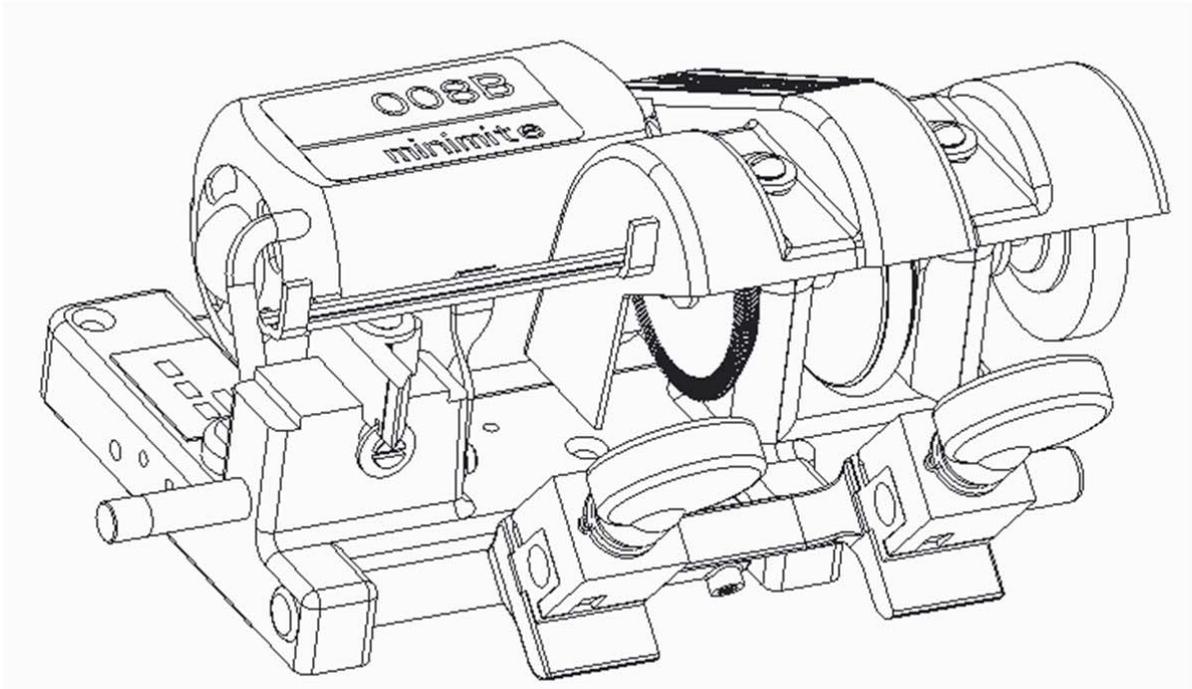


INSTRUCTION MANUAL

IMPORTANT! Read these instructions before you use your new 008B Key Machine. Ensure that all safety recommendations are followed! See page 2 for instructions.



This manual is registered and applies specifically to the machine which carries this serial number. It properly identifies your model and assures you will receive correct parts, if and when you require replacement parts. Retain this manual in a safe place. It's the only one of its kind. If ownership of this machine is transferred, this service manual should accompany the machine.

When seeking service information about this machine, refer to Model No. 008B and the part number desired (see pages 6 to 8). Note that many parts are not interchangeable with other KABA ILCO machines.

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ONE YEAR LIMITED WARRANTY

KABA ILCO warrants to the original buyer of any new model 008B machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of KABA ILCO, to have defects arising from the faulty manufacture of the machine or from defective material or components, during a period of one (1) year from the date of shipment of the machine by KABA ILCO, provided that the machine is returned by prepaid transport to KABA ILCO or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). KABA ILCO may, at its discretion, elect to refund the purchase price allowable to the part affected, or to issue a credit if the price therefore remains unpaid.

KABA ILCO sells precision-made machines. The buyer assumes all risks, and KABA ILCO shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with KABA ILCO's printed instructions or operated beyond its rated capacity shall not be covered by this or any other warranty.

Any and all warranties made by KABA ILCO on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product or component thereof is warranted irrespective of whether or not payment is eventually made.

These warranties are in lieu of and not in addition to any other warranty of condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases KABA ILCO from any liability for any reason other than a breach of its warranties hereunder.

The liability of KABA ILCO shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall KABA ILCO be liable for any personal injuries, property damage or consequential damages.

Use only genuine KABA ILCO replacement parts on this machine!

Serial number : _____

IMPORTANT - Please read carefully before operating machine.

Safety begins with education, and continues with proper application. All personnel who operate your machine should read the supplied Operator's Manual for information on how to properly operate it. The likelihood of accidents and miscuts will be greatly reduced.

