MODEL SF-1000
AUTOMATIC HANDSAW
&
CIRCULAR SAW FILER

OWNERS
MANUAL

WARNING

You must thoroughly read and understand this manual before operating the equipment, paying particular attention to the Warning & Safety instructions.

SAFETY INSTRUCTIONS

Safety Awareness Symbols are inserted into this manual to alert you to possible ***Safety Hazards***. Whenever you see these symbols, follow their instructions.

The ***Warning Symbol*** identifies special instructions or procedures which, if not correctly followed, could result in personal injury.

The ***Caution Symbol*** identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of equipment.

1. **KEEP GUARDS IN PLACE** and in working order.
2. **REMOVE WRENCHES AND OTHER TOOLS.**
3. **KEEP WORK AREA CLEAN.**
4. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use filer in damp or wet locations, or expose it to rain. Keep work area well lighted.
5. **KEEP ALL VISITORS AWAY.** All visitors should keep a safe distance from work area.
6. **MAKE WORK AREA CHILD-PROOF** with padlocks or master switches.
7. **DON'T FORCE THE FILER.** It will do the job better and safer if used as specified in this manual.
8. **USE THE RIGHT TOOL.** Don't force the filer or an attachment to do a job for which it was not designed.
9. **WEAR PROPER APPAREL.** Wear no loose clothing, gloves, neckties, or jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
10. **ALWAYS USE SAFETY GLASSES.**
11. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
12. **MAINTAIN FILER WITH CARE.** Follow instructions in this manual for lubrication and preventive maintenance.
13. **DISCONNECT POWER BEFORE SERVICING.**
14. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure the switch if OFF before plugging in the filer.
15. **CHECK DAMAGED PARTS.** A guard or other part that is damaged or will not perform its intended function, should be properly repaired or replaced.
16. **NEVER LEAVE FILER RUNNING UNATTENDED. TURN POWER OFF.** Do not leave filer until it comes to a complete stop.
17. **KNOW YOUR EQUIPMENT.** Read this manual carefully. Learn its application and limitations as well as specified potential hazards.
18. **KEEP ALL SAFETY DECALS CLEAN AND LEGIBLE.** If safety decals become damaged or illegible for any reason, replace immediately. Refer to replacement parts illustrations in this manual for the proper location and part numbers of safety decals.
19. **DO NOT OPERATE THE FILER WHEN UNDER THE** influence of drugs, alcohol, or medication.

SAFETY INSTRUCTIONS

This machine is intended for filing handsaw, bandsaw and circular saw teeth ONLY. Any use other than this may cause personal injury and void the warranty.

To assure the quality and safety of your machine and to maintain the warranty, you MUST use original equipment, manufacturers replacement parts and have any repair work done by a qualified professional.

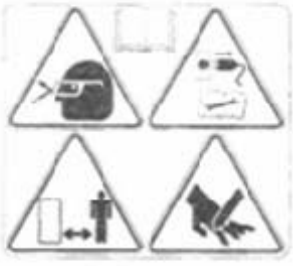
ALL operators of this equipment must be thoroughly trained BEFORE operating the equipment.

Do not use compressed air to clean dust from the machine.

Symbol for starting or running the machine. Flip the toggle switch to this side.

Symbol identifying a panel, cover, or area as having live electrical components within.

Symbol for emergency stopping the machine. Flip the rocker switch to this side.



Symbols for Read operators manual, wear safety glasses and disconnect power before servicing.

Symbols for sharp object which will cause serious injury and symbol for keep visitors a safe distance away from the machine.

INTRODUCTION

This manual is designed to teach you how to operate the Model SF1000 Saw Filer. After you have read this manual and worked with the SF1000 filer, you will understand why we call it the HEART of the sharpening business.

With the Model SF1000 Saw Filer you can sharpen any handsaw, some band saws and many circular saws (excluding carbide saws). For saws that require more than just sharpening Foley-Belsaw has the Model SR1000 Retoother and Model SS1000 Automatic Saw Setter.

This manual will show you how easy the filer is to operate. You will learn how to set the machine up for filing all types of saws. You will see how easy it is to go from handsaws to circular saws. Once you have learned how to operate the machine for one type of saw, you will find that it is just a matter of a few adjustments to file a different type of saw.

Read the instructions carefully. Follow along on your own filer. PRACTICE!! If you do everything this manual tells you, you will soon find that your SF1000 will be the HEART OF YOUR BUSINESS, too.

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ASSEMBLY INSTRUCTIONS

REMOVE ITEMS FROM CARTON

Remove all items from the carton. Carefully check over the shipment for missing items or damage incurred during shipment. If any problems exist, please refer to the shipping and receiving instructions.

FLOOR SPACE REQUIRED

The diagram shows the specific floor space required. The diagram indicates the maximum space needed for mounting the handsaw and handsaw carrier bar assembly onto the filer during operating procedures and removing it from the filer after sharpening.

TOOLS HEEDED:
FLAT HEAD SCREWDRIVER
7/16" WRENCH
1/2" WRENCH
5/64", 1/8", 3/16" ALLEN KEYS

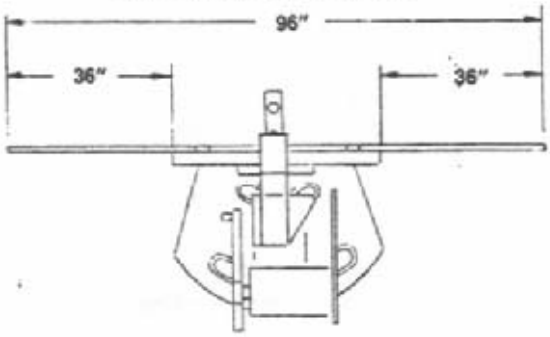


FIG. 1

MOUNTING THE FILER TO A BENCH OR STAND

The Model SF1000 Filer can be bench mounted or an optional stand assembly may be purchased from the manufacturer. The optional stand assembly instructions are on the following page.

BENCH MOUNT

The Model SF1000 Filer can easily be mounted to a bench. If the operator prefers sitting during the operation of the saw filer, the unit should be mounted directly to a bench of convenient height, so the filing area of the saw filer is approximately 6" below eye level. Some operators prefer to stand during the operation of the SF1000 Filer and have built a wooden pedestal of appropriate height, mounted the box onto the bench, and then mounted the filer onto the box. The box should be built to a convenient height so that the filing area of the saw is approximately 6" below eye level.

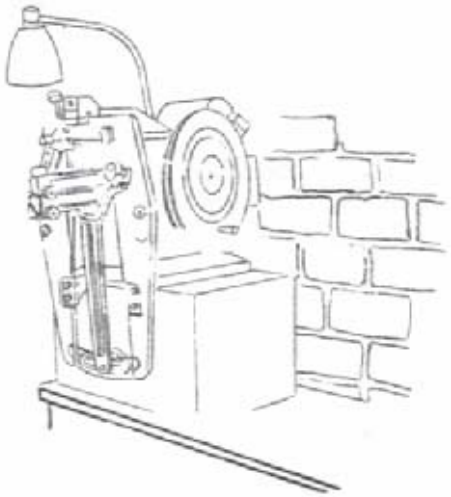


FIG. 2

PLACING THE FILER STAND OR MOUNTING BENCH ON A BADLY OUT OF LEVEL OR BROKEN FLOOR WILL AFFECT SHARPENING QUALITY.

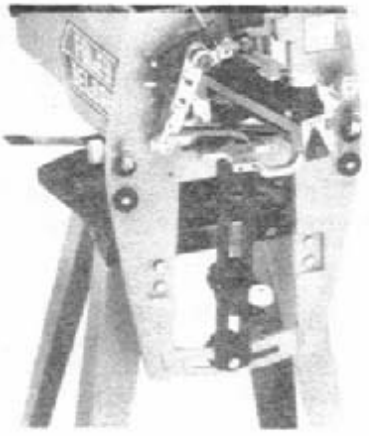
ASSEMBLY INSTRUCTIONS

STAND ASSEMBLY (OPTIONAL)

The Model SF1000 Filer can be bench mounted or an optional stand assembly may be purchased from the manufacturer and assembled as follows.
Assemble the 4 legs to the three flat and one angled leg braces. Use the 8 each 5/16" x 1/2" long bolts and the 5/16" nuts. Remember the angle brace goes to the bottom of the legs as shown in the diagram.
Position the base on top of the leg assembly and install 8 each of the 5/16" x 1/2" long bolts and 5/16" nuts. Now that the entire stand has been loosely assembled, go back and tighten all bolts firmly.
Place the assembled stand in the selected operating position in your shop and mount the filer base onto the floor stand using the 3 flat head screws and nuts provided as shown in the diagram.

The stand assembly is optional. Order Part. No. 3080510.

FIG. 4



MOUNT THE MACHINE LAMP (OPTIONAL)

Mount the machine lamp to the saw filer as shown in the diagram. The machine lamp is optional. Order Part No. 3707340.

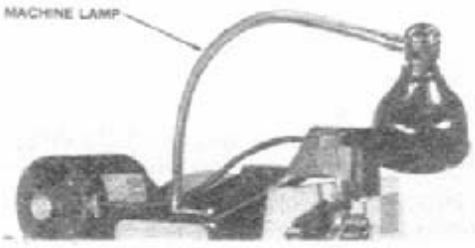
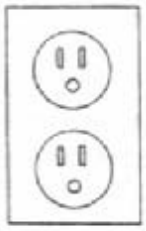


FIG. 6

ASSEMBLY INSTRUCTIONS

MOTOR WIRING AND SWITCH LOCATION

Your Model SF1000 Saw Filer has been completely prewired at the factory for 115V operation and no additional wiring is necessary.
The SF1000 as built uses standard 115 volt current. The wall outlet should be grounded and look like the outlet shown in Fig. 7.
See page 8 for information on 220V applications.



115 VOLT
15 AMP CIRCUIT

FIG. 7

GROUNDING INSTRUCTIONS

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.
Before plugging in your machine, make sure it will be connected to a supply circuit protected by a properly sized circuit breaker or fuse.
Do not modify the plug provided—if it will not fit the outlet, have the proper outlet and circuit installed by a qualified electrician.

Always properly electrical ground your filer . . . An improper connection can cause an electrical shock. If unsure of the proper electrical grounding procedure, contact a qualified electrician.

ON/OFF SWITCH

Your filer has a rocker style on/off switch located on the top front part of the machine.

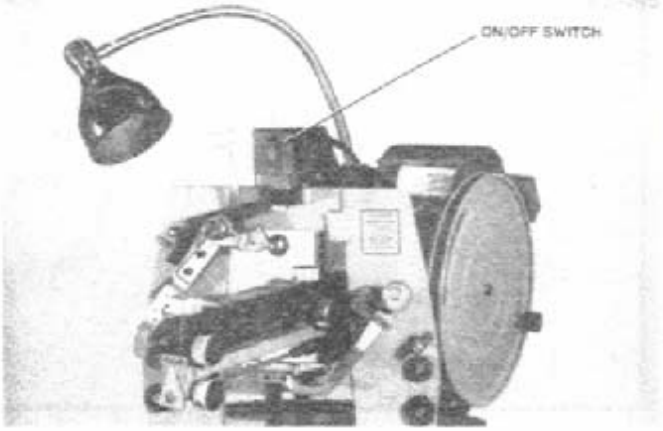


FIG. 8

VARIABLE SPEED

Your filer is also equipped with a two speed friction drive wheel assembly. By loosening the set screw, the friction wheel can be turned end for end and set for 45 teeth per minute (small friction wheel) or 55 teeth per minute (larger friction wheel).
To accomplish this, loosen the locking knob, pull the motor and friction wheel away from the flywheel. Loosen the set screw in between the friction wheels. Flip the friction wheel around on the shaft. Retighten the set screw on the friction wheel and push the motor forward until the friction wheel is against the flywheel. Finally, tighten the locking knob and you're ready to file at your new speed.

THE FRICTION WHEEL GUARD MUCT BE CORRECTLY IN PLACE BEFORE OPERATING THE FILER

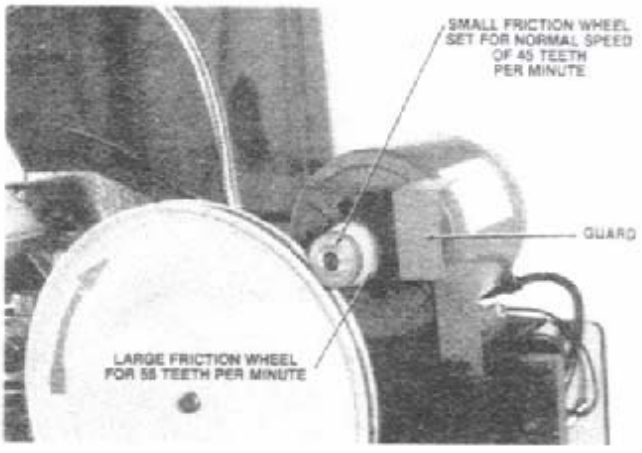


FIG. 9

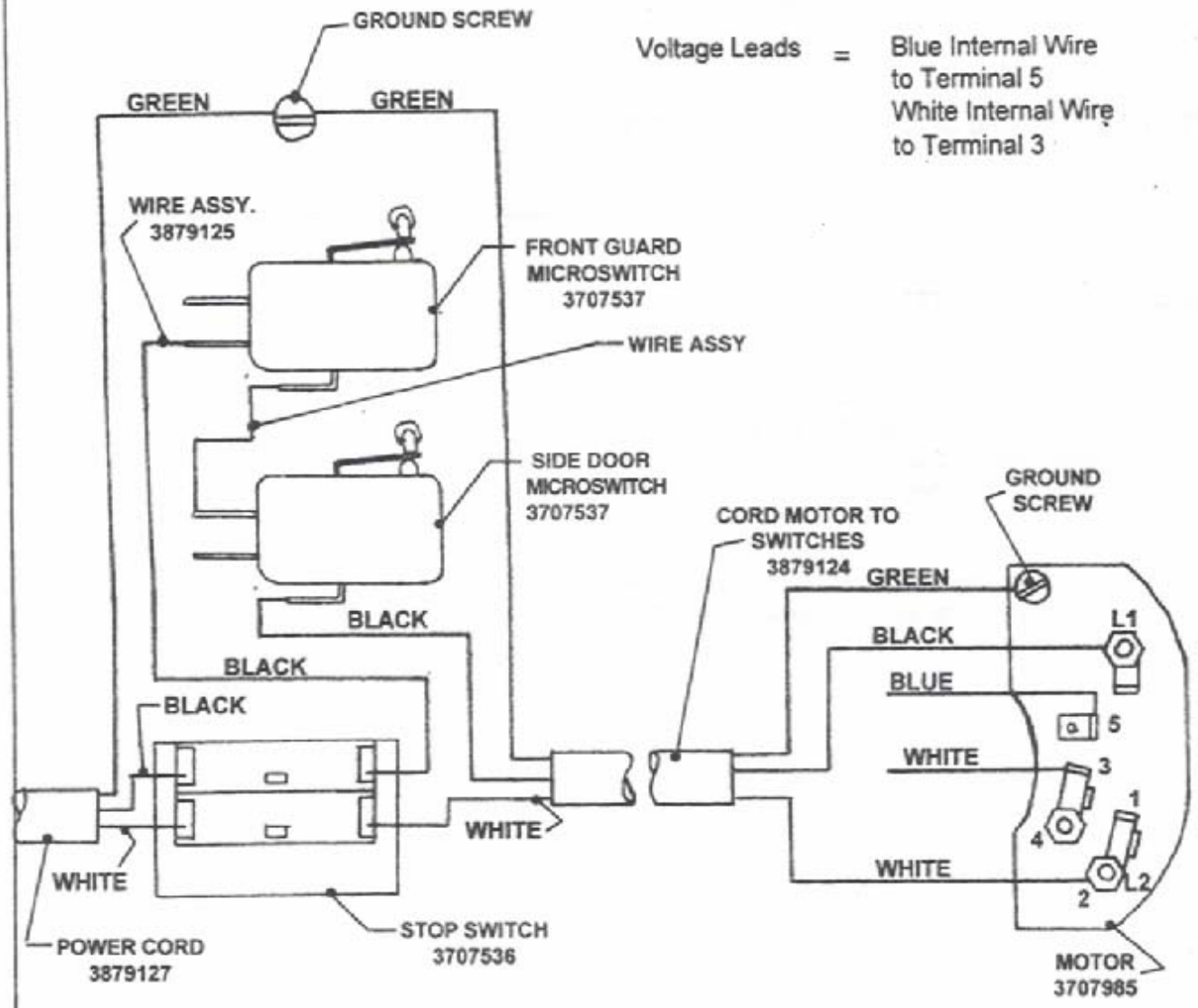
WIRING DIAGRAM

AS BUILT 220V

This filer has been built to operate on 220 Volt power

Rotation Leads Reference = Black Internal Wire to Terminal 2 Red Internal Wire to Terminal 4

Voltage Leads = Blue Internal Wire to Terminal 5 White Internal Wire to Terminal 3



The power cord for your filer has no plug on the end of the cord. Purchase and install the appropriate plug for your locality. For plug and circuit breaker sizing, see motor nameplate rating. Use only a qualified electrician.

NOTE: This motor will correctly operate on 60Hz or 50Hz.

WIRING DIAGRAM (cont.)

SWITCH OPERATION:

The filer operates with three switches in a series. For the filer to run all three switches must be closed. The Stop Switch must be in the "OUT" position. To achieve this, the Stop Switch, must be turned as indicated on the switch. The two Micro Switches must be actuated by having the Front Guard in the working or down position, and having the manual indexing access door closed and latched.

Normal operation would be to stop the filer by pushing the Stop Switch. Lifting or opening the front guard or access will also stop the filer.

CAUTION MUST BE TAKEN WHEN TWISTING THE STOP BUTTON OR CLOSING THE FRONT GUARD OR THE INDEXING ACCESS DOOR, AS THE FILER WILL START AUTOMATIC FUNCTION.

MANUAL INDEXING SYSTEM

Your filer is equipped with a maual index system. To manually jog the filer through normal operation, open the right side access door, fold up and grasp the knob, pull the knob (turning the flywheel) toward the front of the machine in the direction of the arrow on the flywheel.

When manually indexing is completed, pull out on the handle and fold the handle against the flywheel. Then close and latch the door.

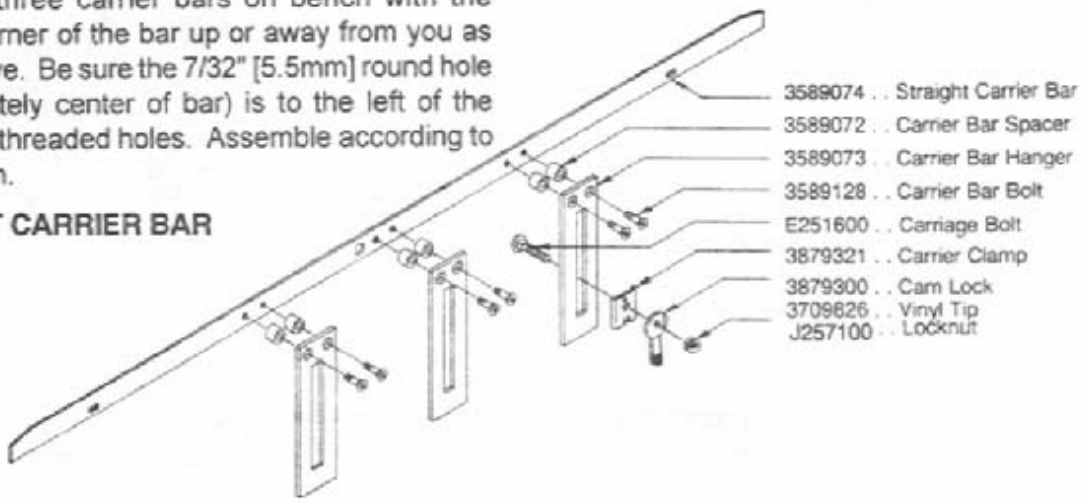
ASSEMBLY INSTRUCTIONS

THE CARRIER BAR ASSEMBLIES

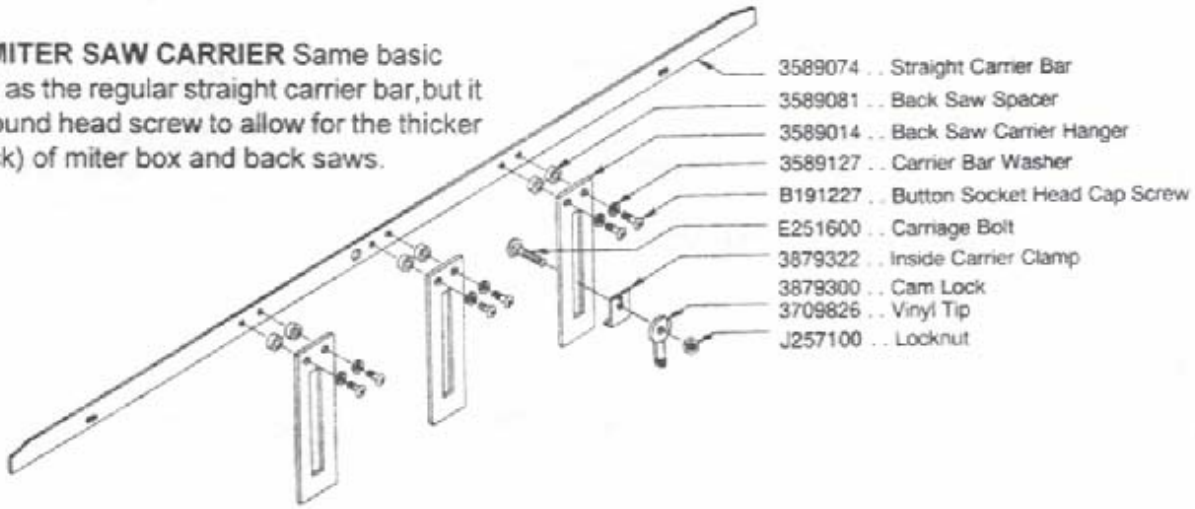
Your Model SF1000 Saw Filer comes complete with three saw carrier bars. Each carrier has a different use and should be assembled carefully according to the diagrams.

Place the three carrier bars on bench with the sheared corner of the bar up or away from you as shown above. Be sure the 7/32" [5.5mm] round hole (approximately center of bar) is to the left of the middle two threaded holes. Assemble according to the diagram.

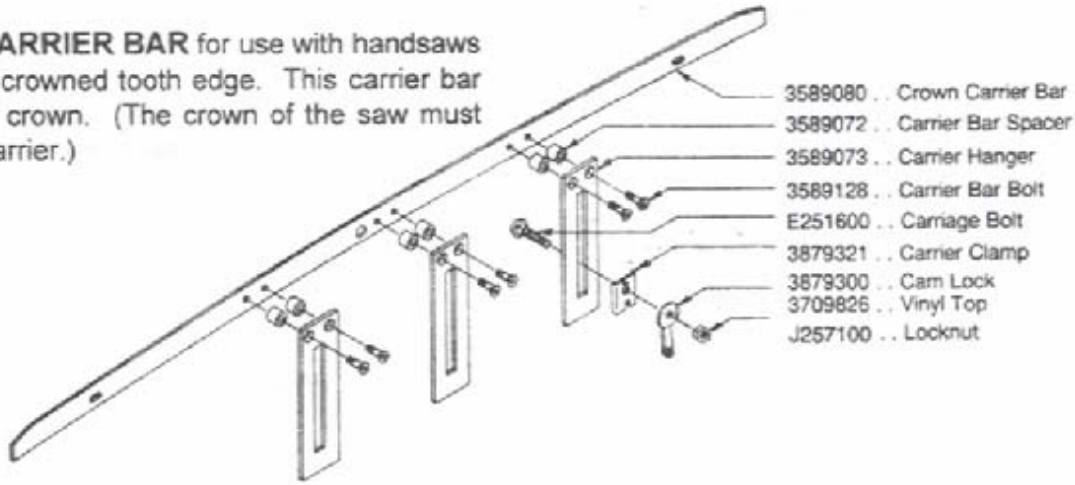
STRAIGHT CARRIER BAR



BACK OR MITER SAW CARRIER Same basic construction as the regular straight carrier bar, but it includes a round head screw to allow for the thicker top (stiff back) of miter box and back saws.



