

**FLETCHER**

# OWNERS MANUAL

## FLETCHER® 2000 PROFESSIONAL MAT CUTTING SYSTEM



### SET UP, OPERATION & MAINTENANCE

Form 788

**THE FLETCHER-TERRY COMPANY**

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## INTRODUCTION

Congratulations! The Fletcher 2000 Professional Mat Cutting System (Patent Pending) is designed for you, the framing professional who requires consistent, high quality results. You will produce quality mats because the Fletcher 2000 provides the kind of features that professionals have asked for. The Fletcher 2000 is available in both 48" and 60" models.

The **Cutting Head** is comfortable to grip and makes perfect cuts with ease. The **Head** fits the **Shaft** and **Clamp** precisely, allowing it to glide smoothly without wobble. This means no more "hooks" caused by play in the **Head**. The **Shaft** is polished chrome plated steel, and the **Head** rides on stainless steel **Wear Strips**. As a result, wear will be minimal; and although complete adjustment capabilities are built in, they will be infrequently required.

The same type blade is used for bevel cutting and sizing cuts. Each is held in a protective **Magazine** that makes blade changing a fast and simple operation. The blade extension adjustment screw is on the magazine and once set, will remain the same from blade to blade.

A unique feature is provided by a **Locator Pin** which allows you to quickly set common mat borders at 1 1/2" to 3 1/2" in 1/2" increments. The exclusive **Mat Gage** used with the **Locator Pin** permits accurate settings for liner mats.

The **Base** is made of rigid, non-warping anodized aluminum. Mat borders up to 8 3/8" can be accommodated, however, an optional **Base Extension** can be added permitting borders over 16 inches. Measurement scales are easy to read, and multiple mat liners, V-grooving and other creative designs are easily and accurately produced.

Optional **Measuring Stops** will assure minimum overcut; and when clamped to the **Shaft**, will resist slipping as the **Head** contacts them. The Sizing and **Squaring Arm** assembly is an excellent option. It attaches rigidly to the **Base** and will produce accurate and square down-sizing of mat board.

Advanced as it is, the **Fletcher 2000** is easy to learn how to use. Its helpful features can be mastered in a very short time. This Owners Manual will guide you through SET UP, SQUARING ADJUSTMENTS, HOW TO CUT MATS, MAINTENANCE, a TROUBLE SHOOTING GUIDE, and a PARTS LIST. With this manual at hand, we are sure you will be cutting mats a short time after taking your new **Fletcher 2000 Professional Mat Cutting System** out of the box.

## WARRANTY

The Fletcher-Terry Company warrants the Fletcher® 2000 Professional Mat Cutting System to be free from defects in parts and workmanship for a period of ninety (90) days after original purchase. The Fletcher-Terry Company warrants that it will repair or replace any such defective machine or replace parts, within the warranty period, providing the machine has been under normal use and service. Authorization for the return must come from The Fletcher-Terry Company in writing. Proof of purchase must be submitted to validate warranty coverage.

This warranty is in lieu of all other agreements and warranties expressed or implied. The Fletcher-Terry Company neither assumes nor authorizes any other person or representative to assume for it any other liability in connection with the Fletcher® 2000 Professional Mat Cutting System. The Fletcher-Terry Company shall not be liable for any damages or losses, incidental or consequential, direct or indirect, arising out of the use of this product.

# FLETCHER® 2000 PROFESSIONAL MAT CUTTING SYSTEM

12-514

**LOCATOR PIN** (pat. pend.)—Permits accurately repeatable mat borders of common widths of 1½" to 3½" in increments of ½". With **Mat Gage**, liner measurements are uniform and easy to create.

**MAT GUIDE SLIDE**—Assures **Mat Guide** is square and easily locked. Allows precise mat borders.

**MAT STOP**—Supports lower corner of mat and assures accurate overcut adjustments with the measuring **Stops**.

**MAGAZINES**—Cutting blades are conveniently mounted in identical **Magazines** for both bevel and straight cuts. Blade changing and projection adjustments are easily made away from the **Head**. Spare magazines can be pre-loaded and adjusted for varieties of mat thicknesses.

**CUTTING HEAD**—The heart of the system. Controls the position of the blade **Magazines** in a nearly friction-free close fitting assembly.

**LOWER MEASURING STOP** (optional)—Quick and easy location of end of bevel cut for accurate and repeatable control of overcut. (See Page 12)

**Pivot hinge**—Made of heavy duty aluminum for durability and ease of use.

**SIZING MEASURING STOP**—part of the **Squaring Arm** option, permits repetitive sizing of mats.

**SQUARING ARM** (optional)—This rigid assembly will allow accurate and square down sizing of mat board. Easy to attach. (see page 10)

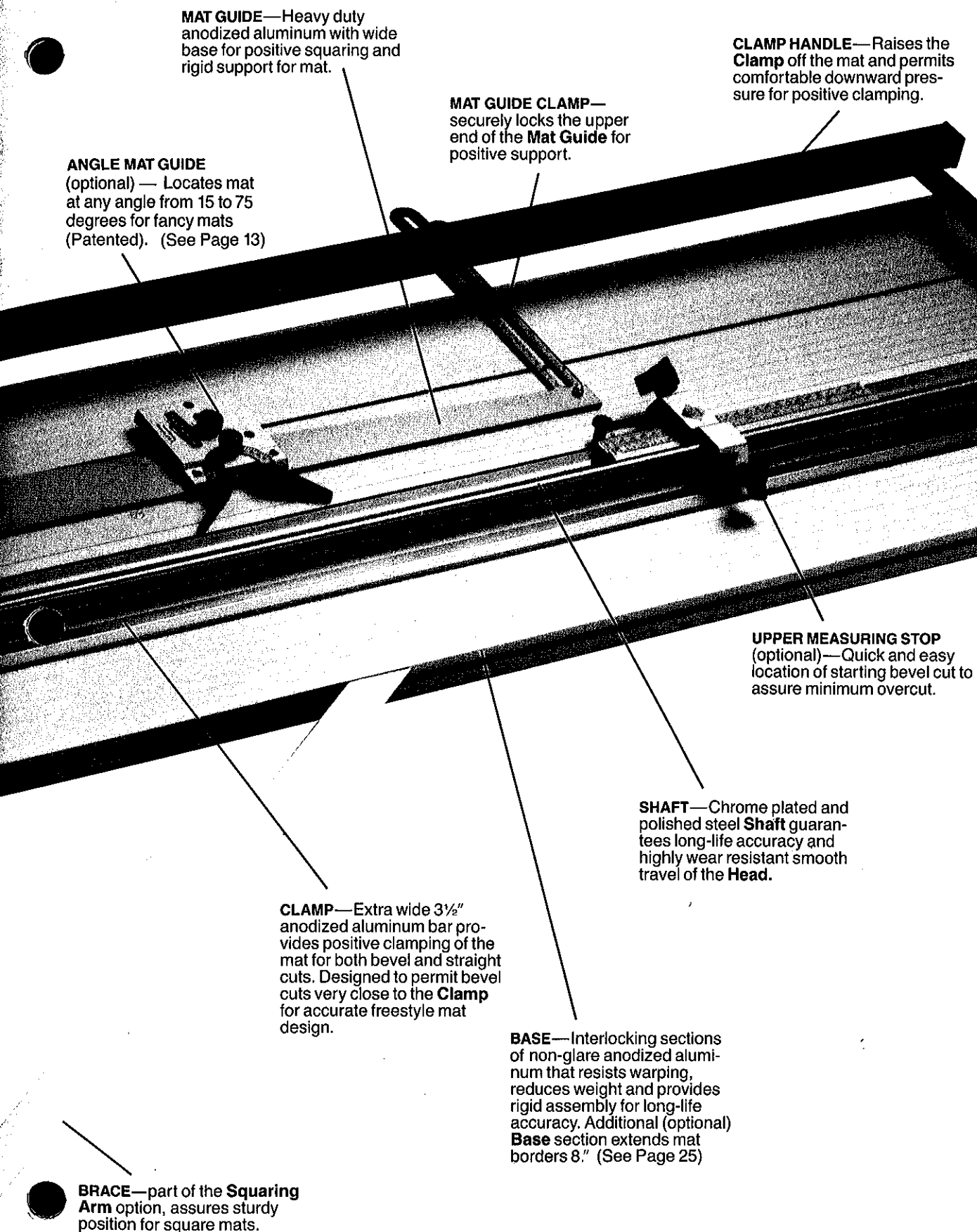
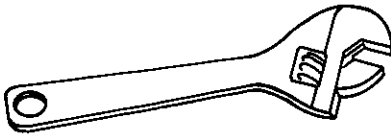


Figure 1.

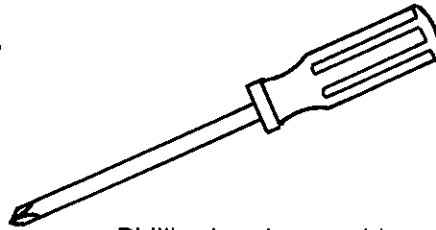
# TOOLS REQUIRED

Three Allen wrenches ( $\frac{1}{16}$ ",  $\frac{3}{32}$ ", and  $\frac{5}{32}$ " ) are included with the machine. The first two are used if adjustments of the **Head** are required later; the  $\frac{5}{32}$ " wrench is used when you add the **Measuring Stops** and **Squaring Arm** assembly options.

For set up, you will need a Phillips head screw driver and a small adjustable wrench.



Small adjustable wrench



Phillips head screw driver



Allen wrenches  
( $\frac{1}{16}$ ",  $\frac{3}{32}$ ", and  $\frac{5}{32}$ " )

When the **Fletcher 2000** is removed from its shipping carton, check the components against the pictorial on pages 4 and 5 including the items from the parts bag.

1. Discard Bubble Wrap and Packing Tape.
2. Place 9 self adhesive rubber bumpers from the parts bag equally spaced on the bottom of the **Base** to prevent scratching your table top.
3. Place the **Fletcher 2000** on a flat table top with the **Clamp Handle** to the left.

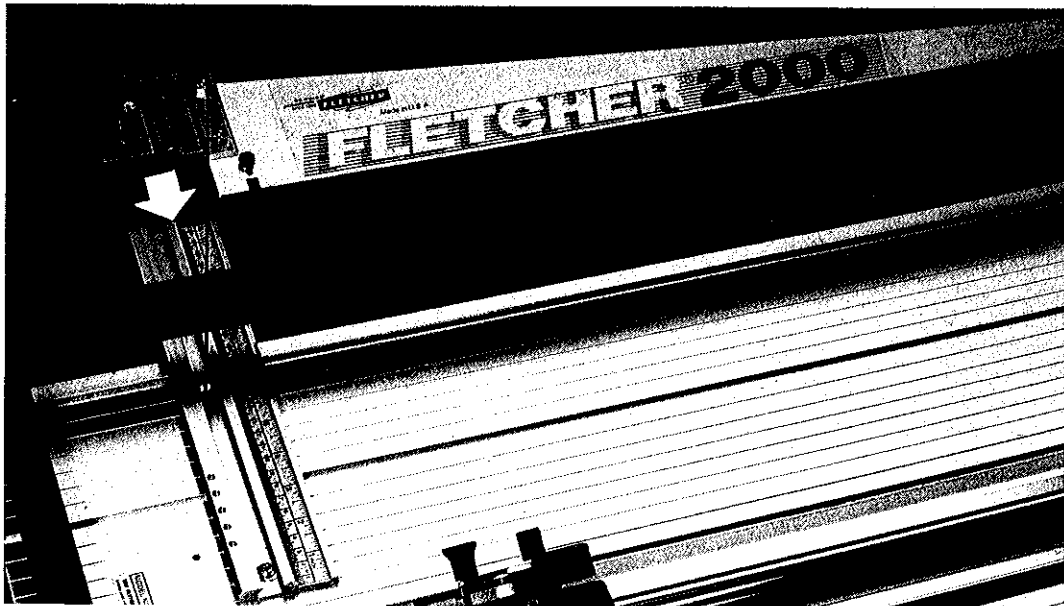


Figure 2.

# MAT BLADES

Two types of "Fletcher Super Keen" mat blades are available. The 05-012 is .012" thick and is used for cutting regular mats. The 05-015 is .015" thick and may be preferred for denser, or more abrasive mats. The Head has two cutting positions. On the left is bevel cutting and on the right is a vertically mounted blade for down-sizing mat board.

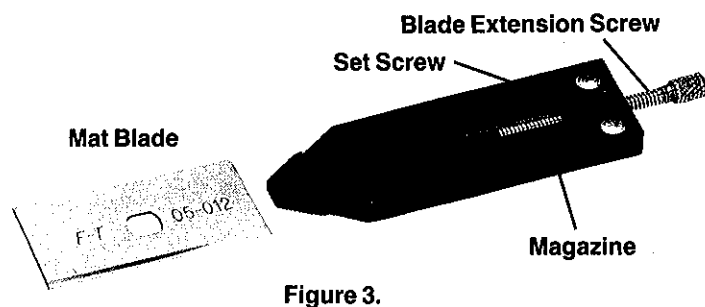


Figure 3.

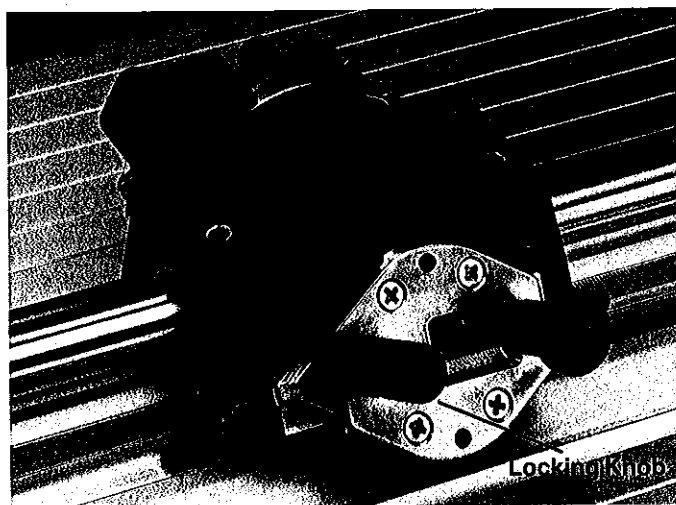


Figure 4.