General Safety

- Safety glasses must be worn to reduce the possibility of eye injury while operating or in the immediate vicinity of key cutting equipment.
- Always turn machine off before making adjustments or inserting or removing keys.
- Machine should be located in an area accessible only by authorized operators. Location must be such that customers and other personnel are not subject to potential injury from "flying chips".
- Do not defeat safety features built into your machine. Removal or modification of safety shields, cutter guards, and other safety devices should be strictly forbidden.
- At no time should the mechanically-driven parts of the machine be touched while it is in operation. The operator should take care to ensure that loose-fitting clothing, long hair, etc. are kept from the area of machine operation.
- Your machine has been specially designed and built for key cutting purposes only and should be operated according to the Operator's Manual. All other uses are strongly discouraged as potentially dangerous, and should not be attempted! Such use will immediately void the machine's warranty.
- Some states have specific age restriction concerning the operation of certain types of equipment. Check local and state ordinances for compliance.

Electrical Safety

- (120 Volt models) Your machine is designed to operate using 120 Volt A. C. 60 Hz. electrical current. It is supplied with a three-prong power plug which should be used with a properly grounded three-prong outlet only. Do not defeat the safety purpose of the plug by modifying or using with non-grounded outlets!
- To reduce risk of fire or electrical shock, do not expose or operate machine in damp or wet locations.
- Electrical problems should be referred to qualified repair technicians. If the machine is under warranty, contact KABA ILCO at the address printed on the cover. (KABA ILCO also offers repair service for out-of-warranty machines. Contact KABA ILCO for details.)
- Always unplug the machine before removing the hood or changing the cutter wheel.

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 machine is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug must be plugged into a machine outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation that has a green outer surface (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- Repair or replace damaged or worn cords immediately.

GENERAL INFORMATION

Technical Data

Power Supply:	230V – 50Hz 120V – 50/60Hz
Maximum Absorbed Power:	230V:2Amp. 160Watt 120V:4Amp. 160Watt
Cutter Motor:	Single Phase and Speed
Cutter:	HSS Steel
Tool Speed:	8000 rpm
Mass (Weight):	4.5 Kg (10 lbs)
Noise Level:	Less than 70db(A)

Environmental Condition

To ensure that the best use is made of the 008B key-cutting machine, certain parameters must be borne in mind: damp, badly ventilated sites should be avoided.

The ideal conditions for the machine are:

- temperature: between 10°C (50°F) and 40°C (104°F);
- relative humidity: 60% circa;
- room illumination: approximately 500 Lux

Graphics on the 008B Machine

	
Obligatory use of safety goggles	Read instructions before use

	
Rotating cutter warning	Earth connection

INTRODUCTION / UNPACKING

Congratulations! **You've purchased a superior key cutting machine.**

The model 008B manually operated key machine you've just purchased incorporates the latest improvements in design for key duplicating machines of its type.

The machine features two-way vise jaws designed to accommodate virtually any standard cylinder key, limiting the need for adapters. Even double-sided automotive keys can be duplicated with ease. The reverse side of the

vise jaw is ideally suited to gripping these keys and is capable of gripping them in the groove or milling for enhanced clamping performance when necessary (see illustration on page 9).

Accurate, portable, easy to operate and maintain, the model 008B delivers excellent performance at an economical price!

Unpacking Instructions

After removing your 008B key from the shipping carton, it should be set on a level workbench and wiped free of all rust proofing oil. The machine is adjusted at the factory and test keys have been cut on it, but it is recommended

that you check the adjustments to make sure they have not slipped or shifted during transit (see page 12 "Adjustment For Depth of Cut").

Safety

The 008B has been engineered to duplicate cylinder (paracentric) keys. It is not intended or designed for any other purpose. The machine operator assumes all liability when using this machine in a manner inconsistent with its stated design purpose. Refer to page 3 for complete safety information before operating the machine.

KABA ILCO strongly recommends the use of protective eye glasses or goggles when operating this machine, or when in the vicinity of the machine while it is being

operated. Protective eye wear prevents injuries! The machine should be turned off before loading or unloading keys.

When the key machine is operating, be careful not to bump the vise jaw or carriage against the cutting wheel as this will cause damage to the cutter, jaw, or carriage.

Refer to pages 6 and 7 for illustrations.

