

# Mar-Bel Single Slitter Operating & Instruction Manual

## PREFACE

Please read these instructions completely before following any of them: Do not operate this machine until you understand and are comfortable with these instructions.

Every attempt has been made to ensure that these instructions are complete accurate and thorough-however, if you note a discrepancy or omission, or suggestion for improvement, we would appreciate your contacting us at either 800-749-8821 or via our website

www.marbel.com or via Email at: [instructionbook@marbel.com](mailto:instructionbook@marbel.com)

### Please note Mar-Bel's Sole Machinery Warranty below

#### **Machinery Limited Warranty**

**Mar-Bel Associates warrants that its machinery will be free from defects in material and workmanship for a period of one year from the date of purchase. Warranty extends only to Customer and does not include those who buy from Customer.**

#### **WARRANTY DISCLAIMERS**

- 1. The foregoing warranty is in lieu of and excludes all other warranties not expressly set forth herein whether express or implied, by operation of law or otherwise, including but not limited to any implied warranty of merchantability or fitness for a particular purpose.**
- 2. There is no warranty as to any goods damaged due to accident, freight damage, abuse, improper installation or maintenance, modification or reworking, or repair other than Mar-Bel Associates' authorized personnel.**
- 3. Mar-Bel Associates makes no warranties to those defined as consumers in the Magnuson-Moss Warranty Act.**
- 4. Mar-Bel Associates shall not be liable for any incidental or consequential damages, losses, or expenses directly or indirectly arising from the sale, shipping, handling or use of the machinery, or from any other cause relating thereto, and Mar-Bel Associates' liability hereunder is in any case expressly limited to the repair or replacement of defective machinery, or, at Mar-Bel Associates' election, to the repayment or crediting of Customer with an amount equal to the purchase price of such machinery, whether such claims are based on contract, warranty, strict liability, or any other theory.**
- 5. Claims: Customer must, within 30 days of discovery of a claimed defect within the one year warranty period, give written notice to Mar-Bel Associates of said defect. Equipment must be returned to Mar-Bel Associates, freight prepaid for warranty service. Machine will be returned to customer freight collect.**

# Mar-Bel Single Slitter Operating & Instruction Manual

## SAFETY

As an employer, your attention is called to R408.12411 “Employer Responsibility” and any and all other promulgated laws, rulings and industry standards which may relate to the operation of this machine. R408.12411 reads in part as follows:

Rule 2411. (1) The employer shall train and instruct the operator in the safe method of work before starting work on any operation covered by this part. The employer shall ensure, by adequate supervision, that correct operating procedures are being followed and that all required safeguards are installed, are functional, and are being used.

(2) The employer shall insure the original and continuing competence of maintenance personnel caring for, inspecting, and maintaining presses (*and by inference, any other machinery having cutting and pinch points - Mar-Bel language addition*).

(3) The employer shall provide clearance between machines so that movement of one operator does not interfere with the work of another. Ample room for cleaning machines and handling material, work pieces, and scrap, shall also be provided. All surrounding floors shall be kept in good condition and free from obstructions, grease, oil, and water.

# Mar-Bel Single Slitter Operating & Instruction Manual

## FEATURES

Mar-Bel's single slitting models are designed to provide their owner with maximum throughput of accurate, smooth-edged laminate product over the range of cutting widths provided by the model they have selected. The machine will slit over a variety of thicknesses, easily slitting a vertical or countertop grade without adjustment for the variation in material thickness. The Mar-Bel slitter will rip or cross cut with equal ease.

**FLEXIBLE:** Different widths are easily made with quick fence adjustments.

**EFFICIENT:** Once the operator has properly aligned the fence, the machine will tirelessly slit your material to size, only requiring the operator to hold the material against the fence as the blades self feed the material once they are engaged.

**COST EFFECTIVE:** Once "snapped in" on the machines's operation, relatively unskilled labor can operate the slitter and free up your saws for the tasks they are designed for. The Mar-Bel slitter owner will also experience noticeable economies in sharpening costs. Due to the unique cutting technique of the patented die used to slit the laminate, blade wear is minimal. The operator will notice that the quality of the cut will not gradually deteriorate as one expects with the normal aluminum shear (two bladed) device. In addition, the three bladed die won't give you a beveled edge as shears tend to do as they dull. No one has ever offered us enough laminate to determine the number of lineal feet that can be run between sharpenings. However customer field reports range from 15,000-150,000 lineal feet-apparently much depends on the material being cut. **Assuming normal use, you should achieve 5 to 7 sharpenings per blade set if the blades are properly sharpened. *Factory sharpening is available from Mar-Bel.***

**TOLERANCE:** Cut edges are specified to be within 1/32" of a straight edge over an eight foot length if the operator properly holds the material against the fence.

**SELF-FEEDING:** Once the material is engaged by the slitter blades they will continue to pull the material through. The operator must keep the material against the fence.

# **Mar-Bel Single Slitter Operating & Instruction Manual**

## **INSTALLATION REQUIREMENTS**

**Read ALL instructions accompanying the machine!**

**Inspect the machine for concealed damage (obvious external damage should already have been noted on your freight bill). When shipped, all machines are encased in plastic: check that the plastic is still intact. If concealed damage is found, stop uncrating and notify your freight carrier immediately, save all crating materials and follow up on your claim.**

**A 110v - 60 Hz outlet should be located / installed in sufficient proximity to the machine that an extension cord is not necessary. Extension cords are definitely recommended unless they are acceptable under your prevailing electrical code in the guage and maximum length permitted.**

**Build or purchase suitable end feed tables that complement your plant layout. Make sure that any additions / modifications comply with all applicable safety regulations, standards, and code: building, mechanical, electrical or other.**

**If cuts are to be taken from large widths, a “walk-in” built into the infeed table is usually a must.**

**Check the fence alignment (see instructions in the maintenance section). Despite the factory settings, realignment will need to be checked periodically to ensure the fence is parallel to the blades. Alignment is much like that performed on a table saw.**

## Mar-Bel Single Slitter Operating & Instruction Manual

### MAINTENANCE

- The Mar-Bel family of single cut laminate slitters - with the exception of periodic fence alignment and infrequent blade sharpening - has minimal maintenance other than good housekeeping.
- The interim between blade sharpenings will vary based on the material slit: unfortunately we have not been able to find a laminate manufacturer willing to donate sufficient high pressure laminate to allow us to determine average lineal feet between sharpenings. However, Mar-Bel assures you that, absent abuse, your slitter blades will easily outlast twice the dollar equivalent of carbide tipped circular saws and related sharpening costs.
- When your slitter blade tooling does require servicing, we suggest you return the three piece set to Mar-Bel for match grinding. In house turnaround is a maximum of two days. Contact us via 800 number, website or E-mail to ensure that you are sending the blade set to the correct address/zip code. Only the three cutting blades should be sent out for sharpening: the spacer and extractor ring should be safely stored until the blades have returned from sharpening. If you have others service the tooling, make sure they understand how to sharpen and ensure that they will stand behind their work in the event they trash the set.
- Periodically wipe the double fence slide rails and reapply a dry lubricant or silicone spray. Do not use oil on the slides as they will collect excess particulate matter from the air which will interfere with slide travel.