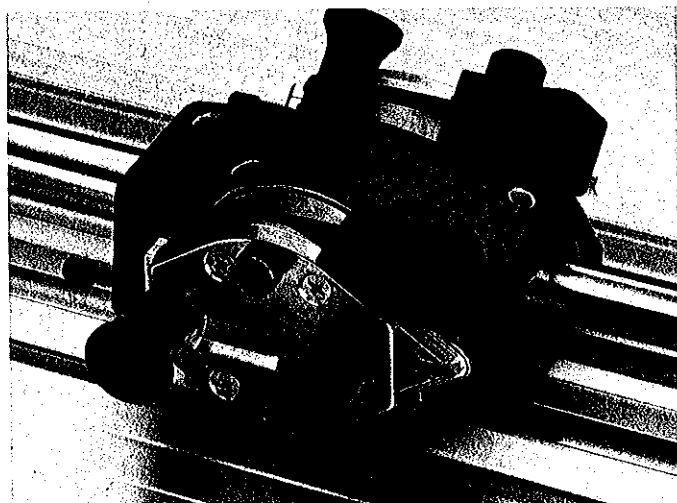


Figure 5.

1. Insert a **Fletcher Mat Blade** into each of the two blade **Magazines**. A set screw is provided on each side of the magazine (see figure 3). These screws are adjusted with the  $\frac{1}{16}$ " Allen wrench to permit the blade to be inserted and held lightly without falling out. Turning the screws clockwise frees the blade, turning them counter clockwise grips it more firmly. These screws need to be adjusted only once. Slide one **Magazine** into the **Head** on the left, the bevel cutting side, and the other in its slot on the right side of the **Head** for vertical cuts. Make sure the **Magazines** are fully inserted to a stop and the blades are pushed all the way into the **Magazine** before tightening the **Magazine Locking Knob**. (See Fig. 4).
2. Prepare a slip sheet of mat board about 8" wide and 40" long. Place it under the **Clamp**, protruding to the left close to but not touching the **Mat Guide**. Using a piece of mat board about 6 inches square, place it under the **Clamp**. Move the **Head** to a position slightly beyond the 6 inch piece and rotate the bevel blade assembly down into the slip sheet. The corner of the blade should penetrate the slip sheet about half way or  $\frac{1}{32}$ ". Adjust the blade position in the **Magazine** by turning the **Blade Extension Screw** in or out to accomplish the proper penetration of the slip sheet. Adjustments of this screw require that you loosen the **Magazine Locking Knob** each time. Be sure the blade is always against its positioning screw and that the **Magazine** is fully inserted before tightening the **Locking Knob**.

**CAUTION:**  
Use extreme care when handling blades. They are Super Keen.

# SQUARING ADJUSTMENTS

## SQUARE THE MAT GUIDE.

1. Slide the Mat Guide to the right until it contacts the Locator Pin in the 2" hole, and tighten the **Locking Knob** on the **Mat Guide**.  
(See Figure 8) Tighten the upper **Locking Knob** (See Fig. 7). The scales at the upper end of the **Locking Mat Guide** are for reference only. Do not force the position of the upper end to match the scale reading at the lower end. They will read the same after making the adjustments on pages 8 and 9.
2. Using the 6" square piece of mat board, slide it to the left under the Clamp until it is in full contact with the **Mat Guide** at the lower end of the **Mat Guide**.
3. Make a bevel cut about 1" long near the lower edge of the mat piece. Move the piece of mat to the top of the **Mat Guide** and make another cut starting beyond the first cut and running into it. When the **Mat Guide** is properly squared, these two cuts will coincide and appear to be one cut. (See Figures 6 and 7).
4. The **Mat Guide** can be rotated about the screw in the left end of the **Mat Guide Slide** to obtain the proper position in Item 3, by a simple technique. Loosen the **Upper Locking Knob** and the **Pan Head** screw on the right end of the **Mat Guide Slide**. Hold the loosened **Pan Head** screw with the Phillips head screw driver and slowly rotate the hex nut eccentric under the **Base**. You will see the **Mat Guide** move back and forth at the top. When it is in the correct position, hold the hex nut with your fingers so it can not turn and fully tighten the pan head screw. (See Fig. 6). Re-check with two cuts as in step 3. Repeat the eccentric adjustment if necessary. Be sure both screws in the **Mat Guide Slide** are fully tightened. Use the adjustable wrench on the nut of the left hand screw. Remember, if you turn the hex nut eccentric, you will change the setting of the **Mat Guide**.
5. Use the **Locking Mat Guide** in the normal way making sure the **Upper Locking Knob** is loosened before moving the **Locking Mat Guide**. After moving the **Locking Mat Guide** to a selected mat border position, tighten the lower **Locking Knob** first, then tighten the **Upper Locking Knob**.

Upper Locking Knob

Upper Indicator

Figure 7.

Left-hand Screw

Locking Knob

Locator Pin

Pan Head Screw

Figure 6.

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# SQUARING ADJUSTMENTS

## ADJUST MAT BORDER DIMENSION AND SCALE INDICATOR.

1. The **Locator Pin** is a very helpful device for producing accurate and repeatable border widths. Place the **Locator Pin** in the 2" hole in the **Mat Guide Slide**. Slide the **Mat Guide** to the right until it touches the **Locator Pin** and tighten both **Locking Knobs**. Notice the Allen screw which actually contacts the **Locator Pin**. The scale **Indicator** will be close to the 2" mark on the scale.

Place a piece of mat board under the **Clamp**, against the **Mat Guide** and against the extended **Mat Stop**. Cut a strip with the bevel cutting blade and measure its width carefully. If it is not exactly 2" wide, correct it by moving the **Mat Guide** to the left far enough to reach the Allen screw which rested against the **Locator Pin**. Using the  $\frac{3}{32}$ " Allen wrench (provided in the parts bag), turn this screw clockwise if the mat border was too wide, or counterclockwise if it was too narrow. Three-fourth's of a turn equals about  $\frac{1}{32}$ ".

2. Repeat step 1, if necessary until the border is exactly 2". (See Fig. 8).

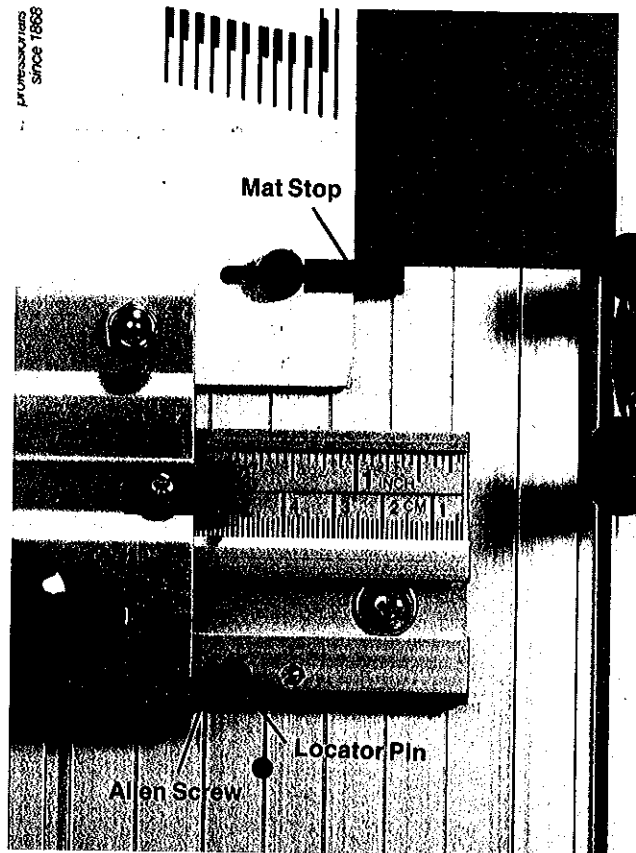


Figure 8.

## SET THE SCALE READING INDICATOR.

3. With the **Mat Guide** assembly still located against the **Locator Pin** at the 2" position, check the scale **Indicator**. It should be reading 2". If not, loosen its holding screw and slide the **Indicator** to the right or left until it reads 2". Tighten the holding screw. (See Fig. 9).
4. Set the **Upper Indicator** (See Fig. 7) so it also Reads 2".

Bevel cutting will now produce accurate border widths that are parallel to the edge of the mat.

In normal use, these adjustments will remain correct. You may measure borders from time to time to be certain none of the screws loosened. If so, you may correct the condition by following the appropriate procedure above.

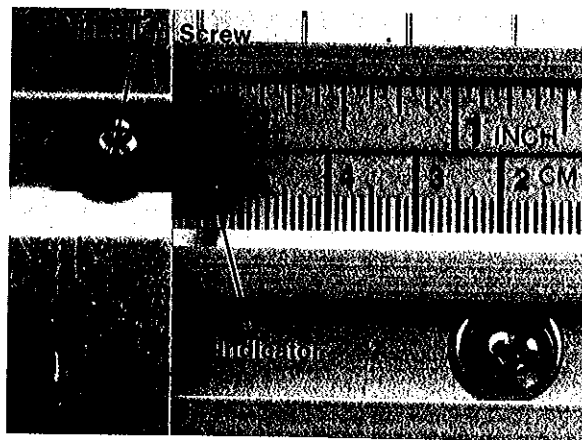


Figure 9.

**REMEMBER TO ALWAYS TIGHTEN THE MAT GUIDE LOCKING KNOB BEFORE TIGHTENING THE UPPER LOCKING KNOB.**

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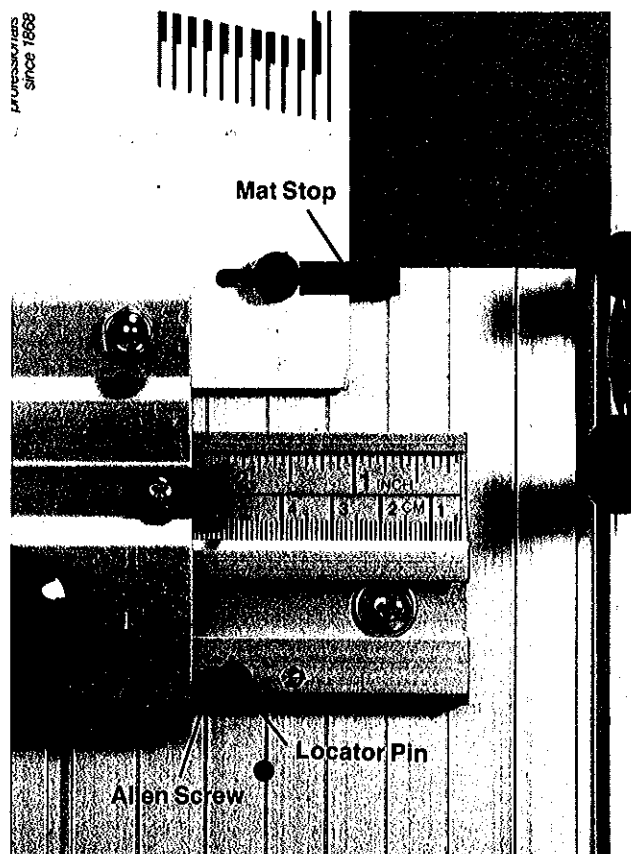


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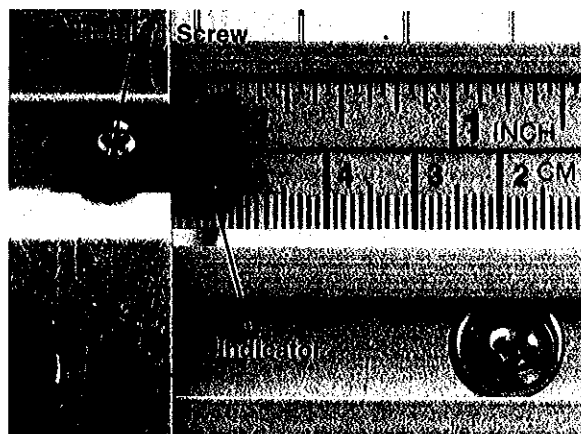


Figure 9.

**REMEMBER TO ALWAYS TIGHTEN THE MAT GUIDE LOCKING KNOB BEFORE TIGHTENING THE UPPER LOCKING KNOB.**

## INSTALLATION AND ADJUSTMENT OF THE SIZING AND SQUARING ARM OPTION

Use of this option will speed up the production of mats by giving you exact down-sizing of mat board. Its sturdy construction and bracing will assure accurate sizes and 90 degree corners so important in fine mat work.

Phillips screw driver  
 $\frac{5}{32}$ " Allen wrench  
 $\frac{3}{8}$ " or adjustable wrench

You will receive the right sizing **Squaring Arm** components disassembled into three parts, the **Squaring Arm** with an inch/metric scale, the **Angle Brace**, and a **Squaring Arm Stop**.

1. The **Fletcher 2000** should be resting on a flat surface large enough to provide support for the **Squaring Arm**. You will see a hole in the **Base** about 5" from the near end. Assemble the flat head screw, from the parts bag, through the **Squaring Arm** and the **Base**. Place the washer, lock washer, and hex nut on the screw from beneath the **Base**. Tighten to a snug condition.
2. On the right edge of the **Base** about 40" from the near end, you will find a button head screw which is threaded into a nut in the **Base**. Remove the screw with the  $\frac{5}{32}$ " Allen wrench. Leave the nut in the **Base**.
3. Remove the flat head screw and eccentric hex nut from the parts bag. Assemble this screw and eccentric nut through the **Squaring Arm** and the hole in the end of the **Angle Brace**. Be sure the eccentric nut is fully seated in the  $\frac{7}{16}$ " hole in the **Angle Brace**. Leave it slightly loose.
4. Turn the hex eccentric nut with your fingers. You will notice the **Squaring Arm** moving up and down with respect to the **Angle Brace**. At about the halfway position in this motion, tighten the flat head screw while holding the eccentric nut.