Test Keys

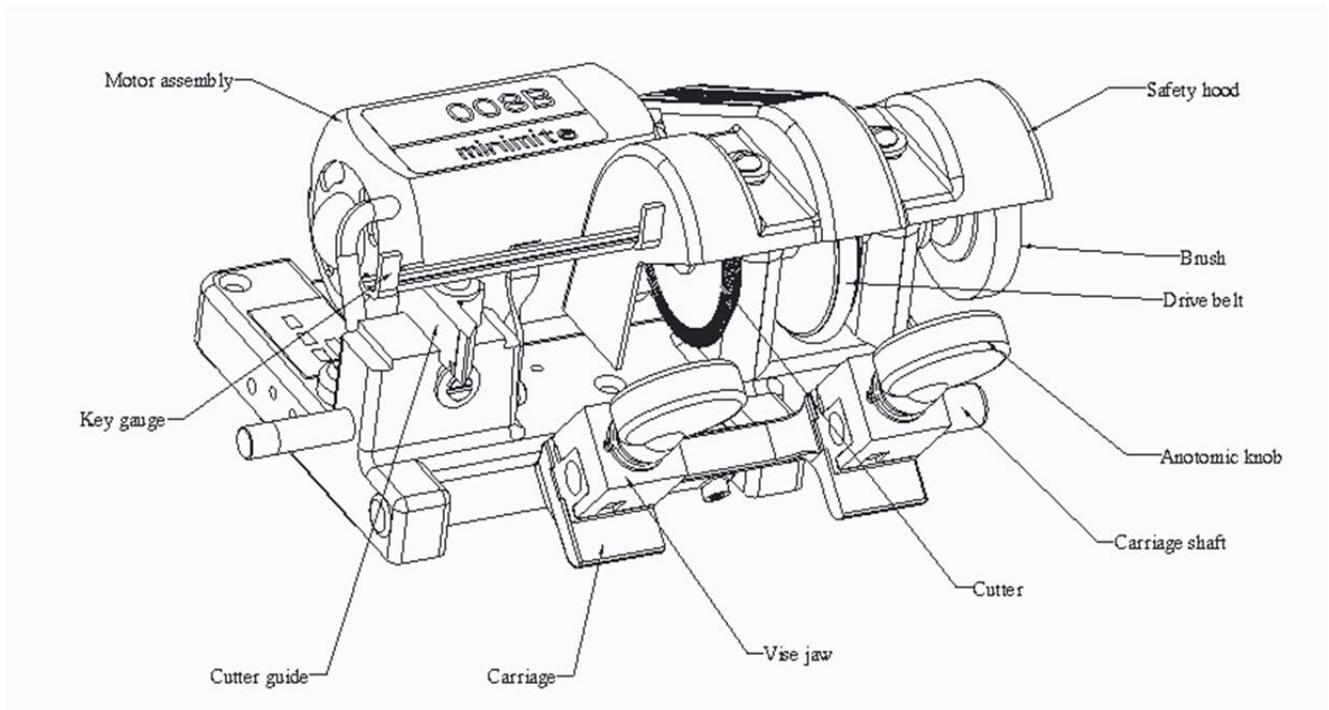
A series of cut keys are supplied with your machine. These keys were cut on your machine and represent the result of our quality inspectors work before approving your machine for shipment. The keys are reproductions of factory dimensioned pattern keys and are accurate to within .002" or less. You can save these keys and use them as standards to check the accuracy of cuts in the

keys you make. Duplicating a key and then using a key micrometer or caliper to compare the actual depth of the cuts on both the duplicate and the pattern key will allow you to see if your machine is cutting too deep or too shallow, thus indicating that an adjustment of the cutter guide is necessary.

Bench Mounting

The model 008B is designed to be portable and thus easily moved from location to location as the need arises. There is however, a provision for securing the machine to a work bench or other suitable mounting surface. Simply

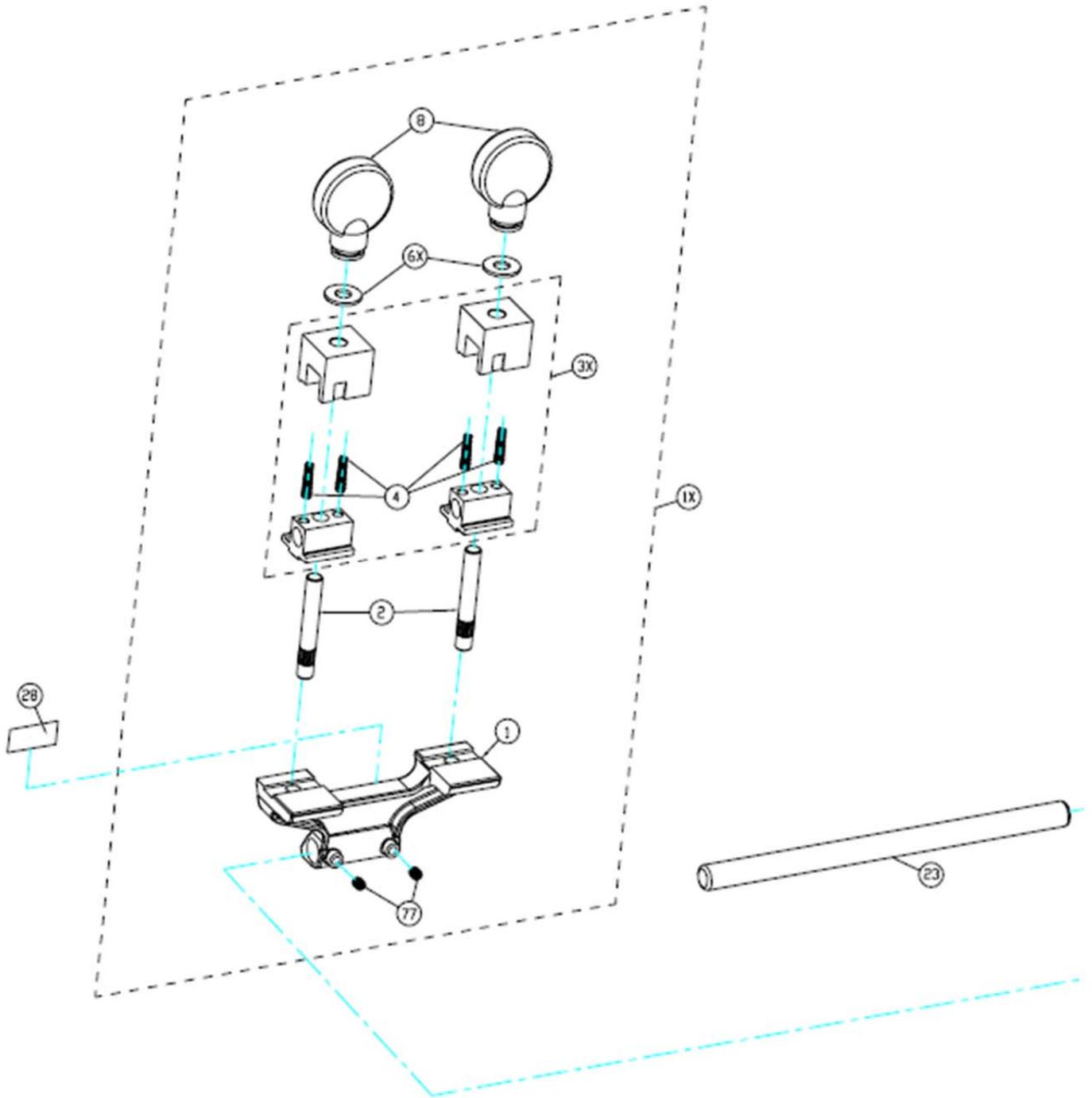
install the supplied wood screws through the 3 countersunk holes on the top surface of the machine base when a more permanent installation is desired.