CROWN CARRIER BAR for use with handsaws that have a crowned tooth edge. This carrier bar has a 3/16" crown. (The crown of the saw must match the carrier.)



ASSEMBLY INSTRUCTIONS

JOINTING GUIDE ASSEMBLY ADJUSTMENT

The jointing guide assembly is frequently bumped and moved out of adjustment during the unpackaging of your saw filer from the carton.

It is recommended at this time to double check the position of the jointing guide assembly and adjust accordingly if necessary.

Rotate the flywheel until the file is down within one inch of the vise. Adjust the feed pawl positioner knob until the feed pawl is approximately 3/4" [19 mm] away from the edge of the file.

The jointing guide assembly should be approximately 7/8 to 1 inch [22-25 mm] away from the inside edge of the front frame. The jointing guide itself should be pointing upwards at approximately a 5 to 10 degree angle as shown in the figure.

For normal operation, adjust the jointing guide by loosening the socket cap screw that holds the entire jointing guide assembly firmly in place. Adjust the jointing guide assembly until the jointing guide is at a 5 to 10 degree angle and 7/8 to 1 inch [22-25 mm] away from the front frame. When satisfied with the adjustment, firmly tighten the socket cap screw. Final adjustment of the jointing guide assembly will be discussed in detail during the operating section on hand saw and circle saw filing.

HOOK POINTER ADJUSTMENT

The hook pointer is also frequently jarred out of position during the unpacking of your filer from its carton. To correctly adjust the hook pointer to read accurately, first loosen the file holder locking knob. Then rotate the file holder and file until one of the flat edges of the file is on top.

Place a 6" [150 mm] scale across the top edge of the file and continue rotating the file and file holder until the scale is lying perfectly flat or parallel with the vise jaws. Lock the file holder by tightening the black locking knob. Now set the pointer to read 30 degrees, and tighten the thumb screw on the pointer. The hook pointer will now read accurately. The hook pointer will be adjusted to its final degree markings during the operating procedures later on in the manual.

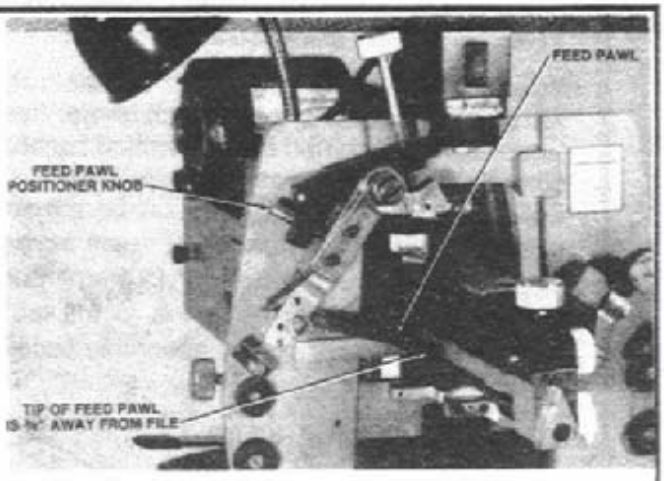
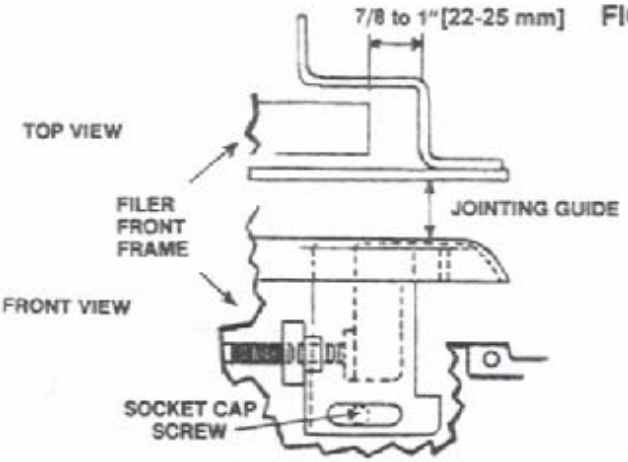


FIG. 13



JOINTING GUIDE ADJUSTMENT FIG. 14

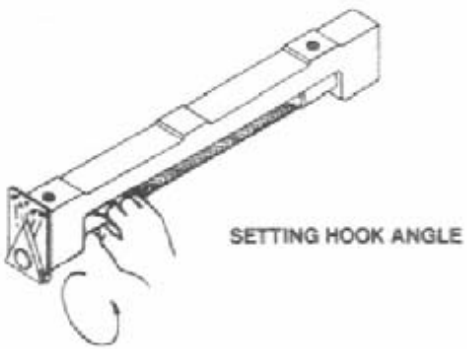


FIG. 15

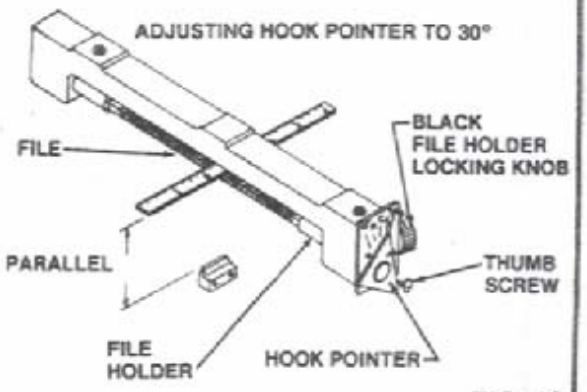
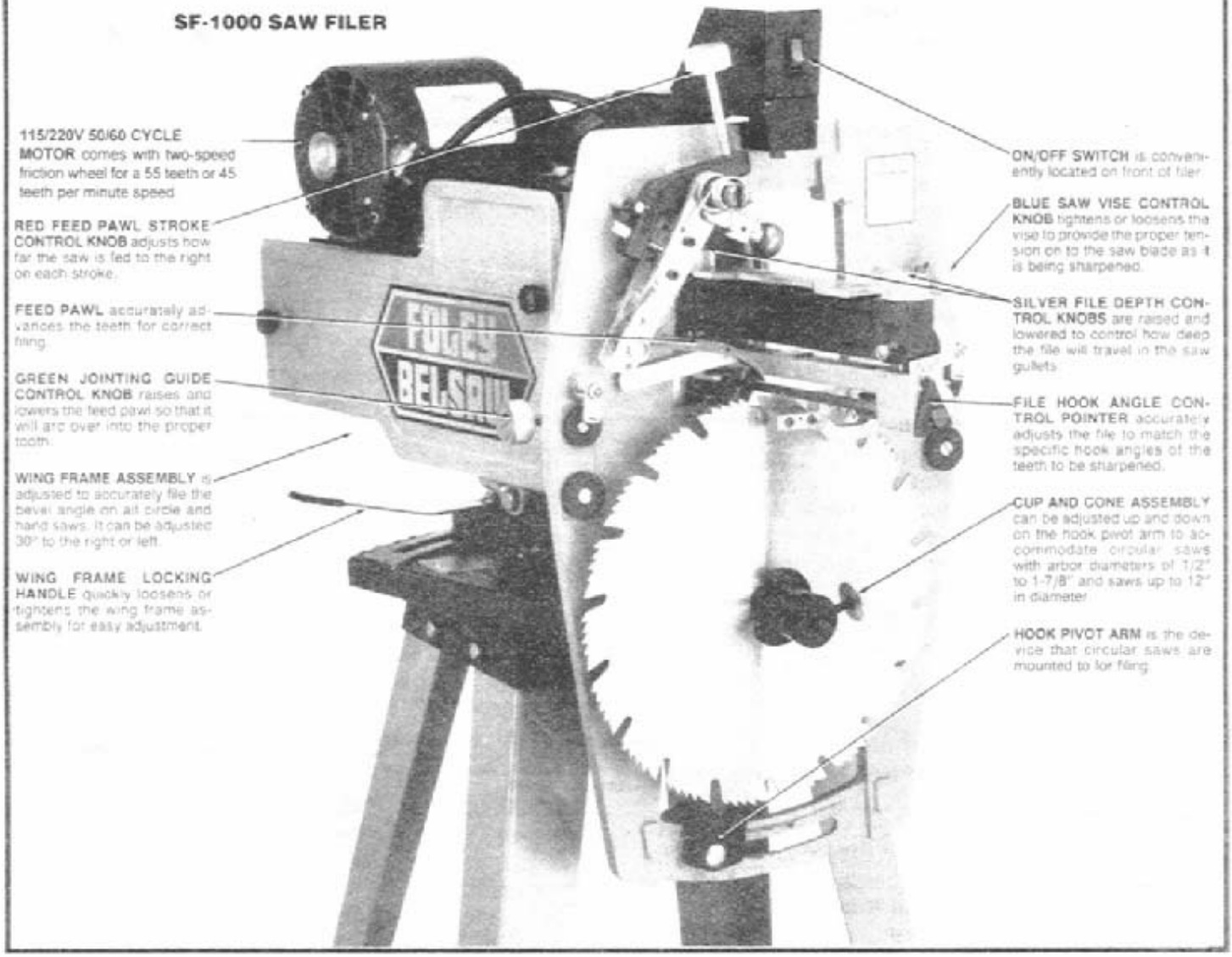


FIG. 16

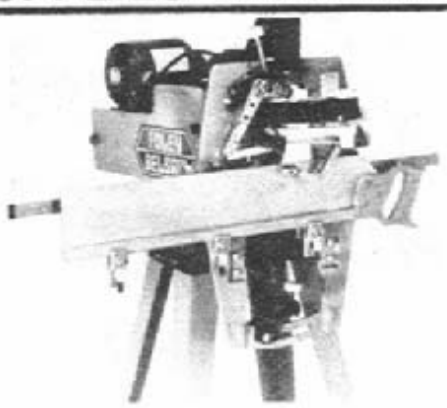
GETTING TO KNOW YOUR FILER



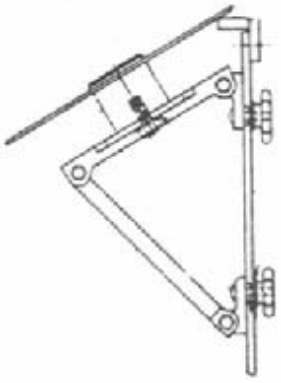
SPECIFICATIONS

Indexing Capacity	4 points per inch to 16 points per inch
Filing Speed (60 cycle motor)	45 to 50 teeth per minute
Bevel Adjustment	0 to 30 degrees right and left
File Face	7/32" to 5/8"
File Length	6"
Motor	1/2 HP 115/220V 50/60 cycle single phase
Mounting	bench mount standard, floor stand optional
Standard Machine Dimensions	24" H x 18" W x 30" Deep
Power Train	Gear reduction system powers cam action, indexing and push rod file drive
Maximum Capacity/Circular Saw	5" to 24" standard, 2" to 24" with optional cup assembly
Circular Saw Arbor Capacity	½" to 1⅞" standard, up to 3½" with optional cup and cone
Length of feed on circular saw circumference	0" to 2¼"
Handsaw blade lengths	maximum with standard equipment - 30½"
Handsaws styles sharpened	(standard) Rip, Crosscut, Mitre, Back and 3/16" Crown
Bandsaws Blade Width	⅜" to 4½"
Filer Shipping Weight	141 lbs.
Stand Shipping Weight	36 lbs.

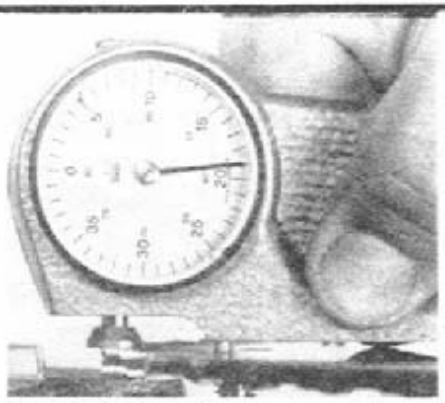
SUPPLIES • ACCESSORIES • ATTACHMENTS



FLOOR STAND This pedestal stand makes the SF-1000 Filer a free-standing unit. #3080510 Floor Stand.



PAPER TUBE SAW ATTACHMENT Provides precise, accurate, perfectly angled filing of circular paper tube saws. Specify arbor size when ordering. #3580505 paper tube bracket. Saw Arbor (specify arbor size when ordering) #3619550.



SAW SET GAUGE This handy precision tool recommended for every sharpening shop. It accurately measures the amount of side clearance on hand saws, circle saws, and carbide tipped saw blades. Accurately measures in .001 inch increments. #3570500 saw set gauge.

FAMOUS FOLEY BELSAW SAW FILES

DOUBLE CUT:
Has two series of diagonal cutting teeth, the first called the "upcut" and the second row the "overcut." Having more exposed cutting surfaces, removes metal fastest but tends to produce slightly rougher finish than Single Cut File.

SINGLE CUT:
Has a single series of cutting teeth running in one direction. Most users who prefer this file feel it takes less pressure to remove desired amount of metal and that the file does not tend to wear or "load" as rapidly.

Highest quality files for the professional sharpener. Our world famous files are manufactured to exacting specifications and specially designed to file saw-grade steel. Individually tested for uniform hardness and trueness to assure machine-filing accuracy . . . scientifically heat-treated to sharpen more saws and provide you maximum profits per file.

Here is a handy guide to help you select the proper file size for economical use . . . maximum profits!

Double Extra Slim Taper	13-16 pts. / inch
Extra Slim Taper	11-13 pts. / inch
Slim Taper	8-10 pts. / inch
Taper	5-7 pts. / inch

CARRIER ASSEMBLIES The SF-1000 Automatic Filer is equipped with 3 different hand saw carrier assemblies. Each is designed for use with a particular style of blade.

STANDARD CARRIERS
#3879910 straight saw carrier
#3879911 back or miter carrier
#3879912 crown saw carrier

OPTIONAL CARRIERS
#3879913 Sandvik Hand Carrier (15/32 [12 mm] of an inch crown)
#3589402 keyhole saw carrier

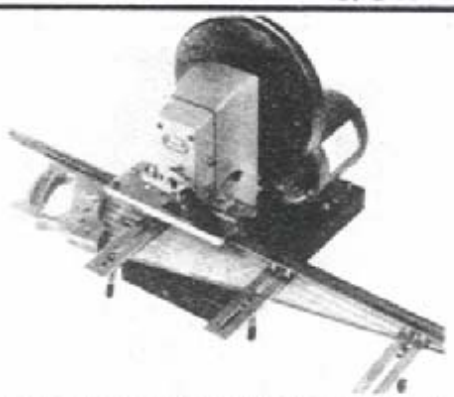
MAKE YOUR OWN CUSTOM SAWS An extra service for any sharpening shop to satisfy the demands of your customers. These blank saws are ready for custom toothing, filing and sand
#3702014 package of 4 extra fine quality blades.

#3702018 package of 6 saw handles.
#3702023 package of 10 small handle screws (aluminum)
#3702024 package of 10 large medallion handle screws.

OFFSET CUP ASSEMBLY Offset cup for sharpening small saw 4" [100 mm] or less in diameter.
No. 3309530

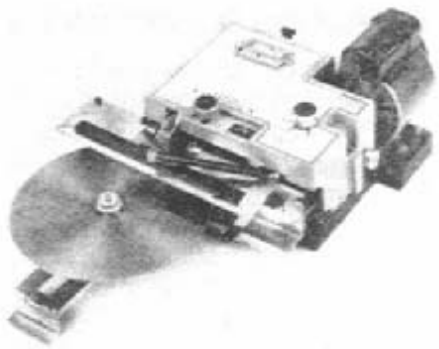
REAR FILE HOLDERS
No. 3589123 Web File Holder, Point End
No. 3619136 Cart Saw File Holder

SHARPENING EQUIPMENT

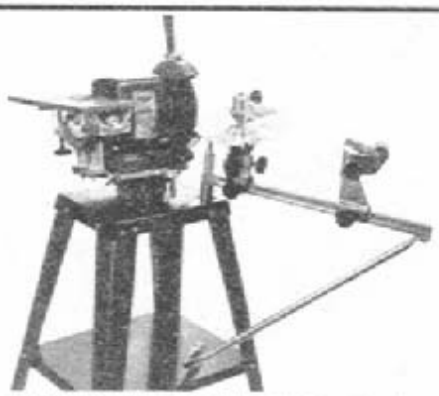


MODEL SR-1000 AUTOMATIC HAND SAW RETOOTHER Restores any hand saw to like-new condition—easily and quickly. Completely replaces old teeth with new precisely-sized, accurately-spaced teeth. Most saws can be accomodated without removing handle from blade. Will retooth any size handsaw from 4 to 16 points per inch.

AS YOU GROW FOLEY-BELSAW WILL BACK YOU ALL THE WAY

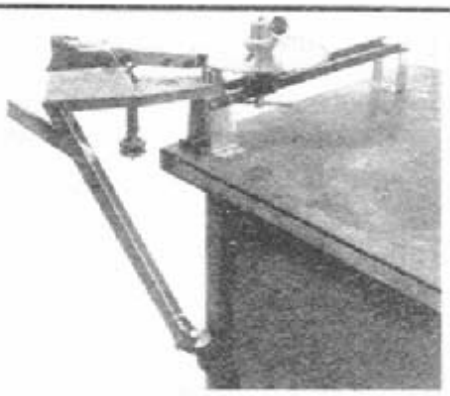


MODEL SR-1000 AUTOMATIC HAND SAW SETTER Sets both sides of saw blades in one operation—at the rate of 240-teeth per minute. Sets rip and crosscut carpenter's hand saws, band saws—4 to 16-points per inch. Provides correct kerf width to eliminate binding and chattering of saws.

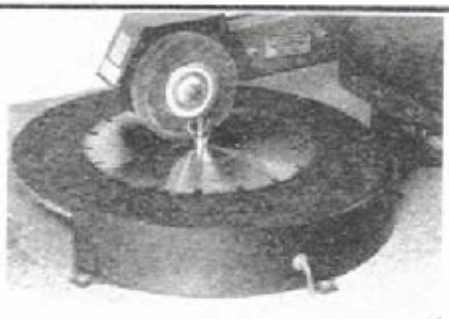


MODEL 1055 SHARP ALL joints, gums, sharpens and bevels rip, crosscut and combination saw blades—4" to 48" in diameter. Our built-in setter completes the job quickly and easily. Handles a wide variety of edge tools such as planer knives, jointer knives, wood chisels, axes and hatchets, scissors, pinking shears and many other tools.

A SPECIALIZED MACHINE FOR EVERY NEED

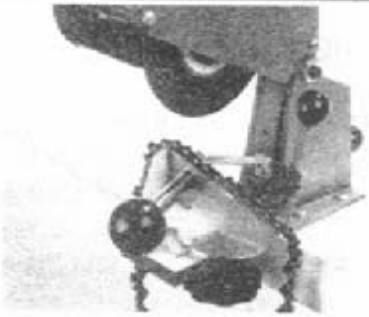


MODEL 359-LEVER OPERATED CIRCULAR SAW SETTER Sets all circular saws— 5" to 38" in diameter—with precision. Has semi-automatic trip-hammer adjustable system to assure even work. Easily adjusts to match trip-hammer blow with gauge of blade; angle of hammer with tooth hook.



MODEL 363-ECONO SAW BLADE POLISHER Mounts on bench or table. Handles saw up to 18" in diameter. Tapered cone takes arbor holes 1/2 to 1" in diameter. Provides professional like-new polish to saws in seconds. Powerful 1/3 HP motor drive polisher buffer includes No. 3700445 Flap Wheel.

CALL TODAY FOR DETAILED INFORMATION ON OUR COMPLETE LINE OF EQUIPMENT



MODEL 399-CHAIN-MATE SAW CHAIN GRINDER This low-cost unit allows the sharpening of all popular style saw chain. The new patented chain vise assures fast, accurate and precision sharpening of all chain types up to 1/2" pitch. The Model 399 is designed to grind the face and top plated angles on both the left and right hand cutters and will also grind depth gauges. Small enough to take to any area electricity is available, large enough to withstand the heaviest grinding demands.

GENERAL INFORMATION: INTRODUCTION TO THE MANUAL

MAKING IT EASY TO LEARN YOUR FILER

Learning how to operate the Model SF1000 Saw Filer will be easy and fun. The SF1000 Automatic Filer looks awesome and difficult to learn to the beginning operator. If you have these feelings, it is only natural. You will find the Model SF1000 Filer is simple and easy to learn. There are two key fundamental thoughts to successfully learning the filer. One is to follow the step-by-step instructions on the following pages, and the second is to PRACTICE, PRACTICE, PRACTICE.

Don't be alarmed if your saws do not turn out perfect in the beginning. They won't, and shouldn't turn out perfectly as you are learning the different steps. But practice will lead you to a point in time where you will be able to sharpen the saws quickly, easily and automatically on your Model SF1000 Automatic Saw Filer.

Once you have mastered the different steps in automatically sharpening a handsaw or circle saw, you will understand and appreciate how great the SF1000 Saw Filer is, in quickly and accurately sharpening your handsaw and circle saws.

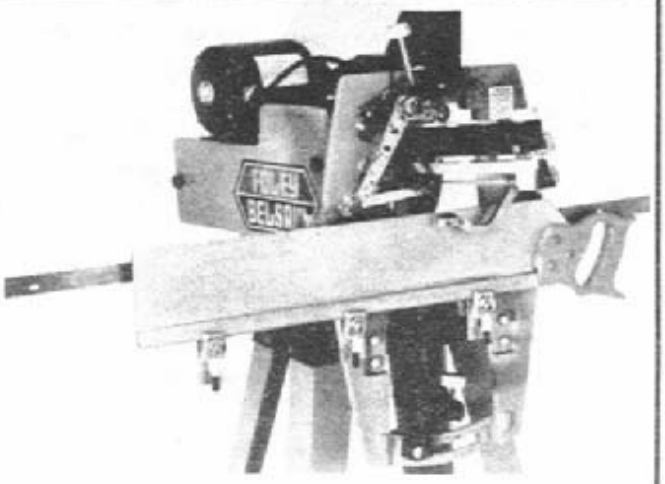


FIG. 20

REVIEW SAFETY INSTRUCTIONS

Please review the safety instructions on the inside front cover. You will note throughout the manual periodic warning symbols. While using any equipment, safe operating practices should always be followed. Wherever you see the warning symbols, extra safety precaution should be taken and you must stop, read and carefully follow the instructions before proceeding to the next step.