**BE EXTREMELY CAREFUL THAT YOU DON'T HIT THE  
BLADE EDGES OR THE SHAFT ENDS/SHOULDERS WITH  
YOUR TOOLS!**

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### **BLADE CHANGING INSTRUCTIONS**

- 1 Tools required are a 5/16" hex wrench, a pair of pliers (possible need) , several rags and a pair of gloves.**
- 2 You may want to consider purchasing a spare set of slitter blades: when your blades must be removed for sharpening, its convenient to have a second set ready for mounting.**
- 3 Please make note of the order in which the blade assembly fits on the respective shafts so you will have it when the blades come back from being sharpened and your memory happens to fail you.**
- 4 All nuts, bolts and specialized fasteners on the single cut units are right hand turn.**
- 5 Remove the sheet meta;l cover/shroud.**
- 6 The slitter blades and related parts are affixed to trhe 3/4" hub and shoulders on the end of the shaft by a 3/8 x 24 x x1-1/2" alloy socket cap screw (cap screw). This cap screw runs through an endcap which fits much like a stiffening collar on a saw blade (see photos at the end of the manual).**
- 7 You may be able to turn the cap screw without first securing the shaft from turning - however, if you find either shaft turning as you undo the capscrew counterclockwise to loosen it, wrap the jaws of a large pair of pliers with heavy rags and hold the shaft with these protected pliers while undoing the capscrew.**
- 8 Remove the top sheet metal inspection plate located just under the table so you have access to the cap screw on the bottom ahaft and duplicate the procedure used to loosen the cap screw assembly on the top shaft.**
- 9 Assuming this is a post 1973 machine with style B blades, remove the described blades in the following order: Remove the outside bottom 1/8" thick blade, followed by the .038 x 5.5" x 3/4" blade on the lower shaft followed by removing the .0625" x 3/4" x 2" od spacer. On the top shaft, immediately above the extractort ring and spacer, is the top blade (5.5" x 3/4"ID x .0625" thick) of the die set. After removing this top blade, remove the final inside lower blade. Naturally, these steps are reversed in remountinmg a new or sharpened set.**

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## TROUBLESHOOTING

Although every effort has been made during both the design and manufacturing process to make our machinery as trouble-free as possible, a problem may arise. Feel free to contact us with your questions, however the following pages are designed to pinpoint the most common problems and to provide suggested remedies. Understand that if you've played with your shaft alignment, or the machine has been hit by a forklift, the following material will be of little help.

If you've just unpacked your machine and the blades are not biting/grabbing the laminate, it is probably due to the fact that the blades still have their protective lubricant on the edges. You have two choices here: either disconnect power to the machine and wipe the blade edges carefully with a rag containing a solvent (watch that you don't cut yourself on the edges) or force feed a couple of cuts until the solvent cleans up.

There are two areas or classifications of slitter problems:

### SECTION I

Deals with the QUALITY of the cut.

### SECTION II

Deals with the STRAIGHTNESS/ACCURACY of the cut.



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## TROUBLESHOOTING

### Section I - Quality (smoothness of the cut)

- Before starting, ensure that the outside diameter (OD) is at least 5-3/8"

• As the blade circumference is between 5-3/8" and 5.5", it is helpful to remember that the effective blade circumference ranges in the neighborhood of 15"-22" allowing for slippage. This implies that unless a problem repeats itself (a chip for example) only once every 15-21 inches, it is not likely to be a blade or shaft problem.

#### **IF THE MATERIAL IS ROUGH OR CRACKED ON ONE OR BOTH SIDES OF A CUT:**

- Check fence alignment to ensure the fence is parallel with the plane of the slitter blades.

• If only the inside cut between the blades and the fence is cracking/chipping, then the most likely cause is a pinching fence on the outfeed side. To confirm this, back the fence out of the way and, using the same material that has given you the problem, make a "free" cut without engaging the fence. Do not be concerned with the straightness of the cut. If the problem disappears, then you need to open/adjust the outfeed side of the fence so it is further away from the blades which at the moment are rubbing against the material after it has been slit. If the free cut continues to have the problem on the same side, take off your blade set maintaining all relationships, and rotate the entire set horizontally through 180 degrees, remount the set and see if the problem moves to the "outside". If it does, you have isolated the problem to the blades set itself. Now examine the set as described immediately below.

- Check the blades for "shiners" or nicks on the edges: if you find any, the blades will require either sharpening or replacement. If you have sent your blades out for sharpening



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## TROUBLESHOOTING

### Section I - Quality (continued) (smoothness of the cut)

and they have been returned undersized either because they were not examined prior to sharpening or too much material was removed by your vendor, your blades will need to be replaced.

- **Confirm that the top blade is equally distant from the two bottom blades. If this is not the case, contact Mar-Bel support staff for assistance. Note that acceptable runout of the slitter blades while still achieving cutting tolerance is three thousandths. In short, look at the cut - not at the blades in determining whether the machine is working properly.**

- **If none of the above solve your problem, try different laminate patterns, brands, etc. to see if there is a pattern to the machine's behavior or the problem is uniform. After doing this, contact Mar-Bel support staff for assistance.**

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## TROUBLESHOOTING

### Section II - Accuracy (straightness of the cut)

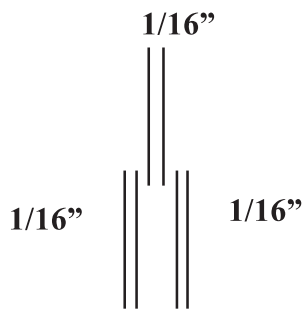
- none of the Mar-Bel laminate slitters are recommended for applications where the user wishes to inlay or butt joints or seams without additional effort such as routing or filing.
- The production model slitters are warranted to cut within a 1/32 of an inch over an eight foot length unless the material is not held firmly against the fence or other operator error occurs. If, for example, you experience a “tail” (a section at the end of a cut strip that is thinner on a taper than the rest of the strip) in the last 2-3” of the cut, it indicates the operator either “pulled” or prematurely released the material near the end of the cut.
- Periodic application of a silicone product on the slitter table will reduce friction and help ensure better cuts and less breaking of the plastic by reducing the torque created by the drag of the table on the material working in conjunction with the traction of the self feeding blades.
- If the holdown wheel is “towed in” too far, the laminate will likely bow or crack between the blades and the fence. If the wheel is “towed out”, the laminate will walk away from the fence despite the operator maintaining pressure against the fence. Wheel height should be such that the spring loaded wheel just touches the table and just allows a piece of paper to slide under yet move the wheel.

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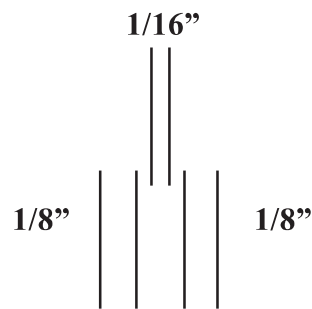
### IF YOU HAVE AN OLDER MACHINE (Circa Pre-1972)

#### You may have Style A Slitter Blades on your single slitter

- In late 1972-early 1973, the slitter blade configuration was changed. The earlier machines had three 1/16" (.0625") thick slitter blades that were used with stiffening collars on the two bottom blades. These early blades were designated "Style A" and are still available for use with your non wear stiffening collars.
- The later models have no stiffening collars but instead feature two bottom blades that are 1/8" (.125") thick and a top blade that remains 1/16" (.0625) Thick. This later configuration is referred to as "Style B" and works on all single slitting models since early 1973.
- These styles are not interchangeable although many older machines have been retrofitted and now use the Style B blades.



Style "A"



Style "B"

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## PRE and POST 1983 Kerf Extractor Systems

