pro Fence* Router Table Fence to your Shopsmith MARK V's *Pro Fence*. However, you will need a 5/32" Allen wrench to align your *Pro Fence* Router Table Fence properly.

SETUP

Open the bag containing the mounting hardware (Knobs {13} — Sliding Tee-Nut Assemblies {11 & 26} and Flat Washers {12 & 25}). Insert the four **LONG** Sliding Tee-Nut Assemblies (11) up through the two holes in the bottom of each Front Plate Assembly (10) as shown in the exploded drawing. Slip an 11/32" Flat Washer (12) over the top of each bolt and thread on a Plastic Knob (13) with its flat end down against the top of the washer. Leave it loose.

Place your Shopsmith MARK V's *Pro Fence* in position on top of the *Pro Fence* Router Table. Slide it all the way to the left side of the Router Table surface (the side with the narrow area between the Table Insert and the Table edge).

Slide the **Right Hand** Fence Assembly into position with the two Sliding Tee-Nuts engaging the left (or rear) T-slot in the top surface of your MARK V's *Pro Fence*. Slide it fully to the right, until the right (flat) edge of the Fence face is flush with the outfeed end of your MARK V's *Pro Fence* and tighten the two Knobs. Next, slide the **SHORT** Sliding Tee-Nut Assembly (26) into the front T-slot, followed by the **Left Hand Fence Assembly**, sliding it fully

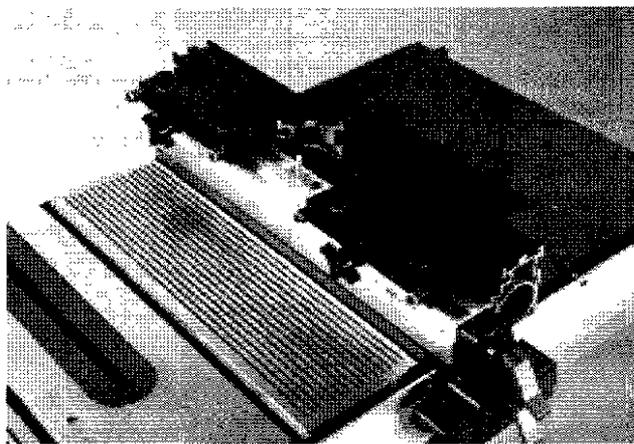


Figure 2

to the left, until the left (flat) end of the Fence face is flush with the infeed end of the MARK V's *Pro Fence*. Tighten the Knobs.

NOTE

If your workpiece is higher than the fence, you will have to move the **SHORT Sliding Tee-Nut Assembly to the rear T-slot.**

With your MARK V's Rip Fence and the two Router Fence



Figure 3

halves locked into position, insert your 5/32" Allen wrench through the access holes in the back of the Front Plate Assemblies (10) and loosen the four Button Head Allen Screws (5), allowing the Fence faces to drop down, making contact with the Router Table surface. Tighten the screws.

NOTE

The angled edge on the back side of the Fence face should be flush with the end of the Front Plate Assembly (10) when tightened. See Fig. 3.

Loosen the Knobs (13) and slide the two Fence halves toward one another until they are almost touching in the center. Tighten the Knobs (13). Loosen the Knurled Lock Nut (3) on each Fence half. Lay a straight-edged board or steel rule across the two Fence faces and turn the Threaded Handles (2) in or out until the two faces are flush with one another. Tighten the Knurled Lock Nuts (3).

Slip the Guard (23) over the Short Sliding Tee-Nut Assembly (26), followed by the 11/32" Flat Washer (25) and the Plastic Knob. Center the Guard over the opening between the Fence halves and tighten the Knob.

Insert the female end of the Elbow Vacuum Attachment (not shown on drawing) into the hole in the Left Hand Fence Assembly and attach your Dust Collector or shop vacuum hose to it.

NOTE

If your Dust Collector offers multiple ports, you may at-

tach one hose to the outboard ends of **both** Fence halves, improving your dust-collection efficiency.