REVIEW *GETTING TO KNOW YOUR FILER*

On the preceeding two pages are machine specifications and a getting to know your filer page. It is recommended to review this page and understand the various knobs and adjustments that are on your filer. This will be helpful in understanding the instructions throughout the manual.

QUICK REFERENCE GUIDE

Included with this manual is a Quick Reference Guide. At this time, place it in a convenient viewing spot for quick referral.

The Quick Reference Guide is filled with commonly referred to information and will be helpful in speeding up the learning process of your automatic filer.

QUICK REFERENCE GUIDE

FIG. 21

GENERAL INFORMATION: SAW TERMS

In explaining how to use your Model SF1000 Automatic Saw Filer, we will be using a number of terms which can be new to you. Take a few minutes to look at the diagrams and information on the following pages and familiarize yourself with the terms. It will be helpful in understanding the instructions throughout the manual.

POINT—the sharp projection created on a saw which does the actual cutting of the material.

FACE—the surface directly in front and below the cutting point.

BACK—the sloping surface behind the cutting point.

GULLET—the pocket area that is formed by the sloping back and the face of two teeth. During the cutting process, this area forms the pocket where the sawdust is collected and removed from the cutting area.

FACE BEVEL—This is the angle filed on to the faces of saw teeth to create a sharper cutting point.

HOOK ANGLE—This is the angle between a line along the face and a line drawn straight up and down through the point of a saw tooth.

POINTS PER INCH—The standard industry measurement of sawblades is to measure points per inch, not teeth per inch. The diagram to the right shows the difference between the two measurements. To arrive at the point size of the saw, you put a ruler on the teeth and count the number of tooth points that there are in an inch. Notice that when an 8 point saw has 8 tooth points to the inch, it actually has only 7 teeth to the inch. When referring to the measurement of a saw blade, it is called POINTS PER INCH.

JOINTING—Jointing is the process of creating cutting teeth of identical height. As the sawblade bites into the wood, they must all do an equal amount of the work load. If the teeth are not equal in height, only the high teeth will do the cutting.

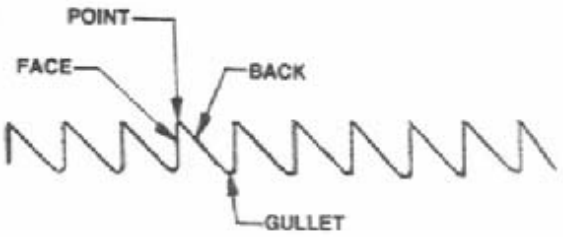


FIG. 23

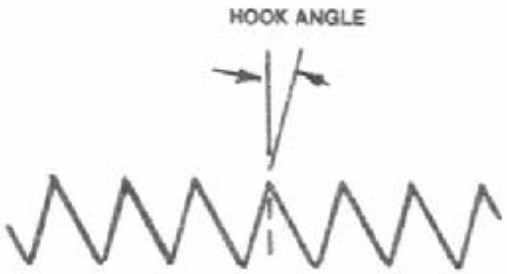


FIG. 24

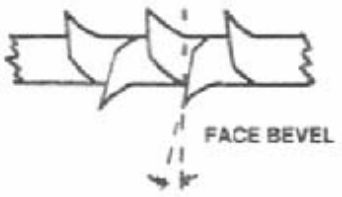


FIG. 25

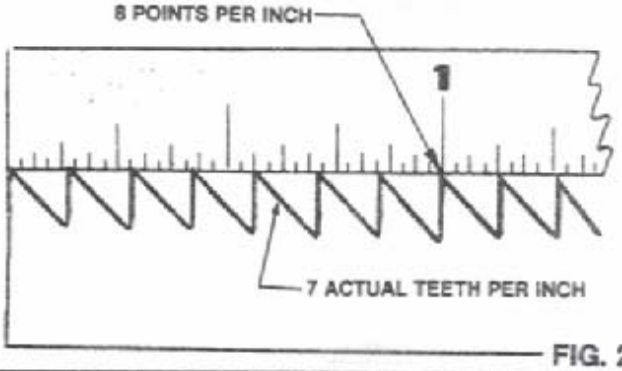


FIG. 26

SAW TERMS (continued...)

SAW KERF—This is the path that a saw cuts through the material when in use. A kerf that is wider than a saw body will prevent the sawblade from binding during the cutting process. If the clearance between the saw and the material being cut is not maintained, the saw will start to bind as it goes deeper and deeper into the cut.
To maintain this wider kerf, set or side clearance is put into the sawblade.

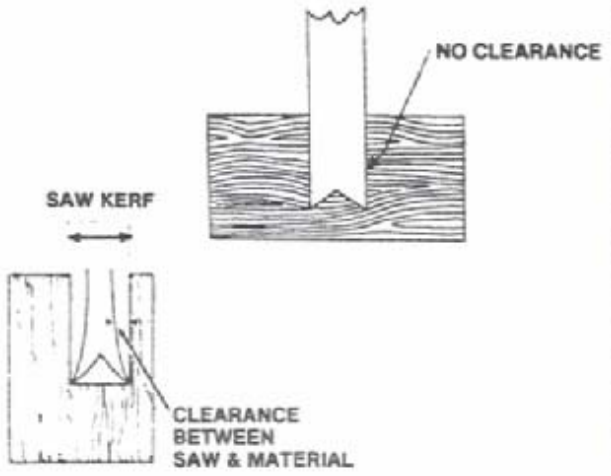


FIG. 27

SET OR SIDE CLEARANCE—Setting a saw is to bend the teeth alternately to the left or right. Once the teeth have been bent or *set*, they clear a wider path through the material being cut so the body of the saw has plenty of room to fall without binding. This path that a saw cuts through the wood is called a kerf. A kerf that is wider than the saw body will prevent it from binding.

CHECKING YOUR SET—To be on the safe side, you should check each saw to make sure it has the proper set. This calls for a precision gauge such as a dial saw set gauge. This is a very simple instrument to use, you just position it on the body of the saw blade and press against the tooth. It gives you a reading in the thousandths of an inch. The quick reference saw guide has recommended sets listed for the different types of hand saws.

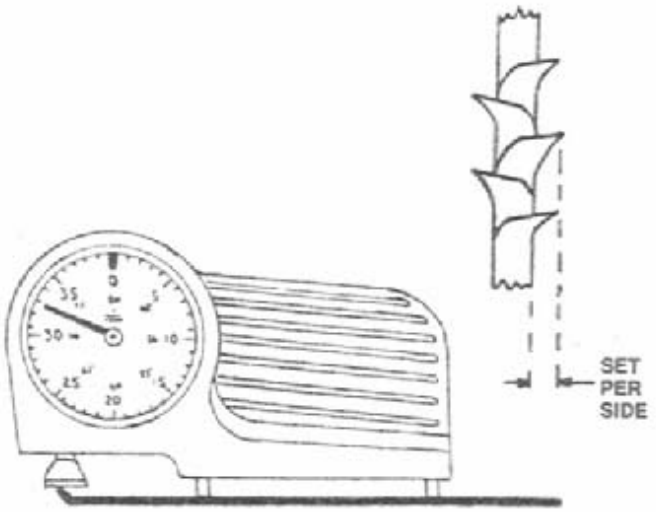


FIG. 28

CRYSTALIZATION—Crystalization is where moisture has gotten into the metal surface over the years and hardened the edges of a hand saw to a point where the saw teeth will crack and break off when a file is attempting to sharpen them. Crystalization of a saw blade starts on the edge of the material. Sometimes the crystalization can be retoothed out of a saw blade by retoothing a saw 3 or 4 times. If after retoothing several times, the teeth are still brittle and breaking off, the saw blade cannot be resharpened and must be discarded.

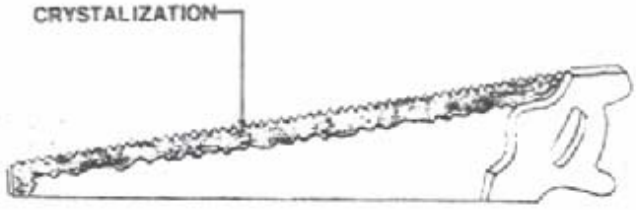


FIG. 29

GENERAL INFORMATION: COMMON HANDSAWS

QUICK REFERENCE GUIDE

The quick reference guide has a listing of the 3 common types of handsaws and their bevels, sets and how many points per inch. The size of the file is determined by how many points per inch are on the saw.

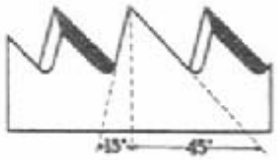
ALWAYS WEAR SAFETY GLASSES WHEN OPERATING THE FILER.

FIG. 30

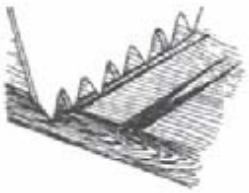
CROSSCUT SAWS

The crosscut saw is designed for cutting across the grain. Each tooth works as a small knife severing the wood fibers. The cutting edges or points of the teeth cut two separate grooves until they form one solid cut or kerf and completely sever the wood.

The crosscut saw requires specific tooth angles to accomplish this knifelike cutting action. The face of the crosscut tooth has a hook angle (-15°) while the back of the crosscut tooth has a 45° slope. These angles give the tooth a shearing action rather than a chisel action like the rip tooth. Another important angle that does not appear on the rip tooth is the bevel angle. Both the face and back of the crosscut tooth are filed at 15° to give the tooth a sharp knifelike point that enables it to cut in a shearing action as the tooth was designed. The quick reference guide lists the correct bevels, angles and sets for a crosscut handsaw.



A CROSSCUT HANDSAW HAS 15° HOOK ANGLE



CROSSCUT TEETH CUT LIKE SHARP KNIFE POINTS ACROSS THE GRAIN SEVERING THE WOOD FIBERS.

FINE TOOTH CROSSCUT AND MITER BOX HANDSAWS

A fine tooth crosscut handsaw and the miter box handsaw are also designed for cutting across the grain just as a crosscut handsaw does. The teeth These smaller teeth will produce a smoother kerf edge on the material being cut. The negative 15° hook angle is the same as on a crosscut handsaw. the 15° face bevel is also the same. The fine tooth crosscut and miter box handsaws should have between a .008 - .010 inch [.2-.25 mm] setting per side. The quick reference guide lists the correct bevels, angles and sets for the fine tooth handsaw.

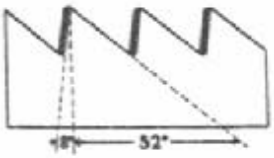
THE SET IN A SAW ALLOWS THE TEETH TO CUT A WIDER PATH (OR KERF) THRU THE MATERIAL IT IS CUTTING. THIS PREVENTS THE SAW FROM BINDING.

FIG. 31

COMMON HANDSAWS (continued...)

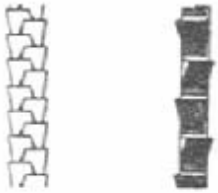
RIP HANDSAW

The rip saw is designed to cut with the grain and cuts on the push stroke. Its teeth cut like vertical chisels cutting out small pieces of wood. To enable the ripsaw to cut is a chisel action, certain tooth angles are required. The face of the tooth is filed at an -8° hook angle while the back of the tooth is filed at a 52° slope. The face of the tooth is filed straight across to complete the chisel type design of the tooth. The quick reference guide lists the hook-face bevel and correct amount of set for a rip.



A RIP HANDSAW HAS AN 8° HOOK ANGLE

RIP TEETH CUT LIKE MINIATURE CHISELS WITH THE GRAIN



THE SET IN A SAW ALLOWS THE TEETH TO CUT A WIDER PATH (OR KERF) THRU THE MATERIAL IT IS CUTTING. THIS PREVENTS THE SAW FROM BINDING.

FIG. 32

DEFINING THE OPERATOR'S POSITION

Several different directional terms will be given throughout the operating instructions.

1. Teeth towards you
2. Teeth away from you
3. Left Side
4. Right Side

All of the terms, giving you directions, are based upon the operator standing, facing the machine in the right front position as shown in the diagram. The teeth pointing away or towards you is based upon the handsaw or circle saw being mounted in the machine and operator standing in that front right position.

FIG. 33

TOP VIEW OF SAW AS SAW IS MOUNTED IN FILER

FIG. 34

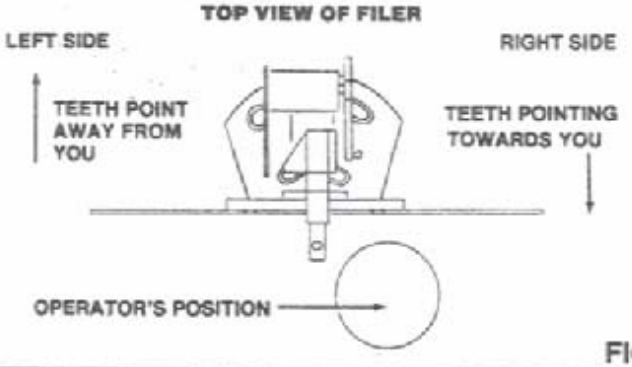


FIG. 35

OPERATING INSTRUCTIONS: CROSSCUT HANDSAWS

CROSSCUT HANDSAWS ARE THE MOST COMMON

Most sharpening shops will sharpen more 8 to 10 points per inch crosscut handsaws than all other types of handsaws combined.

With that thought in mind, the operating instruction will go into great detail in sharpening the 8 to 10 point crosscut hand saw.

The steps in sharpening a rip, crosscut or miter box handsaw and the different circle saws are all basically the same. So after the detailed crosscut handsaw instructions, the rip saw, miter box handsaw, and the keyhole/compass handsaw are highlighted in shortened versions noting the different bevel or degree settings that you will adjust on the machine.

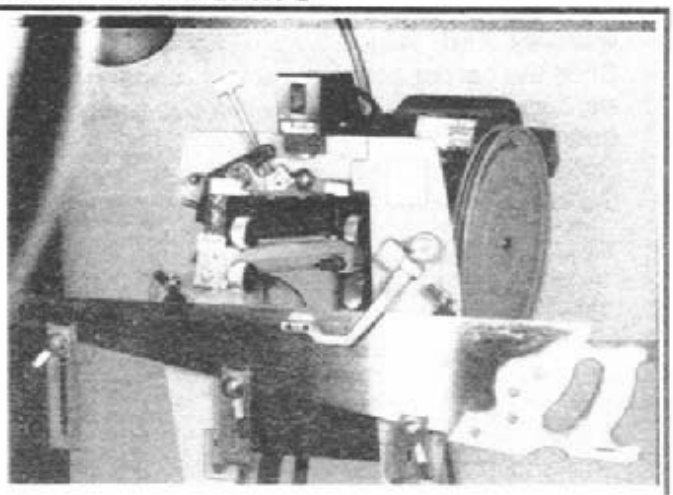


FIG. 36

GENERAL STEPS

Before sharpening any handsaw, there are a few general steps to follow.

1. Remove rust by wire brushing or sandpaper. The saws must be clean and smooth in the area that goes through the vise jaws.
2. Remove any sharp kinks near the edge of the blade. Do so by tapping with a small hammer. A kinked blade will tend to jam in the saw vise causing an uneven feed.
3. Examine the teeth of the saw by lining the tooth tips on the carrier bar or a flat. If the blade is concave (curved inward), the saw should be retoothed. Retoothing can be done on a Foley Belsaw Model SR1000 Retoother. If the saw teeth are of non-uniform size, but reasonably straight, they can usually be corrected by jointing. (Jointing will be discussed in detail later on in the operating section). Retoothing is accomplished in less time than jointing and preserves the life of your files.
4. Check the saw for *set* using a #3570500 dial indicator). The teeth should be set an equal amount on each side to produce a sufficient width of cut when the saw is used. When setting is required, do so before filing the handsaw using one of Foley-Belsaw's setters.

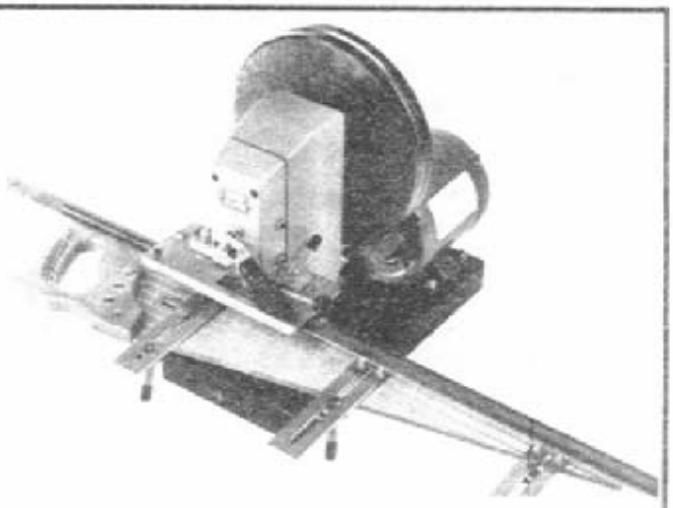
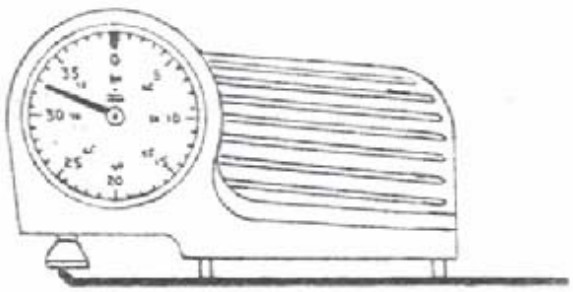


FIG. 37



SHARPENING A CROSSCUT HANDSAW

MOUNT THE HANDSAW CARRIER

Slide the carrier bar into the filer. Loosen the carrier hanger straps so they will move freely up and down.

Rotate the carrier gauges so that they are in the *6 o'clock* position as shown in the photograph.

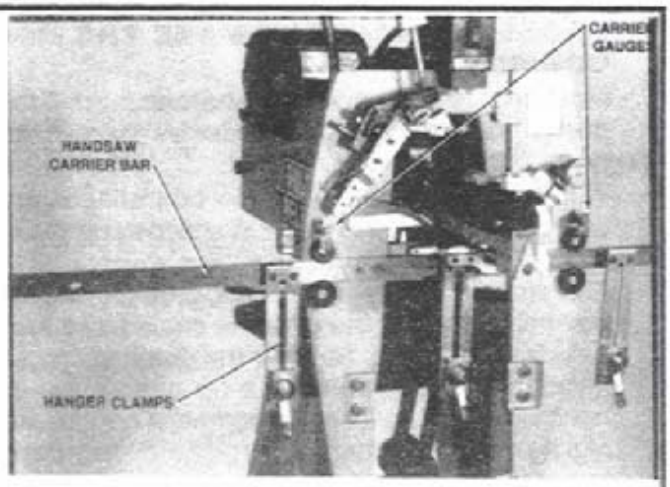


FIG. 39

MOUNT THE HANDSAW ONTO THE HANDSAW CARRIER

Place your handsaw onto the saw carrier with the handle to the right. Make sure the carrier gauges remain in the *6 o'clock* position and are in the bottom of a tooth gullet at each end of the saw. The saw should be centered on the carrier.

Hold the saw firmly up against the carrier gauges and bring up the three carrier clamps and lock in place. Then slide the saw to the left several inches to free the carrier gauges and then rotate the carrier gauges up and out of the way to the *12 o'clock* position.

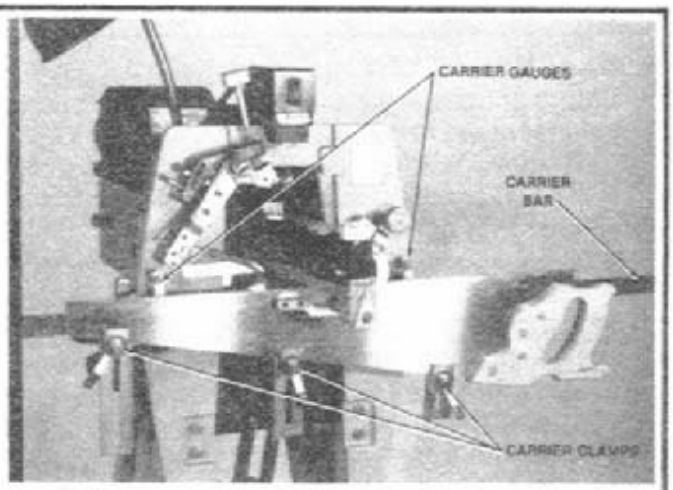


FIG. 40

TIGHTEN SAW VISE

Tighten the blue vise knob so that the saw will advance with a slight drag. Move the carrier back and forth through the vise jaws to be sure that the handle and/or carrier clamps do not strike anything.

Occasionally the saw handle will have to be removed to allow the handsaw to move freely through the vise jaws. This happens after a saw has been retoothed a number of times.

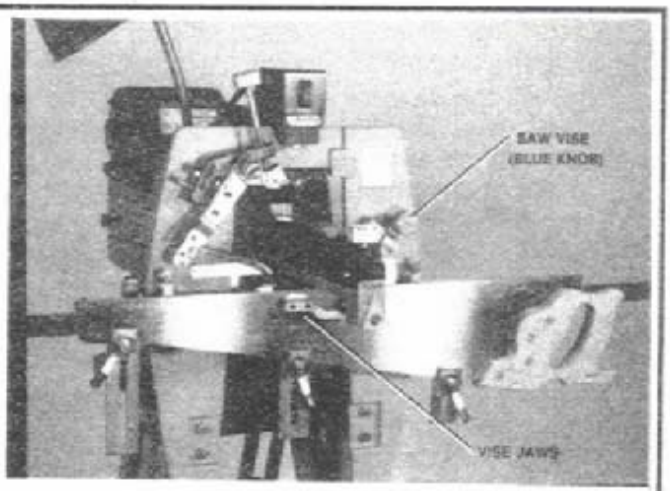


FIG. 41

SHARPENING A CROSSCUT HANDSAW (continued...)

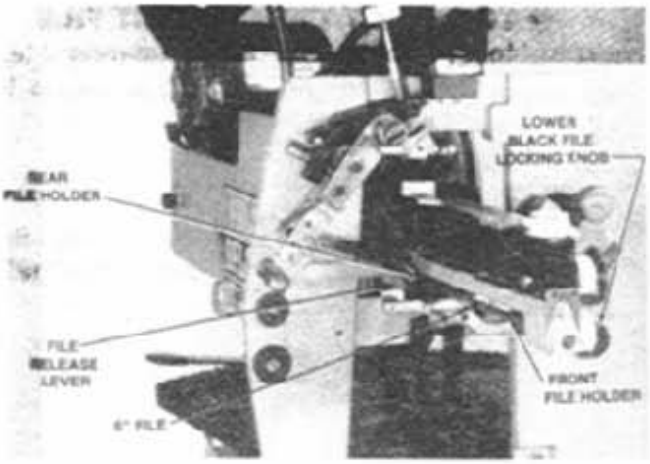
INSTALL THE CORRECT FRONT FILE HOLDER AND FILE.

Review the information below, and then select the proper file holder.

To change the front file holder, loosen the lower file holding locking knob (black), push the file release lever and pull the file holder out of its mounting. Insert the correct file holder and firmly tighten the black file locking knob.

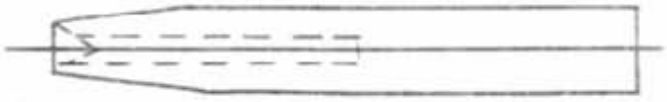
The rest of this page is devoted to identifying the different front and rear file holders.