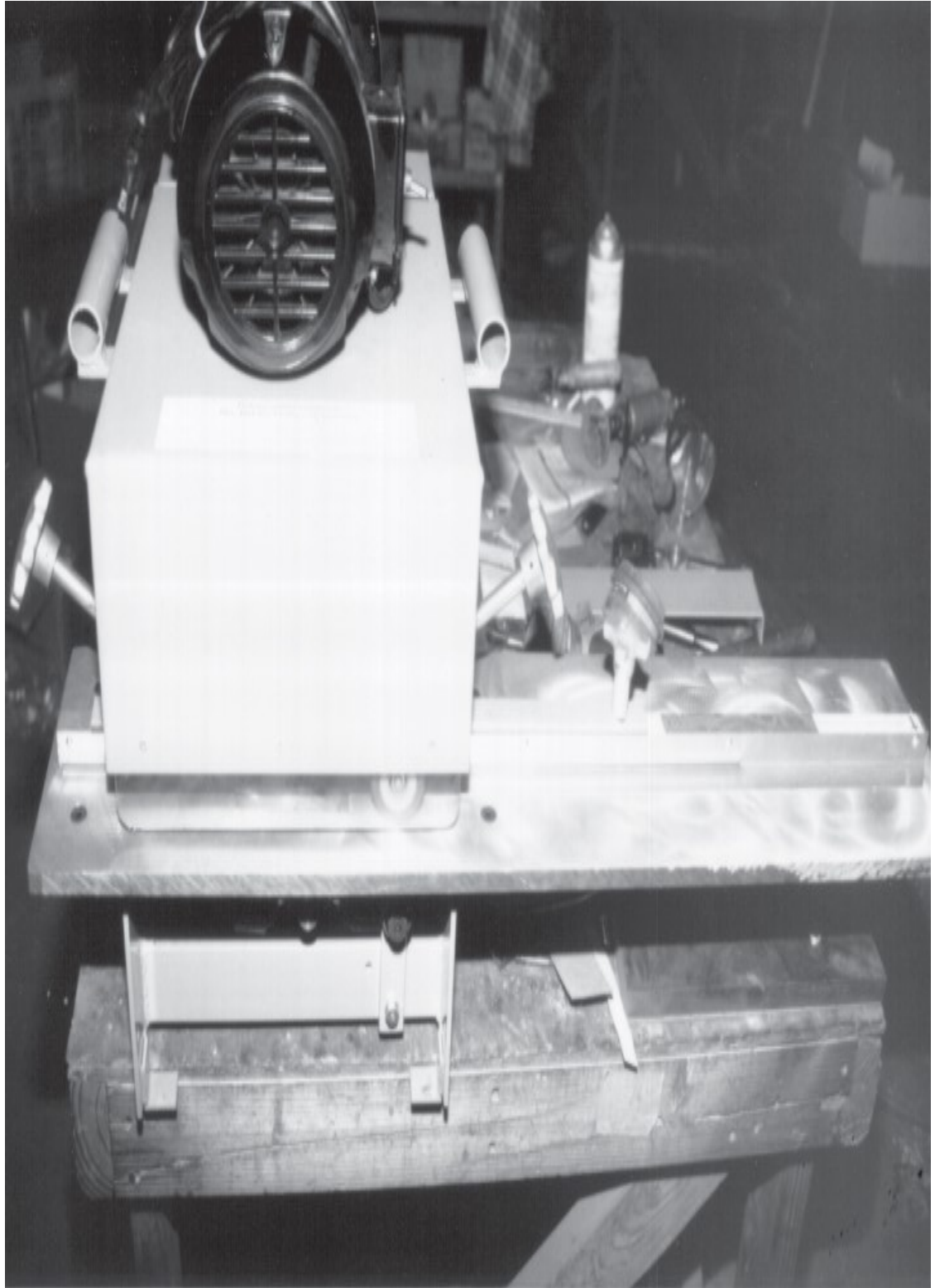
Prior to mid 1983, the extractor system to prevent kerf from collecting between the two bottom blades was a piece of bandsaw blade cut off at an angle of 45 degrees, drilled and painted aluminum color. In mid 1983, this system was replaced by a dynamic non wear system. It was found that the older system had a problem with the metal micas which tended to form as spaghetti and wrap around the arbor. In addition, if the old style extractor was wedged against the slitter blades, it would wear them badly as they were the same approximate hardness. This form of extractor came in several designs and would periodically wear out or snap off.

The current post 1983 extractor system used in Mar Bel slitters is a permanent non wear part that is retrofittable to the older machines. It consists of a wide arbored 5.5" fourth blade in the set that rides on the spacer between the two bottom blades. It is installed with an LBT wear mount that prevents the new style extractor from riding up into the table on the underneath infeed side. See the diagram at the end of the manual illustrating the workings of the new style extractor (NEWEX) and LBT mounting.

### **INSTRUCTIONS FOR RETROFITTING THE NEW STYLE EXTRACTOR (consult diagram at back of manual)**

- 1 Remove the lower blade locking hexcap bolt with a 5/16" hex wrench**
- 2 Remove the outer lower blade**
- 3 Remove and discard any remaining / existing elements of the old extractor**
- 4 DO NOT REMOVE THE SPACER BETWEEN THE BOTTOM BLADES**
- 5 Fit the new style extractor over (Note: NOT next to) the existing spacer providing the gap for the lower blade.**
- 6 Replace the outer lower blade and hexcap screw, tightening snugly with a 5/16" hex wrench**
- 7 Please note that when properly installed, the new extractor floats freely and hangs partially below the two lower blades: if it doesn't, it is probably next to instead of over the spacer and you must correct / reinstall.**

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**Exploded View of Blade and Shaft assembly**

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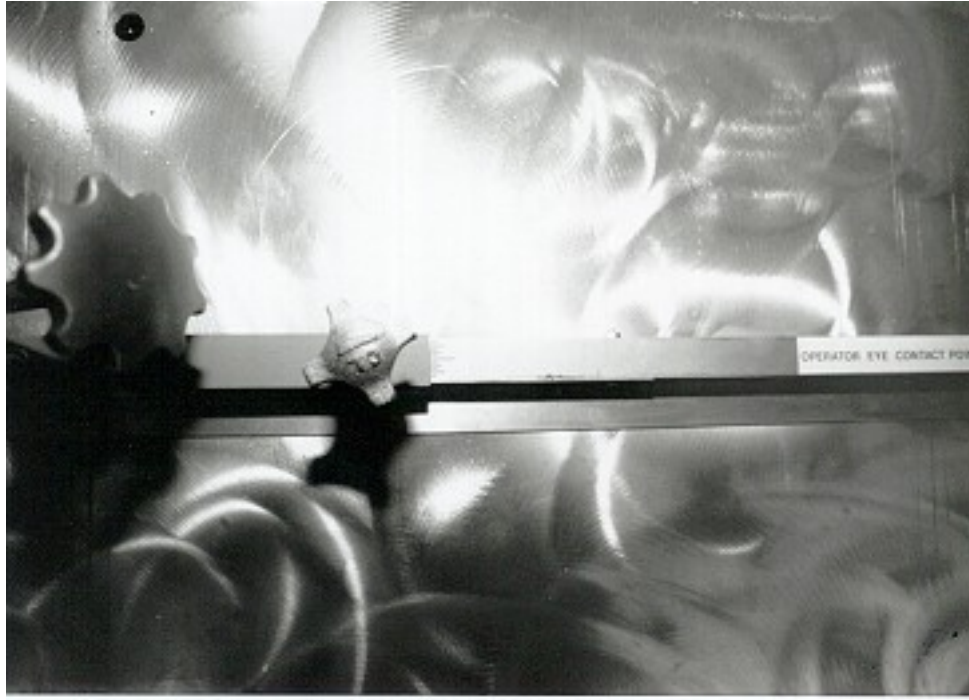