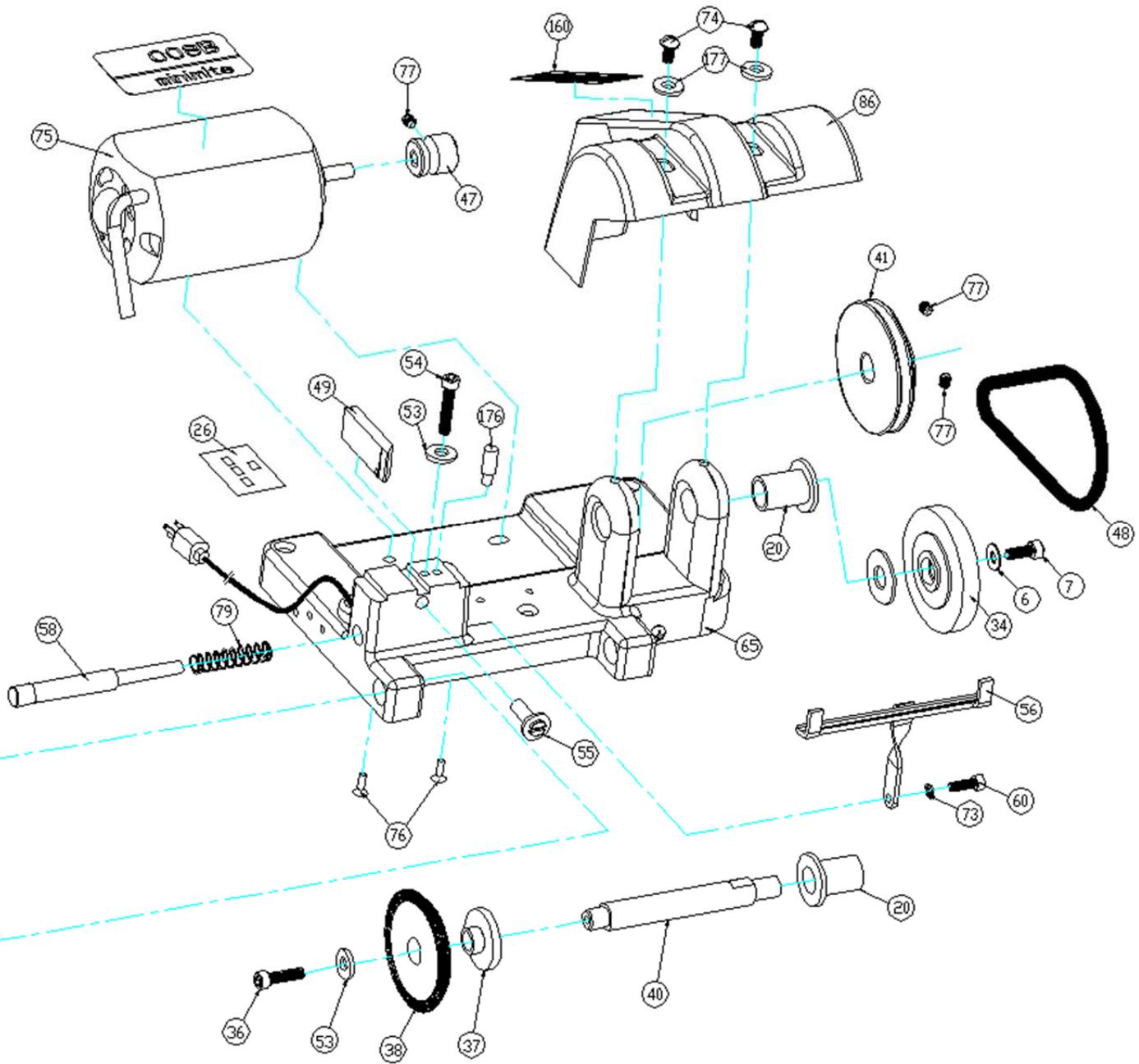
Operating Parts Identification

Part No	Identification
008-1 008-3X 008-8	Carriage Vise Jaw Assembly (2) Anatomic Knob (2)
008-23 008-38 008-49	Carriage Shaft 23RF Cutter Cutter Guide (stylus)
008-55 008-56 008B-86	Adjusting Screw Key Gauge Safety Hood
008-34 008-48	Deburring Brush Drive Belt

EXPLODED VIEW



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Refer to pages 6-7 for illustration

Ref.	Part No.	Description	Ref.	Part No.	Description
1	008-1	Carriage	55	008-55	Adjusting Screw
1X	008-1X	Carriage Assembly	56	008-56	Key Gauge
2	008-2	Carriage Stud	58	008-58	Key Gauge Shaft
3X	008-3X	Vise Jaw Assembly	60	008-60	Key Gauge Screw (M4X12)
4	008-4	Vise Jaw Spring	62	008B-62	Off/On Power Switch
6X	008-6X	Washer (ID8XOD24X2)	65	008-65	Main Base, Machined
8	008-8	Anatomic Knob	73	008-73	Key Gauge Lock washer, (M4)
20	008-20	Cutter Shaft Bushing	74	008-74	Safety Hood Screw, (M5x10)
23	008-23	Carriage Shaft	75	008B-75A	115V Motor Assy. (008A version)
36	008-36	Cutter Shaft Screw (M5x19 LH)	76	008-76	Motor Mounting Screw (M5x14)
37	008-37	Cutter Spacer	77	008-77	Set Screw (M5x6)
38	008-38	23RF Cutter	79	008-79	Key Gauge Spring
40	008B-40	Cutter Shaft	86	008B-86	Safety Hood/Belt Guard
41	008-41	Cutter Shaft Pulley	160	008-160	Caution Label
43	008-34	Deburring Brush	175	008-175	Mounting oval head wood screw, (M5x45)
			176	008-176	Cutter Guide Pin
47	008-47	Motor Pulley	177	008-177	Safety Hood Washer
48	008-48	Drive Belt	NS	008-IM	Instruction Manual
49	008-49	Cutter Guide, (stylus)	NS		12V motor with connecting cable
53	008-53	Binding Washer	NS	008A-66	Main Base, machined
54	008-54	Cutter Guide Binding Screw			

Proper key cutting techniques