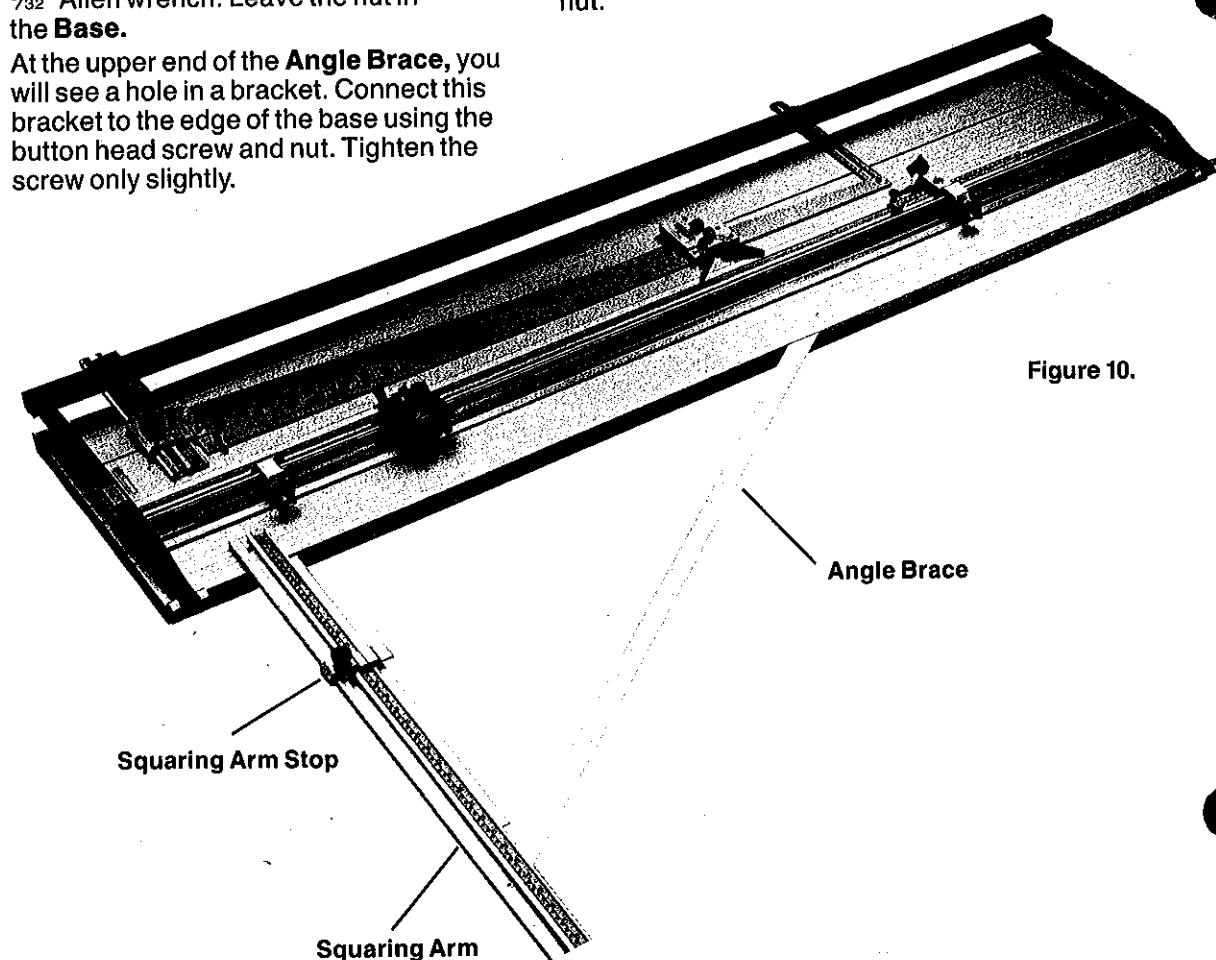


Figure 10.

# INSTALLATION AND ADJUSTMENT OF THE SIZING AND SQUARING ARM OPTION

5. Raise the **Clamp Handle** all the way up so it will remain off the base. The **Mat Guide** should be locked in position on its **Slide**. Place a full size mat (30x42) horizontally on the **Base** with the lower edge resting against the **Squaring Arm**. Note, it is not placed on *top* of the scale. Slide the mat to the left until it contacts the **Mat Guide**. Position the mat so it touches the **Mat Guide** evenly along the full length of the **Mat Guide**. You will note the mat is probably not in contact along the full length of the **Squaring Arm**. Slide the upper end of the **Angle Brace**, under the button head screw, until the mat is in full contact with both the **Mat Guide** and the **Squaring Arm**. (See Fig. 11).
6. Slightly loosen the flat head screw at the joint of the **Squaring Arm** and **Angle Brace**. While holding the screw with a screw driver, rotate the eccentric nut slowly until the bottom edge of the mat is in contact along the full length of the **Squaring Arm** and the **Mat Guide**. Now, tighten the flat head screw without letting the eccentric nut turn. Also tighten the nut under the **Base** at the left end of the **Squaring Arm** and the button head screw which holds the **Angle Brace** to the right side of the **Base**.  
If you are unable to obtain the square condition with the adjustment available in the eccentric nut, slide the **Angle Brace** where it is attached with the button head screw and repeat the eccentric nut adjustment. Be sure all screws are well tightened and then re-check squareness by bringing the mat into contact with both the **Squaring Arm** and the **Mat Guide** at the same time.

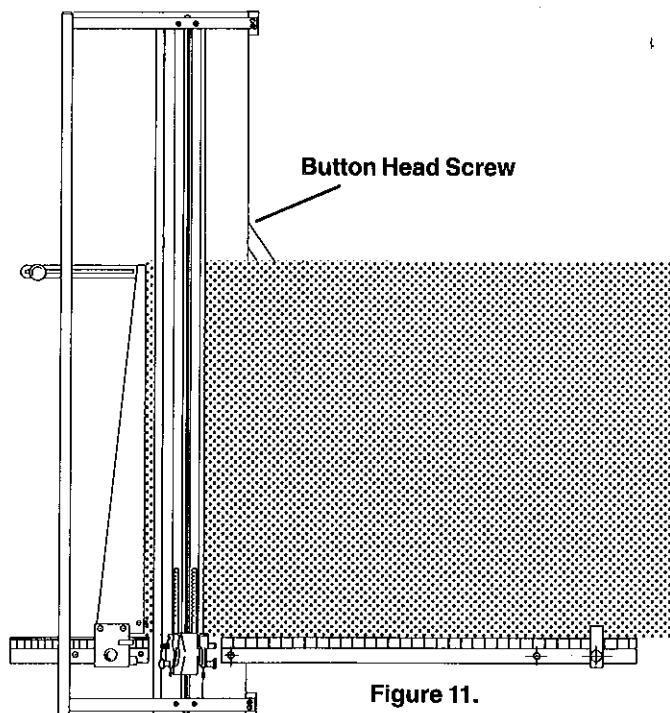


Figure 11.

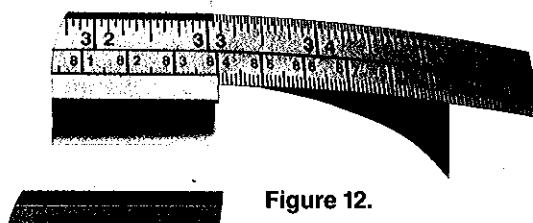


Figure 12.

7. The scale in the **Squaring Arm** is shipped with pressure sensitive adhesive on the underside. Slide the scale out to the right about one foot. Peel off about 4" of the protective paper from the adhesive and slide the scale back to the left, but do not set the adhesive yet. (See Fig. 12).
8. Draw a vertical line 3" from the left edge of a mat. Place the mat's lower edge against the **Squaring Arm** and slide it slowly to the left until it contacts the vertical blade (sizing blade) which should be rotated down and locked in its cutting position. The scale should now be positioned in its slide aligning the pencil mark with the 3" index on the scale. Press down on the right 4" of the scale so it adheres to the **Squaring Arm**. (See Fig. 13). If it should ever be necessary to reposition this scale, it should be easy to pry up the adhered section and relocate the scale.

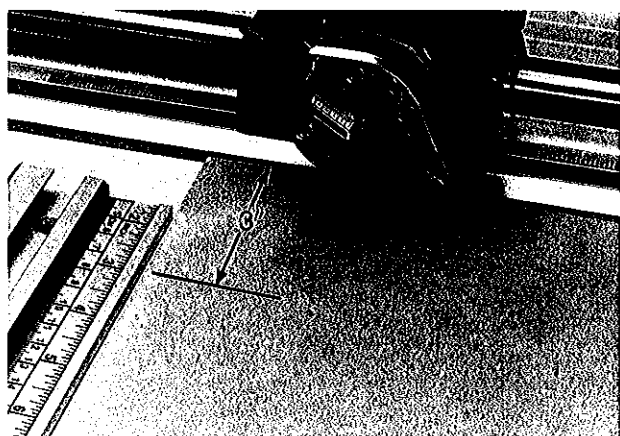


Figure 13.

# INSTALLATION AND ADJUSTMENT OF THE MEASURING STOP OPTION

The optional **Measuring Stops** permit repeated bevel cutting with minimum over cut and eliminate the need for lines on the mat. They are designed to be permanently mounted on the **Shaft**. This allows them to be locked in place firmly enough not to move when contacted by the **Head**.

## ASSEMBLY

1. When received, the **Locking Knobs** and the **Stop Screws** with their jam nuts will be located in a parts bag. Assemble them to the **Upper and Lower Measuring Stops** as shown in Figure 14. Do not tighten **Locking Knobs** before assembling them to the **Shaft**.
2. Using an adjustable wrench, remove the hex head bolts from *both* ends of the **Shaft** and set them aside being careful to keep the spring washers on the shoulder bolts. Remove the four (two at each end) button head Allen screws that attach the **Shaft Brackets** to the **Upper and Lower Hinge Brackets**. Raise the **Clamp Handle** to its fully open position and leave it there. You will note the **Clamp** remains on the **Base**.
3. Slide the **Lower Shaft Bracket** off and slide the **Lower Measuring Stop** on the **Shaft**. Be careful when slipping the **Measuring Stop** over the stainless steel **Wear Strips** since it is a close fit. Place the **Shaft Bracket** back in place on the **Shaft**. (See Fig. 15).
4. Repeat this process at the upper end of the **Shaft**, carefully sliding the **Upper Measuring Stop** onto the shaft over the **Wear Strips**. (See Fig. 16). These stops should be oriented as shown in Figure 14.
5. Return the **Clamp Handle** to its downward position. Re-install the 4 button head screws from step 2 above. Put the shoulder screws back into the ends of the **Shaft** being certain to include the 2 spring washers.
6. Re-check the **Mat Guide** squareness adjustment and correct it if necessary as you did during assembly of the machine.

Use of the **Measuring Stops** is explained in the section on How To Cut Mats.



### CAUTION:

Use extreme care when handling blades. They are Super Keen.



Figure 14.

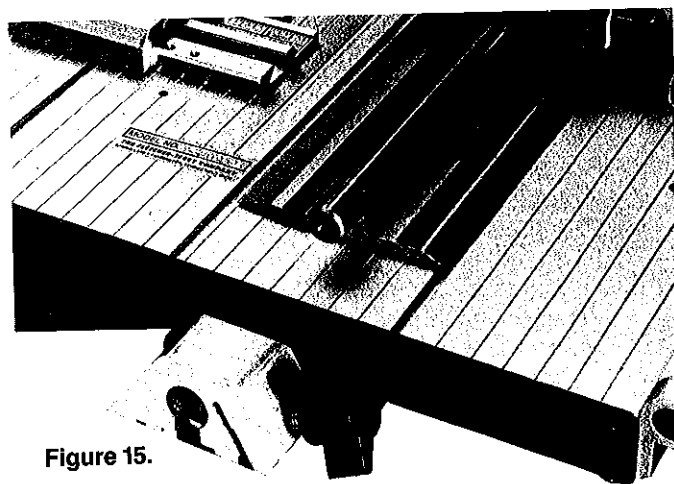


Figure 15.

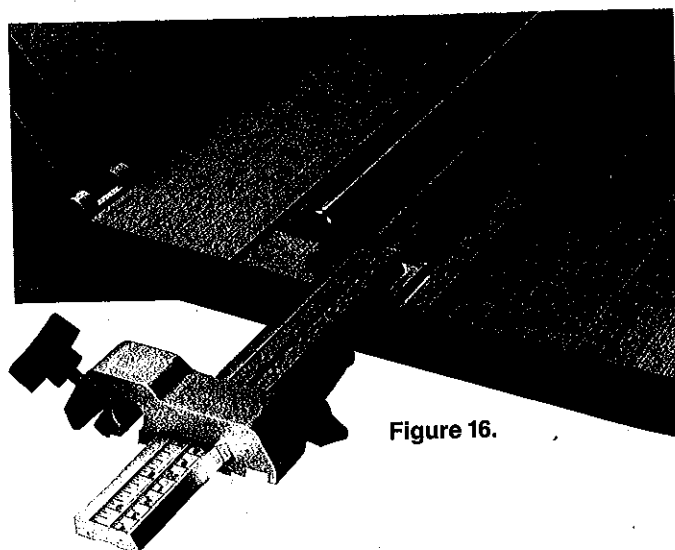


Figure 16.