MAKE CERTAIN MACHINE IS OFF WHEN INSTALLING OR ADJUSTING FILER.



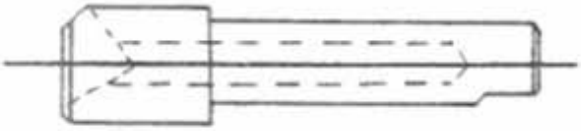
FRONT FILE HOLDERS

Description: Has a .193" [4.9 mm] hole to accomodate the tang of the file.
Supplied: With filer in bag assembly
Use With: 6" [150 mm] double extra slim files
6" [150 mm] extra slim files
***NOTE: This file holder is similar to rear file holder, **BUT does not have a groove or shoulder.**
It is inserted through the front of the file holder bracket with the file in position.



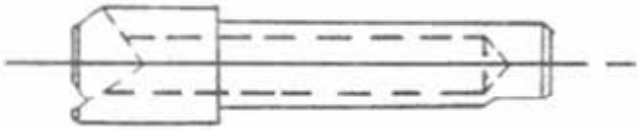
PART #3589018

Description: Has a shoulder at the front. This holder has a .290" [4.7 mm] hole to accomodate the tang of the file.
Supplied: Comes mounted in filer.
Use With: 6" [150 mm] slim taper, band saw slim taper and tangless 5/8" [16 mm]



PART #3589019

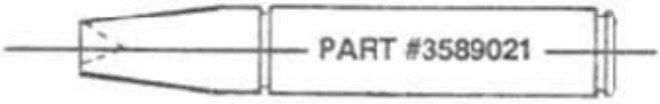
Description: Has a shoulder at the front. This holder has a .359" [9.1 mm] hole for the tang of the file.
Supplied: With the filer in bag assembly
Use With: 6" [150 mm] regular taper, band saw taper, tangless 5/8" [16 mm] and web saw files.



PART #3589020

REAR FILE HOLDER

Supplied: Comes mounted in filer.
Use With: **All standard 3 cornered files.**



ADDITIONAL REAR FILE HOLDERS AVAILABLE

Supplied: Special, not supplied with filer.
Use With: Web saw files (on point of file).

Supplied: Special, not supplied with filer.
Use With: Cant files. Mount in the rear holder position, use with front file holder 3589018.

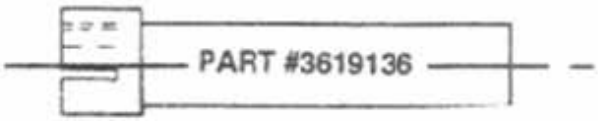


FIG. 43

HOW TO SELECT THE CORRECT FILE

Your Model SF1000 Filer uses 6" [150 mm] standard taper files. The taper files are used on all saws that have a 60° gullet opening.

Use a file properly sized for the saw being filed. Choosing a file either too large or too small is wasteful and expensive.

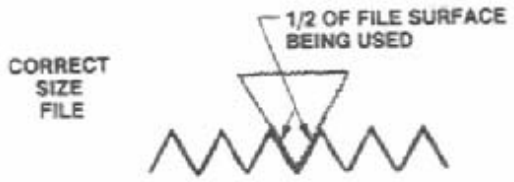


FIG. 44

Figure 44, 45 and 48 show the ideal file for this particular size tooth. Notice that only half of the file width is being used on each side. As this file becomes worn, it can be rotated twice, each time exposing a fresh new file corner and surface.

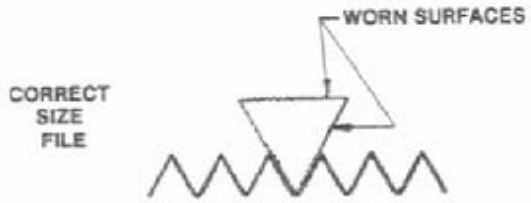


FIG. 45

Compare this with figure 46. Here the file is far too large for the saw tooth, and much of the file surface will be wasted when the file becomes worn and rotated.

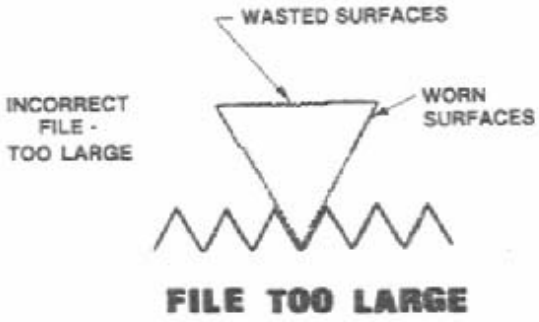


FIG. 46

Figure 47 shows the file too small for the job. The file cannot be rotated to the other two corners.

FIG. 47

FIG. 48

SINGLE OR DOUBLE CUT?

Either single or double cut files can be used on the Model SF-1000 Filer. Both types were designed to accomplish the same result. It is a simple choice of which file that you prefer to use to sharpen your saws.

The double cut files have two series of diagonal teeth. Since there are more cutting surfaces, the metal is removed much faster, but it produces a slightly rougher finish on the tooth surface.

A single cut file has a single series of teeth running in one direction. The single rows of teeth will not cut as fast as a double cut file, but they leave a smoother finish on the surface of each tooth. The users of single cut files feel that the saw point is brought to a sharper point using the single cut file. The users of double cut files like the speed in which it sharpens the saws and state that they feel the slightly rougher surface does not make enough difference to be noticed as the saw is cutting through the material.

The quick reference guide that you have mounted on to the wall has a full sized shadow chart and also a listing of the common files used. Note that each file has been designated for a certain point size, and also note that the common file sizes are listed on the quick reference guide along with their recommended point sizes.

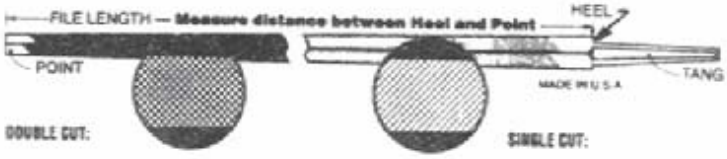


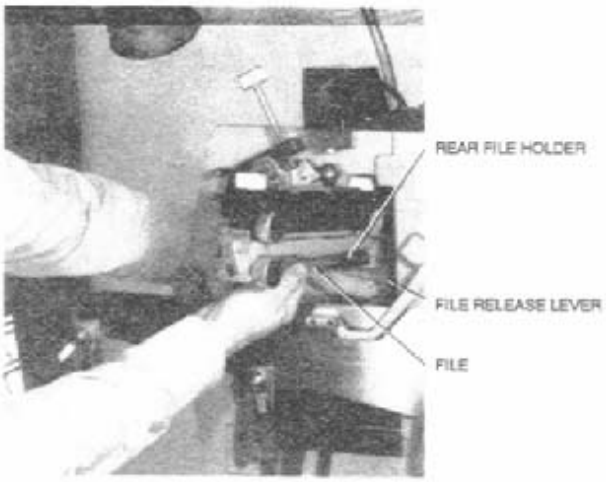
FIG. 49

FILE INSTALLATION

Determine the proper size file by measuring the number of points per inch on the handsaw to be sharpened. Then select the proper file per the information on the File Description Chart in figure 51.

To install a file into the front and rear file holders, push back on the file release lever located behind the rear file holder. Mount the tang portion of the file into the front file holder, and then the point of the file into the rear file holder. Then slowly release the file release lever and your file should be securely mounted into their holders.

MAKE CERTAIN MACHINE IS OFF WHEN INSTALLING OR ADJUSTING FILER



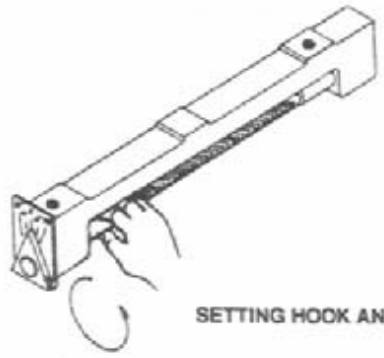
FILE DESCRIPTION	USED ON
6 inch double extra slim taper	Hand Saws 13 to 16 points
6 inch extra slim taper	Hand Saws 11 to 13 points
6 inch slim taper	Hand Saws 8 to 10 points
6 inch taper	Hand Saws 5 to 7 points
6 inch band saw taper	Band and Circ. Saws 5 to 7 points
6 inch band saw slim taper	Band and Circ. Saws 8 to 10 points
6 inch cant saw file	Pruning Saws and Teeth Less than 60°
6 inch triangular point ⅛" face	Band and Circ. Saws 4 to 4½ points
6 inch web saw file	Pruning Saws and Teeth Less than 60°

FIG. 51

SHARPENING A CROSSCUT HANDSAW (continued...)

HOOK POINTER ADJUSTMENT

If you have changed file holders, the hook pointer will have to be adjusted correctly. First, loosen the file holder locking knob. Then rotate the file holder and file until one of the flat edges of the file is on top. Place a 6" [150 mm] scale across the top edge of the file and continue rotating the file and file holder until the scale is lying perfectly flat or parallel with the vise jaws. Then lock the file holder by tightening the locking knob. Now set the pointer to read 30°, and tighten the thumb screw on the pointer. The hook pointer will now read accurately. When the hook pointer is correctly adjusted, loosen the black file locking knob and turn the hook pointer, by grasping the file holder, until it is pointing to the *C* marking on the hook angle scale. The *C* marking is the same as a -15° hook angle, which is the hook angle on a crosscut handsaw.



SETTING HOOK ANGLE

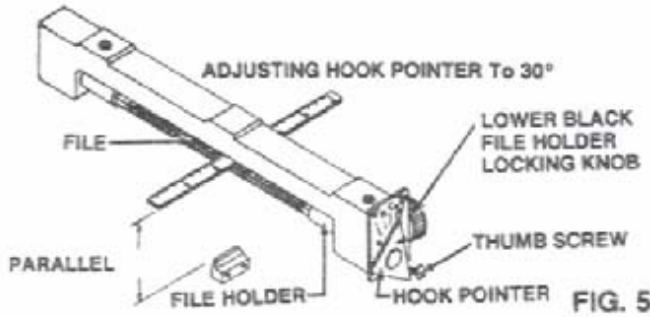


FIG. 52

Press the file holder in against the file arm and tighten the lower black file locking knob.

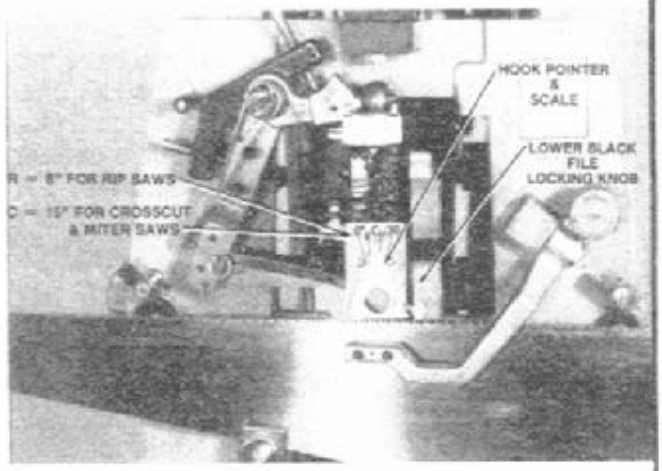


FIG. 53

SWING THE WING FRAME TO THE CORRECT SETTING

Loosen the quick lock handle on the wing frame and swing the wing frame 15° to the right.

NOTE: All 8 to 10 point crosscut handsaws have a 15° face bevel. Swinging the wing frame to the 15° marking will set the file to sharpen a 15° face bevel onto the saw teeth.

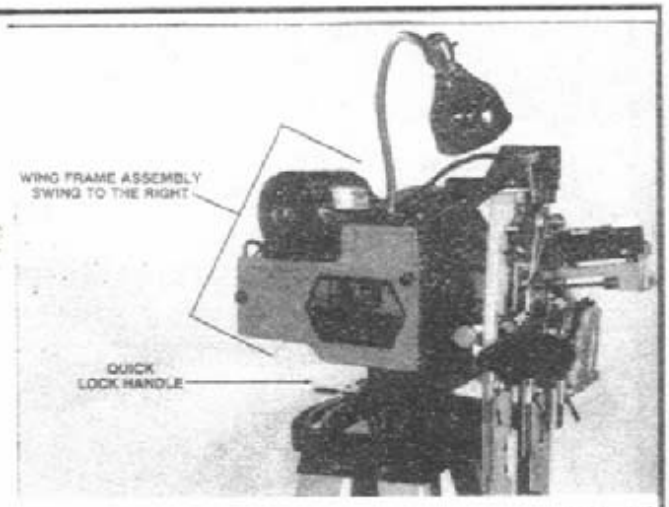


FIG. 54

SHARPENING A CROSSCUT HANDSAW (continued...)

SETTING THE FILE DEPTH

Mark the first 7 teeth leaning towards you or set towards you. Turn the flywheel clockwise (in the direction of the arrow) until the file comes down towards the teeth on the hand saw.

Move the hand saw back and forth until the file enters and rests in the bottom of the gullet to the left of the first tooth marked. Do not let the file travel through the saw tooth at this time. Loosen the two black file locking knobs. Loosen the two file depth knobs (silver) until they are approximately 1/4" [6.4 mm] above the file arm assembly.

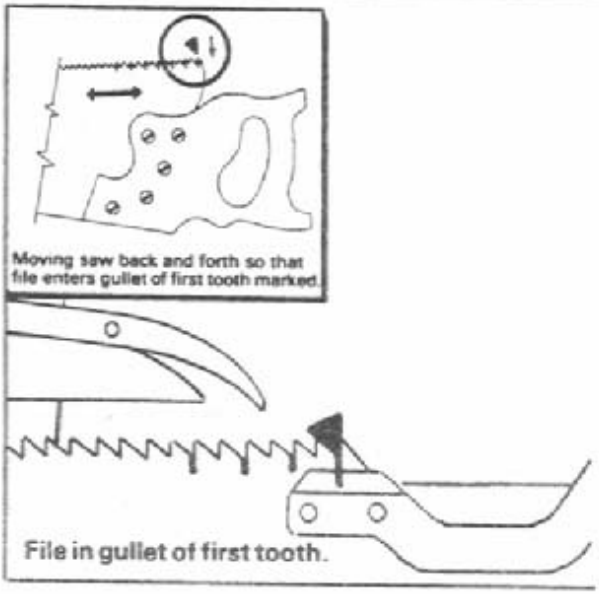


FIG. 55

Turn the flywheel clockwise (in the direction of the arrow) until the file has traveled approximately 2" [50 mm] through the saw blade. Turn the rear depth knob until it rests on the file arm assembly, and then turn the rear file depth knob 1/4 of a turn clockwise.

MAKE CERTAIN MACHINE IS OFF WHEN MAKING SET-UP ADJUSTMENTS

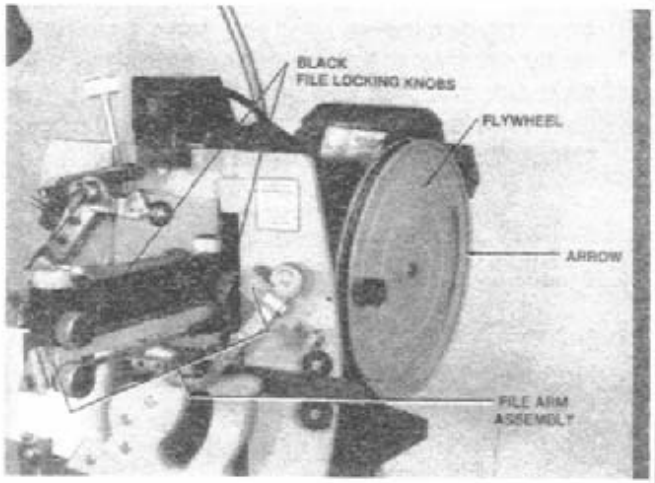


FIG. 56

Then rotate the flywheel clockwise (in the direction of the arrow) until the file is approximately 2" [50 mm] from the front end. Do not back up the flywheel as you did on the back depth knob adjustment at this time, but simply spin the front depth knob until it rests against the file assembly, and then turn it 1/4 of a turn more clockwise. Now reach in with both hands and lock the black file locking knobs firmly. Your file depth is now locked in place.

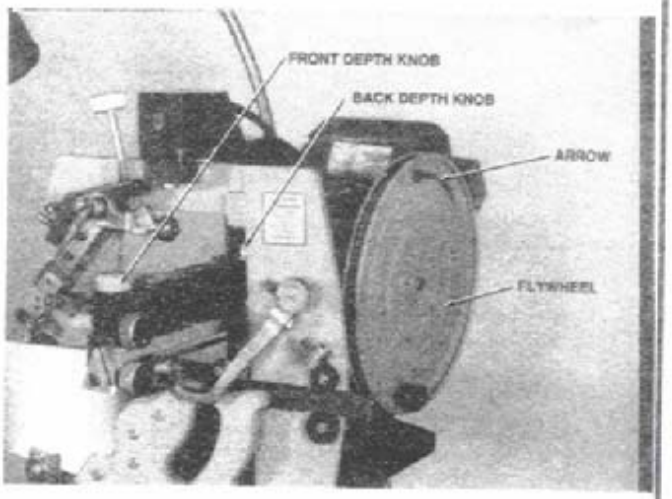


FIG. 57

NOTE: The last 1/4 clockwise turn on the file depth knobs, raised the file slightly up out of the bottom of the gullet. The raising of the file will prevent heavy bottoming out of the file in the gullet, which will in turn produce a higher quality of sharpness on the tooth point and prevent excessive file wear.

SHARPENING A CROSSCUT HANDSAW (continued...)

ADJUSTING THE GREEN JOINTING GUIDE KNOB

In a moment, you will hand crank the flywheel and the feed pawl will arc over into the tooth that you just sharpened. The green jointing guide knob adjusts the arc of the feed pawl as it travels over into the gullet that you just sharpened. Before moving the flywheel, place a mark exactly underneath the file onto the vise lip as shown in the diagram.

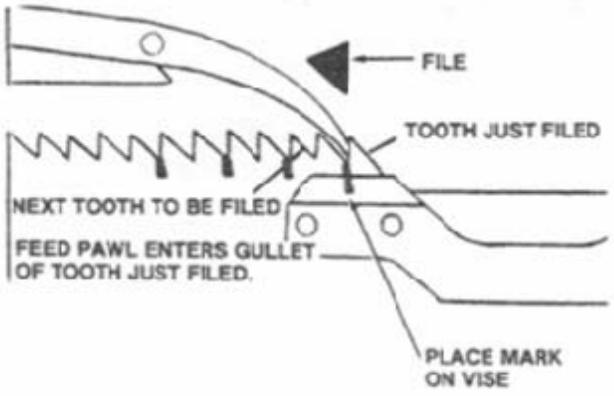


FIG. 58

Turn the flywheel clockwise (in the direction of the arrow) until the feed pawl enters the gullet of the tooth just sharpened. If the feed pawl is not going to arc over into that tooth you just sharpened, adjust the green colored jointing guide knob until the feed pawl will arc over into the tooth just filed as shown in the diagram.

NOTE: You may have to rock the flywheel back and forth while at the same time turning the jointing guide adjusting knob (green) clockwise and counter-clockwise until the feed pawl will correctly arc into the tooth gullet. Note that the feed pawl does not arc over into the very bottom of the gullet but is striking the tooth just up off of the bottom area of the gullet as shown in the diagram.

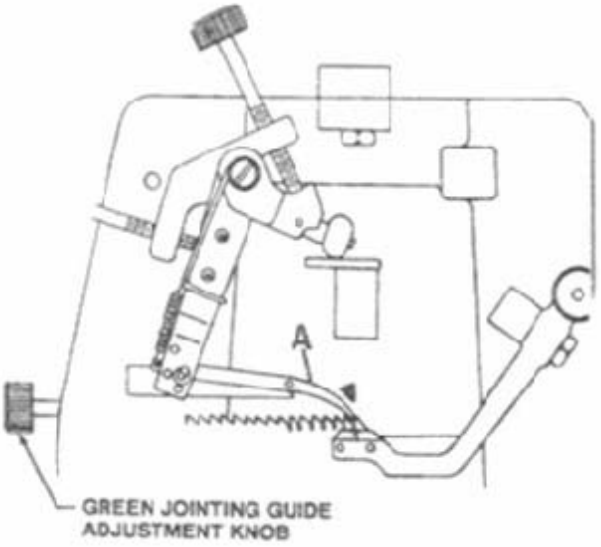


FIG. 59

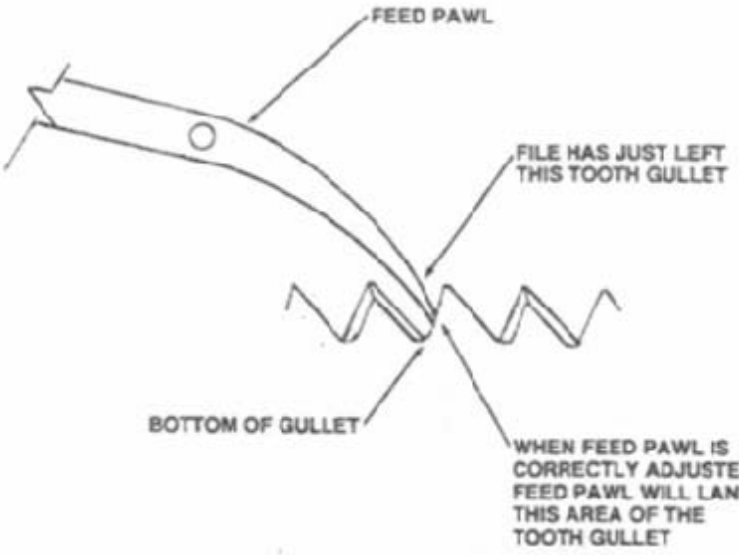


FIG. 60

ADJUSTING THE FEED PAWL TRAVEL

Nine out of every ten problems that a beginning saw filer experiences, usually are a result of the red feed pawl stroke knob being incorrectly adjusted. The entire automatic process of sharpening a handsaw comes down to having this one step correctly adjusted.

As a beginner, it is common to experience difficulties in correctly adjusting your feed travel. With these comments in mind, we will discuss this step in great detail. After a few trial and error practice sessions, you will be adjusting the feed travel quickly and easily with no problems.

NOTE: Crosscut saws have alternate face bevels and the feed pawl stroke should be set up to sharpen every other tooth. Rip saws have a 0° face bevel and the feed pawl can be set up to feed one tooth at a time.

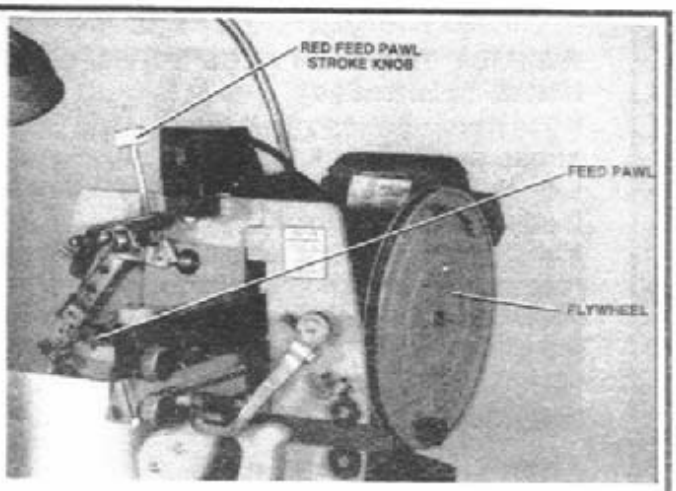


FIG. 61

ADVANCE THE FEED PAWL

Turn the flywheel (clockwise) until the feed pawl arcs over into the gullet of the tooth just sharpened. Continue turning the flywheel slowly, and watch the feed pawl push the saw to the right.