Even though your 008B key machine is designed to make key cutting efficient and accurate, operator skill is important. The actual mechanics of placing keys within the vise jaws is simple to learn, but there are some basics that must be followed. A properly adjusted key machine, used by someone who ignores good key cutting techniques will NOT produce a good key. The way a person clamps a key into the vise jaws is critical to the accuracy of the duplicated key.

Remember - the real purpose of a duplicate key is to operate the lock for which it was intended. If customers return keys, you should reexamine your cutting techniques and adjustment of the machine.

Here are some important operating tips:

1. Vise jaws - clean them regularly so that no metal chips lie under the keys. It is essential that both keys lie flat across the entire width of each vise jaw. Neither key should be tilted.
2. Do NOT use pliers or other tools to tighten the vise jaws. Firm hand pressure is sufficient.
3. Keep the carriage shaft free of metal chips. A thin film of oil can be applied to it. The carriage should be free to move without binding.
4. NEVER touch the shoulder of a key to the side of the cutter guide. This will cause the shoulder of the key blank to touch the side of the cutting wheel. When this happens, some of the metal will be cut away from the shoulder of the key blank. If the resulting duplicated key is duplicated two, three, four times over, an error will accumulate and cause a non-operating key. Do not grind away the shoulder.
5. Don't run the cutter into the vise jaw; this will dull the cutter, and reduce cutter efficiency.
6. Keep the cutter clean. Don't let any foreign objects or instruments blunt it. This cutter is a precise cutting tool and should be handled with care.
7. Lubrication of moving parts is important. The carriage spindle should be lubricated with a thin film of oil, removing excess with a clean dry cloth. The lubrication procedures should be performed every 2-3 weeks depending upon machine usage. (5-7 drops of a lightweight machine oil such as "3-in-1" or equivalent is sufficient.)