USING YOUR PRO FENCE ROUTER TABLE FENCE

The Shopsmith *Pro Fence* Router Table Fence is designed to control the position of a workpiece when making straight-edged cuts on the Shopsmith *Pro Fence* Router Table. Its two Fence halves adjust independently.

NOTE

When working against the Fence, it's always best to make the cross-grain cuts first, followed by those cuts that must be made **with** the grain. This will allow you to cut away any tear-outs or splintering that occur during crosscutting.

FENCE ADJUSTMENTS

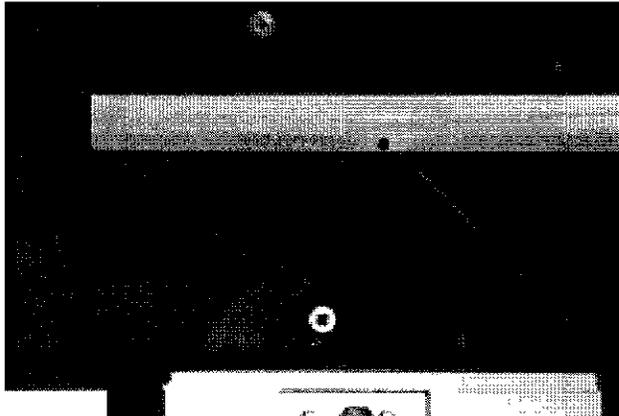


Figure 4 Partial profile cut — Fences flush

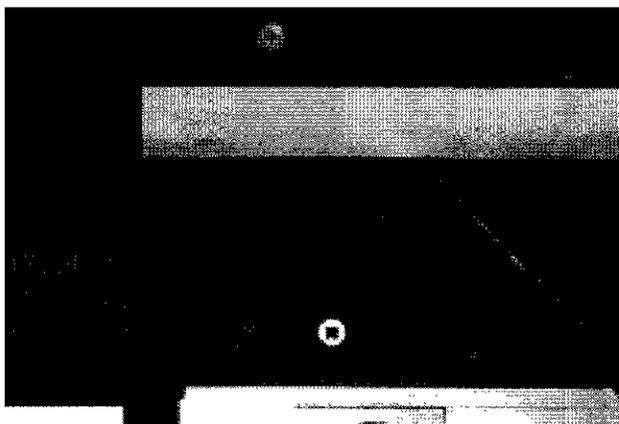


Figure 5 Full profile cut — Fences offset

Each full turn of the Threaded Handles (2) will move the fence exactly 1/32". As a result, adjustments as finite as 1/128" (a quarter-turn) or even less are possible.

When making a partial profile cut on a straight edge where the entire edge is not removed, the two Fence halves should be adjusted to be in line with one another. See Fig. 4.

When making a full profile cut on an edge where the entire edge is to be removed, the outfeed Fence is set forward of the infeed Fence slightly to provide back-up for the workpiece on the outfeed side of the cut, once the edge has been removed. See Fig. 3.

For optimum support and dust collection performance, the two Fence halves should be adjusted left-to-right to allow about 1/8" of clearance on each side of the rotating bit.

BIT INSTALLATION

- Install your router bit and set its depth-of-cut according to the instructions included with your router motor. Once set, lock it firmly in position.

NOTE

Depending upon the amount of stock to be removed (or the hardness of the material you're cutting), it's usually best to make your cuts in more than one pass. This practice will keep your bit from overheating, prevent workpiece burning and usually result in a smoother cut.

- Install the appropriate circular Insert in the center hole of your Router Plate. Always use the smallest insert possible, being certain the flutes of your router bit don't contact the edges of the Insert hole. If the diameter of your Router Bit is larger than the opening in the Insert, you will have to work without a center Insert, which is

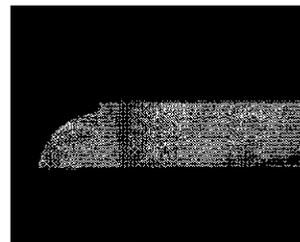


Figure 6 Full profile cut made with unpiloted bit

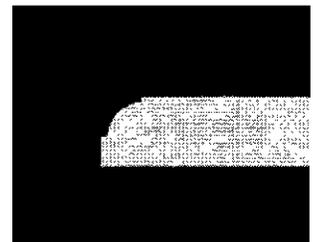


Figure 7 Partial profile cut made with piloted bit

an acceptable practice.