# INSTALLATION AND ADJUSTMENT OF THE ANGLE MAT GUIDE OPTION

The **Angle Mat Guide** provides the professional picture framer an indispensable addition to his "Fletcher 2000". With it you can produce angled bevel cuts over a range of 15 degrees to 75 degrees.

In addition to simple 45 degree corner cuts, a wide variety of multi-sided openings can be produced easily and with precision.

No matter how complex the opening, you can create double mats with exact and consistent liner borders.

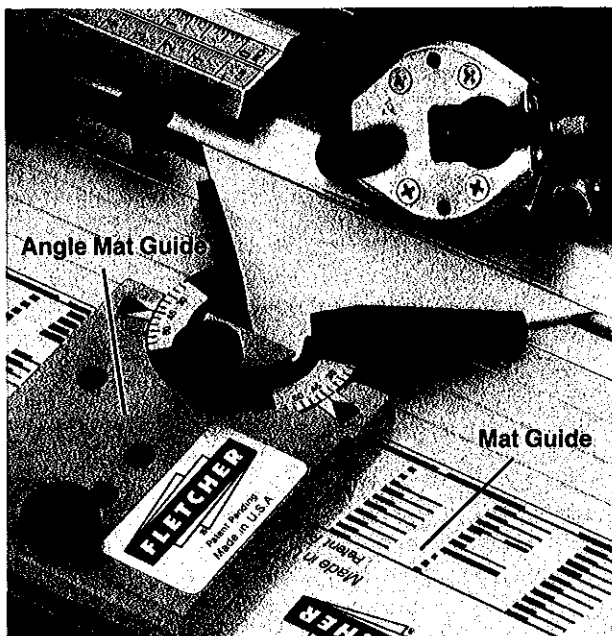


Figure 17.

It is a simple matter to attach the **Angle Mat Guide** to the **Mat Guide** on your "Fletcher 2000". Refer to the illustration below. The **Locking Knob** can be placed in any of the three holes along the center of the device. Selecting hole #1 on the left will locate the **Angle Mat Guide** at the lower end of the **Mat Guide** for smaller mats, up to 8" x 10". Using hole #3 on the right will locate the tool at the upper end of the **Mat Guide** for large mats. The center hole #2 will, of course, position the tool near the middle of the **Mat Guide**. Hole #4 permits use of the **Angle Mat Guide** on certain other mat cutters.

To attach, set the **Angle Mat Guide** on the **Mat Guide** and slide it downward until it stops. It will locate on the right side of the **Mat Guide** with two projections on the underside, and on the left with the **Locking Knob**. While continuing to pull it toward you, turn the **Locking Knob** counterclockwise to firmly lock the tool in place. To remove it, turn the **Locking Knob** clockwise.

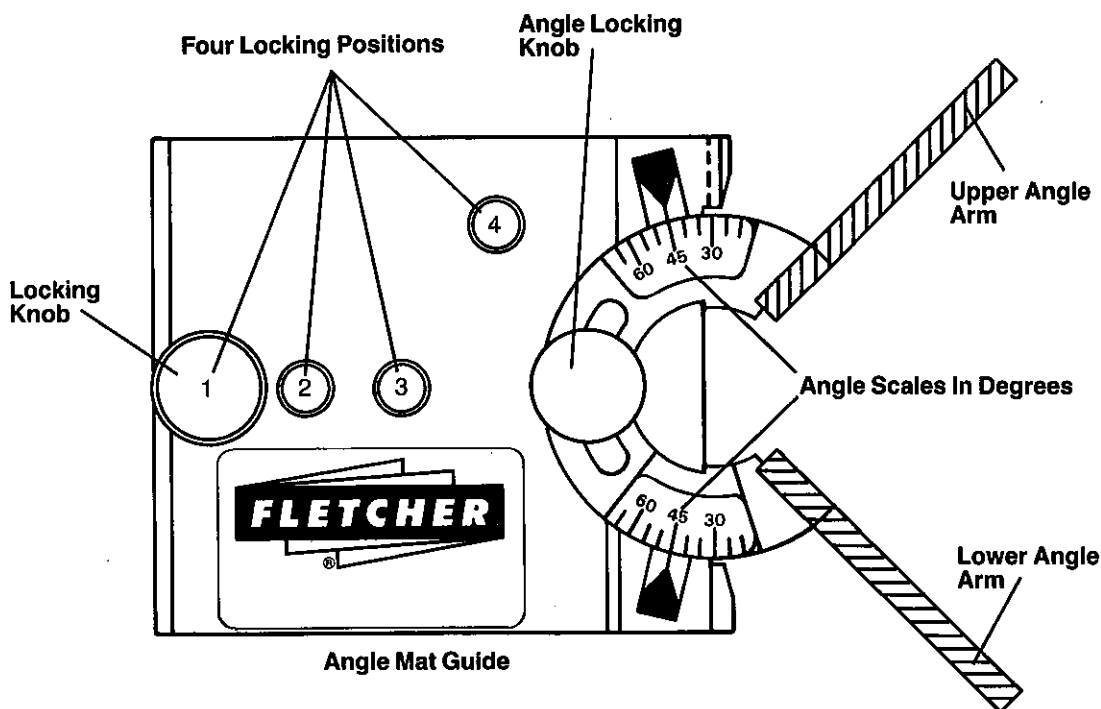


Figure 18.

## HOW TO CUT MATS

The most important factor in producing good mats is a sharp blade. Paper materials are abrasive and some types of mat board are more abrasive than others. The value of a properly cut mat is far greater than the cost of a fresh blade. It is false economy to try to get just one more mat out of a dull blade. For that reason, we have made it easy to change blades.

1. It is always desirable to use a back up mat (slip sheet) beneath the one you intend to cut. Better cuts will be produced over the life of the blade. Prepare a slip sheet about 8" wide and 40" long and place it under the **Clamp**.

The thickness of the mat being bevelled will determine how much blade projection is required. A calibrated scale is visible in the **Magazine**. This makes it easy to set the blade position exactly the same time after time. The magazine system also provides an opportunity to keep spare magazines preset for particular thicknesses such as foam board; for speedy changes back and forth between various thicknesses of mats. As described in the *Set Up* section, set the bevel cutting blade extension so it penetrates half the thickness of the slip sheet, about  $\frac{1}{32}$ ".

2. The **Locator Pin** provides accurate and repeatable settings for mat borders of  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , 3, and  $3\frac{1}{2}$  inches. For instance, to make a single mat with a v-groove  $1\frac{1}{2}$ " from the edge and a border of 2", place the **Locator Pin** in the far right hole. Slide the **Mat Guide** to the right until its stop screw touches the **Locator Pin**. Lock the **Mat Guide** in place with its **Locking Knobs**.

3. Place a pre-sized mat upside down under the **Clamp** and firmly against the **Mat Guide**. **CAUTION:** The lower left corner

of the mat should rest against the **Mat Stop**. Using the left side of the **Clamp** as a straight edge, draw a line on the mat that starts and stops about 1" from the edges. Rotate the mat 90 degrees and repeat the line three more times. Mark the "fallout" so you will know how it is oriented to the mat after it is removed.

4. Press down on the middle of the **Clamp Handle** to be sure the mat is held in place. Move the cutting **Head** in position so the blade will enter the mat about  $\frac{1}{8}$ " beyond the upper horizontal line. Rotate the bevel cutting lever in a smooth continuous motion as far as it will go. Pull the cutting head toward you along the **Shaft** at a steady pace, stopping when the blade has passed the lower horizontal line about  $\frac{1}{8}$ ". Press down on the rear of the pivot assembly with the palm of your hand and the blade will return.
5. Repeat this action three times, rotating the mat 90 degrees each time. Remove the mat and the "fall-out" from the machine. They should be fully separated. Examine the front at the beveled corners. There should be no more than  $\frac{1}{64}$ " overcut barely visible. If necessary, alter the  $\frac{1}{8}$ " in paragraph 4 to be sure the fall out is fully separated, but with minimum over cut.



Figure 19.



# HOW TO CUT MATS

## V-GROOVE

6. Loosen the **Mat Guide Locking Knobs** and remove the **Locator Pin**. **CAUTION:** Move the **Mat Stop** all the way to the left so it does not protrude from the **Mat Guide**. Slide the **Mat Guide** all the way to the right until a **Locator Pin** hole appears at the left side of the **Mat Guide**. Place the **Locator Pin** in this hole, slide the **Mat Guide** to the left until its Allen screw rests against the **Locator Pin** and tighten the **Locking Knob**.
7. Place the "fall-out" piece right side up under the **Clamp** and against the **Mat Guide**. Be careful not to damage the beveled edge of the "fall-out." Starting with the **Head** well above the "fall-out," (See Fig. 20). rotate the bevel blade to its full down position and pull it at a steady speed until it has completely removed a sliver on the left side of the "fall-out." Rotating the mat 90 degrees each time, repeat this operation until all four sides have been grooved. Be sure to remove scrap slivers after each cut so they do not interfere with the proper position of the fall-out against the **Mat Guide**.
8. Place the "fall-out" upside down on a flat clean table surface. Lay the mat over the

"fall-out" so the two pieces are oriented as they were before cutting. Carefully position the "fall-out" and mat, then tape over the joints produced by the bevel cuts. Turn the mat over and you will see a neat v-groove.

9. Loosen the **Mat Guide Locking Knobs**; remove the **Locator Pin**, and slide the **Mat Guide** to the left. Place the **Locator Pin** in the 2" hole. Slide the **Mat Guide** against the **Locator Pin** and tighten the **Locking Knobs**. Repeat steps 2 through 5 above and you have produced a v-grooved mat with uniform  $\frac{1}{2}$ " spacing between the groove and the inside bevel.
10. The width of the v-groove is readily adjusted. By turning the Allen stop screw on the left side of the **Mat Guide** with the  $\frac{3}{32}$ " Allen wrench, you can increase or decrease the width of the v-groove. Turning it clockwise widens the groove, counterclockwise narrows it. The grooving cut must remove less than the full thickness of the mat; otherwise, the "fall-out" and mat will have a gap instead of a v-groove. **Caution:** The blade must not extend too far, or the v-groove adjusted too narrow. This may cause the blade to touch the mat guide. Once you have the v-groove set the way you like it, it should require no further adjustment.

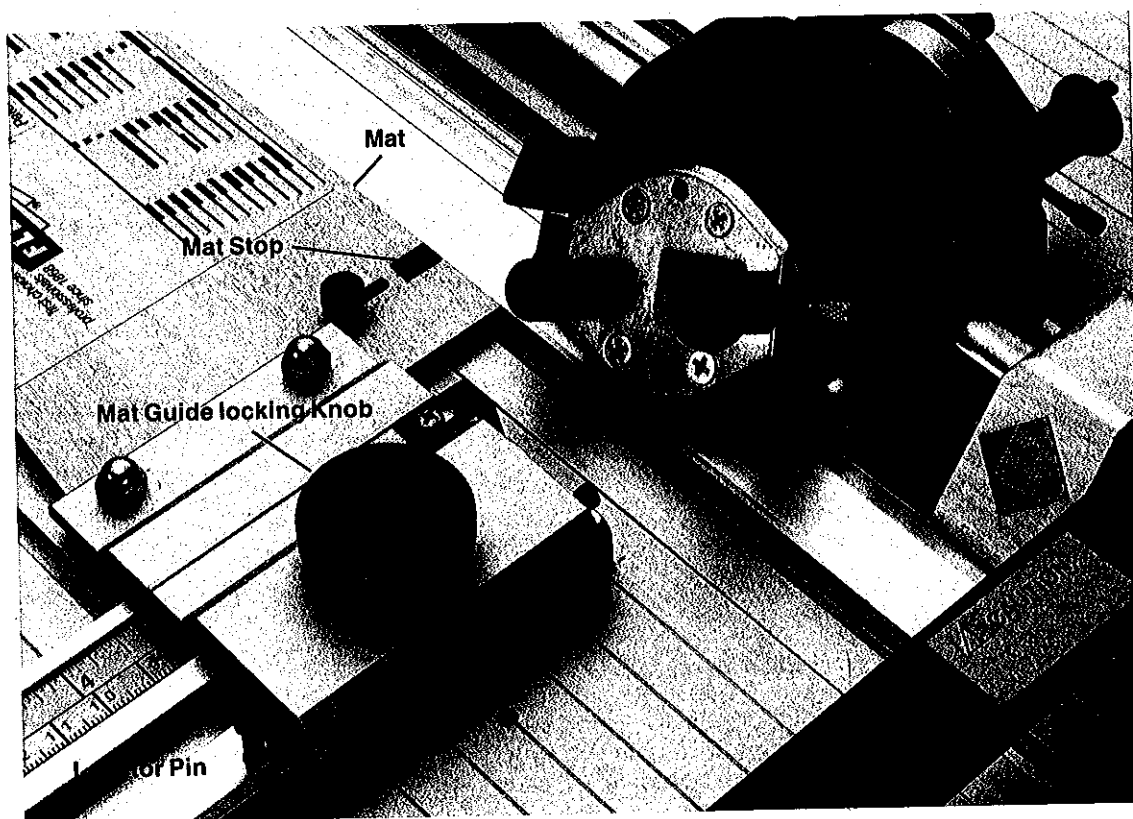


Figure 20.



# HOW TO CUT MATS

## DOUBLE MAT

A double mat with v-groove is a very attractive and popular mat, and is easily produced on the **Fletcher 2000 Professional Mat Cutting System**.