**Double Fence Slide assembly and Related Decals**

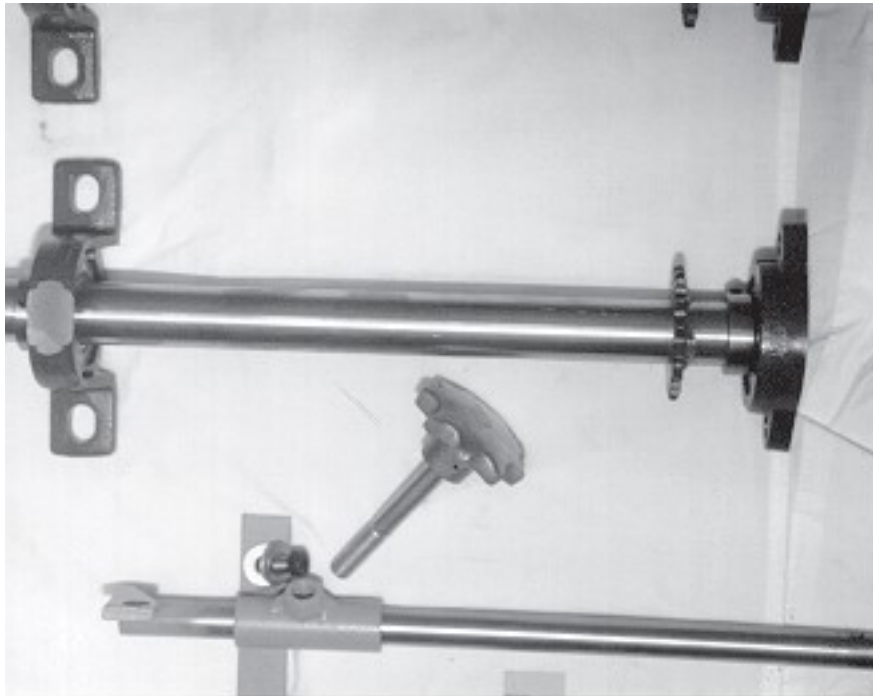


**Set of Aluminum Fence Strips-Customer Locates  
Drill Holes on Replacement Strips**

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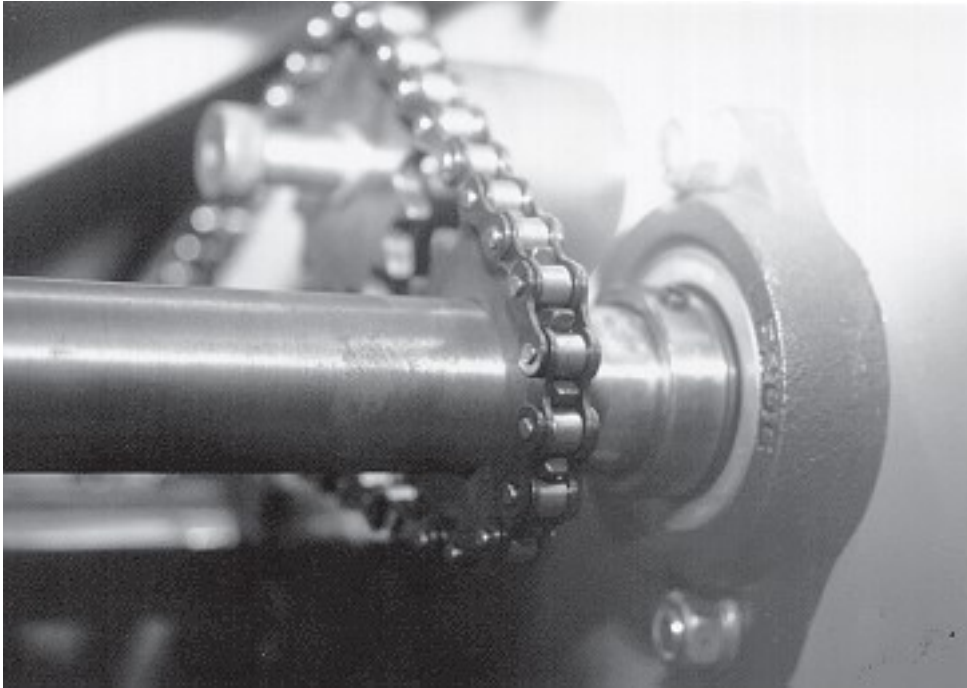
**View of Fence Alignment Knob and Decal**



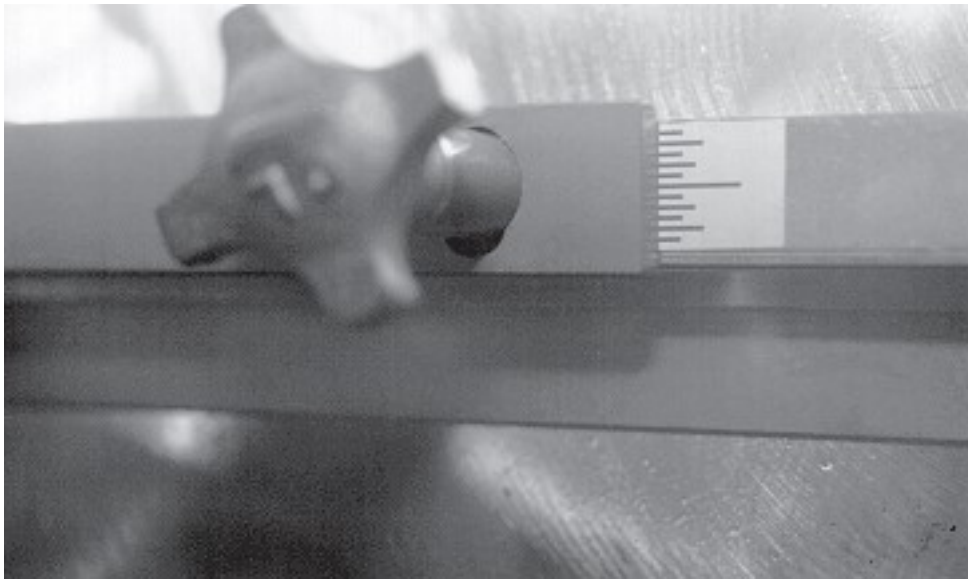
**View of Shaft, Slide Bar and Locking Assembly**



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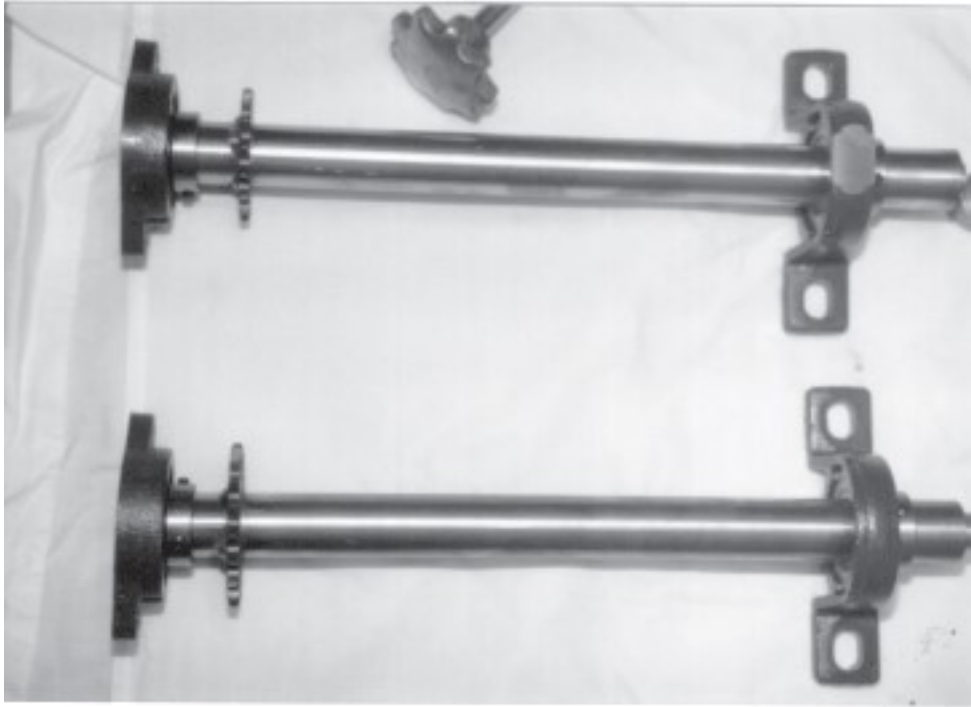