DECORATIVE EDGING

The most common application for straight-line routing is decorative edging. Edging is usually performed with a piloted router bit that follows the portion of the edge that remains after the cut.

Your *Pro Fence* Router Table Fences are designed for those situations where the bit you plan to use is not piloted...or the cut you plan to make will remove the entire edge of the workpiece, leaving nothing for your piloted bit to *follow*.

WARNING

When edging a workpiece that's wider than 5", ALWAYS use a Push Block (518220) to hold your stock down against the table surface - and in against the Fence.

When edging a workpiece less than 5" wide, use vertically positioned Feather Boards (518215) in the face of each Fence to hold your stock down against the Table



Figure 8
Round-over edge



Figure 9
Beading edge



Figure 10
Roman ogee edge

surface — horizontally positioned Feather Boards attached to the Table surface to hold your stock in against the Fences — and a Push Stick (518221) to guide the stock through the cut. See Fig. 11.

When edging a workpiece that's 1" wide or narrower, it's best to cut the edge on a wider board...then rip it to the desired width.

MAKING A PARTIAL PROFILE DECORATIVE EDGE CUT

Examples of partial profile edges include round-over, beading and ogee shapes.

1. Start by unplugging your router motor, installing the selected bit in the router's collet and tightening the collet.
2. Install the appropriate Center Insert in the Router Plate.
3. Lay your workpiece flat on the Router Table surface and move it into cutting position against one of the flutes of your bit. Adjust the up/down depth-of-cut to form the profile you wish to achieve and lock your router motor into position.

4. Place your MARK V's *Pro Rip Fence* (with the *Pro Fence* Router Table Fences attached) on the MARK V Work Table and slide it onto the Router Table surface, near the protruding bit. Do not tighten the two Rip Fence Locking Handles.
5. Position the workpiece edge you wish to shape against the face of the Infeed Router Table Fence. While sighting down the two Fence faces (from the outfeed side, towards the infeed side), move the Fence into position for making the desired cut and lock the two Rip Fence Locking Handles.

NOTE

If the profile you plan to cut is fairly deep...or you're working with hard woods... remember to make your cut in two or more passes...moving the fence closer to the bit (and your final cut) with each pass.

These adjustments can be made by releasing the two Locking Handles and moving the entire assembly...or by loosening the Knurled Locking Nuts (3) on your *Pro Fence* Router Table Fences and turning the Threaded Handles (2) on each Fence half.

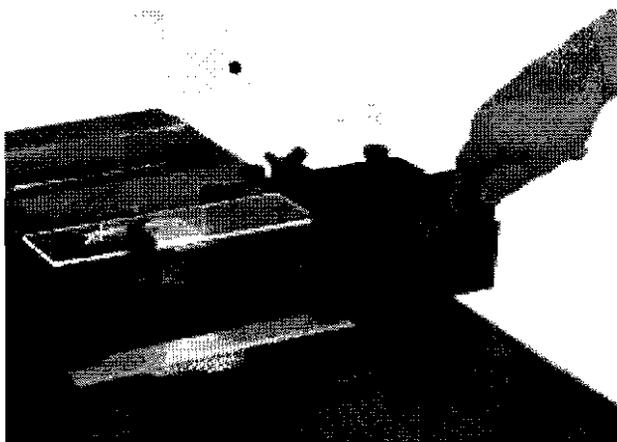


Figure 11 Always use appropriate safety devices to control narrow workpieces.

6. Adjust the outfeed Fence to be in perfect alignment with the infeed Fence and lock it into position. See the **SETUP** section of this manual.
7. Lock the Guard (23) into position and attach the dust collector hose(s).
8. Move the workpiece away from the bit. Plug in your router motor and turn it on.
9. Using a push block or push stick (and the appropriate vertical and horizontally-positioned Feather Boards if you're working with narrow stock) guide your workpiece through the first pass.