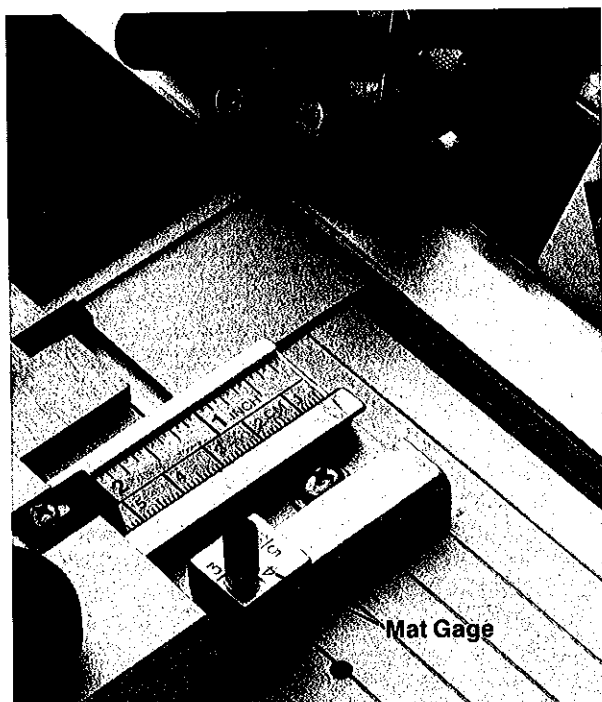


Figure 21

The **Mat Gage** can be used to produce uniform  $\frac{3}{16}$ ",  $\frac{1}{4}$ ", and  $\frac{5}{16}$ " variations from the position of the **Locator Pin**. Your own creativity will reveal many ways to use this feature to produce unique mat designs.



Figure 22

1. Prepare a color contrasting mat to become the liner. Size it  $\frac{1}{8}$ " smaller in both width and length than the mat you made above.
2. Lay the "fall-out" you produced in step 9 above, upside down on a clean flat surface. Place the v-grooved mat over it so the fall out fits into its opening. Using an adhesive transfer type device, roll one or two strips of adhesive in the four borders of the mat. Place two strips of adhesive on the "fall-out," but stay well away from the edge.  
Place the liner mat face down over the first mat. Be sure its edges are *all* inside the edges of the front mat. The entire assembly is now glued together.
3. Place the **Locator Pin** through the **Mat Gage** and into the 2" hole as before. You will notice the **Mat Gage** can be rotated. Turn it so the side labelled " $\frac{3}{16}$ " is to the left. Move the **Mat Guide** into contact with the **Mat Gage** and tighten the **Locking Knobs**. (See Fig. 21).
4. Place the assembled mat under the **Clamp** and against the **Mat Guide** and **Mat Stop**. Make four lines as you did when you produced the first mat. Proceed to bevel cut all four borders as before.



### CAUTION:

Use extreme care when handling blades. They are Super Keen.

5. The double "fall-out" is now discarded and you have a perfectly made double mat with v-groove. Notice the liner border is  $\frac{3}{16}$ " wide and uniform on all four sides.

# HOW TO CUT MATS

## HOW TO USE THE MEASURING STOP OPTION

The **Measuring Stops** are more than an aid to production of common size mats. They are quick to use and eliminate the time consuming technique of drawing lines on the back of the mat. In addition, they assure you of minimum over cuts. The **Stop Screws** are adjusted in the following manner and need not be changed unless the blade extension is changed for different thickness mats.

1. Place a mat under the **Clamp** in the usual position for bevel cutting. Be sure the lower left edge of the mat rests against the **Mat Stop**. Place the **Locator Pin** for the desired border width and make the four lines as described above.
2. Set the **Upper Measuring Stop Scale** to the same border width as the **Locator Pin** and lock it in place.
3. Slide the **Upper Measuring Stop** toward the mat while holding the spring button down on the slip sheet. When the button touches the upper edge of the mat lock the **Upper Measuring Stop** in position with its **Locking Knob**.
4. Move the cutting **Head** to the **Stop Screw** on the **Measuring Stop**. Rotate the bevel cutting blade until it touches the mat. It should contact the mat about  $\frac{1}{8}$ " beyond the upper horizontal line. If not, turn the **Stop Screw** in or out until the blade is in the correct position. Lock the **Stop Screw** in place with its jam nut.
5. Set the **Lower Measuring Stop** at the same border width on its scale mounted on the top of the **Clamp**. Starting at the upper position, insert the blade through the mat and bring the **Head** toward the **Lower Measuring Stop** in the usual way. It should hit the **Lower Measuring Stop** when the blade has passed the lower horizontal line about  $\frac{1}{8}$ ". If necessary adjust the **Stop Screw** on the **Lower Measuring Stop** to achieve the  $\frac{1}{8}$ " dimension. Lock the **Stop Screw** in place by tightening its jam nut.
6. Proceed to cut out a complete mat. Cut both opposite sides first. Examine the corners of the bevel cuts on the front side. The "fall-out" must be completely free and the overcut barely visible. If not, adjust the appropriate **Stop Screws**. Too much overcut requires moving the **Stop Screw** toward the mat. Incomplete corner separation requires moving the **Stop Screw** away from the mat.

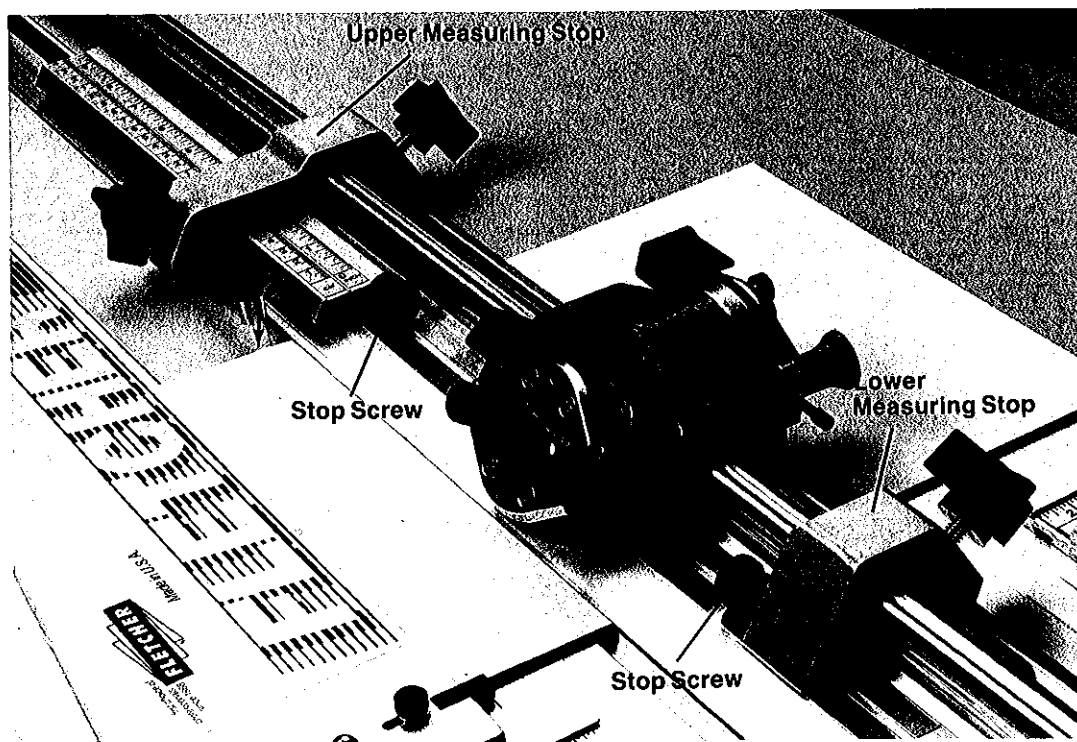


Figure 23

# HOW TO CUT MATS

## HOW TO USE THE SQUARING ARM OPTION

Proper down-sizing of mat board is essential to good mat cutting. The mat should be square and accurate in size. This option is easily installed and adjusted squarely. It is well braced and should remain in proper squareness indefinitely. The extension of the vertical cutting blade can be the same as for bevel cutting the same thickness mat. A slip sheet is suggested for sizing cuts also.

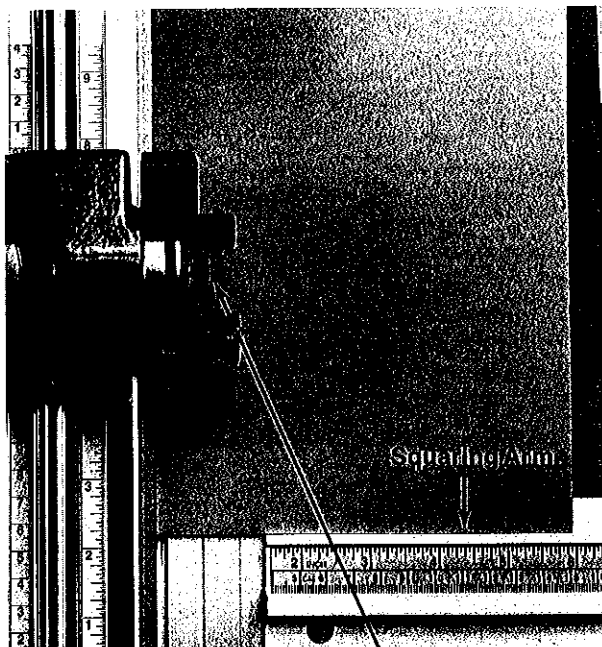


Figure 24



1. Place a full size mat under the **Clamp** and along the upper edge of the **Squaring Arm**. It may be convenient to remove the **Mat Guide** so it will be out of the way. Notice the lower edge of the mat does not touch the **Mat Guide Slide**. It is not intended to.
2. Align the right edge of the mat with the desired dimension on the **Squaring Arm Scale**. Make sure the lower edge of the mat is in firm contact with the **Squaring Arm** and *not* on top of the scale. The **Squaring Arm Stop** may be used to set the dimension and locate the mat.
3. Slide the **Head** beyond the upper edge of the mat; rotate the vertical sizing blade assembly down as far as it will go, and draw the **Head** completely past the lower edge of the mat.
4. A **Detent Plunger** is provided on the right side of the **Head** which allows you to lock the vertical blade in its cutting position if you desire. It is activated by turning the **Detent Plunger**  $\frac{1}{2}$  turn. After the cut, push the **Plunger** in and the blade assembly will return to its normal up position. If you do not wish to use it, push the **Detent Plunger** all the way in while turning it  $\frac{1}{2}$  turn. It will then remain in a locked inoperative position. (See Fig. 24).



### CAUTION:

Use extreme care when handling blades. They are Super Keen.

# HOW TO CUT MATS

## MULTI-ANGLE MATS

1. Figure 25 illustrates a simple 45 degree corner cut opening in an 8" x 10" mat. Mark pencil lines on the back of the mat in the conventional way with the **Mat Guide** set at  $1\frac{1}{2}"$  as shown by lines labelled B.
2. It is usually desirable to set both **Angle Arms** of the **Angle Mat Guide** so they create a 90 degree angle. This permits the corner of the mat to be accurately located. Set both **Angle Arms** at 45 degrees. Place a 90 degree drafting triangle between them while tightening the **Angle Locking Knob**. (See Fig. 18). You can use a corner of your mat instead of a triangle if it is well squared.
3. Set the **Mat Guide** at the 3" position and using the **Clamp** as a straight edge, make pencil marks on the back of the mat as shown by lines A.
4. Now make the 4 cuts (A), starting and stopping at lines B to control over cuts. Be sure the corner of the mat is well seated against both **Angle Arms** during each cut.
5. Remove the **Angle Mat Guide**, reposition the **Mat Guide** to  $1\frac{1}{2}"$  and cut lines B using the angle cuts produced in step 4 to control over cutting.

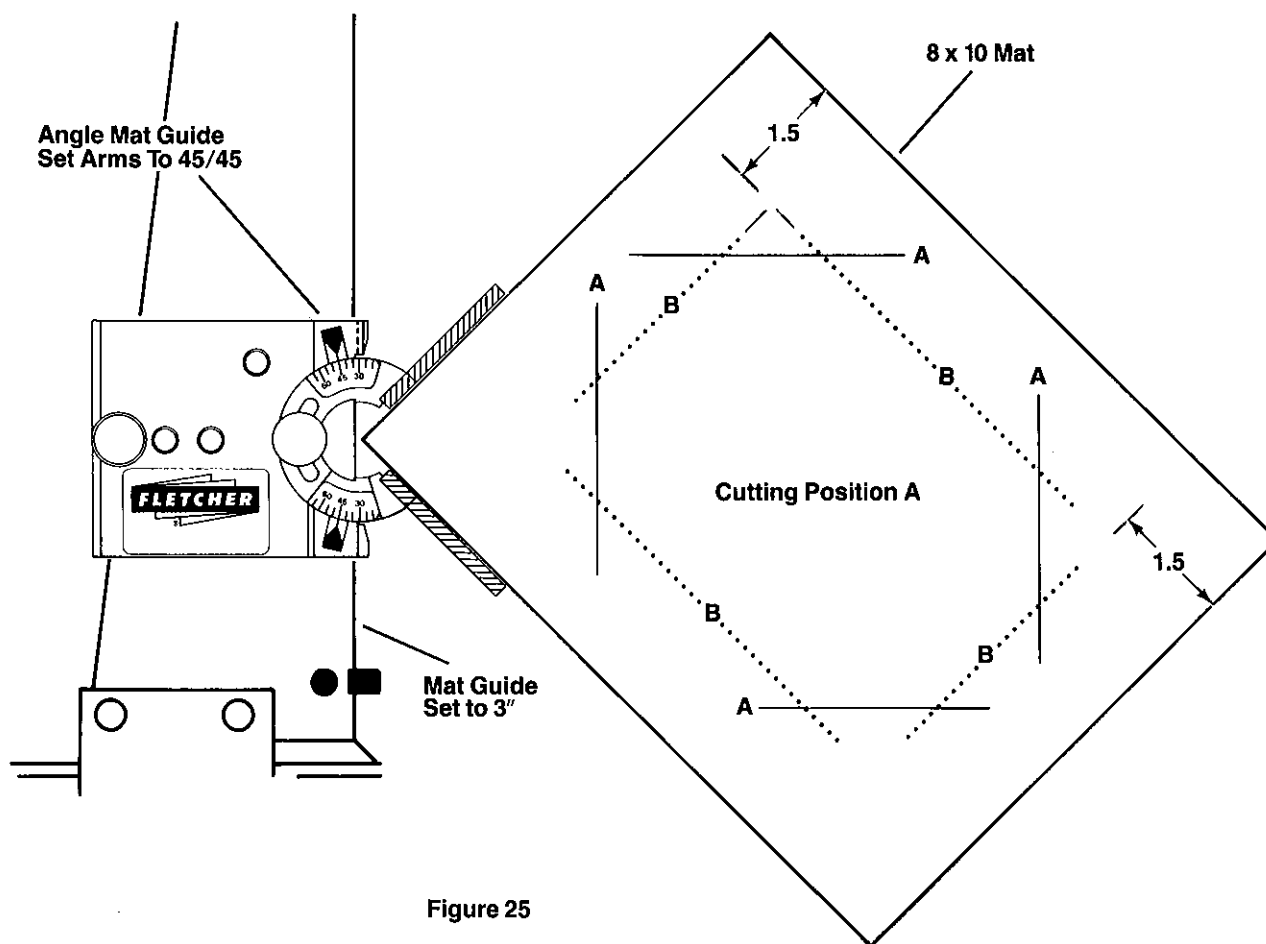


Figure 25

# HOW TO CUT MATS

## HOW TO CUT 12 SIDED OPENING

Two separate angle cuts are made in each corner of the mat in addition to the four straight cuts. It will be necessary to make four cuts at each of the two angle settings and one straight setting. Referring to Figure 26, the three sets of cuts are labelled A, B, and C, and all should be pencilled on the mat back before cutting.