**View of Top Shaft and Cam Idler Chain Wrap**

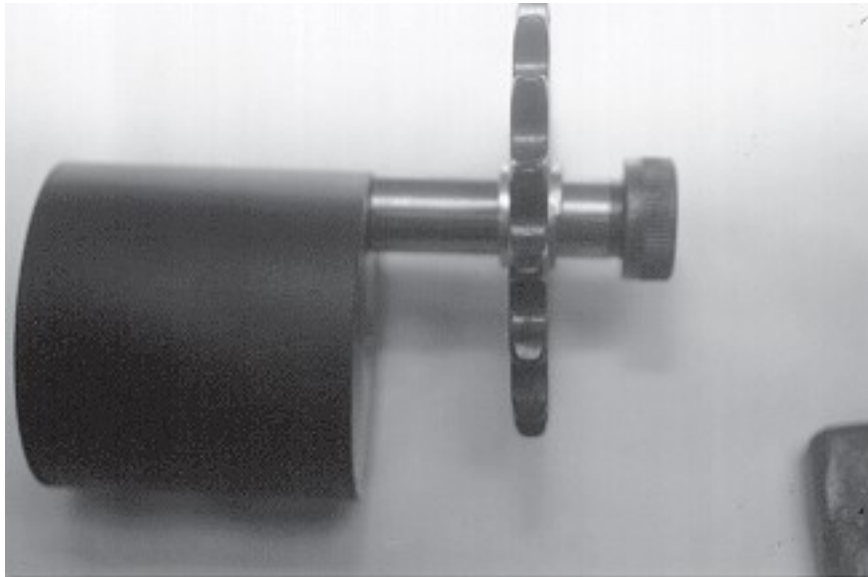


**Closeup View of Fence Alignment Scale and  
Adjustment Knob**

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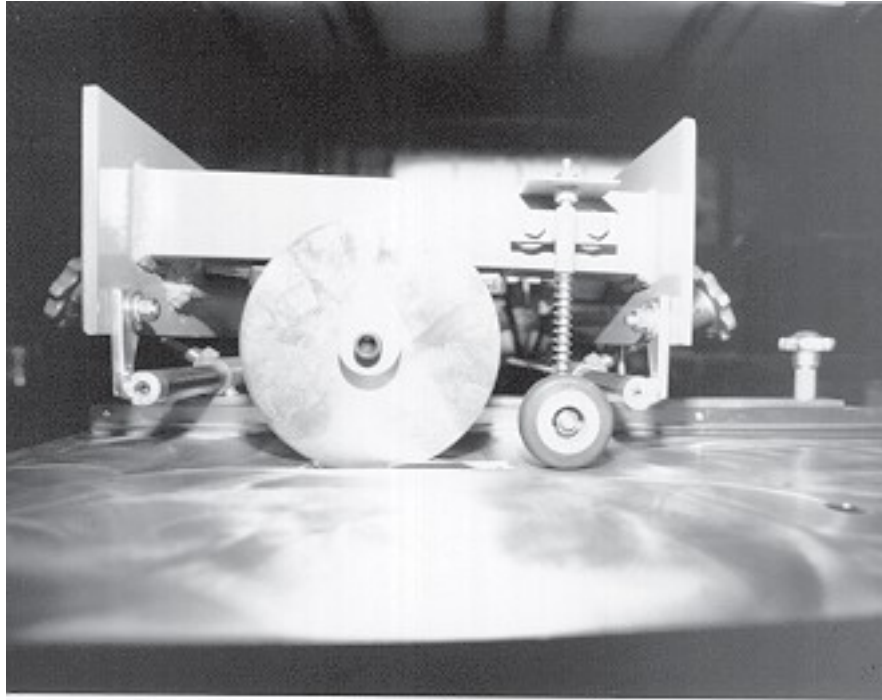


**Overhead View of Top and Bottom Shaft and Bearing/Sprocket Assemblies**

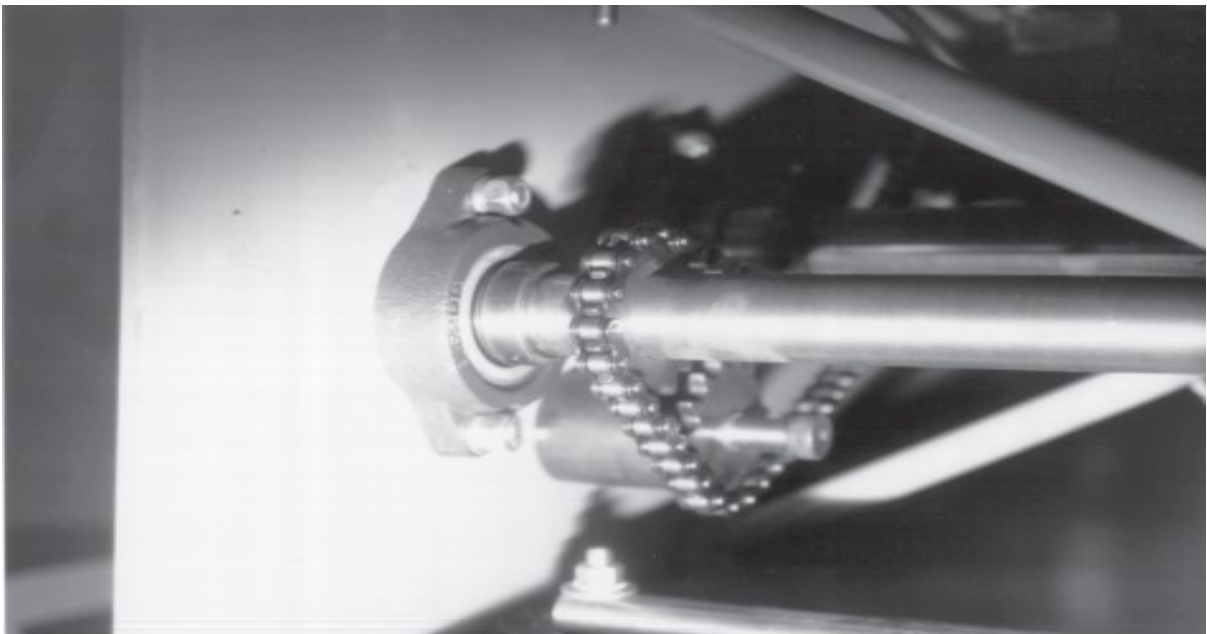


**Closeup View of Cam**

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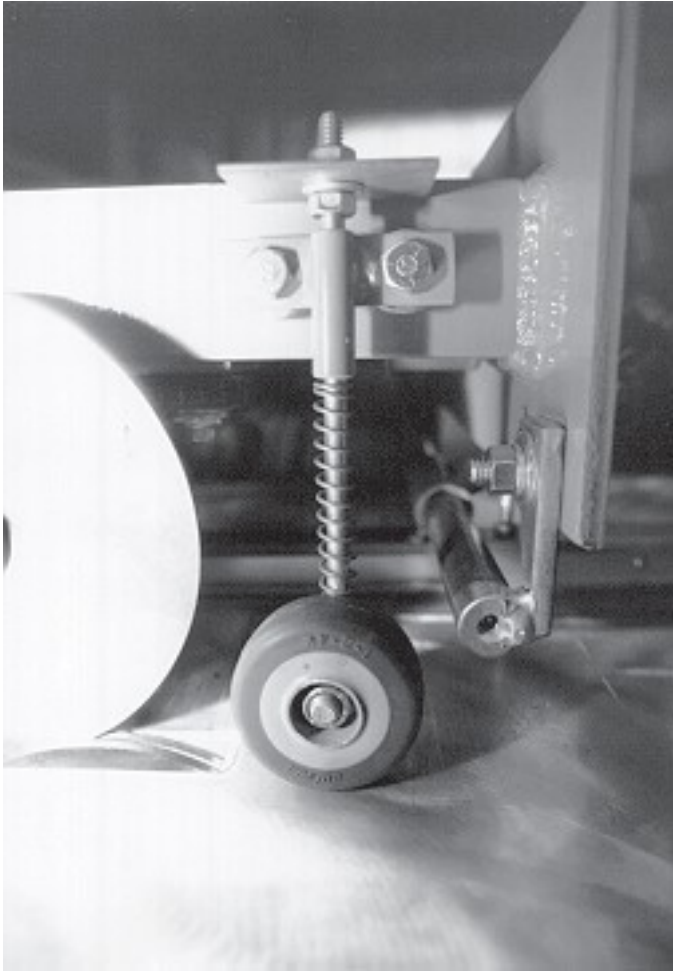