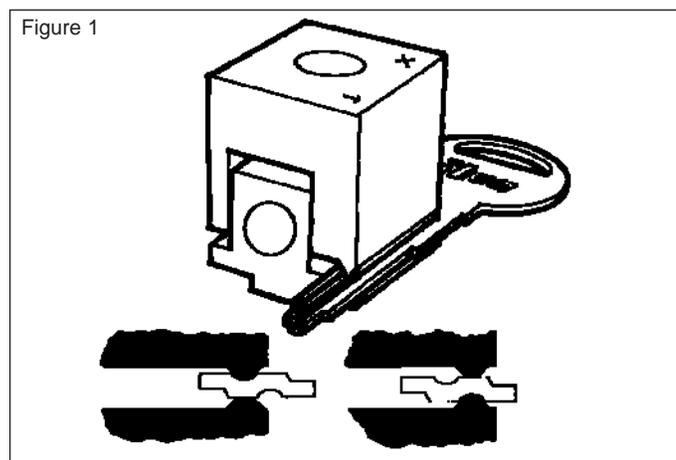
Using the two-way vise jaws

Your 008B machine is equipped with versatile **Super Jaw 1** two-way vise jaws. Their unique clamping surfaces will securely grip virtually any typical cylinder key, while reducing the need for adapters.

The vise jaws have two clamping surfaces; standard and "X". The standard position is identified by a $\frac{1}{4}$ " wide slot milled into the vise surface. The "X" position is identified by the presence of the letter X stamped on the upper half of the vise jaw. When choosing which position to use observe the following guidelines:

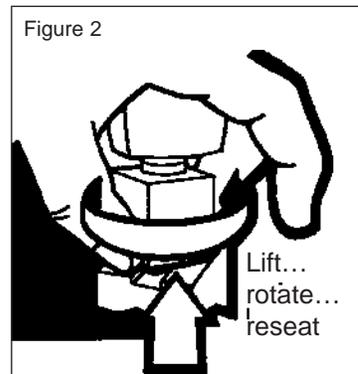
Standard position — for holding regular cylinder keys such as house keys, single-sided automotive keys, padlock keys, with one or two shoulders. Also used for "Ford style" double-sided keys which do not have a groove along the center of the key blade.

X position — Ideal for holding most double sided convenience keys used on many current automobiles. Grips these keys by the grooves rather than the blade edge where the cuts are located (see fig. 1).



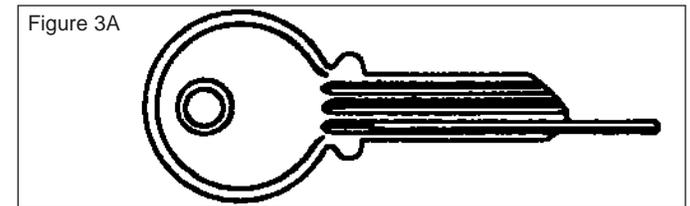
To rotate the vise jaws from one position to the other, loosen the wing nuts three or four turns from the "closed" position. Using the thumb and forefinger, grasp the bottom section of each vise.

Lift this section up and free of the carriage. Rotate the vise jaws one-half turn and reseat lower section into groove of carriage (see fig. 2). Both vise jaws must be rotated to the same position; standard or X!

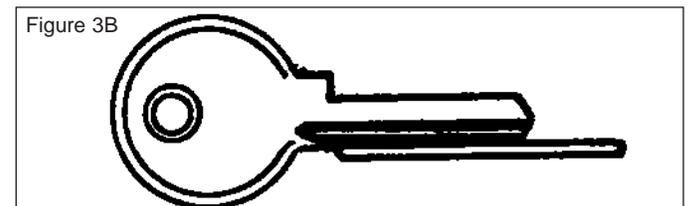


How and when to use straight wires

Occasionally, you may encounter keys with rounded or wide milling (grooves) that tend to tip in the vises when the wing nuts are tightened. If this occurs, you should position a "straight wire" (supplied in the machine's tool pack) into the milling or groove closest to the back of the key (see fig. 3A). With the straight wire positioned as shown, insert the key in the vise and tighten the wing nut to secure it in place. This will prevent tilting from occurring. An alternate method is to use the "X" side of the vise jaws to grip the milling of such keys.



Some narrow keys with deep cuts require the straight wire to be placed under the key. This raises the key out from the vise to prevent the cutter from contacting the vise jaws when making the deep cuts (see fig. 3B).



THE CUTTING OPERATION

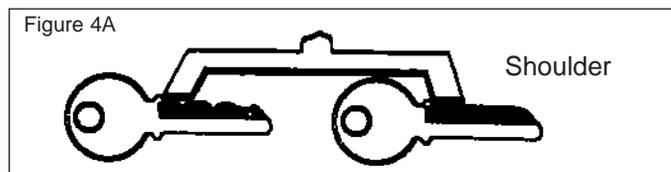
Aligning keys in the vise jaws Keys with shoulders

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

Both the pattern key and the key blank must be properly aligned and securely clamped in the vise jaws. To do this, slide the machines' carriage assembly towards the right and position the appropriate key blank in the carriage's RIGHT vise jaw with the head of the blank pointing to the left.

Ensure that the shoulder of the key blank is located approximately $\frac{1}{8}$ " to the left of the vise jaw's left edge. Holding the key blank firmly and level against the jaw, tighten the wing nut. Position the pattern key in the carriage's LEFT vise jaw in a similar manner only this time allowing a $\frac{1}{8}$ " gap between the shoulder of the key and the edge of the vise jaw.