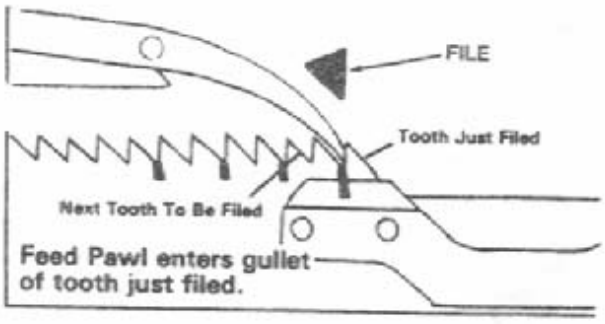


FIG. 62

ADJUST THE RED FEED PAWL STROKE KNOB

Just as the feed pawl has reached the end of its stroke and is beginning to retreat back out of the tooth gullet, stop turning the flywheel. Check and see if the gullet to the left of the next tooth marked, lines up directly with the line that you drew on the vise lip.

(continued on next page)

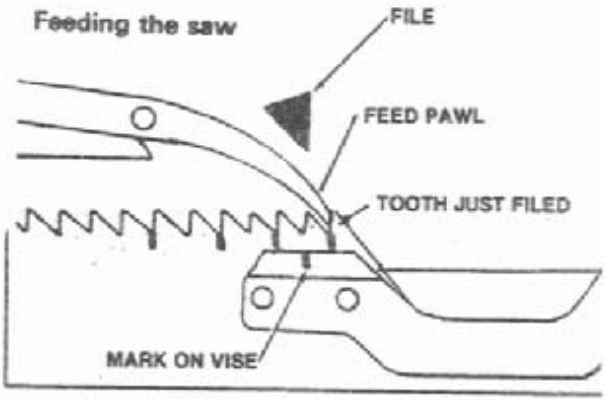


FIG. 63

SHARPENING A CROSSCUT HANDSAW (continued...)

ADJUST THE RED FEED PAWL STROKE KNOB (continued)

If you have advance too far, turn the red feed pawl stroke adjustment knob counter-clockwise 1/2 turn or less, which will decrease the amount of feed on the next stroke.

If the stroke was not long enough, turn the red feed pawl stroke knob clockwise 1/2 turn or less which will advance the amount of feed further on the next stroke.

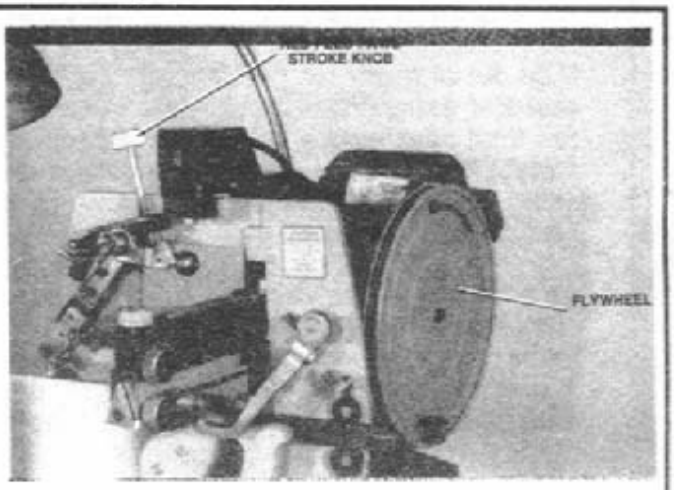


FIG. 64

COMPLETE THE STROKE

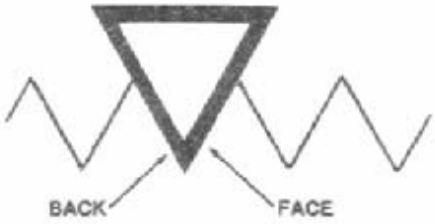
Once an adjustment has been made, continue turning the flywheel in a clockwise direction by hand until the feed pawl has arched back out of the way and the file is coming down into the next tooth gullet to be sharpened.

REPOSITION HANDSAW

Stop turning the flywheel just before the file is beginning to enter the gullet. Then grasp the handsaw and slide the handsaw back and forth, at the same time turning the flywheel, so that the file will enter the next tooth to be sharpened, resting in the bottom of the gullet and evenly and equally touching the front and the back of the tooth.

REPEAT THE ABOVE STEPS

Go back to the paragraph on the preceding page headed *Advancing the Feed Pawl* and repeat the above steps until the file will automatically come down and equally touch the face and the back of each tooth that it enters.



WHEN THE FILER HAS BEEN PROPERLY ADJUSTED THE FILE WILL COME DOWN INTO A GULLET AND EQUALLY TOUCH THE FACE OF ONE TOOTH AND THE BACK OF THE NEXT TOOTH.
IN THE EVENT YOUR SAW HAS JUST BEEN RETOOTHED OR HAS LESS THAN A 60° GULLET THE FILE WILL NOT BOTTOM OUT IN THE GULLET.

FIG. 65

FINE TUNING THE FEED PAWL ADJUSTMENT

Turn on your filer and allow it to automatically file 5 to 10 teeth. Then turn the filer off and hand crank the flywheel until the file is just coming down and entering the next tooth to be sharpened.

STOP AND LOOK FOR SPACES

Stop at this time and examine the position of the file in the tooth gullet. If you begin to see spaces on one side or the other of the file, or the file is heavily crowding either the face or the back of a tooth, slightly adjust the red feed pawl stroke knob to increase or decrease the amount of feed on the next stroke.

If adjustments were necessary, slide the handsaw to the right or left so that the file is equally touching the face and back of the tooth it is about to sharpen.

It is important to always adjust the handsaw as described above between each adjustment. This puts the saw blade into the correct starting position each time you are going to file a tooth. As a result, once your saw is being fed correctly each time, you do not have to start over at the beginning of the saw, but you can just continue on and finish your saw blade. Turn the filer on and automatically sharpen 10 to 20 teeth and then turn your filer off again.

SAW NOT ADVANCED FAR ENOUGH - INCREASE RED FEED PAWL ADJUSTING KNOB 1/8 TURN OR LESS

FIG. 66

STOP AND LOOK FOR SPACES AGAIN

Hand crank the flywheel until the file is just entering the next tooth to be sharpened. Again, turn on your filer and visually check the file as it is entering the gullet and see if there are open spaces on either side of the tooth indicating heavier crowding on the face or the back of the tooth being sharpened. Increase or decrease the amount of the feed stroke knob. Then slide your saw in one direction or the other until the file is down into the bottom of the gullet equally touching the face and back of the tooth you just sharpened.

SAW ADVANCED TOO FAR - DECREASE RED FEED PAWL ADJUSTMENT KNOB 1/8 TURN OR LESS

FIG. 67

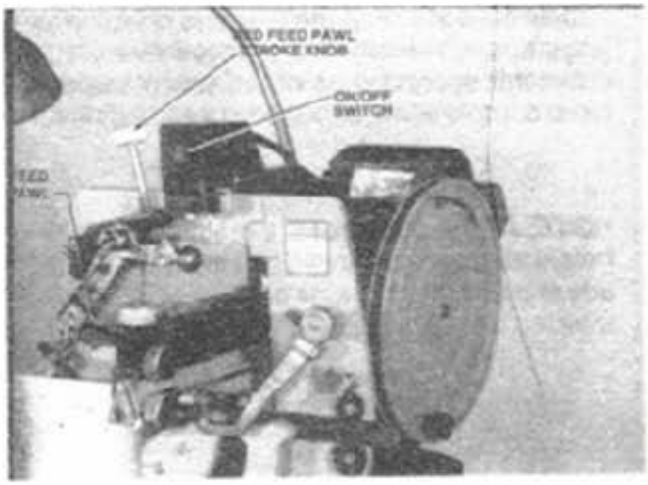


FIG. 68

GAINING EXPERIENCE

As you gain more experience sharpening handsaws, it won't be necessary to turn the filer off and check your teeth quite often, but as a beginner, it is highly recommended to shut your filer down every 10 to 20 teeth and double check the setting of the feed pawl stroke. It is better to catch your mistakes while they are small, rather than wiping out a tooth and having to start over.

FILING THE TEETH SET OR POINTING AWAY FROM YOU

When you have completed the pass and sharpened the face of the teeth pointing towards you, hand crank the flywheel so that the file is raised 1 to 2 inches [25-50 mm] above the saw. Note what degree setting the wing frame is on, and loosen the quick release locking handle and slide the wing frame to the same setting on the left-hand side.

Slide your handsaw back to the left and rotate the flywheel until the file enters to the left of the gullet of the first tooth pointing away from you.

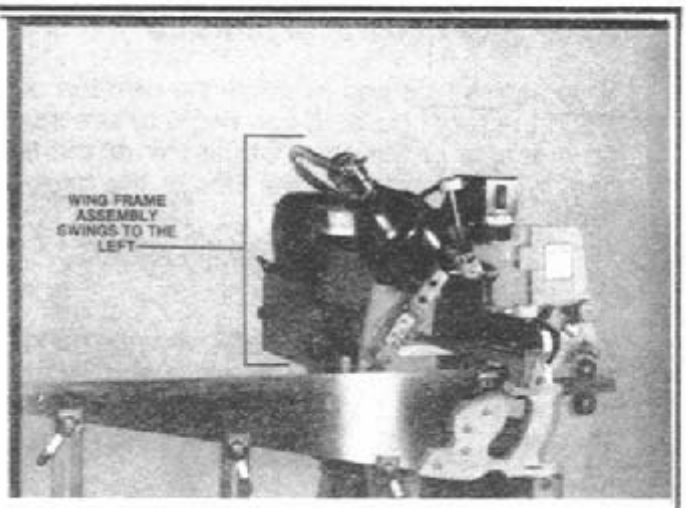


FIG. 69

NOTE: On the first pass you had marked the gullets of the teeth pointing towards you. The file should now be entering a gullet in between these markings, and the tooth on the right hand side of the file should be pointing away from you.

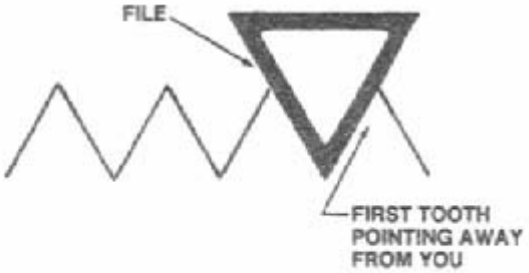


FIG. 70

ADJUST THE FEED STROKE

When you swing the wing frame in the opposite direction, you will have to adjust the red feed stroke adjustment knob slightly to compensate for swinging the wing frame. Review pages 29 to 31, which describe the feed pawl stroke adjustment until the file is being fed correctly down into the gullet area. When satisfied with the feed adjustment, turn on the filer and sharpen approximately 10 teeth stop the filer and check your settings again. Repeat this process every 10 teeth down this second pass of the saw blade until you have completely sharpened your handsaw.

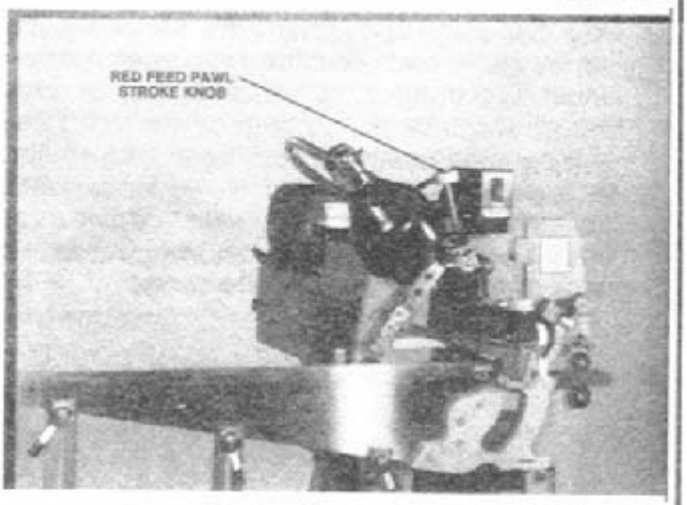


FIG. 71

NOTE: All the points of the teeth must be even in height after sharpening. The saw will not cut properly in points on one side are higher than the other side.

OPERATING INSTRUCTIONS: SHARPENING MITER BOX, RIP & KEYHOLE HANDSAWS

MITER BOX HANDSAW

The miter box handsaw is sharpened exactly in the same steps as the crosscut handsaw. The wing frame is moved to a 15° face bevel, and the hook pointer should be moved to the *C* marking, which is -15° hook angle.

NOTE: The miter box handsaw must be sharpened on the miter box handsaw carrier (see page 10) for details.

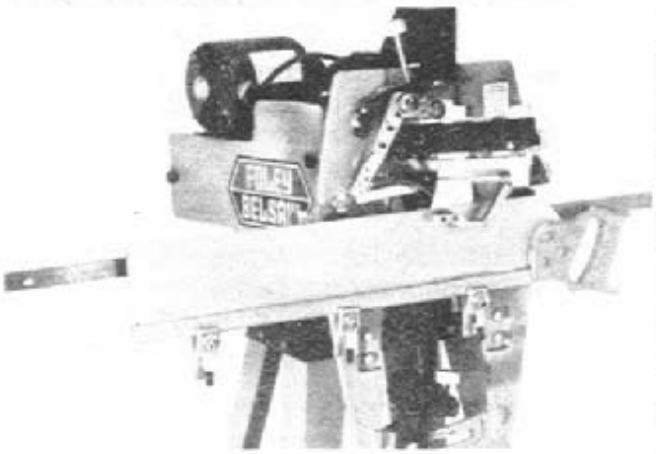


FIG. 72

RIP HANDSAW

The rip saw follows the same basic steps as outlined in the crosscut handsaw section with the exception of the following:

The hook angle pointer is adjusted to the *R* marking, which is a -8° hook angle.

The rip saw has a 0° face bevel, which eliminates the need to swing the wing frame in either direction. Set the wing frame to 0° and proceed to file as outlined in the crosscut handsaw section, except you would file every tooth in one pass instead of every other tooth in two passes.

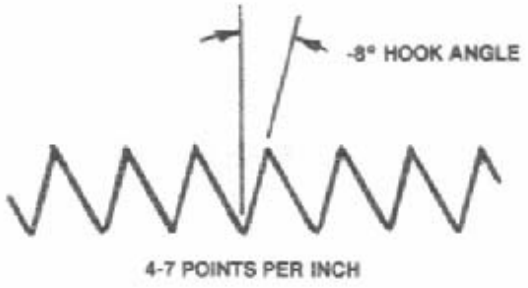


FIG. 73

KEYHOLE/COMPASS HANDSAW

Keyhole or compass handsaws are the small handsaws that are used for cutting in hard to reach places. We have a special carrier designed for keyhole hand saws. Instructions for mounting saw blade into a keyhole carrier are included with the optional keyhole carrier. Even though the keyhole saw looks entirely different than the crosscut handsaws, the teeth on a keyhole handsaw are usually crosscut teeth, that is 8 to 10 points to the inch with a -15° hook angle and a 15° face bevel.

After mounting on the special carrier, follow the crosscut handsaw section for detailed sharpening steps.

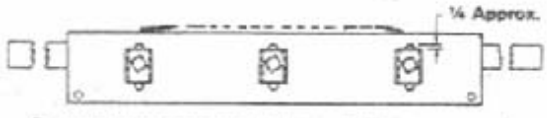


Diagram shows saw mounted properly in compass and keyhole saw carrier.

FIG. 74

OPERATING INSTRUCTIONS: HELPFUL HINTS

CHECKING YOUR FINISHED SAW BLADE

If the handsaw is to cut properly, two things must always occur. One is that the teeth be fully and completely sharpened and the second is that the teeth must be even in height.

If the teeth are not even in height, the saw will draw to one side or the other as it is pulled through the material that it is cutting.

Nine out of every ten problems that a beginning saw filer experiences usually are a result of the feed pawl stroke knob being incorrectly adjusted. The entire automatic process of sharpening a handsaw comes down to having this one step correctly adjusted.

As a beginner, it is common to experience difficulties in correctly feeding your saw.

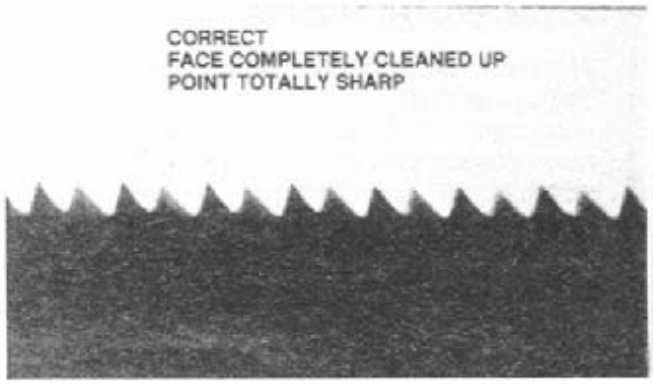


FIG. 76

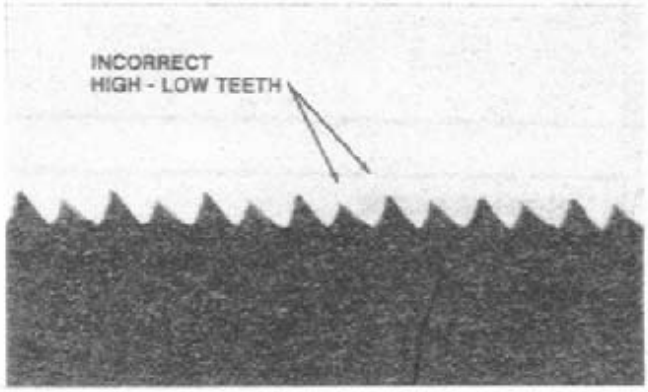


FIG. 77

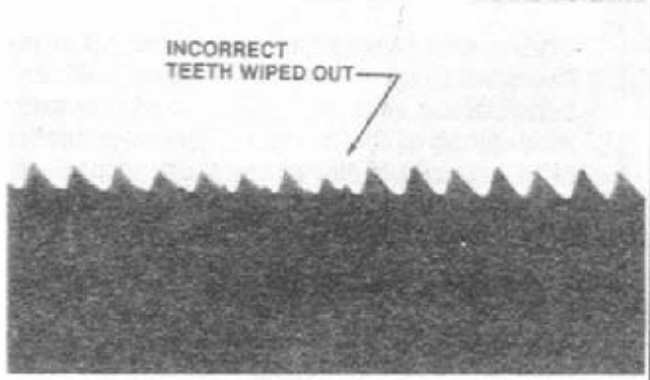


FIG. 78

COMMON PROBLEMS IN SHARPENING HANDSAWS

HIGH LOW TEETH

If you are heavily filing against the face or the back of the tooth, it will create high and low teeth. If your handsaw appears like the one shown in the drawing, you must increase or decrease the amount of feed stroke until the file is equally filing against the face and the back of the gullet it is sharpening.

WIPING OUT TEETH

If the file comes down on the point of a tooth and completely wipes it out, the most common cause of this is incorrect feeding of the feed pawl, and you should adjust the feed pawl stroke knob until the file equally file the face and back area of the gullet it is sharpening.

ADJUST JOINTING GUIDE

If the amount of feed was correct, and you wiped out a tooth, then you should adjust the feed pawl jointing guide knob so that the arc of the feed pawl will travel over the tooth in front of the tooth to be sharpened and arc gently down into the tooth that you just sharpened.

CROWDING YOUR SAW TEETH

If a mistake in your setups has been made and you have high and low teeth, you can set up your feed pawl stroke adjustment knob so that it will *crowd* against either the face or the back of the hightooth, thus lowering the height of that tooth equal to the height of the lower tooth.

It is easier to lower the height of a tooth by crowding against the back of the tooth rather than the face.

Crowding is also a technique that some experienced saw filers use to help bring the saw teeth to a sharper point. We do not recommend crowding the teeth to a beginning saw filer. To the inexperienced saw filer, it is better to practice having the file come down into the tooth and equally touch the face and the back of the teeth at the same time.

HANDSAW IS CROWDED TO THE RIGHT SO THE FILE IS HEAVY AGAINST THE BACK OF THE TOOTH (THIS IS ACCOMPLISHED BY INCREASING THE RED FEED STROKE KNOB

FIG. 80

HANDSAW IS CROWDED TO THE LEFT SO THE FILE IS HEAVY AGAINST THE FACE OF THE TOOTH (THIS IS ACCOMPLISHED BY DECREASING THE RED FEED STROKE KNOB

FIG. 81

JOINTING

Jointing is a method by which the teeth of the handsaw can be made uniform as to height and size. Occasionally, handsaws have been hand-filed in between sharpenings and will need to be jointed to bring the tooth back to a uniform height and size. To properly joint a saw, whether it be rip or crosscut, the wing frame is set at 0°, and the hook pointer is set to *R* (8°) for rip style saws, or *C* (15°) for crosscut saws. Then set the file depth and feed stroke per the crosscut handsaw instructions.

Jointing is done when there are only slight variations in tooth height and size. If the teeth are extremely non-uniform, the saw should be retoothed, set and then filed.

NOTE: The Foley automatic power retoother automatically joints the tooth at the same time it is being retoothed. A saw only needs to be jointed when it has been hand filed and the teeth are no longer uniform in height and size.

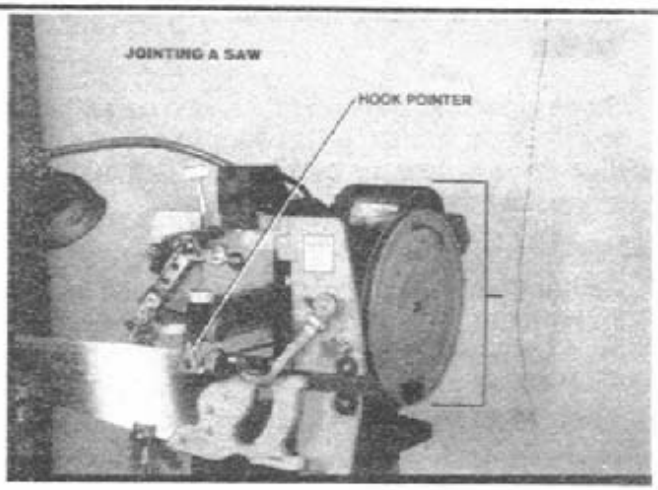


FIG. 82

OPERATING INSTRUCTIONS: SHARPENING CROSSCUT CIRCLE SAWS

SHARPENING CROSSCUT CIRCULAR SAWS

One of the most common circular saws sharpened on the Model SF-1000 Saw Filer is the crosscut circular saw.

The crosscut circular saw has teeth that look similar in shape to a crosscut handsaw.

CROSSCUT
CIRCLE SAW

0° HOOK ANGLE
0° - 5° - 10° FACE BEVEL

FIG. 86

CLEAN THE CIRCLE SAW

The first step is to clean the saw blade of any pitch, gum, rust, or debris.

ADJUST PIVOT ARM

Then move the pivot arm to 10° to the left as shown in the diagram.