**Table Level View of Holddown Wheel Assembly**

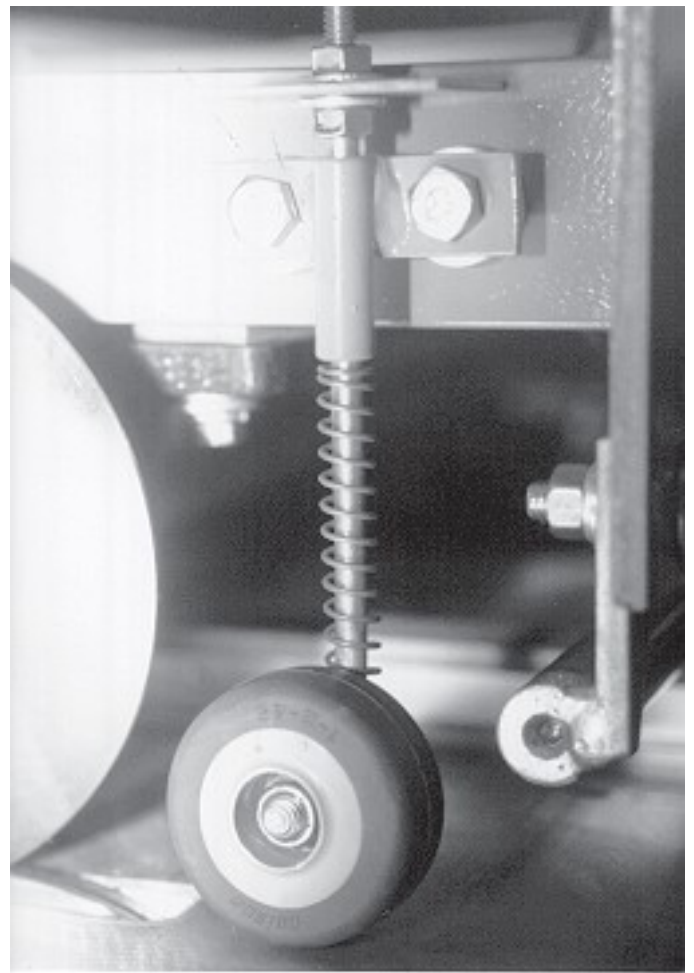


**Chain Wrap: Idler and Top Shaft - 2nd View**

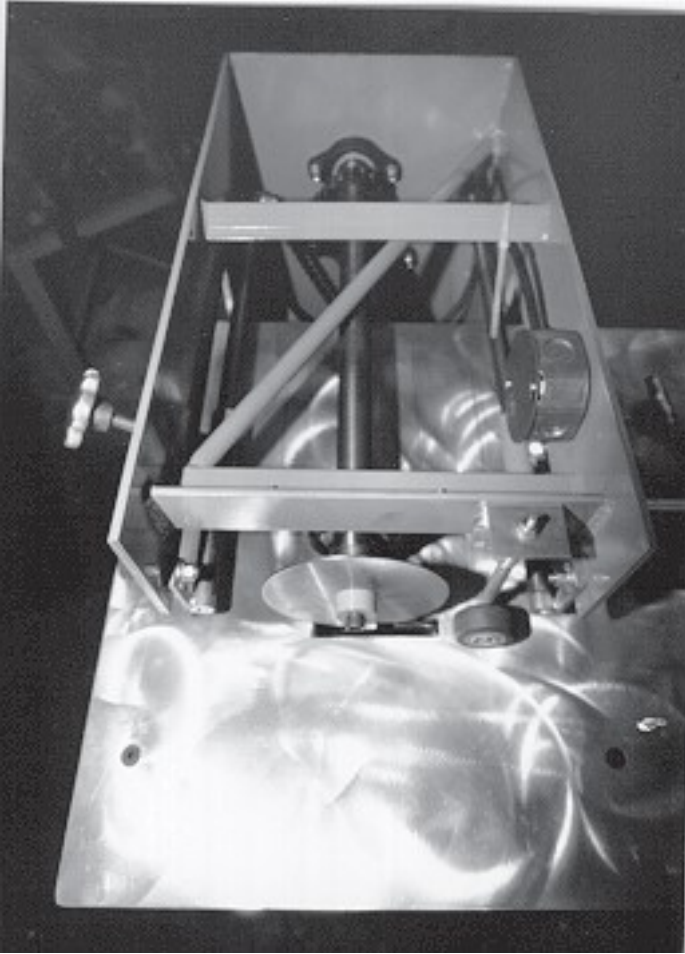
## Mar-Bel Single Slitter Operating & Instruction Manual



### **Close Up Views of the Holddown Wheel Assembly**

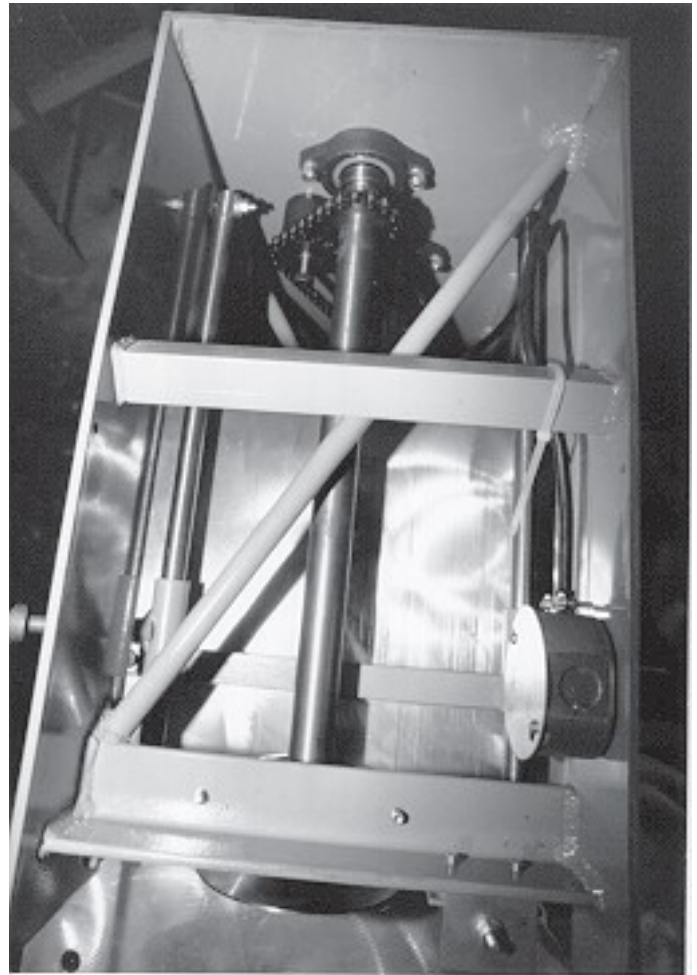


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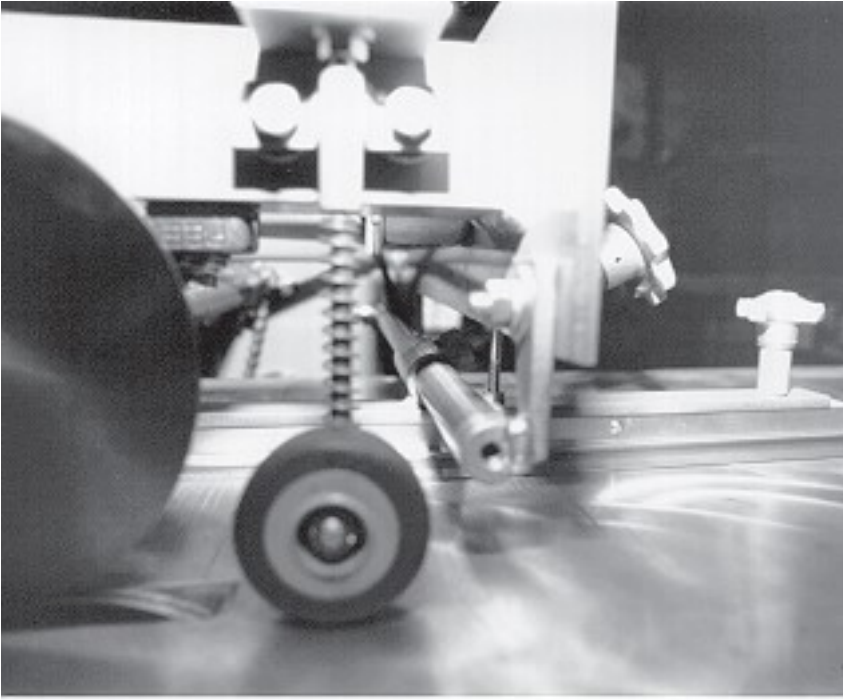
**Overhead View Typical  
Slitter With Cover  
Removed**