1. Set the **Upper Angle Arm** at 60 degrees and the **Lower Angle Arm** at 30 degrees.
2. Install the **Angle Mat Guide** and set the **Mat Guide** at  $2\frac{7}{8}$ ". Make four pencil lines as represented by lines A.
3. Change the **Upper Angle Arm** to 30 degrees and the **Lower Angle Arm** to 60 degrees. Make four pencil lines shown as lines B.
4. Remove the **Angle Mat Guide**, set the **Mat Guide** to  $1\frac{1}{2}$ " and construct lines C.
5. With the **Mat Guide** as positioned for step 4, cut the four lines C using the pencil lines for A and B to control over cut.
6. Reattach the **Angle Mat Guide** and reset the **Mat Guide** at  $2\frac{7}{8}$ ". With its **Arms** still at the positions set in step 3, cut lines B, starting and stopping at lines C and A.
7. Change the positions of both **Angle Arms** as in step 1 above and cut lines A, again starting and stopping at lines B and C to control over cut.

The dimensions of the mat borders in the two previous examples are arbitrary. You may select any positions of the **Mat Guide** and the **Angle Mat Guide** which result in openings that are esthetically pleasing and accentuate the art work.

Double matting is easily accomplished with the **Angle Mat Guide**. Make a note of each of the **Mat Guide** settings when producing the front mat. Glue the liner mat to the back of the front mat in the usual way, making certain it is smaller in all dimensions than the front mat. Temporarily attach the fallout in place to act as a slip sheet.

Increase the setting of the **Mat Guide** the same amount for each of the cuts. This will result in identical liner borders all around, and they will be parallel to the opening in the front mat.

The variety of mat designs you can produce with the **Angle Mat Guide** is endless, and limited only by your creativity. For example, V-grooving simply involves making regular v-groove cuts on *each* of the edges of the fall out. Figure 27 shows examples of mats produced with the **Angle Mat Guide**.

As in any mat cutting, a slip sheet is recommended and be sure to use a sharp blade.

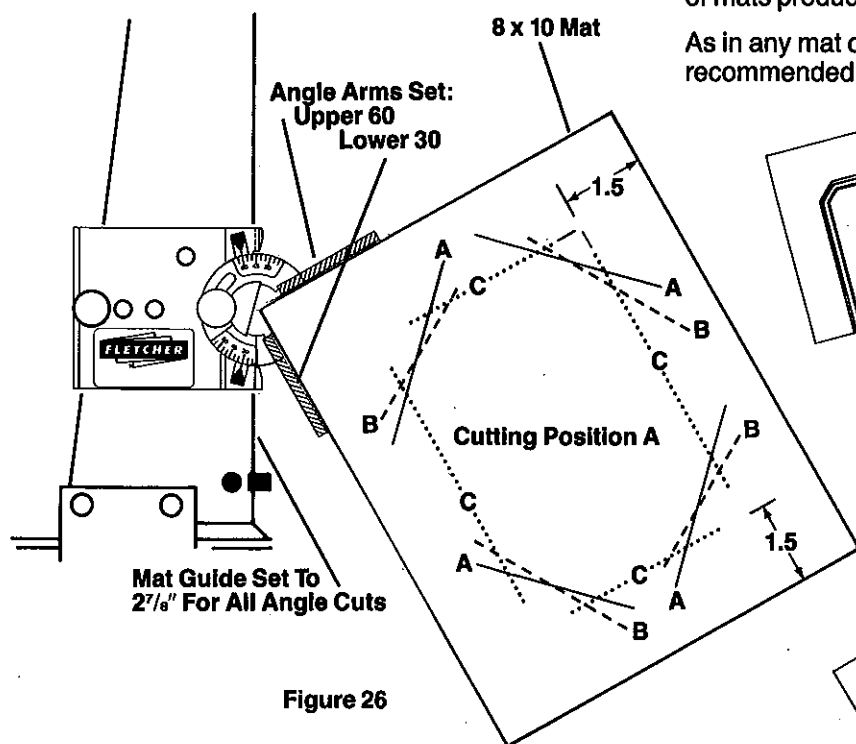


Figure 26

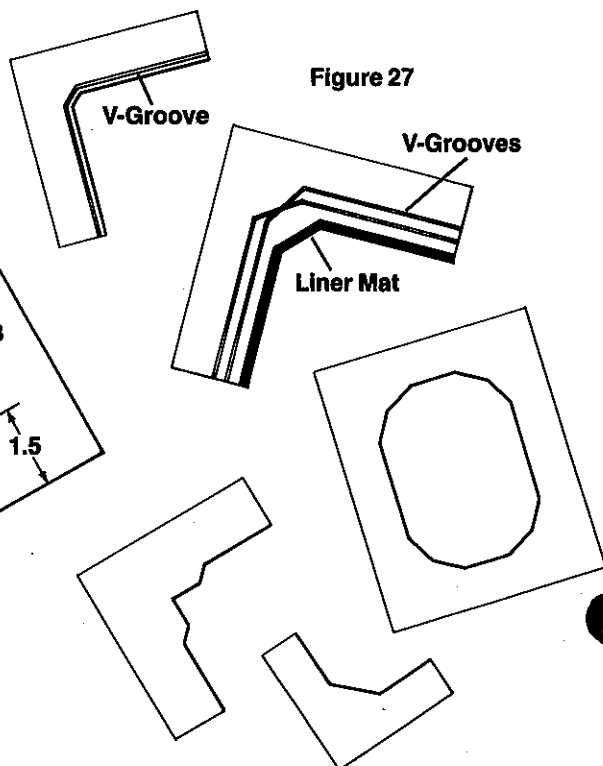


Figure 27

# MAINTENANCE

Maintenance of your FLETCHER 2000 PROFESSIONAL MAT CUTTER is simple.

1. Keep a dry, lint free cloth near the machine. Wipe the shaft and steel wear strips frequently during use to remove loose paper particles, dust, and other foreign matter. **DO NOT USE OIL OR WAX.** Cover the machine when not in use.
2. Periodically check the squareness of sizing cuts and dimensions of bevel borders. If corrections are required, follow the procedures outlined on Pages 8 and 11. The frequency of this inspection depends upon how many people are using the cutter and the care it is given. If set up properly and the mounting and adjustment screws are not changed, it will produce good results indefinitely.
3. Areas of sliding contact are protected by the use of polished, chrome plated steel shaft, hardened roller bearings, stainless steel wear strips, and space age friction resistant bushings. Wear will occur only after prolonged heavy use.

If the HEAD should develop side to side looseness, correction is easy. Referring to Page 24, tighten the two shaft BEARINGS (No. 12 in Figure 30) by tightening set screws No. 15 with the  $\frac{3}{32}$ " Allen wrench. Start with either screw. Tighten it slowly while sliding the HEAD back and forth on the SHAFT. When you feel the HEAD drag, loosen the screw slightly. Do the same with the other screw. This will correct side to side wobble. *Do not overtighten.*

4. The bevel cutting blade should be as close as possible to the CLAMP without the blade or the MAGAZINE touching it. The adjustment for this is provided by slightly turning stud No. 4 in Figure 28.
  - A. First loosen screws No. 1 and 3 about  $\frac{1}{2}$  turn.
  - B. Turn stud No. 4 with a screw driver, either to the right or left, and you will see the LEFT ROLLER BEARING move up or down.
  - C. Rotate the BLADE as you would while cutting. Hold the HEAD so the LEFT ROLLER BEARING rests firmly on the CLAMP.
  - D. Turn stud No. 4 so the BLADE is as close to the CLAMP as possible without touching. This can be seen by looking in line with the CLAMP and BLADE while turning the stud.
  - E. Firmly tighten set screw No. 3. This will lock the stud in its position. Recheck the closeness of the BLADE to the CLAMP along the full length of the CLAMP.
  - F. Tighten screw No. 1 in Figure 28 with the  $\frac{3}{32}$ " wrench to eliminate rotation on the SHAFT. Move the HEAD back and forth while tightening so you can detect when binding starts. Here again it is important not to over tighten.
5. If it is ever necessary to remove the HEAD, follow this procedure:
  - A. Remove both blade MAGAZINES. Remove the hex head bolt from the near end of the SHAFT. Be sure to keep the spring washer with the bolt.
  - B. Remove the two button head Allen screws from the lower HINGE BRACKET which holds the SHAFT BRACKET. Use the  $\frac{5}{32}$ " Allen wrench provided.
  - C. Slip the HINGE BRACKET off the SHAFT. If you have MEASURING STOPS, slide the LOWER MEASURING STOP from the SHAFT. These steps are accomplished by lifting the Clamp Handle just enough to allow the parts to be removed. Do not lift the CLAMP HANDLE any higher than clearance requires.
  - D. Slide the HEAD off the shaft. Hold your hand beneath the HEAD to prevent the ROLLER BEARING from falling to the floor. Re-assemble the HEAD in the reverse order.

## MAINTENANCE

6. If the HEAD makes a rumbling noise it is caused by paper debris on the WEAR STRIPS or ROLLER BEARINGS. Since the left side ROLLER BEARING is exposed, it is easy to clean. The ROLLER BEARING on the right, under the HEAD can be cleaned without removal. First make certain both wear strips are clean. Loosen set screw No. 1 in Figure 28 one or two turns. Tack down one end of a 6" strip of tape on the right wear strip and fold back so the glue side of the tape is up. Slowly slide the HEAD over the tape so that right side ROLLER BEARING rolls on the tape. Debris will be transferred to the tape. Readjust set screw No. 1 to eliminate HEAD play.
7. If wear should eventually cause play in either of the PIVOT HEADS, it can be corrected by first removing the HEAD as outlined in 5 above.
  - A. Use the  $\frac{1}{16}$ " Allen wrench to loosen the set screw (No. 8 or 9 on Page 24).
  - B. Use a standard screw driver to slightly tighten the PIVOT SCREW (No. 4 in Figure 30). Rotate the PIVOT HEAD while making this adjustment to be sure you do not over tighten and cause the PIVOT HEAD to bind.
  - C. Retighten the locking set screw and check the PIVOT HEAD for free motion.