Next lower the key gauge and position the carriage so that the left edge of the gauge's RIGHT prong contacts the edge of the key blank's shoulder (see fig. 4A).

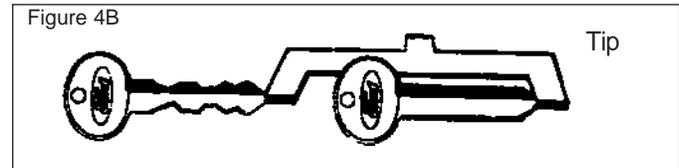


Loosen the wing nut securing the pattern key and reposition the key so that its shoulder is in contact with the left edge of the LEFT prong of the key gauge.

Check to ensure that the pattern key and blank key's shoulders are snug against the key gauge and both keys positioned level (not tilted) in the vise jaws. Retighten the wing nut.

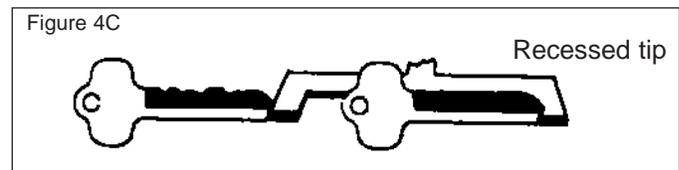
Aligning keys in the vise jaws Keys without shoulders

On keys such as the Ford double-sided key, which do not have conventional shoulder, the tip of the key is used as the aligning point (see Fig. 4B). Clamp the blank key in



first and move the machine carriage to the left. Lower the key gauge and position the carriage so the tip of the Ford key touches the key gauge. Install and align the pattern key in the left vise jaw in the same manner.

"Best" and "Falcon" type keys do not have a conventional shoulder but have a recessed tip and the key gauge is used to align the recessed tips. After clamping the blank key, the carriage is moved to the left so that the key gauge can be lowered to contact the recessed tip surface. The pattern key is aligned in the left vise jaw and positioned to contact the edge of the key gauge in the same manner (see Fig. 4C).



REPLACEMENTS AND ADJUSTMENTS

General Operating Sequence

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

1. Rotate both vise jaws to the station suitable for the key being duplicated.
2. Insert the blank key and pattern key into the vise jaws using the appropriate method described under "Aligning Keys in the Vise Jaws". Be sure that both keys are laying level in the vise jaws and are not tilted.
3. Lower the key gauge to align the keys using an appropriate method as described under "Aligning Keys ..." found in the previous section (see page 10).
4. After the keys are aligned, return the gauge to its "up" position.
5. Press the off/on switch to the "on" position.
6. Lift the carriage with both hands.
7. Move the carriage to line up the cutter guide with the shoulder of the pattern key, then shift slightly away from the shoulder. Do not permit the cutter to touch the shoulder of the key blank.
8. Press in on the carriage, while guiding it to the left. Carefully trace the cuts of the pattern key with the cutter guide. The cutter will make a corresponding cut in the key blank. When the cut closest to the tip of the pattern key has been traced, retrace the cuts by guiding the carriage to the right. This will clear away any metal not removed during the initial pass over the key blank.
9. Press the off/of switch to the "off" position. Remove the duplicate key. Press the switch back to the "on" position, and lightly contact the duplicate key against the deburring brush to remove any residual material from the key cuts.
10. Operating Tips - When duplicating a key, avoid an irregular jerking motion in the movement of the carriage. Acquire a smooth steady motion, using both hands on the carriage to guide it. Apply the same degree of pressure each time a key is duplicated. Excessive pressure may cause "over-cutting". It is sometimes best to practice on a few keys until the operator learns to impart a steady, uniform pressure to the carriage.

Replacing the Cutter - UNPLUG MACHINE BEFORE PROCEEDING

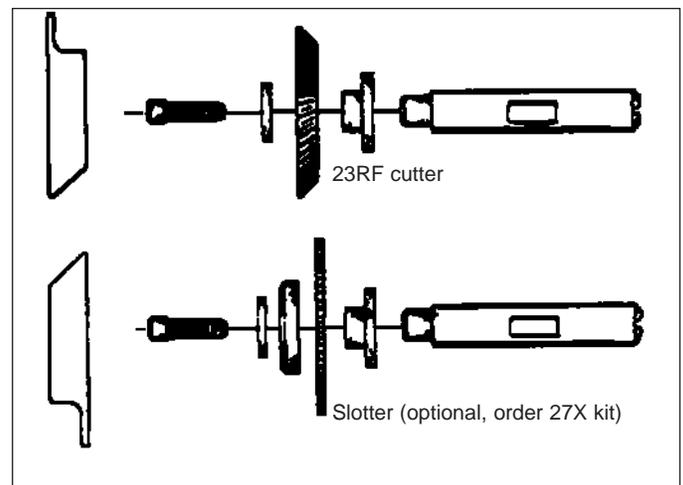
The 23RF cutter used on this machine is 2¼" in diameter, .250" thick (¼") and has a ½" hole. It's a milling cutter, made out of high speed steel. It has a flat left side, which is excellent for making deep cuts, when these cuts are next to the shoulder, such as on GM, Chicago, etc. No warranty is placed on the cutter, operators should treat it with care and avoid harsh usage. Do not force the carriage up, causing the key blank to bang into the cutter, and do not apply heavy pressure when cutting. Also, do not let the cutter run into the vise jaw; this will dull the cutter quickly.