**Overhead View  
Typical Slitter  
With Cover  
Removed-2nd  
view**

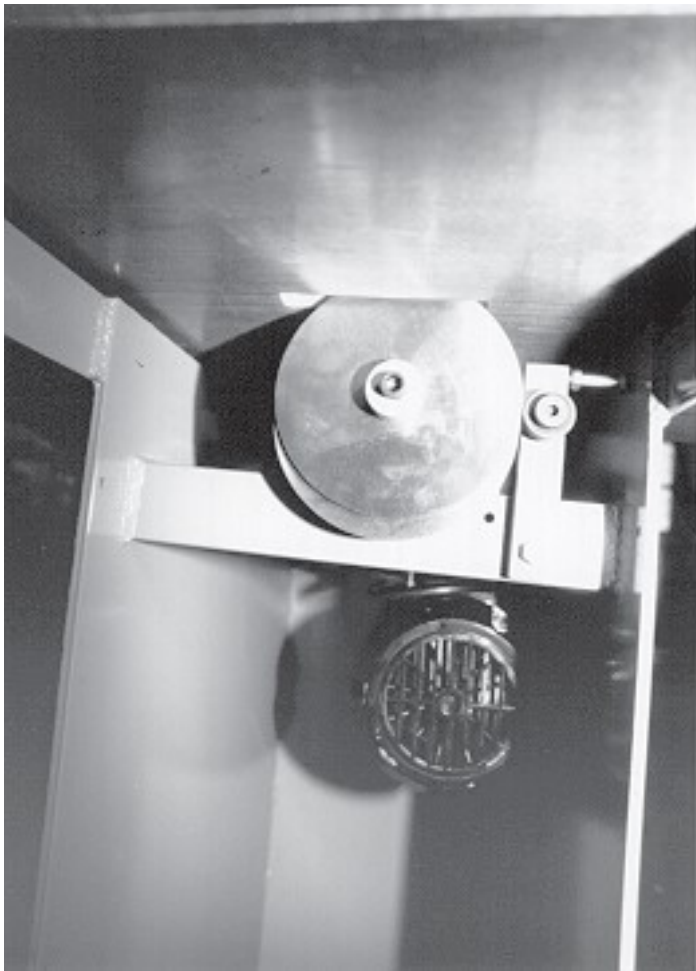




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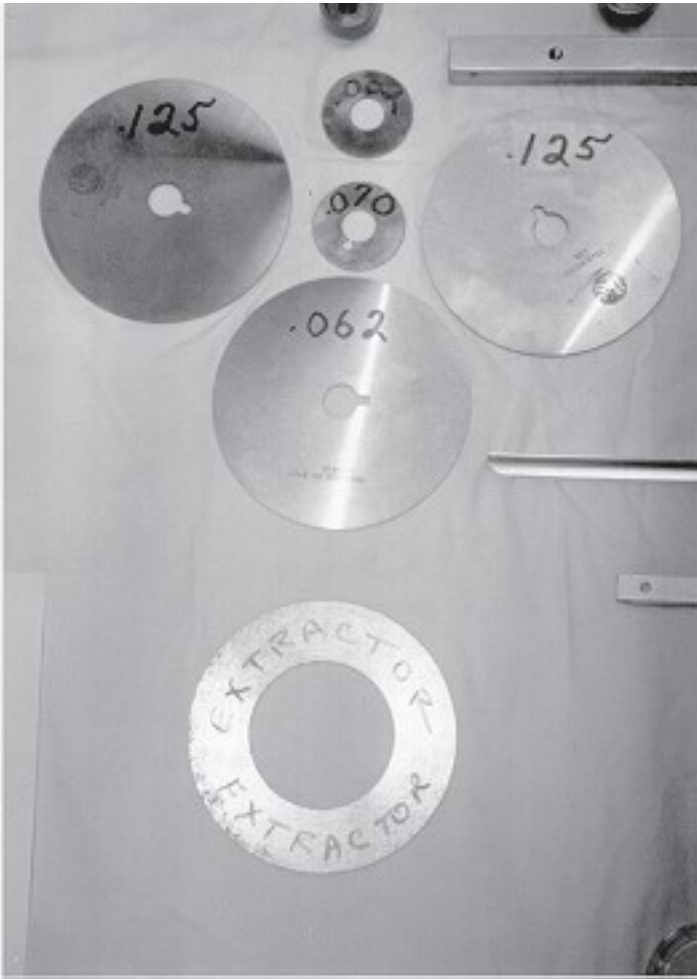


**Infeed Slide  
Assembly End  
Detail**

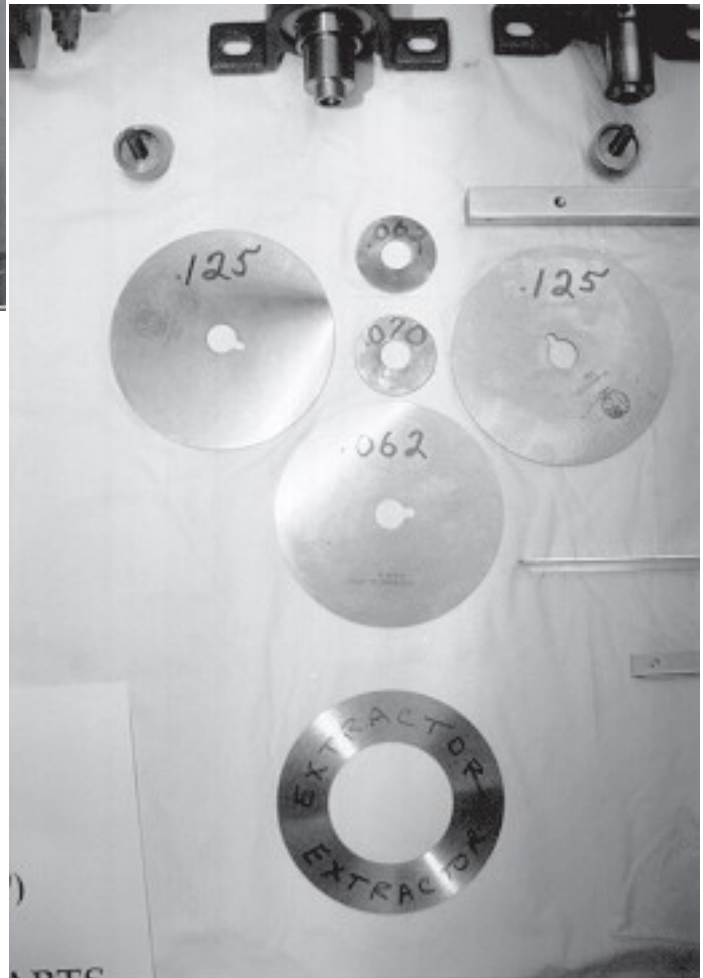


**Underside Illustration  
of New Style Extractor  
(NEWEX) hanging  
freely and its location  
in reference to the LBT  
Retainer Bracket**

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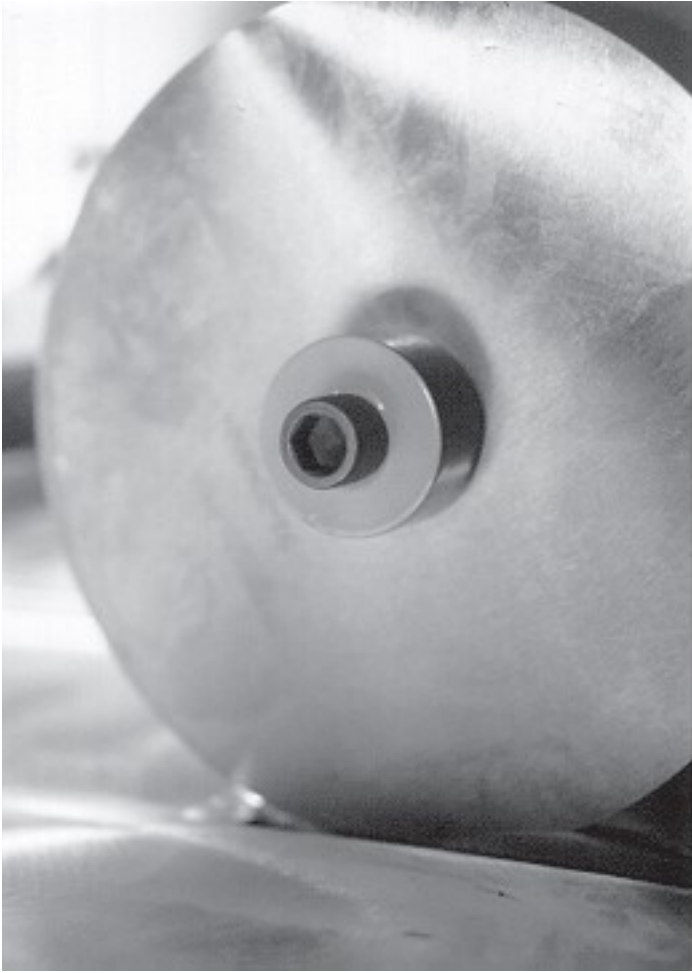