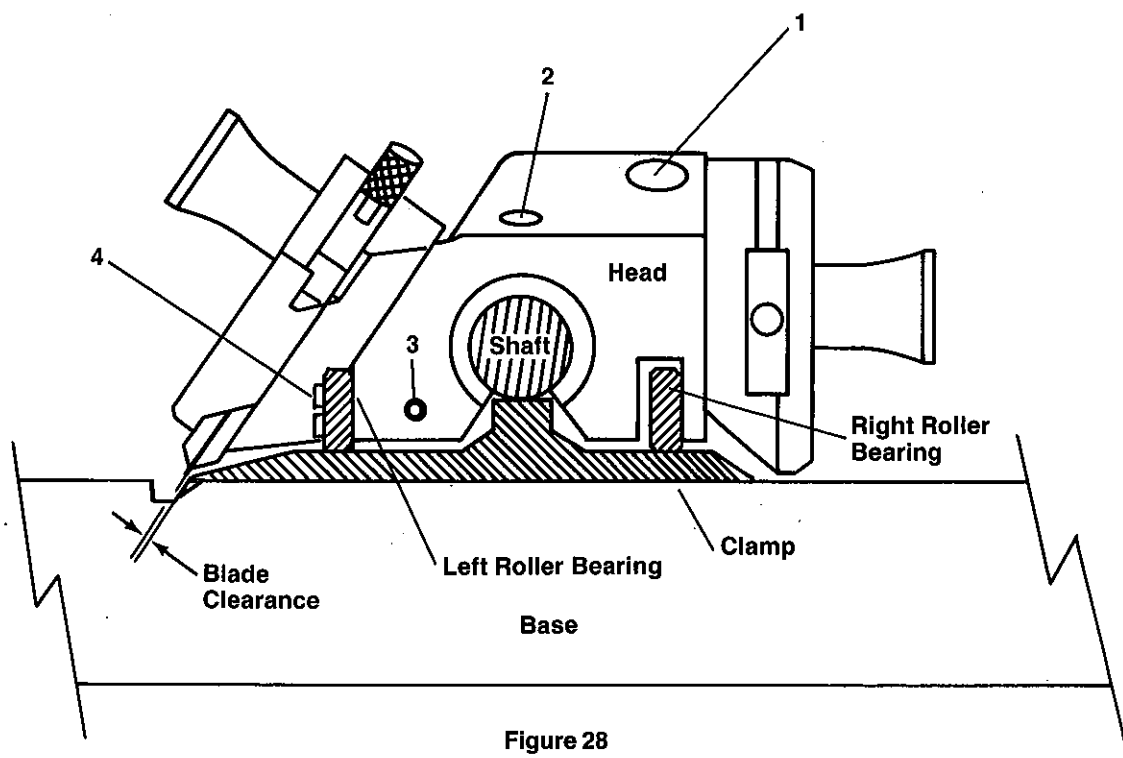


Figure 28

**BEFORE YOU START, PLEASE REMEMBER TO ALWAYS WEAR EYE PROTECTION!!!**

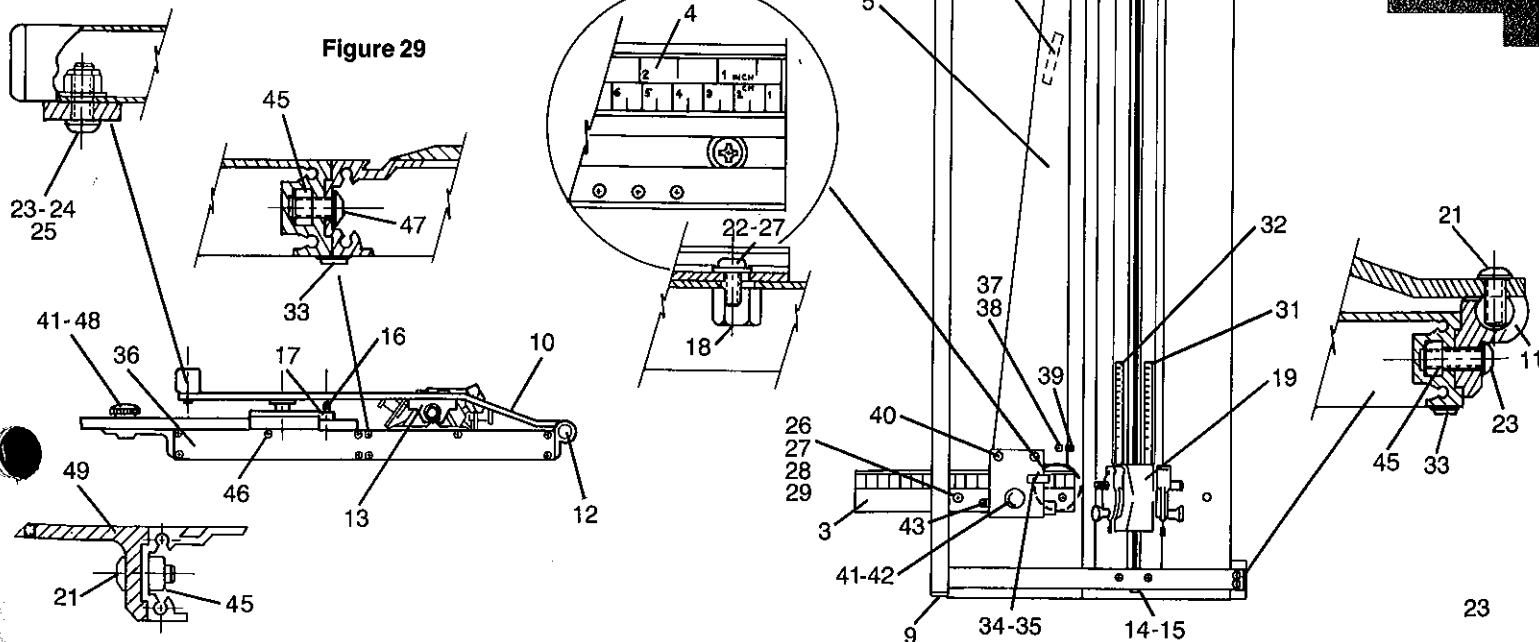


# PARTS LIST

## FLETCHER 2000 ASSEMBLY

Ref. No.	Part No.	Description	Quantity	Ref. No.	Part No.	Description	Quantity
1	12-001	Base (RH)	1	34	12-039	Scale Indicator	1
	12-116	Base (RH) 60" Capacity	1	35	12-040	Pan Head Mach. Screw	2
2	12-002	Base (LH)	1	36	12-041	End Cap	2
	12-117	Base (LH) 60" Capacity	1	37	12-042	Mat Stop Knob	1
3	12-003	Mat Guide Slide	1	38	12-043	Washer	1
4	12-004	Scale	1	39	12-044	Mat Stop	1
5	12-005	Mat Guide Assy	1	40	12-046	Acorn Nut	2
	12-118	Mat Guide Assy 60" Capacity	1	41	12-047	Knob	2
6	12-119	Locking Strap	1	42	12-048	Key	1
7	12-120	Upper Indicator	1	43	12-049	Stop Screw	2
8	12-006	Handle	1	44	12-052	Wear Tape	5
	12-121	Handle 60" Capacity	1	45	12-053	Square Nut	9
9	12-007	Handle End Cap	2	46	12-054	End Cap Screw	20
10	12-008	Hinge Bracket	2	47	12-056	Button Head Screw	4
11	12-009	Hinge	2	48	12-124	Nylon Washer	1
12	12-010	Pivot Shaft	2	49	12-125	Bracket	1
13	12-011	Shaft Bracket	2	50	12-126	Flat Head Mach. Screw	1
14	12-012	Shoulder Screw	2	51	12-127	Lock Washer	1
15	12-013	Spring Washer	2	52	12-128	Acorn Nut	1
16	12-014	Locator Pin	2				
17	12-015	Mat Gauge	1				
18	12-016	Eccentric Nut	1				
19	12-017	Cutting Head Assy	1				
20	12-018	Clamp Assy	1				
	12-122	Clamp Assy 60" Capacity	1				
21	12-019	Button Head Screw	9				
22	12-020	Pan Head Mach. Screw	1				
23	12-021	Button Head Screw	6				
24	12-022	Washer	2				
25	12-023	Lock Nut	2				
26	12-024	Flat Head Mach. Screw	1				
27	12-025	Washer	2				
28	12-026	Lock Washer	1				
29	12-027	Hex Nut	1				
30	12-030	Wear Plate	2				
	12-123	Wear Plate 60" Capacity	2				
31	12-031	Inch Scale	2				
32	12-032	Metric Scale	2				
33	12-035	Button	12				

Figure 29





# PARTS LIST

## CUTTING HEAD

Ref. No.	Part No.	Description	Quantity	Ref. No.	Part No.	Description	Quantity
1	12-017	Cutting Head Assy	1	15	12-071	Hex Socket Set Screw	2
2	12-058	Pivot Head Assy (LH)	1	16	12-072	Hex Socket Set Screw	1
3	12-059	Pivot Head Assy (RH)	1	17	12-073	Ball Bearing	2
4	12-060	Pivot Screw	2	18	12-075	Knob	2
5	12-061	Shim Washer	2	19	12-076	Flat Head Mach. Screw	8
6	12-062	Nylon Washer	2	20	12-077	Finger Pad	2
7	12-063	Extension Spring	2	21	12-078	Magazine Assy—Black Screw	1
8	12-064	Hex Socket Set Screw	2	22	12-079	Magazine Assy—Silver Screw	1
9	12-065	Hex Socket Set Screw	1	23	12-080	Blade Adjusting Screw—Black	1
10	12-066	Cover—Bevel Assy	1	24	12-115	Blade Adjusting Screw—Silver	1
11	12-067	Cover—Detent Assy	1	25	12-081	O-RING	2
12	12-068	Bushing	2	26	12-113	Eccentric Stud	1
13	12-069	Detent Spring	1	27	12-114	Hex Socket Set Screw	4
14	12-070	Detent Pin	1	28	12-033	Bumper	1

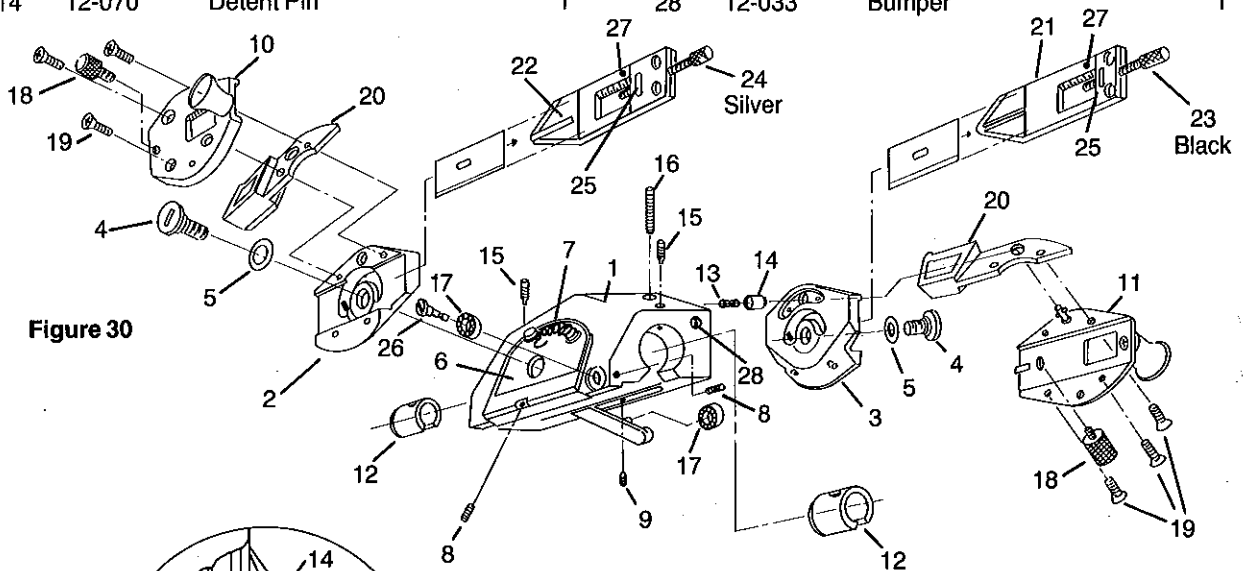


Figure 30

## SIZING & SQUARING ARM

Ref. No.	Part No.	Description	Quantity
1	12-101	Squaring Arm Brace Angle Assy	1
2	12-099	Brace Angle Bracket	1
3	12-020	Pan Head Mach. Screw	2
4	12-027	Hex Nut	3
5	12-100	Lock Washer	3
6	12-025	Washer	3
7	12-098	Brace Angle	1
8	12-106	Right Sizing Square Assy	1
9	12-102	Right Sizing Square	1
10	12-103	Mat Support	1
11	12-104	Scale	1
12	12-024	Flat Head Mach. Screw	2
13	12-016	Eccentric Knob	1
14	12-056	Button Head Cap Screw	1
15	12-107	Squaring Arm Stop	1
16	12-047	Plastic Knob	1
17	12-048	Key	1

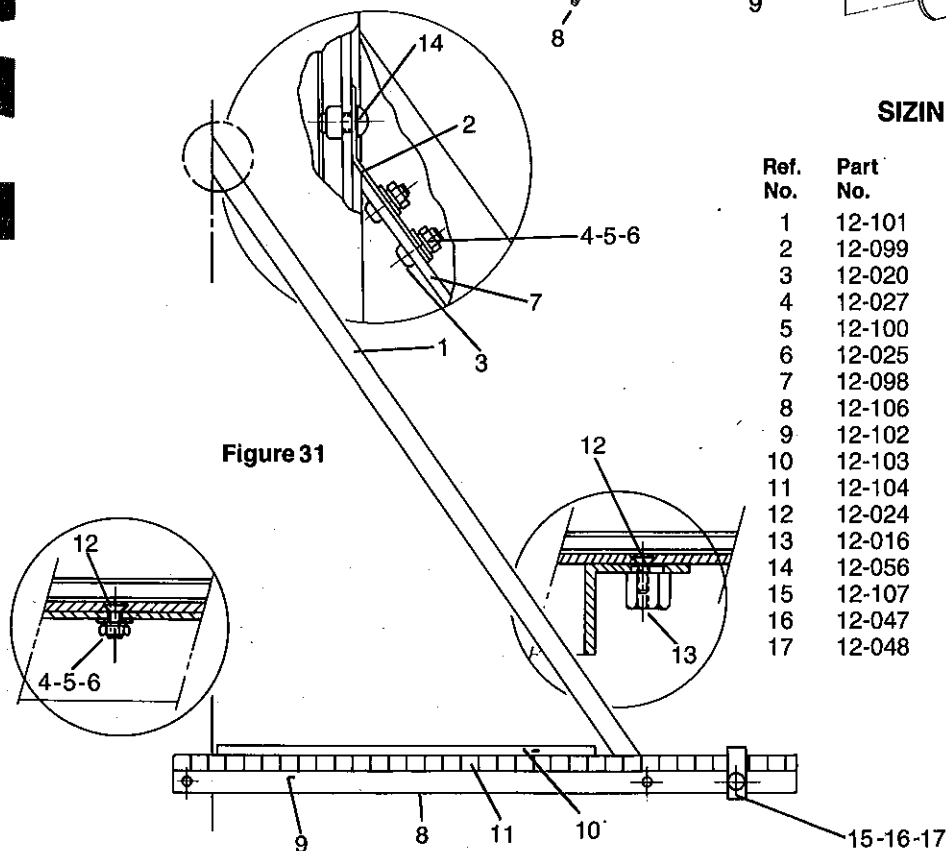
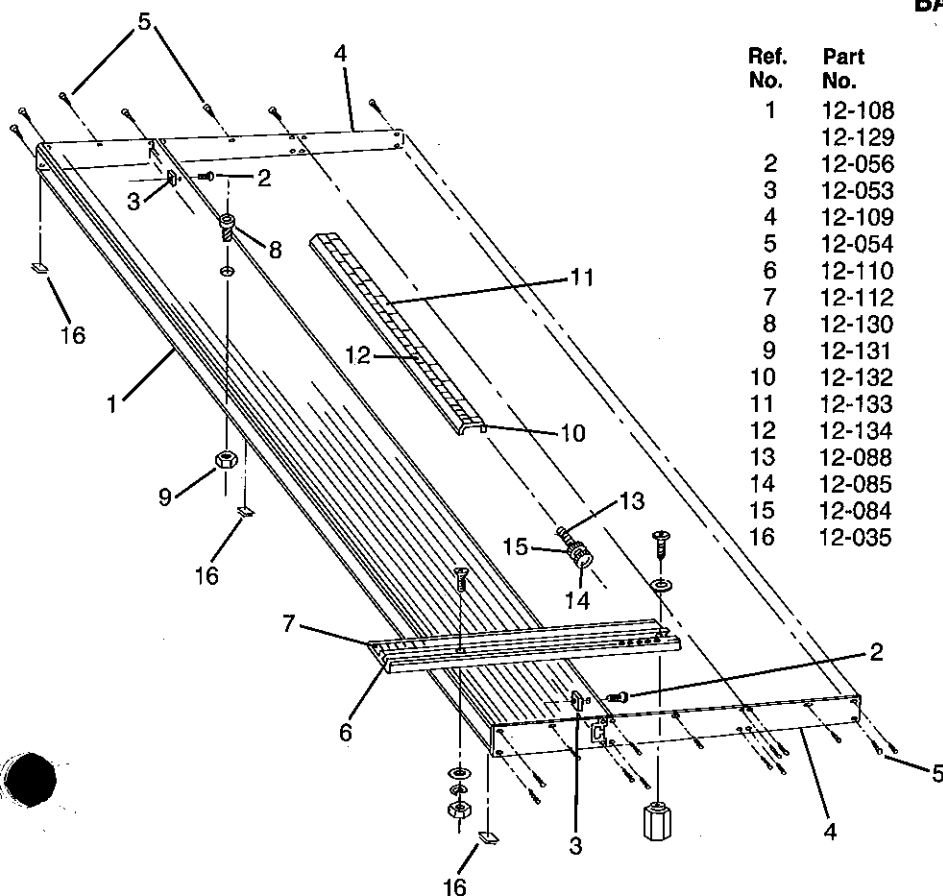