As with any metal cutting instrument, the 23RF will dull with usage. There are three ways to tell when a cutter is dull and requires replacing:

1. Time - a dull cutter takes longer to make the cuts.
2. Sound - a dull cutter will emit a shrilly sound as it runs across the key blank.
3. Burrs - a dull cutter will not cut away the metal but will roll it away. When this occurs, there will be a buildup of metal burrs on the underside of the key. If this buildup is heavy, the cutter is dull. A sharp cutter leaves little or no burrs.

To replace the cutter:

1. Remove screw which holds hood in place and remove hood.
2. To remove the cutter, loosen cutter shaft screw using allen wrench supplied with machine. **IMPORTANT: This is a left hand screw.** Remove by turning in a clockwise direction. Screwdriver slot is provided on the opposite end of the shaft to aid in removal.
3. Remove old cutter and replace with new one. Be careful to replace washers properly. Diagram below shows placement of washers with standard 23RF cutter and optional slotter.

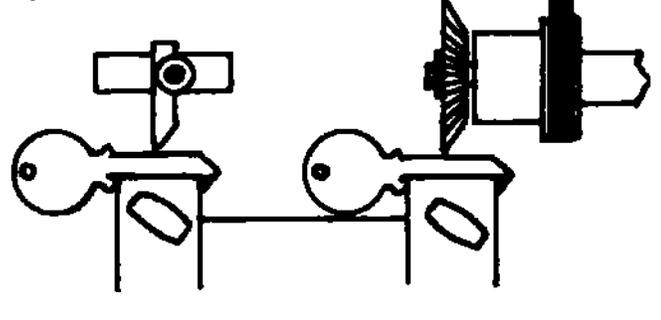


REPLACEMENTS AND ADJUSTMENTS

Adjusting for depth of cut

To ensure safety, UNPLUG machine from its power source before adjusting for depth of cut. It's imperative that the key guide and the cutter be in the same plane, that is, aligned to each other. If the cutter guide protrudes further than the cutter, the resulting cuts in a key blank will be too shallow and the duplicate key will not work. Likewise, if the cutter guide is behind the cutter, the cuts in the key will be too deep (see Fig. 6).

Figure 6



To check the depth adjustment, insert two identical key blanks into the vise jaws, setting them flat in each vise. It is not necessary to align the blanks. Then, raise the carriage, positioning the left blank against the cutter guide and the right blank against the cutter. Next, turn the machine pulley by hand and note the right key blank. The cutter should just barely graze the key blank when the adjustment is correct.

No cutter is perfectly round so make one complete rotation of the cutter before changing adjustment. There will be a high point on the cutter; the adjustment should be made to the high point. If the cutter does not touch the key blank after one rotation, proceed to change the adjustment.

To adjust cutter guide, loosen set screw on top of the guide. With a flat screwdriver, turn adjusting screw in (to increase depth of cut) and/or out (to decrease depth of cut). Again, proper adjustment is achieved when the cutter barely grazes the key blank.

Maintenance

1. The carriage spindle should be lubricated periodically by wiping lightly with an oily rag. The cutter shaft is lubricated by the oil impregnated bronze bearings. After extended use, these bearings should be lubricated with a light machine oil applied to their end to assure continued smooth operation.
2. Keep the model 008B clean. The cutter should be kept free of filings and dirt. A wire brush may be used for this purpose, being careful not to chip or dull the cutter. The motor should also be free of filings. Compressed air is recommended for cleaning the motor.
3. The machine should be picked up by the base, not the carriage ... as tempting as it seems. Alignment of the carriage is critical for accurate duplication of keys and this type of handling is not suggested.

Replacing the drive belt

UNPLUG MACHINE BEFORE PROCEEDING

1. Remove screw which holds hood in place and remove hood.
2. Using allen wrench supplied with machine, loosen both set screws located in cutter shaft pulley.
3. Slide cutter shaft to the left and remove cutter shaft pulley and belt.
4. Place new belt and pulley in position and slide the cutter shaft back to the right. Before tightening (2) set screws in cutter shaft pulley, make sure cutter and pulley are snug against bronze bearings in left supporting post. This insures minimum end play.

Replacing the Deburring Brush

UNPLUG MACHINE BEFORE PROCEEDING

1. Remove safety hood for easier access.
2. Grasp existing deburring brush (using a shop cloth will provide added grip).
3. Loosen and remove retaining bolt to release existing brush.
4. Install new brush and reinstall/retighten retaining bolt.

Cleaning

Your machine should be kept clean of all filings and dust. The most critical areas are the carriage jaws and shafts. A one inch paint brush is ideal to brush these areas of the machine. The shafts should be wiped periodically with a lightly oiled cloth. We suggest brushing the jaws often as even a single filing can alter the accuracy of the machine.