**Illustrations of Slitter Die / Blade Assembly Components**





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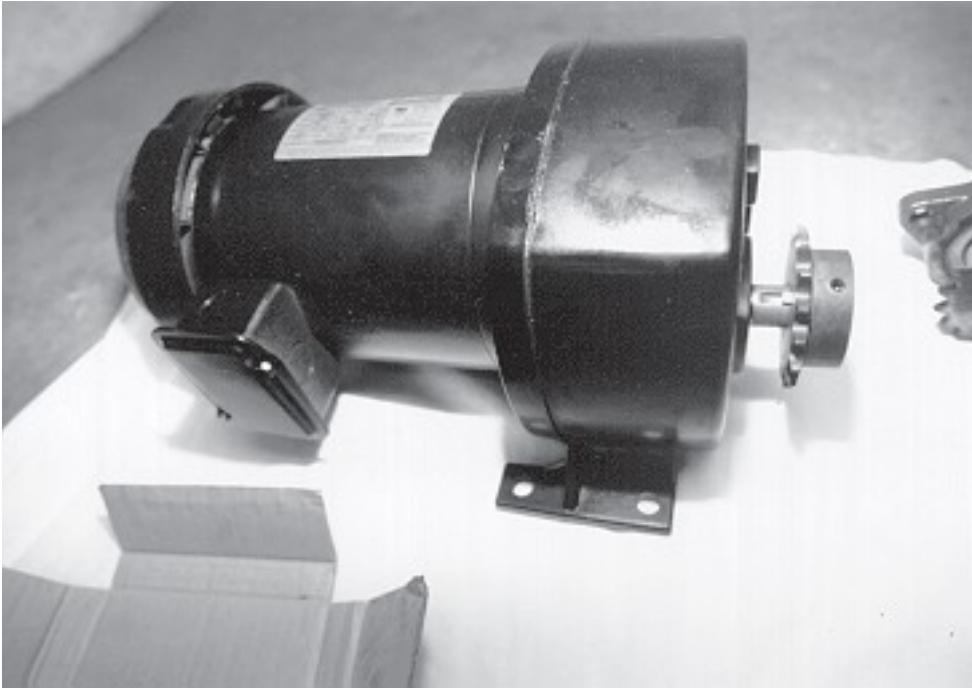


**Detail of Hex Cap  
Screw and Top Shaft  
Endcap**

**Double Slide Fence  
Assembly**



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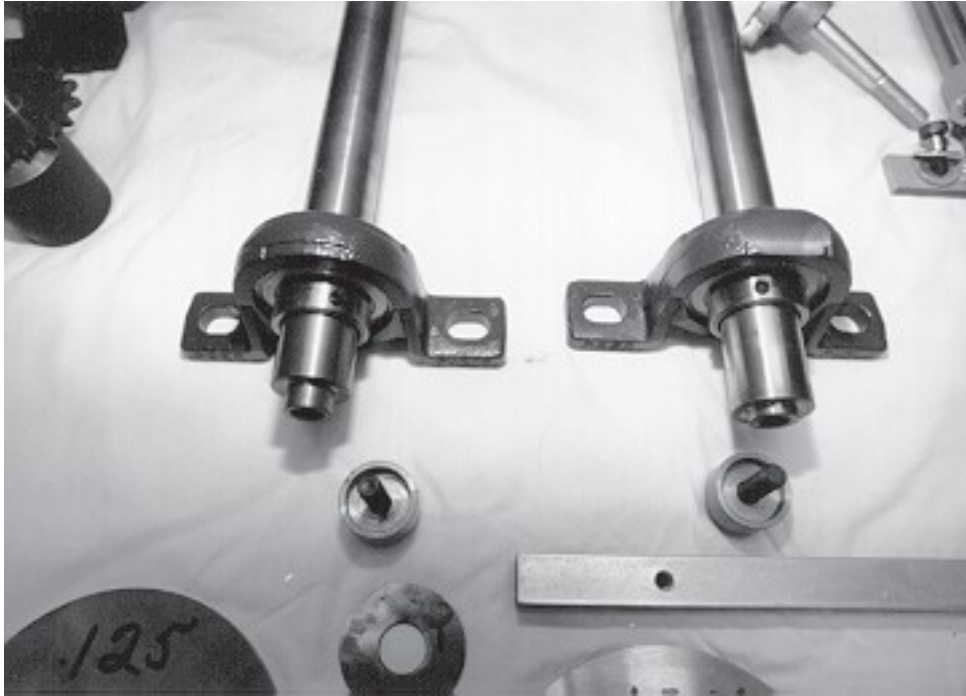


**1/3 HP totally  
enclosed fan  
cooled  
gearmotor**



**LBT Retainer  
Bracket**

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**View of Top  
and bottom  
Shafts,  
Flange  
Bearings,  
endcaps, and  
Hex  
Capscrews**

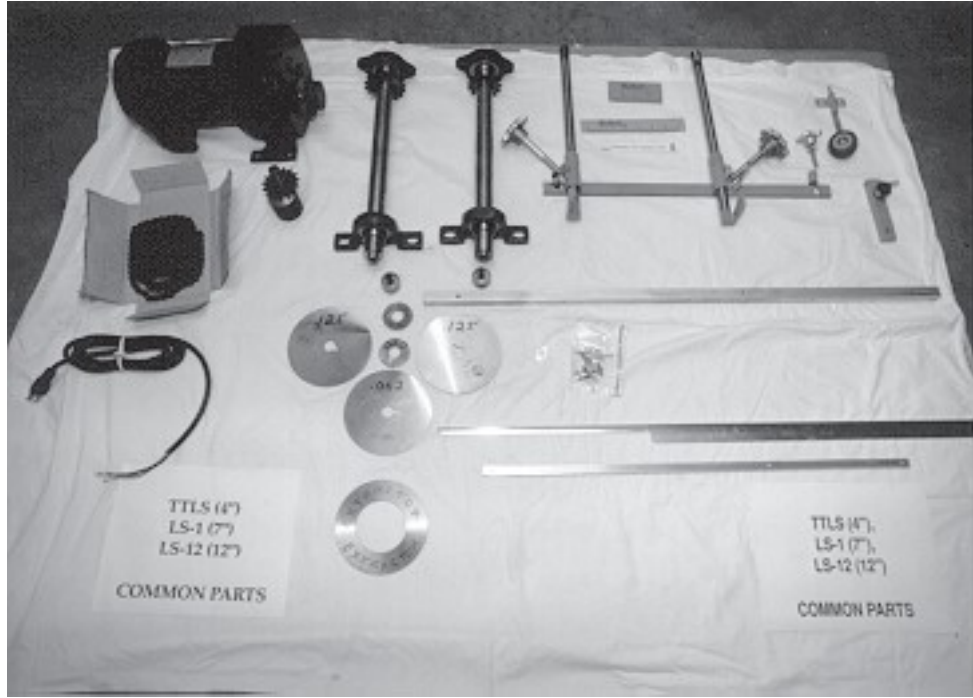


**Close up View of  
Fence Locking**

**Infeed View  
Fence Locking  
Knob and Fence  
Calibration  
Knob**



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**Wear Parts Layout (with exception of Newex)**

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**Customer Notes**

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