MOUNT SAWBLADE

Mount the circular on to the cup and cone assembly and loosen the vise locking knob and slide the saw blade and vise assembly up and underneath the file and lock in place so that the bottom of the gullet of the tooth to be filed is approximately 1/8" above the saw vise. When satisfied with the height of the circular saw blade, tighten the locking knob on the saw vise and adjust the saw vise tension knob (blue) until the saw blade is held firmly in place. If additional information in needed on the correct amount of saw tension, refer to page 22, bottom box in the Handsaw Section.

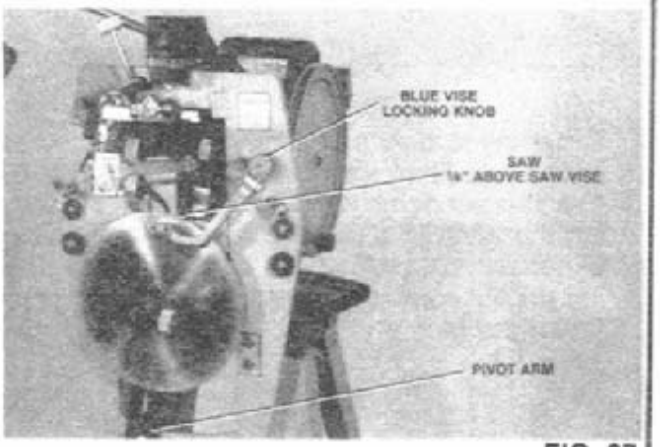


FIG. 87

BASIC STEPS TO SHARPENING CIRCLE SAWS

Steps in sharpening circular saws are very similar to the steps in sharpening handsaws. The major difference is how the circular saw is mounted on to the saw filer.

Rather than repeat the steps discussed in detail in the handsaw section—converting them to circle saws—we will spend our time identifying the differences and making suggestions on how to easily sharpen your circular saws.

In order to sharpen a circular saw on the Automatic SF1000 Filer, the saw teeth need to be *V* shaped as shown in the diagram. Rounded gullet should be sharpened by placing them on the circular saw grinder such as the Model 1055 Sharp All Grinder.

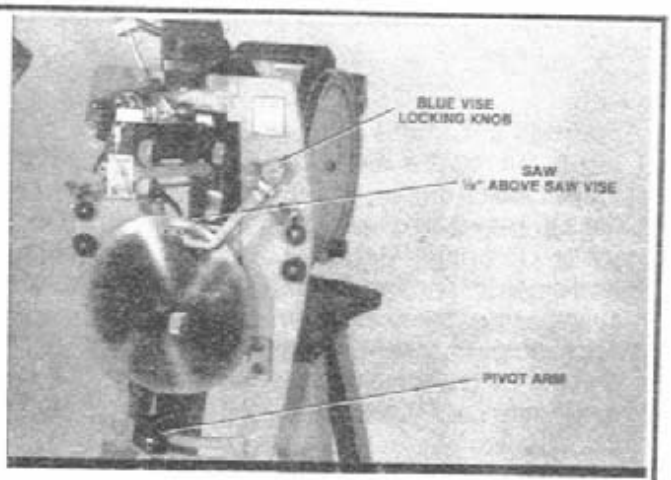


FIG. 84

CIRCLE SAW
WITH "V" SHAPED
GULLETS

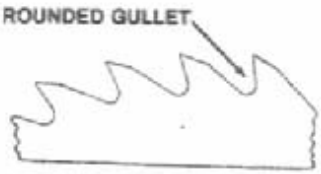


FIG. 85

SHARPENING CROSSCUT CIRCLE SAWS (continued...)

MOUNT THE CORRECT FILE AND FILE HOLDER

Refer to the Quick Reference Chart or pages 23-25 and select and mount the correct file and file holder. If further information is required on how to mount the file and file holder, see pages 23-25 in the Handsaw Section.

ADJUST THE HOOK POINTER

Most crosscut circular saws have a 0° hook angle. If this is the case, adjust the hook pointer until the face of the file matches the hook angle of the saw tooth. If further information is required on how to adjust the hook pointer, refer to the hook pointer adjustment section on page 26 in the Handsaw Section.

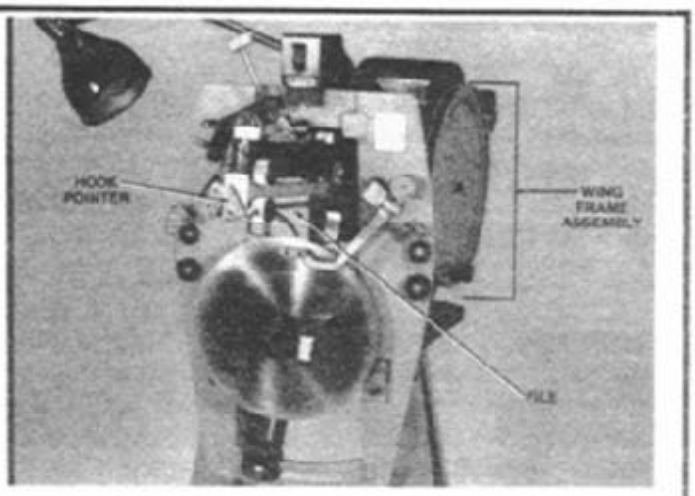


FIG. 88

SWING THE WING FRAME ASSEMBLY TO THE RIGHT AND MATCH TO THE FACE BEVEL ON THE CROSSCUT CIRCULAR SAW

The crosscut circular saw has an alternating face bevel. The bevel will vary from saw manufacturer to saw manufacturer, it should be either 0°, 5° or 10°. Swing the wing frame to the right until it matches the face bevel.

ADJUST THE FILE DEPTH

Adjust the depth of the file as described on page 27 in the Handsaw Section.

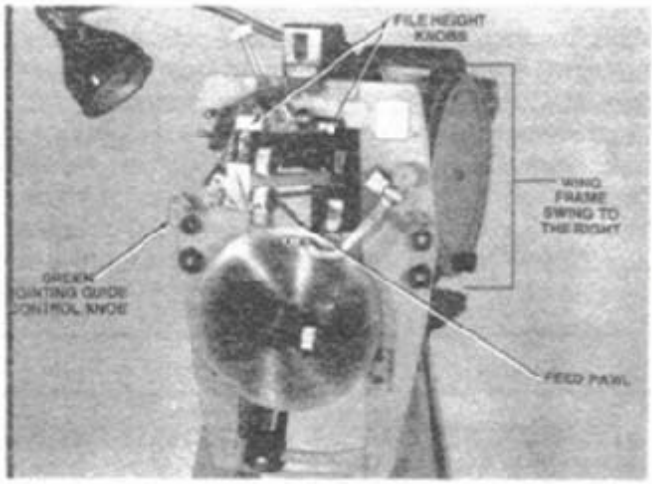


FIG. 89

ADJUST THE FEED PAWL JOINTING GUIDE KNOB

Adjust the arc of the feed pawl so that it will arc over and enter the tooth just filed. If further information is required on this adjustment, see page 28 in the Handsaw Section.

ADJUSTING THE FEED PAWL TRAVEL

Adjust the feed pawl stroke knob until the feed pawl is correctly moving the sawblade. If further information is required on adjusting the feed pawl travel, see pages 29-32 in the Handsaw Section.

SWING WING FRAME TO THE LEFT

After you have sharpened the teeth pointing toward you around the sawblade, swing the wing frame so that you are sharpening the teeth away from you. You will need to slightly adjust the feed pawl travel knob to compensate for swinging the wing frame assembly.

If a few passes around the sawblade do not bring the teeth to a sharp point, loosen the file height locking knobs and rotate the file depth knob counter-clockwise 1/4 of a turn. Then tighten the file locking knobs and repeat sharpening around the blade on several passes. Continue this operation of deepening the file until you have bought the teeth to a sharp point.

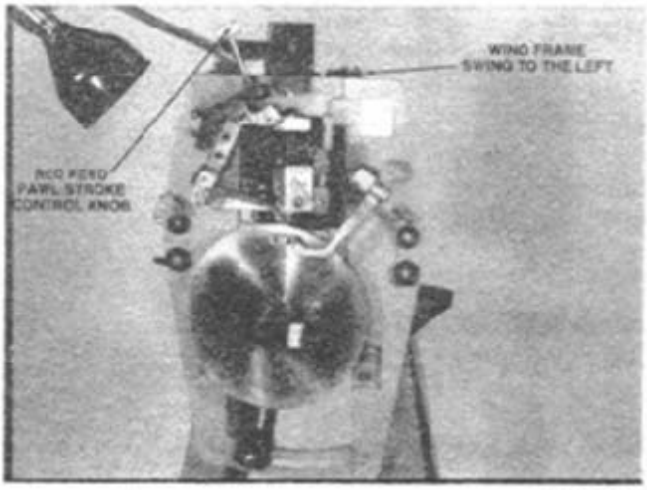


FIG. 90

OPERATING INSTRUCTIONS: FOUR TOOTH & A RAKER CIRCLE SAW

INTRODUCTION

The four tooth and a raker style circular sawblade have two types of teeth on the saw. The four smaller teeth are crosscutting teeth, and are designed to allow the saw to crosscut efficiently. The raker tooth acts as a rip-cutting tooth and allows the blade to cut with the grain efficiently.

NOTE: Every section on the saw is identical. The teeth numbered 2 and 4 in each section are set in the same direction. The teeth marked 1 and 3 are both set in the opposite direction as 2 and 4. Each section around the sawblade is identically set in this pattern.

With this thought in mind, the instructions detailed below will instruct you to file the third tooth in each section, so you will be adjusting your feed stroke to go from the third tooth in one section, to the third tooth in the next section continuing in this fashion around the blade. Then, you will do the first tooth in each section. You will then swing your wing frame in the opposite direction and follow accordingly doing the fourth and second tooth.

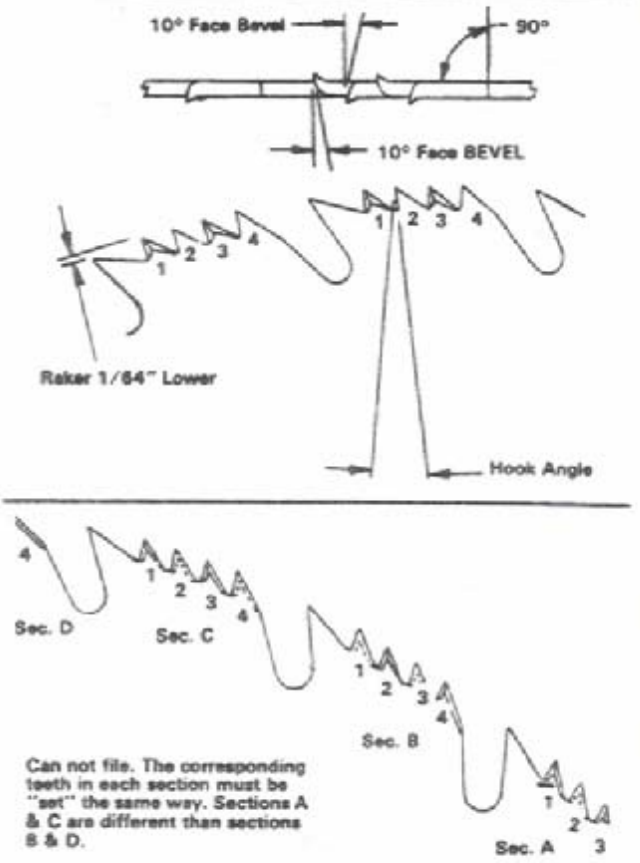


FIG. 91

STEPS TO SHARPEN A 4-TOOTH & RAKER CIRCLE SAW

SELECT THE CORRECT FILE AND FILE HOLDER

Select the correct file and file holder for sharpening the four crosscut teeth. If additional information is needed to select the correct file and file holder, refer to the instructions pertaining to this in the handsaw section on pages 23-25.

ADJUST THE HOOK PIVOT ARM

Set the hook pivot arm to 10° to the left.

SET THE HOOK POINTER

Set the hook angle pointer at 0°. This setting will maintain a 10° hook on the crosscut teeth.

NOTE: The hook angle on a four tooth and a raker can vary depending upon the manufacturer from 0° to 10°. The hook pointer should be adjusted so that the file will match to the hook angle already on the sawblade.

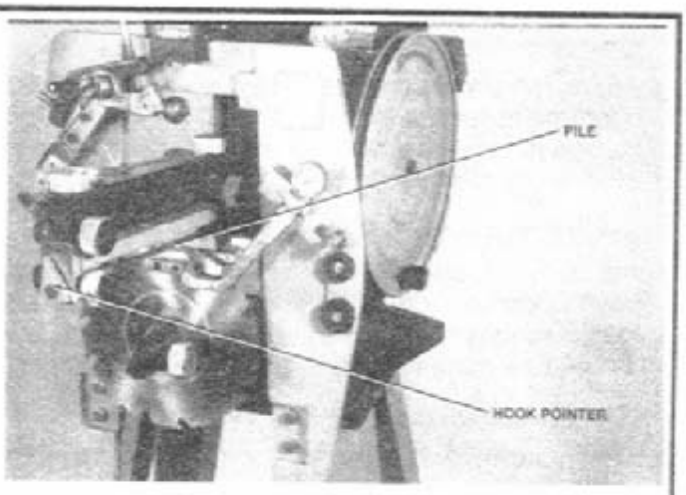


FIG. 92

SHARPENING A FOUR TOOTH AND A RAKER (continued...)

SWING THE WING FRAME

Swing the wing frame 5°-10° to the right until the file will match the face bevel on a tooth and adjust the vise tension for a moderate to the amount of drag. Adjust the file depth for a light cut. Set the file into the gullet to the left of a tooth that is set towards you. Advance the flywheel clockwise in the direction of the arrow and adjust the jointing guide knob to permit the feed pawl to drop into the gullet of the tooth just filed. Mark this gullet with a crayon.

Turn the filer by hand to make sure that the file drops into the same gullet in the next section. Make needed adjustments with the red feed stroke adjustment knob until you are rotating around the sawblade going from the tooth in one section to the same tooth in the next section. Turn on the filer and file around the sawblade, stopping in the first section that you filed and had marked with the crayon.

Advance the saw two teeth.

Example: If you started filing tooth #3, advance the saw and drop the feed pawl in front of tooth #1. If you started filing #4, move the saw so that you will be filing the #2 tooth.

Check the setup by hand, cranking the filer to make sure that you are filing in the same spot in one section to the same spot in the next section. When satisfied with the adjustment turn on the machine, file around the blade and stop in the section that you had started in.

Swing the wing frame 5-10 degrees to the opposite direction until the file matches the face bevel and sharpen the opposite two teeth that are set away from you.

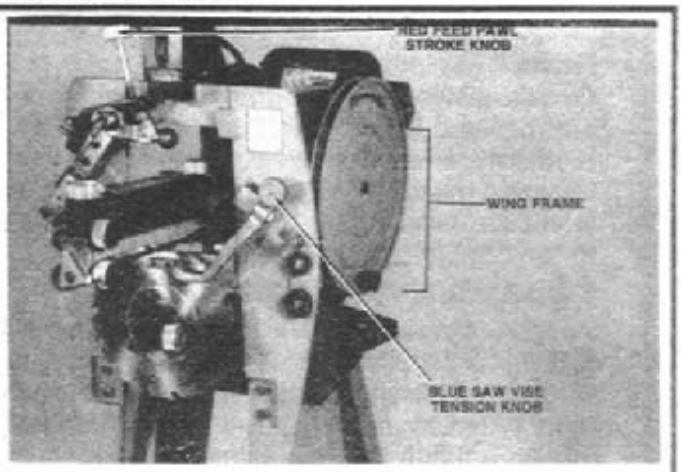


FIG. 93

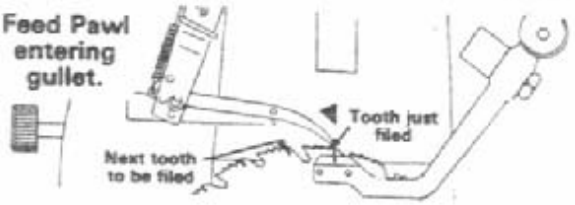


FIG. 94

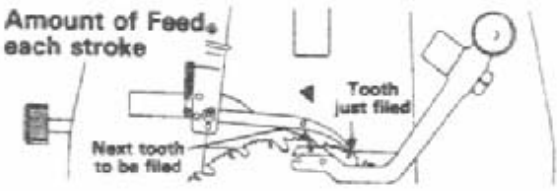


FIG. 95

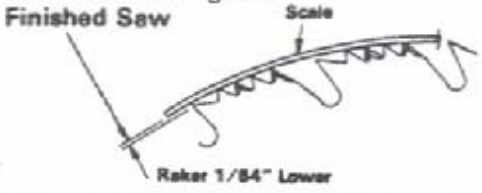
FILING THE RAKER TOOTH

Set the wing frame at 0°. Use a file that is wide enough to cover the top of the raker tooth.

Increase the vise tension slightly and adjust the file depth and hook angle to match the top of the tooth.

Set the jointing guide knob to bring the feed pawl just over the top of the raker tooth so that it slides into the gullet of tooth #1 in the crosscut section.

File the raker tooth down so that it is 1/64" [.4 mm] lower than the tops of the crosscutting teeth as shown in the diagram.



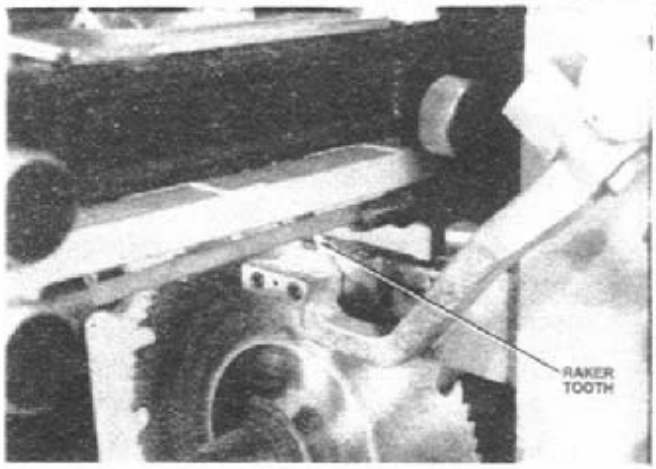


FIG. 97

OPERATING INSTRUCTIONS: SHARPENING PRINTERS SAWS

GENERAL

Circular saws used by printers and engravers for cutting lead differ from other saws in that the teeth are generally swaged, rather than being set. Swaging means spreading the tip of the tooth to each side, while setting means bending one tooth to the right and one to the left.

SWAGING A PRINTERS SAW

Swaging is done by a saw swage (available at low cost-part #3702242), this being a small piece of steel with a notch in one end, which fits over the tooth. When swage is tapped with a hammer, the V-shaped notch forces the metal at the tooth tip to spread outward, to each side, so that the tooth tip becomes wider than the blade itself.

WHEN TO SWAGE?

If the saw is perfectly round and teeth are uniform it may be swaged before filing. Otherwise, swage after jointing, but before finish filing.

HOMEMADE SWAGING VISE

It is necessary to have a wooden vise, to hold the saw in an upright position. Such a vise can be made easily from two pieces of wood, 2 x 6's (actual dimensions 1.5" x 5.5" [38 mm x 140 mm]) rounded at the top and hinged at the bottom so they open and form a vise. Drill a series of holes down the center, starting 2" [50 mm] or 3" [75 mm] from the top. Use an ordinary bolt and wing nut through the hole. Leather-face the inside of vise to prevent wear and damage to saw. Fasten vise to one end of workbench, about elbow height for convenience in use.

HOW TO SWAGE

Place saw in vise, so teeth extend above vise top. Tighten wing nut so saw is held fairly snug but still loose enough so it will rotate under the force of hammer swaging blow. Hold swage parallel to side of saw, with center line of swage on the center line of saw tooth, as shown in the figure. Strike the top of swage hard enough to force the steel 1/32" [.8 mm] to each side of the saw tooth.

Repeat on every tooth. With proper vise pressure, the hammer blow on swage will cause saw to rotate to next tooth is brought into position; it is not necessary to move saw by hand.

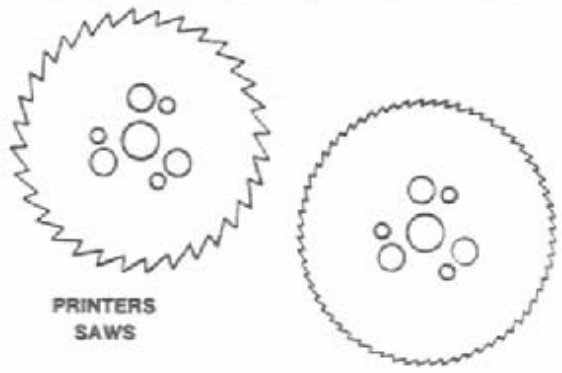


FIG. 98

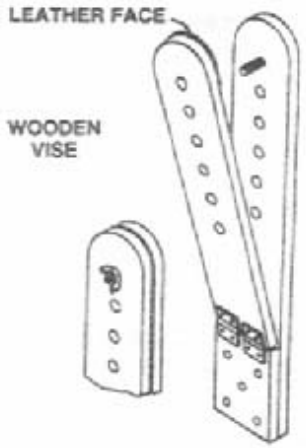


FIG. 99

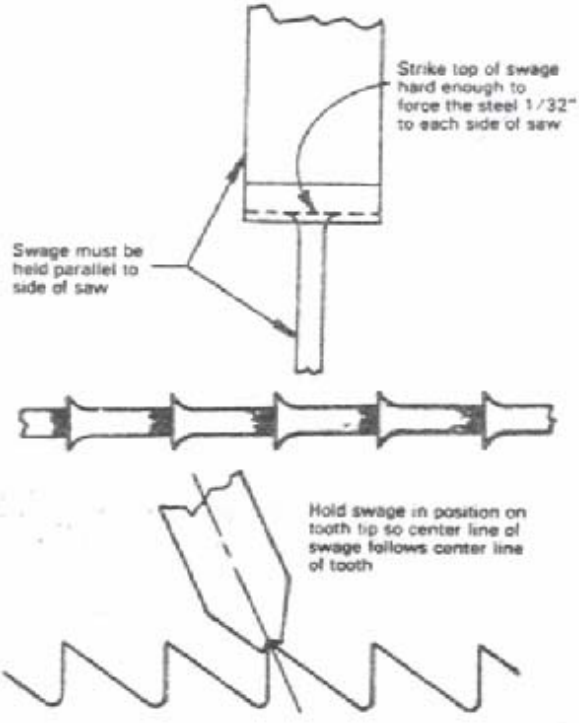


FIG. 100

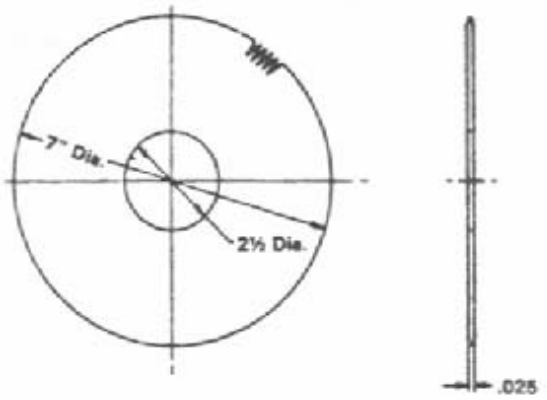
OPERATING INSTRUCTIONS: SHARPENING PAPER TUBE SAWS

GENERAL

The details of tooth angle and general shape will vary with the manufacturer of the paper tube saw. The setups shown and general details given will apply to most makes of paper tube saws.