10. Turn off the router motor. Repeat steps 6 through 10 above for the second and subsequent passes, until the desired profile is achieved.

MAKING A FULL PROFILE DECORATIVE EDGE CUT

Since most decorative edging bits are made to cut certain profiles on standard 3/4" thick lumber, any decorative edging cut on stock that's thinner than 3/4" can become a full profile cut. As a result, the pilot on your bit will be of little use and it will be necessary for you to use your *Pro Fence* Router Table Fence system to control your depth-of-cut properly. (See Fig. 12)

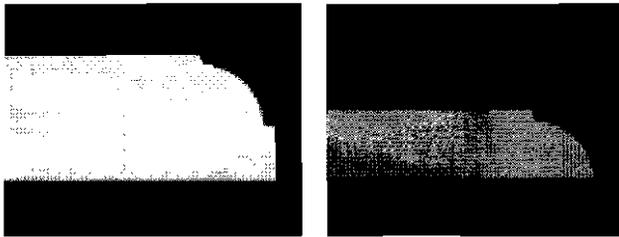


Figure 12 Beading cut on 3/4" stock
Cut made with same bit on 3/8" stock

Other examples of full profile edges include nosing cuts (a continuous, half-round curvature from the top surface of a workpiece to its bottom surface)...See Fig 13 — and cuts made with special multi-profile bits, such as the one shown in Fig. 14.

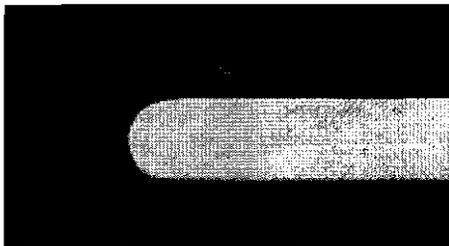


Figure 13 A nosing cut

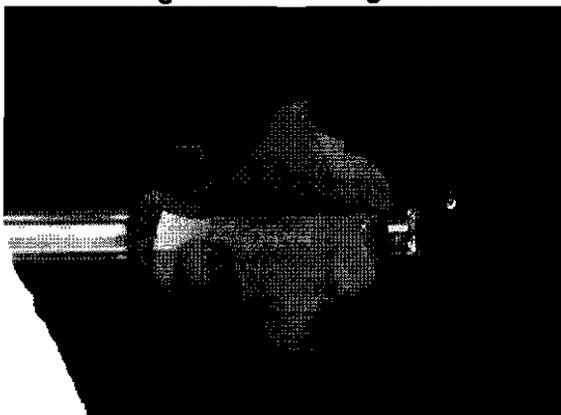


Figure 14 A Multi-Profile router bit

Steps 1 through 4: Follow the same procedures outlined in steps 1 through 4 above for making partial profile edge cuts.

5. Loosen the Knurled Locking Nut (3) on the Outfeed Fence and turn the Threaded Handle (2) counter-clockwise one revolution (1/32") to extend the Fence. Tighten the Locking Nut (3).
6. Position the workpiece edge you wish to shape against the face of the Infeed Router Table Fence. While sighting down the two Fence faces (from the outfeed side, towards the infeed side), move your Rip Fence (with the Pro Fence Router Fences attached) into position for making the desired cut and lock the two Rip Fence Locking Handles.
7. Lock the Guard (23) into position and attach the dust collector hose(s).
8. Move the workpiece away from the bit. Plug in your router motor and turn it on.
9. Using a push block or push stick (and the appropriate vertical and horizontally-positioned Feather Boards if you're working with narrow stock), make a 3" to 4" long "test" cut in the edge of your workpiece.
10. Without moving your workpiece, turn off your router motor.
11. With your workpiece held firmly against the Infeed Fence face, loosen the Knurled Locking Nut (3) on the Outfeed Fence and turn the Threaded Handle (2) clockwise, moving the Outfeed Fence forward until it rests against the freshly cut edge of your workpiece. Tighten the Knurled Locking Nut (3). This will provide the required support for your workpiece once its edge has been removed.