Figure 31

# PARTS LIST

## BASE EXTENSION



Ref. No.	Part No.	Description	Quantity
1	12-108	Base Extension	1
	12-129	Base Extension 60" Capacity	1
2	12-056	Button Head Cap Screw	3
3	12-053	Square Nut	3
4	12-109	End Cap	2
5	12-054	End Cap Screw	10
6	12-110	Mat Guide Slide Assy.	1
7	12-112	Scale	1
8	12-130	Threaded Insert	1
9	12-131	Hex Nut	1
10	12-132	Upper Stop Slide	1
11	12-133	Scale (inch)	2
12	12-134	Scale (Metric)	2
13	12-088	Stop Screw Assy.	1
14	12-085	Cushion	1
15	12-084	Lock Nut—Knurled	1
16	12-035	Button	3

Figure 32

## MEASURING STOPS

Ref. No.	Part No.	Description	Quantity
1	12-082	Measuring Stop—Lower	1
2	12-083	Knob	3
3	12-084	Lock Nut—Knurled	2
4	12-085	Cushion	2
5	12-088	Stop Screw Assy.	2
6	12-040	Pan Head Mach. Screw	1
7	12-090	Spring	1
8	12-092	Knob & Screw Assy.	1
9	12-093	Button	1
10	12-031	Scale—Inch	1
11	12-032	Scale—Metric	1
12	12-094	Upper Stop Slide	1
13	12-095	Shoe	1
14	12-096	Measuring Stop—Upper	1
15	12-135	Wear Tape	1

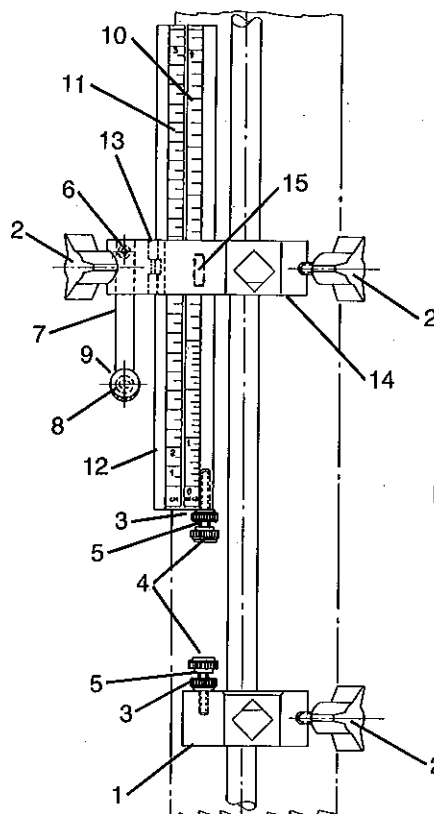


Figure 33

# PARTS LIST

## ANGLE MAT GUIDE ASSY.

Ref. No.	Part No.	Description	Quantity
1	12-136	Housing	1
2	12-137	Disc	2
3	12-138	Angle Arm—Upper	1
4	12-139	Angle Arm—Lower	1
5	12-140	Angle Locking Knob	1
6	12-141	Locking Knob	1
7	12-142	Label—Upper	1
8	12-143	Label—Lower	1
9	12-144	Flat Head Mach. Screw	2
10	12-145	Nylon Washer	1

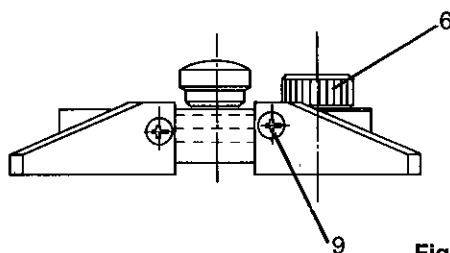
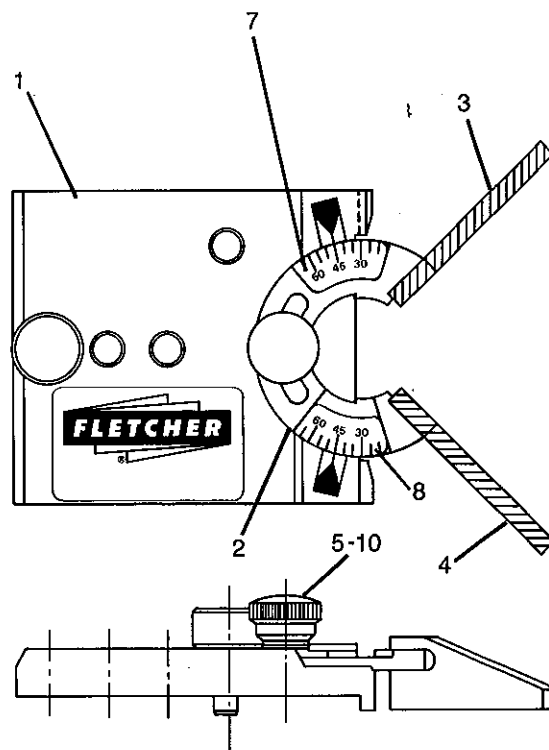


Figure 34



## FLETCHER® 2000 VIDEO

SEE and HEAR more about the Fletcher 2000 professional mat cutting system in full color VHS videotape cassette. Order No. 24-200



# TROUBLE SHOOTING GUIDE

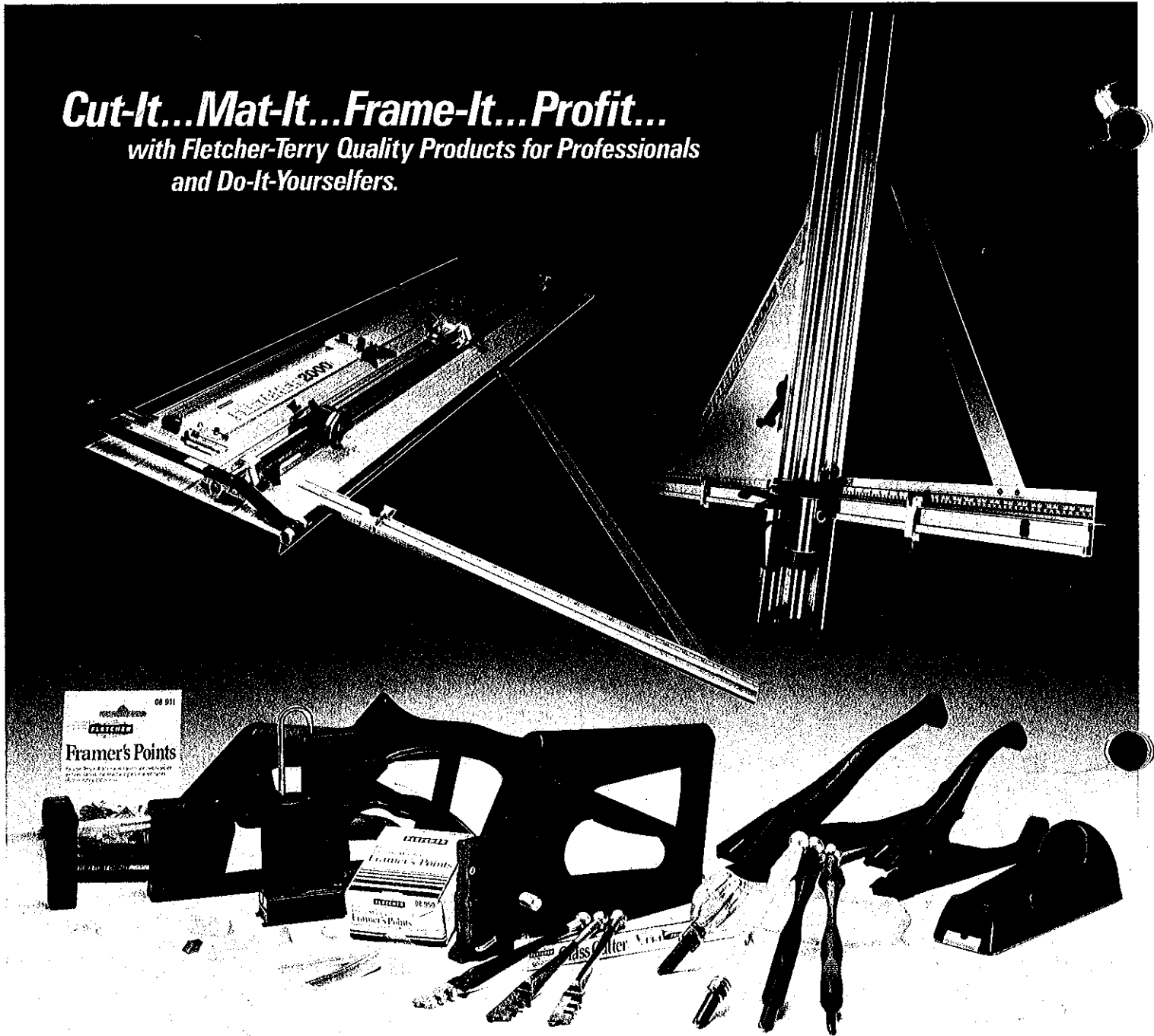
PROBLEM	POSSIBLE CAUSE	ACTION	REFERENCE
"Hook" in cuts	Blade projects too far Blade dull Head loose Not Clamping Mat	Adjust projection of blade New blade Adjust Head Bearings Use slip sheet Apply more pressure	SET UP MAINTENANCE MAINTENANCE HOW TO CUT MATS
Frayed bevel cuts	Dull blade Worn out slip sheet	Change to a new blade Use Fresh slip sheet	SET UP HOW TO CUT MATS
Not cutting through the mat	Blade position Worn or broken blade	Adjust projection of blade Replace blade	SET UP SET UP
Excessive Overcut or Undercut	Blade position Measuring Stop	Adjust projection of blade Adjust Measuring Stop Stop Screw	SET UP HOW TO CUT MATS
Head Binds or too loose	Head Bearings	Adjust Head Bearings	MAINTENANCE
Head "rumbles"	Wear Strips dirty Roller Bearing dirty	Clean Wear Strips Clean roller bearings	MAINTENANCE MAINTENANCE
Bevel blade or magazine touches clamp		Adjust roller bearings	MAINTENANCE
Bevel blade cuts too far from clamp		Adjust roller bearings	MAINTENANCE

AS AN AID IN THE MAINTENANCE OF YOUR FLETCHER-TERRY MACHINE WE HAVE DEVELOPED AN EASY TO READ CHART CONTAINING THE MOST COMMON PROBLEMS THAT MAY OCCUR WITH YOUR MACHINE, ALONG WITH THE PROBABLE CAUSE AND THE ACTIONS THAT YOU CAN TAKE TO ALLEVIATE THEM. IF ANY PROBLEMS ARISE THAT YOU CAN NOT REMEDY, YOU CAN GET ASSISTANCE BY REFERRING TO YOUR FLETCHER-TERRY DISTRIBUTOR OR THE FLETCHER-TERRY COMPANY CUSTOMER SERVICE DEPT. TOLL FREE 1-800-THE-FTCO • IN CONNECTICUT 677-7331 • TELEX 966-479.

 **CAUTION:**  
Use extreme care when  
handling blades.  
They are Super Keen.

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- Fletcher 3000® matboard, glass and plastic cutting machine 48" and 60"
- Frame Mate® Framer's Point Driver
- #5 Glazing and Framing Point Driver
- FrameMaster® Framer's Point Driver
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- Triangle Points and Diamond Points

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