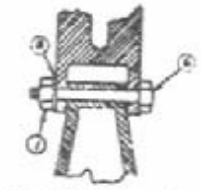
The attachment shown is a 3580500 Paper Tube Saw Attachment and must be used with this type of blade.

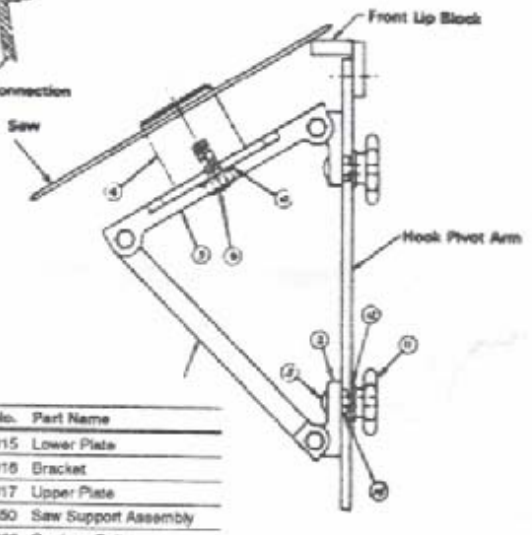
1. Mount 3580500 Paper Tube Attachment
2. Set hook pivot arm at 0°.
3. Set filer wing frame to 12° right.
4. Remove vise arm.
5. Use a six inch slim taper single cut file.
6. Set file hook pointer to 5° or to match existing face angle on the teeth.
7. Adjust jointing guide to position feed pawl into gullet just filed.
8. Adjust red feed stroke knob to feed the saw one tooth each machine cycle. Note that the face of the tooth being filed is to the left of the file.
9. General—Make certain that the saw rests on the top of the fixed vise block. Adjust the flange holding the saw so that the saw has a slight drag on it, when the saw is rotated.
10. Turn the saw over and swing the wing frame of the filer to 12° left.
11. Readjust the file pointer to the right and line the file up with the face of the teeth. Face of the teeth should be in the right hand side of the file.
12. Adjust jointing guide and feed control to feed one tooth each machine cycle. Note, in the illustration shown, the feed pawl is mounted in the second hole from the bottom in the side plates. Some other positions may be better, depending upon the saw you are sharpening.



Typical Paper Tube Saw
100 or 200 Teeth Used On Knowlton Tube Winding Machine

FIG. 101





No.	Part No.	Part Name
1	3589015	Lower Plate
2	3589016	Bracket
3	3589017	Upper Plate
4	3619550	Saw Support Assembly
5	E372800	Carriage Bolt
6	B313601	Hex Head Cap Screw
7	J311000	Hex Nut
8	R000470	Lockwasher
9	B371001	Hex Head Cap Screw
10	K371501	Lockwasher
11	3708245	Handwheel
12	3589106	Washer
14	3589133	Spacer

FIG. 102

OPERATING INSTRUCTIONS: SHARPENING BAND SAWS

BAND SAW SHARPENING

For band saw sharpening a bench mounted filer with bench or wall brackets that will support the back loop of the blade, works great.

Band saws are sharpened in the same basic manner as hand rip saws. There isn't any face bevel or alternate top bevel on the teeth.

NOTE: Some band saws are of hard steel and can not be filed. Some band saws of different tooth syle can not be filed.

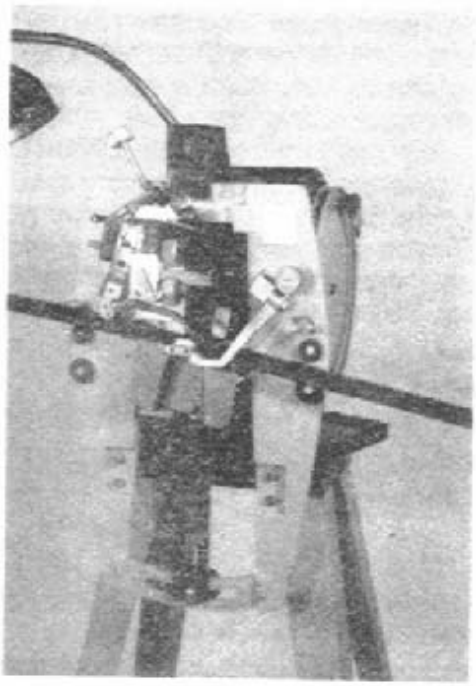
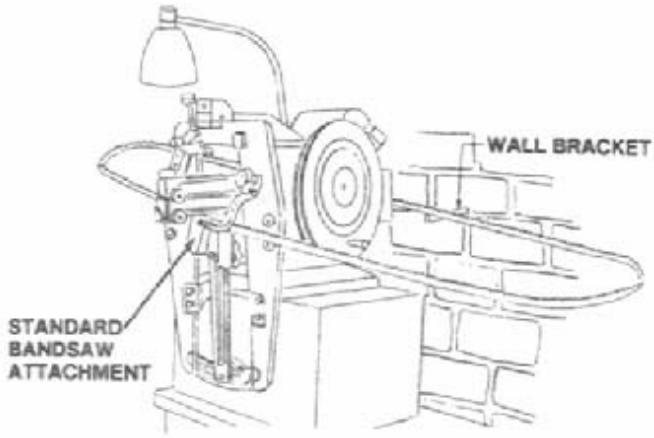


FIG. 105



BENCH MOUNTED

FIG. 104

BAND SAW FOR CUTTING WOOD

1. Examine the band saw. If *set* is required, do so.
2. Set the hook pivot arm at 0°.
3. Mount the band saw attachment onto the pivot arm.
4. Mount the saw in the filer, making necessary adjustments to standard band saw attachment (up or down). The bottom of the saw gullets should be approximately 3/32" [24 mm] above the vise grip.
5. Adjust the vise for a moderate drag. Insert a 6" band saw file or triangular point file. **NOTE:** Do not use sharp cornered files such as slim taper because sharp cornered gullets will cause the band saw to crack when used.
6. Set the wing frame on 0°. Adjust file depth for light cuts.
7. Adjust the jointing guide control knob to bring the end of the feed pawl into the gullet just filed.
8. Adjust feed pawl stroke knob control to feed one tooth each machine cycle. Permit the file to crowd the face of the teeth slightly to the right.
9. Start filing at the point where the band saw ends were welded. Usually the tooth spacing at this location is uneven and special attention must be given. If only half teeth or some portion of a tooth is present, you should file these by hand.
10. Machine file the blade once around, crowding the face of the teeth slightly.
11. To remove the slight burr on the teeth and produce a really sharp saw, increase the feed slightly, taking a very light pass across the tops of the saw teeth. Start at the welded joint and let the saw feed once around.
    GENERAL NOTE: Due to the non-uniform teeth and the thickness of the welded joint, mis-feeding of the saw will occur if the welded joint is permitted to be fed through the vise lip.

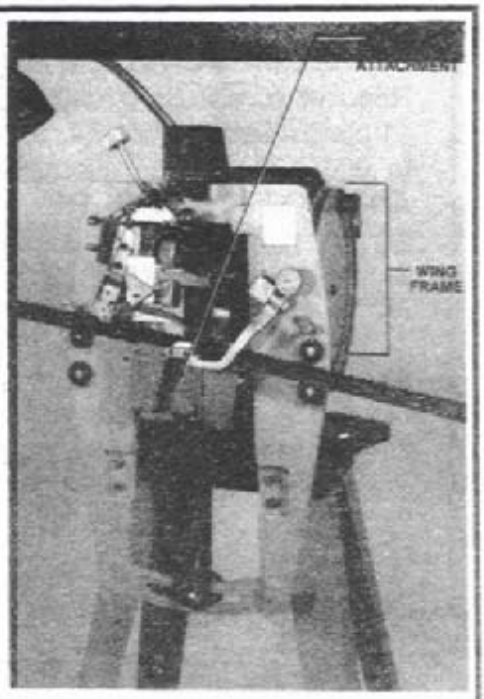


FIG. 107

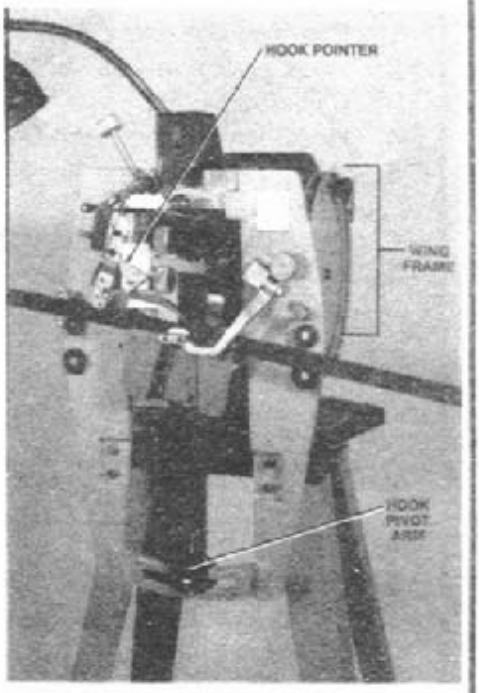


FIG. 108

BAND SAW FOR CUTTING MEAT

A band saw for cutting meat is sharpened in the same manner as a band saw for cutting wood. The following setting differ from wood saws and should be made.

1. Hook pivot arm set on 10° right to maintain saw in a level plane.
2. Set file hook angle pointer on *R*.
3. Set wing frame at 0°.
4. *Set* blade if necessary.

MEAT SAWBLADES (BAND STYLE)

Meat sawblades are also sharpened the same as wood cutting band saws. The following adjustments differ and should be made.

1. Hook pivot arm set on 10° right.
2. File hook angle pointer set at *C*.
3. Set wing frame at 0°.
4. *Set* if necessary.

OPERATING INSTRUCTIONS: SHARPENING MISCELLANEOUS MEAT CUTTING SAWS

SCRIBE SAW 3-7/8" [98 MM] DIAMETER

Requires special Cup #3589530. Teeth are spread 11 pts./in. Blade .025" [.64 mm] thick. *Set* is .003" to .004" [.08 - .10 mm] alternately.

ADJUSTMENTS TO FILER

1. Examine and joint if necessary.
2. Set hook pivot arm 8° left.
3. Use 6" [150 mm] extra slim taper file.
4. Set hook pointer to *R*.
5. Set wing frame on 0°
6. Adjust gullets 1/16" [1.6 mm] above vise lips.
7. Jointing guide allows feed pawl to push on tooth just filed. Feed one tooth at a time.

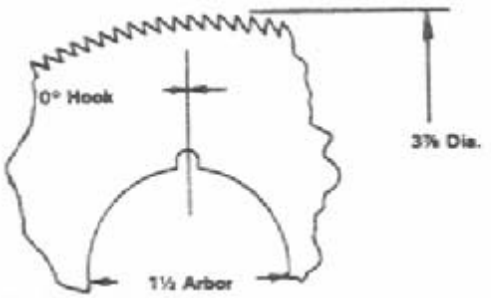


FIG. 109

SCRIBE SAW 8" [200 MM] DIAMETER

Teeth 8 pts./in., *set* .003" to .004" [.08 - .10 mm]

ADJUSTMENTS TO FILER:

1. Examine and joint if necessary.
2. Hook pivot arm - 10° left.
3. 6" slim taper file.
4. Hook pointer - between 0° and *R*.
5. Wing frame - 0° gullets - 1/16" [1.6 mm] above vise lips.
6. Feed pawl - push tooth just filed. Feed one tooth at a time.

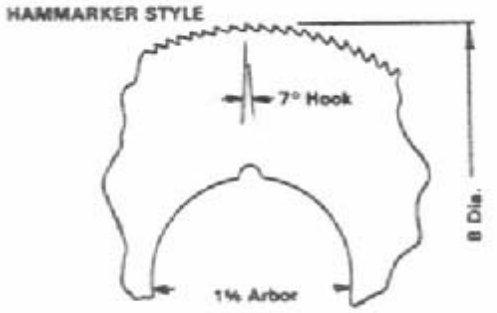


FIG. 110

HAMMARKER AND SKIP TOOTH HOG SPLITTING SAW 12" [300 MM] AND 14" [350 MM] DIAMETER

Special Cup and Cone Assemlby #3589950. For 12" [300 mm] blade the *set* is .003" to .004" [.08 - .10 mm]. *Set* for 14" [350 mm] is .006" to .007" [.15 - .18 mm]

ADJUSTMENT TO FILER:

1. Examine and joint if necessary.
2. Hook pivot arm - 10° left. File hook pointer - between 0 and *R*. Wing frame - 0°. Mount Cone #3589100 onto hook pivot arm.
3. Lock special cone #3589101 in place using standard cone as lock. Gullets - 1/16" [1.6 mm] above vise lips.
4. Feed pawl - push tooth just filed. Feed one tooth at a time.

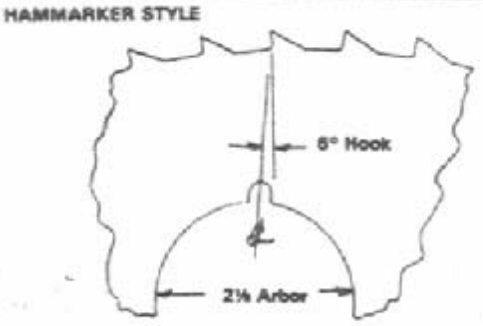


FIG. 111

5. File depth control - so a slight vee is filed at the bottom of the tooth face. Tooth height - 3/32" [2.4 mm] after filing tooth top to a sharp point.
6. Use a *safe edge* file (file ground blank on one side) and file gullets to a depth of 3/32" [2.4 mm]. *Safe Edge* should be towards the tooth face.

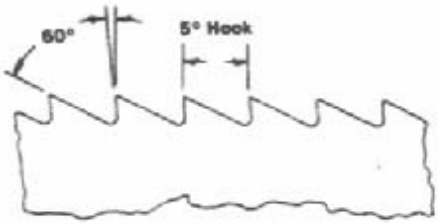
SHARPENING MISCELLANEOUS MEAT CUTTING SAWS (continued...)

CARCASS SAW - 23" [580 MM] OF TEETH - 3 PTS./IN. - RIP STYLE

No. *set*. Hook angle of 5° or 0°. For 5° hook a special attachment is needed. For 0° hook use straight hand saw carrier.

ADJUSTMENTS TO FILER:

1. Wing frame - 0°.
2. Use a band saw file.
3. Feed one tooth at a time pushing on tooth just filed.

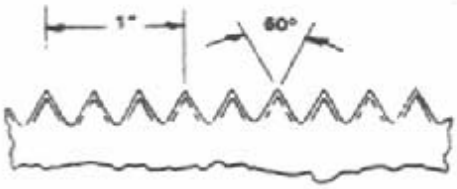


CARCASS SAW - 23" [580 MM] OF TEETH - 4 PTS./IN. - CROSSCUT STYLE

No *set*. Teeth have alternate 20° face and back bevel.

ADJUSTMENTS TO FILER:

1. Straight and hand saw carrier. 6" [150 mm] regular taper file.
2. Hook pointer - 30°. wing frame - 20° fright.
3. Feed two teeth at a time pushing on tooth just filed.
4. File every other tooth.
5. Wing frame - 20° left. Repeat #3 and #4.



CARCASS SAW - SKIP TOOTH STYLE

2 pts./in., *set*, 20° alternate back and face bevel.

ADJUSTMENTS TO FILER:

1. Straight saw carrier. 6" [150 mm] slim taper file.
2. Hook Angle - 30° wing frame - 20° right.
3. Feed two teeth each time, pushing on tooth just filed.
4. File every toher tooth fae. Slide carrier to left. File the back of each tooth already filed.
5. Wing frame - 20° left. Repeat #3 and #4.

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TROUBLE SHOOTING: OPERATING PROBLEMS

PROBLEM	CAUSE	REMEDY
High and Low Teeth	Feed pawl travel incorrectly adjusted.	Adjust the red feed pawl stroke knob (see page 27-29).
Wiping Out Teeth	Feed pawl travel incorrectly adjusted.	Adjust the red feed stroke knob (see page 27-29).
File Not Held Firmly in Place	Using incorrect file holder.	Select proper file holder per instructions on page 21.
Short File Life	File depth too deep into gullet.	Decrease file pressure. Keep in mind that a file can remove only so much metal on one file pass. Excess file pressure will decrease file life, ruin the accuracy of the saw tooth spacing, and produce excessive burrs on the cutting teeth of the saw. Excess file pressure can ruin a file in one pass.(For more information, see page 25).
File Comes Down and Hits the Feed Pawl	The feed pawl is in the incorrect starting position.	Adjust the feed pawl positioner screw until the feed pawl is 3/4" away from the file. (See page 10).
Feed Pawl Will Not Arc Over into the Tooth Just Filed	The jointing guide is incorrectly adjusted.	Adjust the jointing guide per the instructions on page 10

MAINTENANCE & LUBRICATION

CLEANING

During the course of operating your Model SF-1000 Saw Filer, metal file shavings will collect in and around the vise lip and on the base plate of the filer. These areas should periodically be dusted with a brush.

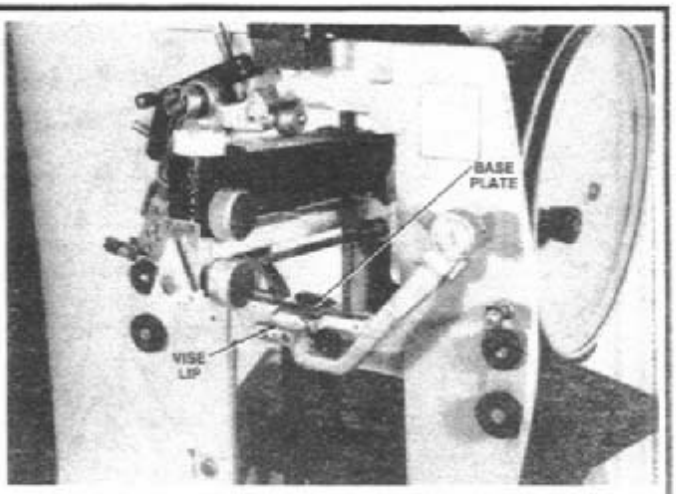


FIG. 115

LUBRICATION

Periodically, the following areas should be lubed with a quality gear grease: flywheel pinion gear (#143), the cam bearing pad (#29), the wear plate (#5), the lift plate (#8), the file arm guide blocks (#44 and #45).

CHECKING FOR WEAR

Your Model SF-1000 Automatic Saw Filer is a quality constructed machine. It should give you years of maintenance free operation.
The major moving part of the Model SF-1000 Saw Filer is the file arm (#12). To protect the file arm and extend its useful life, there are three wear plates that are located on the file arm: the cam bearing pad (#29), the wear plate (#5), and the lift plate (#8). These inexpensive wear plates are designed cam bearings, cam follower, and rocker arm balls wear.

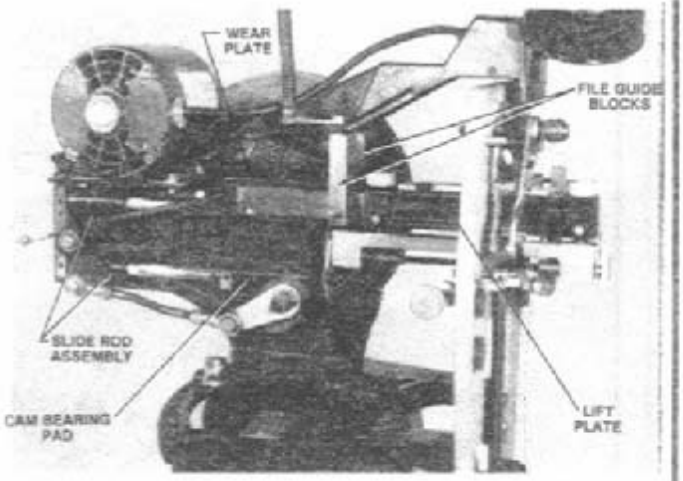


FIG. 117

PERIODIC CHECKS

You should periodically check these wear plates for any signs of wear. Also, these areas should be frequently wiped clean of their grease and fresh new grease put on in its place. One of the best ways to test for wear in these areas is as your filer is new, listen and learn to "hear" the smooth running sounds of your filer. When the wear plates begin to wear, there will be a distinctive "clunking" sound that will replace the smooth running sound that you have been used to hearing. If the various wear plates are left to deteriorate, sooner or later then, the more expensive cam bearing will begin to wear and your expenses of maintenance will be higher.

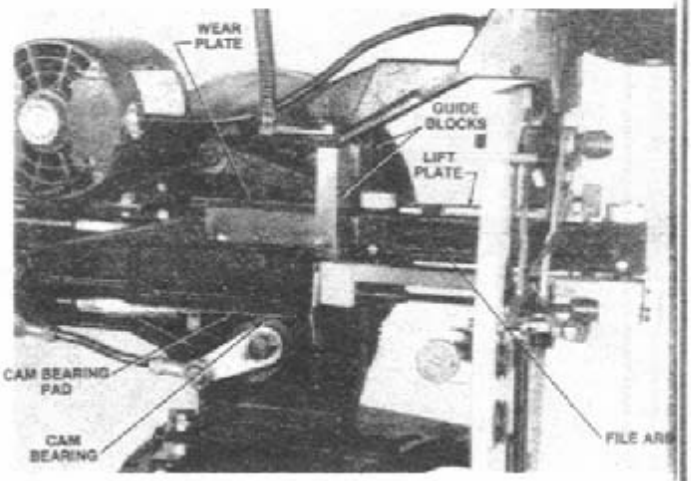


FIG. 118

FILE ARM SIDE PLAY

If side play in the file arm develops, the guide blocks (#44 and #45) need to be tightened against the file arm.