NOTE

When making a full profile edging cut, it's a good idea to start with a piece of stock that's about 1/16" (overall) larger than your intended finished size, then let your decorative edge cuts bring the workpiece to its finished size.

12. Back your workpiece away from contact with the router bit.
13. Turn on the router motor move the workpiece past the bit once again, completing your cut.

JOINTING BOARD EDGES

Your adjustable, two-piece Fence is the perfect accessory for jointing the edges of boards straight and true in preparation for making large panel glue-ups with nearly invisible joints.

When jointing the edge of a workpiece with the *Pro Fence* Router Table Fence, follow the exact same procedures as those outlined above for making a full profile decorative edge cut, with the following exceptions:

- Use any diameter of straight router bit you like, as long as its cutting edge is at least as long as your board is thick. Solid carbide or carbide-tipped bits are best.
- **Steps 1 thru 4:** Same as steps 1 through 4 for partial profile decorative cuts.
- **Step 5:** Simply adjust the Outfeed Fence so it is 1/32" to 1/16" forward of the position of the Infeed Fence to support the removed edge once it's cut. You will achieve the best results if you limit your depth-of-cut to 1/32" to 1/16" in a single pass. See Fig. 15.
- **Steps 6 & 7:** Same as steps 7 & 8 for full profile decorative cuts.
- **Step 8:** Use a push block or push stick (and the appropriate vertical and horizontally-positioned Feather Boards if you're working with narrow stock), to hold your stock against the Fence while you guide it through the cut.



Figure 15 A partially-cut jointed edge

WARNING

When edging a workpiece that's wider than 5", ALWAYS use a Push Block (518220) to hold your stock down against the table surface - and in against the Fence.

When edging a workpiece less than 5" wide, use vertically positioned Feather Boards (518215) in the face of each Fence to hold your stock down against the Table surface — horizontally positioned Feather Boards attached to the Table surface to hold your stock in against the Fences — and a Push Stick (518221) to guide the stock through the cut. See Fig. 11.

When edging a workpiece that's 1" wide or narrower, it's best to cut the edge on a wider board...then rip it to

the desired width.

CUTTING GROOVES AND DADOES

A groove is a narrow cut made with the grain of the wood that does not pass all the way through both surfaces. A dado is a narrow cut made across the grain of the wood that does not pass all the way through both surfaces.

1. Unplug your router motor, install an unpiloted straight bit or mortising bit of the appropriate width in the router's collet and tighten the collet.
2. Install the appropriate Center Insert in the Router Plate.
3. Adjust the up/down depth-of-cut to create a groove or dado of the depth you desire. Lock your router motor into position.
4. Using a square, mark the position of your groove or dado on the edge or end of your workpiece where the router bit will enter. See Fig. 16.

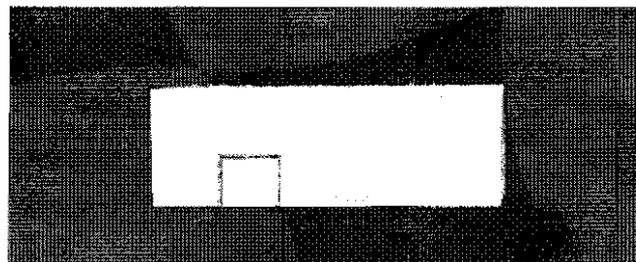


Figure 16 Mark the position of your groove or dado

5. Place your MARK V's *Pro Rip Fence* (with the *Pro Fence* Router Table Fences attached) on the MARK V Work Table and slide it onto the Router Table surface, near the protruding bit. Do not tighten the two Rip Fence Locking Handles.
6. Adjust the outfeed Fence to be in perfect alignment with the infeed Fence and lock it into position
7. Position your workpiece edge you wish to shape against the face of the Infeed Router Table Fence. While sighting down the two Fence faces (from the outfeed side, towards the infeed side), move the Fence into position for making the desired cut and lock the two Rip Fence Locking Handles.
8. Lock the Guard (23) into position and attach the dust collector hose(s).
9. Move the workpiece away from the bit. Plug in router motor and turn it on.
10. Using a push block (or push stick and the appropriate vertical and horizontally-positioned Feather Boards if you're working with narrow stock) guide workpiece through the cut.
11. Turn off the router motor.



Figure 17 Use a wooden push block to dado narrow stock

NOTE

If you're making an across-the-grain dado cut on a narrow piece of stock, make a wooden push block that's the same thickness as your workpiece and about 6" square with 90-degree corners to use as a guide for controlling your cut. See Fig 17.

CUTTING SLOTS AND MORTISES

Slots and mortises are cuts made in a workpiece that are usually stopped at both ends. Mortises are used in joinery to house a mating tenon. Although they are usually of the "blind" variety (not passing all the way through the workpiece) they can also be open and visible from both sides of the stock.

Slots, on the other hand, typically pass all the way through the workpiece. They're most often used for mating project components that are intended to move or slide. Folding outdoor furniture and workshop jigs and fixtures are examples of slot applications.

Since slots and mortises are stopped at both ends, forming them with a router is a *plunging* operation whereby the workpiece is lowered carefully down onto a straight, rotating, unpiloted router bit, then moved in both directions until the proper cut length is achieved.

Here is the step-by-step process. Since it will be the same for either a slot or a mortise, we'll cut a slot in our example.

1. The first step is to lay out the position of the slot on your workpiece. Using a square, first draw the slot on the surface of your stock.

Transfer the lines representing the length of your slot all the way across the top surface and down the side of the stock that will be facing you as you make the cut.

Also transfer the lines representing the width of

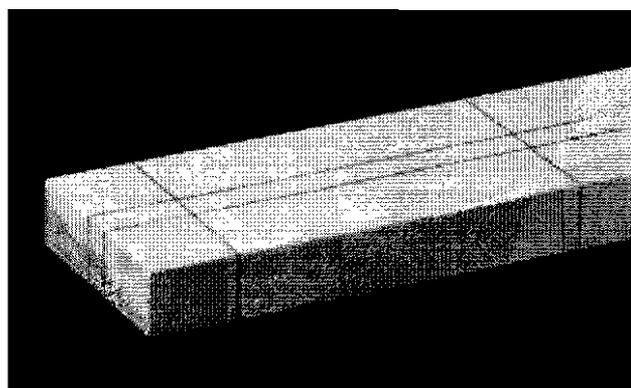


Figure 18 Laying out a slot or mortise

your slot across the top surface and down the left end (infeed end) of your workpiece. See Fig. 18.

FOR MORTISES: If cutting a blind mortise, draw a horizontal line across these two end lines. This line will represent the depth of your cut.

2. Unplug your router motor and install the router bit you plan to use. Tighten the bit securely in the collet and install the appropriate Center Insert in the Router Plate. Adjust the depth-of-cut of your router bit to about 1/8" when working with hard woods — 1/4" when working with soft woods. Lock your router motor into position.
3. Place your MARK V's *Pro Rip Fence* (with the *Pro Fence Router Table Fences* attached) on the MARK V Work Table and slide it onto the Router Table surface, near the bit. Do not tighten the two Rip Fence Locking Handles.
4. Move the two Fence halves close together, leaving about 1/8" of clearance between each side of the bit and the Fence faces. Adjust the outfeed Fence to be in perfect alignment with the infeed Fence and lock it into position. See **FENCE ADJUSTMENTS** section

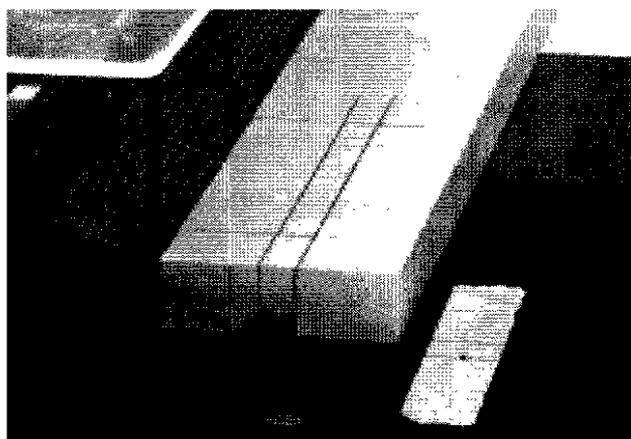


Figure 19 Adjusting the fence position

of this manual.