EXPLODED VIEW: MODEL SF-1000 SAW FILER

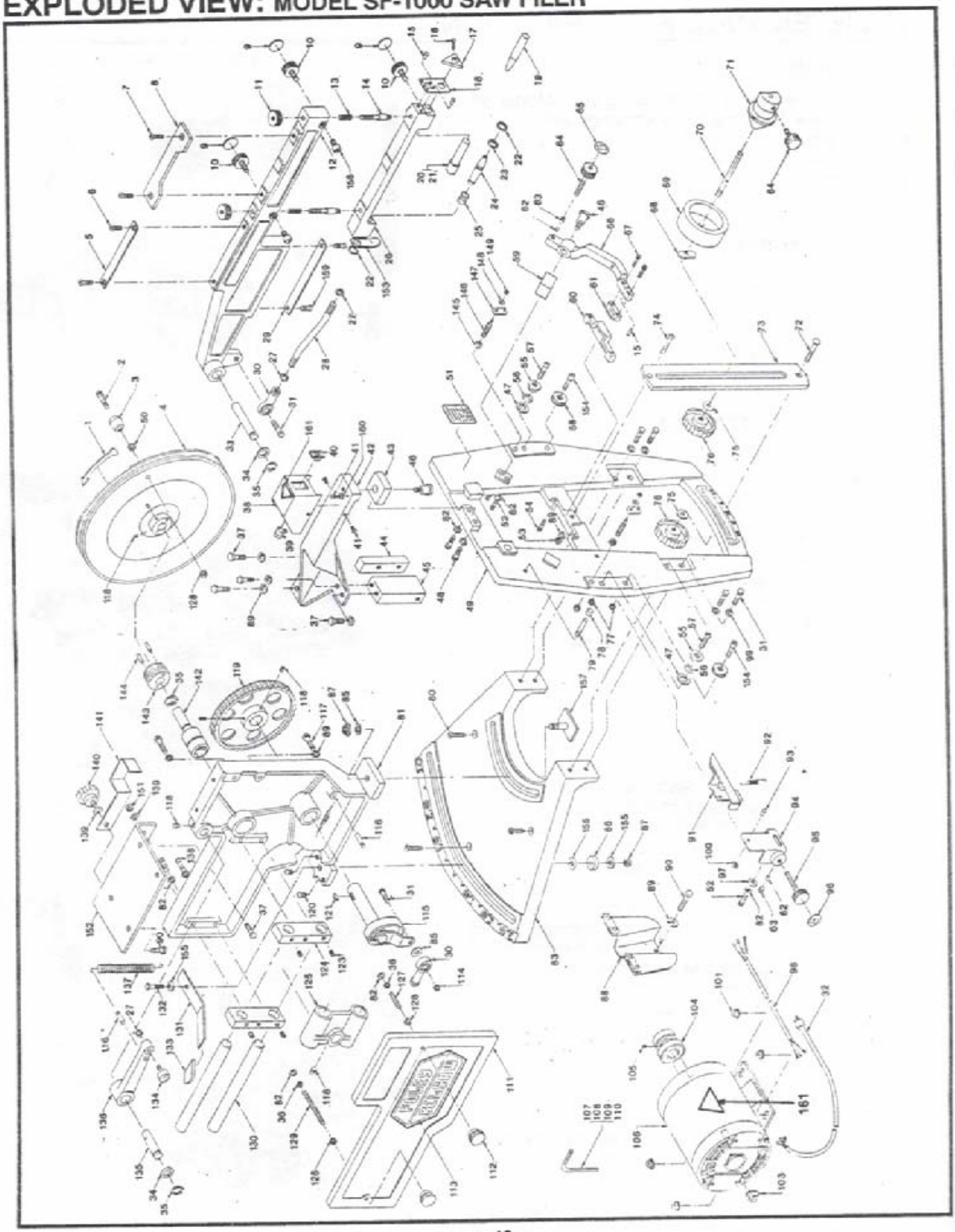


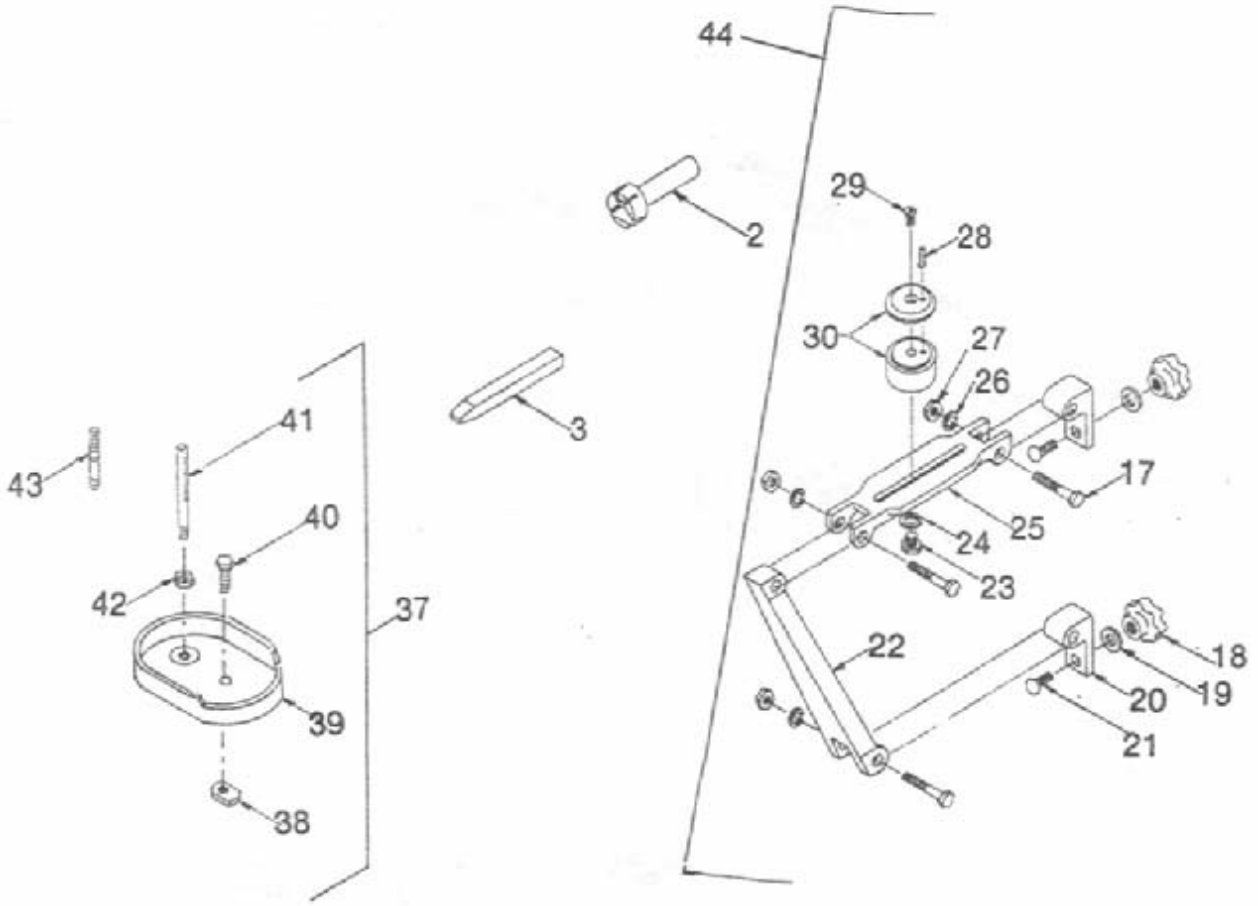
DIAGRAM NUMBER	PART NUMBER	PART DESCRIPTION
1	3879069	Decal - Arrow
2	B252411	Socket Head Screw 1/4-20 NC x 1-1/2" Long
3	3708165	Knob
4	3879550	Flywheel Assembly with Pinion
5	3879049	Wear Plate
6	B160605	Flat Socket Cap Screw 8-32 NC x 3/8"
7	B250805	Flat Head Socket Cap Screw 1/4-20 NC x 1/2" Long
8	3879050	Lift Plate
9	3879313	Locking Knob Decal
10	3879521	Stud Locking Screw Assembly
11	3879023	Knob
12	3879526	File Arm Assembly with Bearing
13	3619224	File Holder Spring
14	3619141	Socket Bracket Stud
15	R601018	Drive Screw No. 2 x 3/16" Long
16	E130809	Thumb Screw 6-32 NC x 1/2" Long
17	3879026	Pointer Collar
18	3879045	Protractor
19	3589018	Front File Holder
20	3589019	Front File Holder
21	3589020	Front File Holder
22	3709353	Retaining Ring
23	3709859	Spring Washer
24	3589021	Rear File Holder
25	3589034	Rear File Holder Spring
26	3879008	File Holder Bar
27	J372100	Hex Nut 3/8-24 NF
28	3879054	Drag Link
29	3879052	Cam Bearing Pad
30	3709002	Rod End
31	B371601	Hex Cap Screw 3/8-16 NC x 1" Long
32	3707034	Cord Set
33	3879033	Shaft
34	3709022	Thrust Washer
35	3709348	Retaining Ring
36	J251000	Hex Nut 1/4-20 NC
37	B311601	Hex Head Cap Screw 5/16-18 NC x 1" Long
38	3879549	Switch Box
39	3707273	Strain relief
40	3707031	Rocker Switch
41	B190509	Phillips Round Head Machine Screw 10-24 NC x 5/16" Long
42	3879352	Horn
43	3879028	Pivot Block
44	3879086	Guide For Filer Arm
45	3879087	Guide For Filer Arm
46	3589025	Wing Pivot Screw
47	3709646	Washer
48	B252001	Hex Cap Screw 1/4-20 NC x 1-1/4" Long
49	3879350	Front
50	J252000	Hex Jam Nut 1/4-20

DIAGRAM NUMBER	PART NUMBER	PART DESCRIPTION
51	3879076	Decal - Caution
52	B251211	Socket Cap Screw 1/4-20 NC x 3/4" Long
53	J312000	Hex Jam Nut 5/16-18 NC
54	B161211	Socket Cap Screw 8-32 NC x 3/4" Long
55	3879309	Top carrier Roller
56	3709641	Quad "O" Ring
57	3879330	Eccentric Screw
58	3619061	Carrier Roller
59	3879061	Vise Block
60	3879011	Fixed Vise Block
61	3879012	Vise Lip Block
62	3579109	Plug
63	C250427	Socket Set Screw Nylok 1/4-20 NC x 1/4" Long
64	3879523	Stud Locking Screw Assembly
65	3879315	Decal - Vise Red
66	3879013	Vise Arm
67	B160811	Socket Cap Screw 8-32 NC x 5/8" Long
68	3708352	Spotweld Nut
69	3879318	Cup
70	3879319	Cone Stud
71	3879533	Cone
72	E312000	Carriage Bolt 5/16-18 NC x 1-1/4" Long
73	3879031	Hook Pivot Arm
74	B311603	Flat Head Screw 5/16-18 NC x 1" Long
75	3599028	Spacer
76	3709510	Knob
77	R000552	Hex Nut - KEP 1/4-20
78	3709028	Rubber Bumper
79	3879051	Stop Pin
80	E193211	Flat Head Wood Screw #10 x 2" Long
81	3879551	Wing Frame Assembly
82	K251501	Lock Washer 1/4
83	3879003	Base
85	K370001	3/8 Flat Washer
86	3879308	Rubber Washer
87	J377000	Hex Locknut 3/8-16 NC
88	3879540	Band Saw Attachment Assembly
89	K311501	Lockwasher 5/16
90	B311201	Hex Cap Screw 5/16-18 NC x 3/4" Long
91	3879531	Jointing Guide
92	3879030	Extension Spring
93	R785312	Rivet 3/16" Diameter x 3/8" Long
94	3879522	Jointing Guide Frame
95	3879520	Knob & Stud Assembly
96	3879317	Decal - Jointing Guide Green
97	3589089	Washer
98	3859054	Cord Set (Motor to Switch)
99	K371501	Lockwasher 3/8
100	3589127	Washer - Flat

(continued...on next page)

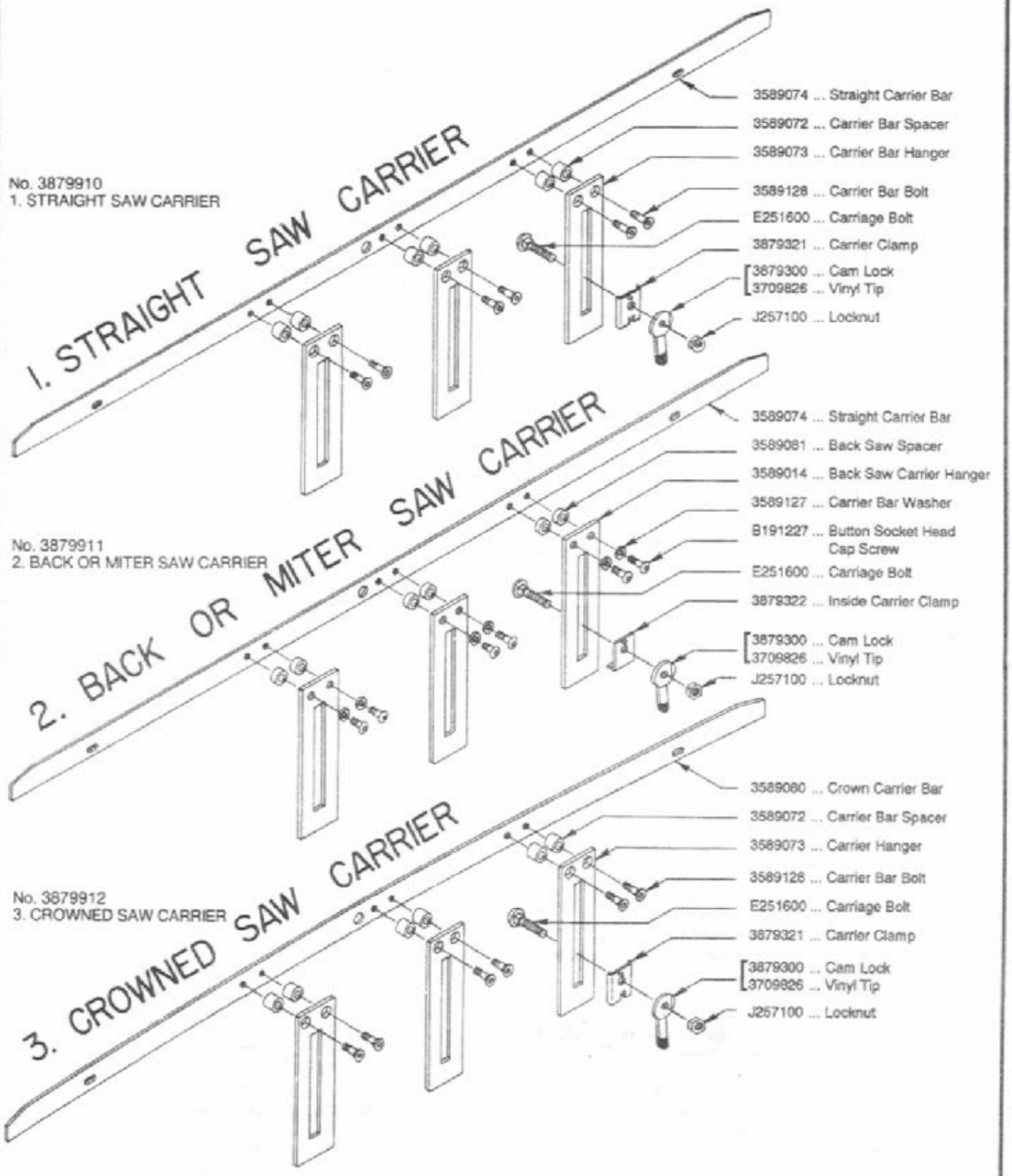
DIAGRAM NUMBER	PART NUMBER	PART DESCRIPTION
101	R000551	KEP Hex Nut 5/16-18 NC
103	3707933	Cord Clip
104	3879310	Two Speed Drive Wheel
105	C250320	Socket Set Screw 1/4-20 x 3/16" Long
106	3707985	Motor 1/2 H.P.
107	R000855	Allen Key 5/64 Across Flats
108	R000856	Allen Key 1/8 Across Flats
109	R000857	Allen Key 3/16 Across Flats
110	R000867	Allen Key 9/64 Across Flats
111	3879057	Shroud
112	3709017	Knob
113	3709090	Decal
114	J372000	Hex Nut 3/8-16 NC
115	3879530	Cam and Crank
116	3709007	Spring Groove Pin
117	B312401	Hex Cap Screw 5/16-18 NC x 1 1/2" Long
118	C310620	Socket Set Screw 5/16-18 NC x 3/8" Long
119	3879056	Cam Shaft Gear
120	B310813	Socket Button Head Screw 5/16-18 NC x 1/2" Long
121	R000223	#505 Woodruff Key
123	C250420	Socket Set Screw 1/4-20 NC x 1/4" Long
124	3879020	Block Slide Rod
125	3879525	Slide Block with Bearings
127	3879068	Stud 1/4-20x1.12
128	J257100	Hex Nut Nylock 1/4-20 NC
129	3708115	Stud 1/4-20x4.12
130	3879025	Slide Rod
131	3879301	Wing Frame Cam Lock
132	B373601	Hex Cap Screw 3/8-16 NC x 2-1/4" Long
133	3709621	Vinyl Handle
134	3709594	Cam Follower
135	3879034	Shaft
136	3879524	Pressure Arm with Pin
137	3879060	Extension Spring
138	B251411	Socket Cap Screw 1/4-20 NC x 7/8" Long
139	K310001	Plain Washer 5/16
140	3709756	Knob
141	3879302	Drive Wheel Guard
142	3589054	Bearing and Shaft
143	3589037	Flywheel Pinion
144	H121002	Rollpin 1/8" Diameter x 5/8" Long
145	J311000	Hex Nut 5/16-18 NC
146	3879335	Gauge Pivot Rod
147	3879534	Gauge Bar Pin Assembly
148	3709894	Spring Washer
149	J197100	Hex Locknut #10-24 NC
151	J317000	Hex Locknut 5/16-18 NC Thin
152	3879304	Adj. Motor Mount
153	3879104	File Release Lever
154	3619062	Carrier Roller Bolt
155	R000454	3/8 Cut Washer
157	3879532	Lock Bar Weldment
158	B250404	Phil HD Screw 1/4-20 x 1/4" Long
159	B250616	Button HD Socket Screw 1/4-20 x 3/8" Long
160	R000465	Star Washer #10
161	3708448	Decal - Warning Electrical

PARTS LIST: MISCELLANEOUS OPTIONAL ACCESSORIES

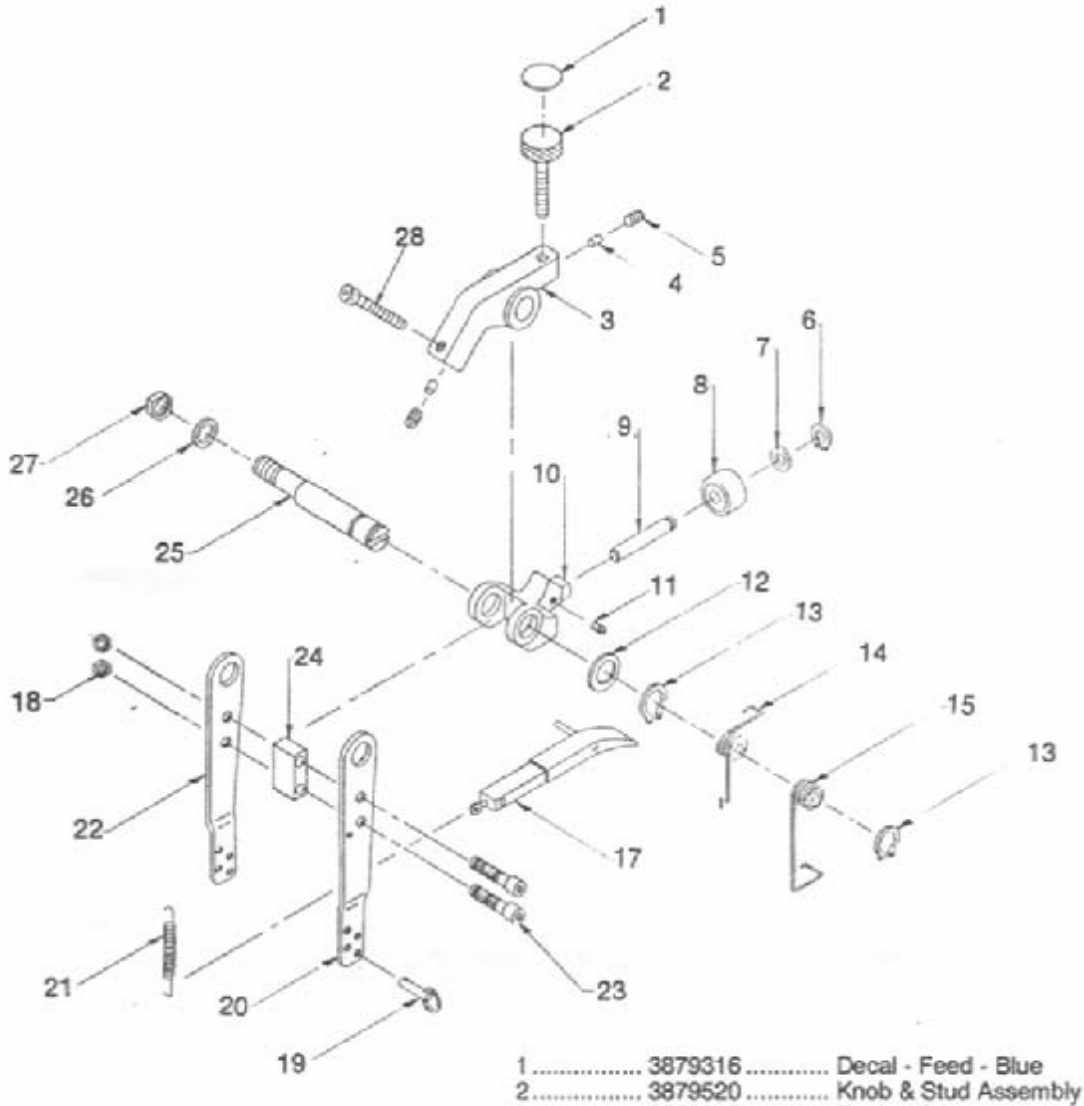


2	3619136	Cant Saw File Socket	29	B250803	Flat Head Cap Screw 1/4-20 NC x 1/2" Long
3	3702242	Saw Swage	30	3619550	Saw Support Assembly (Specify Arbor Size)
17	B313601	Hex Cap Screw 5/16-18 NC x 2-1/4"	37	3309530	Offset Cup Assembly (For Saw blades under 4")
18	3708245	Handwheel	38	R000390	Nut
19	3589091	Washer	39	3309003	Offset Cup
20	3589016	Bracket	40	B311601	Hex Cap Screw 5/16-18 NC x 1" Long
21	E372800	Carriage Bolt 3/8-16 NC x 1-3/4"	41	3309066	Cone Stud
22	3589015	Lower Plate	42	R000362	Hex Nut L.H. Thread 5/16-18 NC
23	B371001	Hex Cap Screw 3/8-16 NC x 5/8"	43	3309054	Stud
24	K371501	Lockwasher 3/8 Split	44	3580505	Paper Tube Saw Attachment
25	3589017	Upper Plate			
26	R000470	Lockwasher 5/16 Split			
27	J311000	Hex Nut 5/16-18 NC			
28	R841050	Rollpin 1/8 x 1/2" Long			

PARTS LIST: CARRIER ASSEMBLIES



PARTS LIST: JOINTS GUIDE ASSEMBLY



1	3879316	Decal - Feed - Blue
2	3879520	Knob & Stud Assembly
3	3879010	Rocker Arm
4	3579109	Nylon Plug
5	C250427	Socket Set Screw Nylok 1/4-20 NC x 1/4" Long
6	3709750	Retaining Ring
7	3589109	Washer
8	3879059	Rocker Arm Ball
9	3879058	Ball Shaft
10	3879009	Rocker
11	C160320	Socket Set Screw 8-32 NC x 3/16" Long
12	3709022	Thrust Washer
13	3709348	Retaining Ring
14	3879063	Rocker Spring
15	3589071	Rocker Arm Spring
16		
17	3879598	Feed Pawl Assembly
18	J191000	Hex Jam Nut 10-24 NC
19	3589048	Feed Pawl Pivot Pin
20	3879027	Front Side Plate
21	3529050	Spring
22	3879029	Back Side Plate
23	B192011	Socket Cap Screw 10-24 NC x 1-1/4" Long
24	3879032	Spacer - Side Plate
25	3879044	Rocker Shaft
26	3709027	Thrust Washer
27	J502000	Hex Jam Nut 1/2-13 NC
28	B313231	Socket Cap Screw 5/16-24 NF x 2" Long