- Lay your marked workpiece on the Router Table surface and move your MARK V's Pro Rip Fence (with the Pro Fence Router Table Fences attached) in and out to align your bit with the two slot position lines you transferred to the end of your stock. Lock the two Fence Locking Handles. Micro-adjustments can be made by moving the two Fence halves in and out with the two Threaded Handles (2), as covered in the **FENCE ADJUSTMENTS** section. See Figure 19.
- With your workpiece laying on the Table and against the right Fence face, affix a 2" long piece of masking tape to the Table surface about 1/16" forward of the workpiece edge and extending beyond both sides of your router bit.

Rotate your router bit so its flutes are facing left and right (at 9:00 and 3:00 positions). Using a square or triangle and a pencil, draw two lines on your masking tape, representing the positions of the two router bit edges. See Fig. 20.

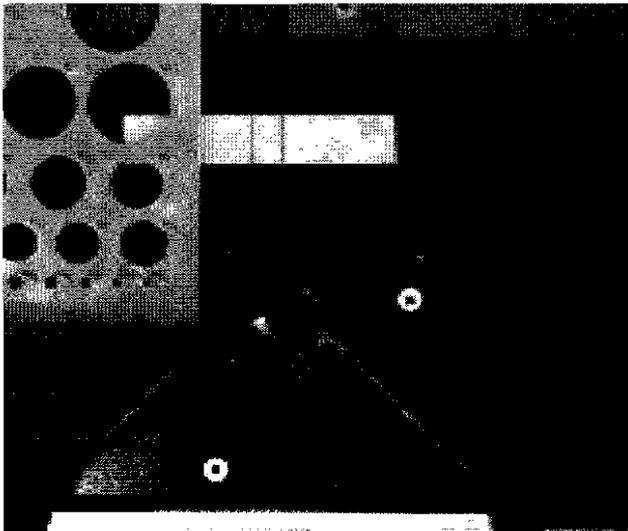


Figure 20

- Plug-in your router motor and turn it on. Grasp your workpiece with both hands. Rest the back edge of the workpiece against the infeed Fence face. Tilt the left edge of the stock up so it's about 1/2" to 3/4" above the tip of the router bit. Using the lines you drew down the front edge of your workpiece as a guide, position the stock so the line representing the left end of your cut is about 1/4" to 1/2" to the left of the line on your masking tape that represents the left edge of your router bit. See Fig. 21.

WARNING

When grasping the workpiece, be sure both hands are positioned such that they will not pass directly over the bit when making the cut.

If your slot or mortise is near the left end of your workpiece (as it rests on the Router Table surface), keep both hands well to the right of the slot or mortise position.

If you have 3" or more of length between the left end of your slot or mortise and the left end of your workpiece, you may use your left hand to grasp the stock near its left end during the cut.

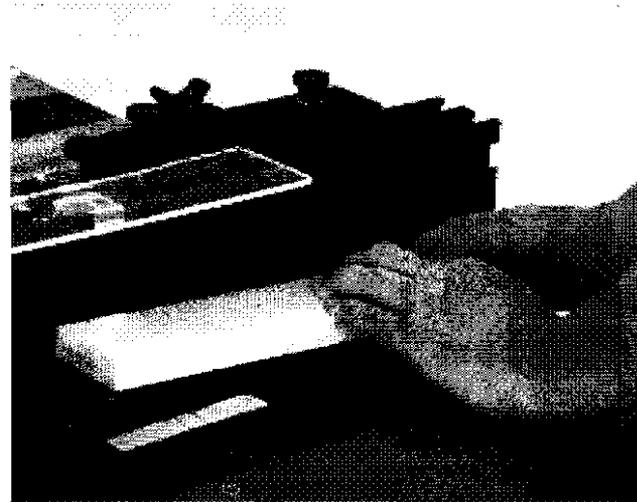


Figure 21 Preparing for the cut

- Lower the workpiece slowly down onto the rotating bit. Move the workpiece from right-to-left, stopping when the right-hand line on your workpiece face meets the right-hand line on the Router Table surface. To complete your first pass cut, move the workpiece from left-to-right until the left-hand line on your workpiece face meets the left hand line on the Router Table surface.
- While holding the workpiece firmly against the Fence face, tilt it up to clear the rotating router bit and turn off your router motor.

WARNING

Be very careful when tilting the workpiece up and away from the moving bit. If you fail to hold its back edge firmly against the Fence face during this procedure, the rotating router bit could snag the workpiece, causing it to be thrown.

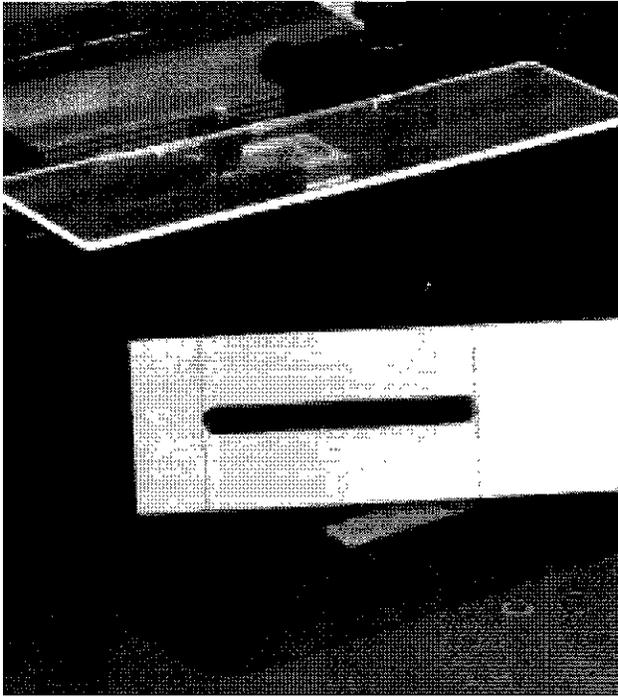


Figure 22

10. Turn off the router motor and re-adjust its depth-of-cut to make another 1/8" to 1/4" pass.
11. Repeat steps 7 through 10 until you achieve your final cut depth....making 1/8" to 1/4" deep cuts with each pass. See Fig. 22.

MAINTENANCE

FENCE FACES:

Every 10 hours or so of operation, it is recommended that you use a soft rag to apply a coating of paste wax to the faces of your Fence to minimize workpiece friction.

PITCH REMOVAL:

Depending upon the types of wood you are cutting, a pitch build-up may occur on the inside diagonal faces of each Fence half — as well as the face of your MARK V *Pro Fence*. This pitch build-up should be removed, using mineral spirits.

LUBRICATION:

Your Shopsmith *Pro Fence* Router Table Fences have no parts requiring lubrication.

ROUTER BITS:

Sharp, pitch-free router bits perform much better than dull bits and are far less dangerous to use. Always keep your bits sharp and free of pitch. See **ROUTER BIT CARE AND MAINTENANCE** earlier in this manual.

NOTE

If you have any questions about your Shopsmith *Pro Fence Router Table Fence*, please call our Customer Service Department TOLL-FREE at 1-800-762-7555 — drop us an E-Mail at techsupport@shopsmith.com — visit our website at www.shopsmith.com — or write to us at:

Shopsmith, Inc.
6530 Poe Avenue
Dayton, Ohio 45414

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Shopsmith Inc.
6530 Poe Avenue
Dayton, Ohio 45414

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