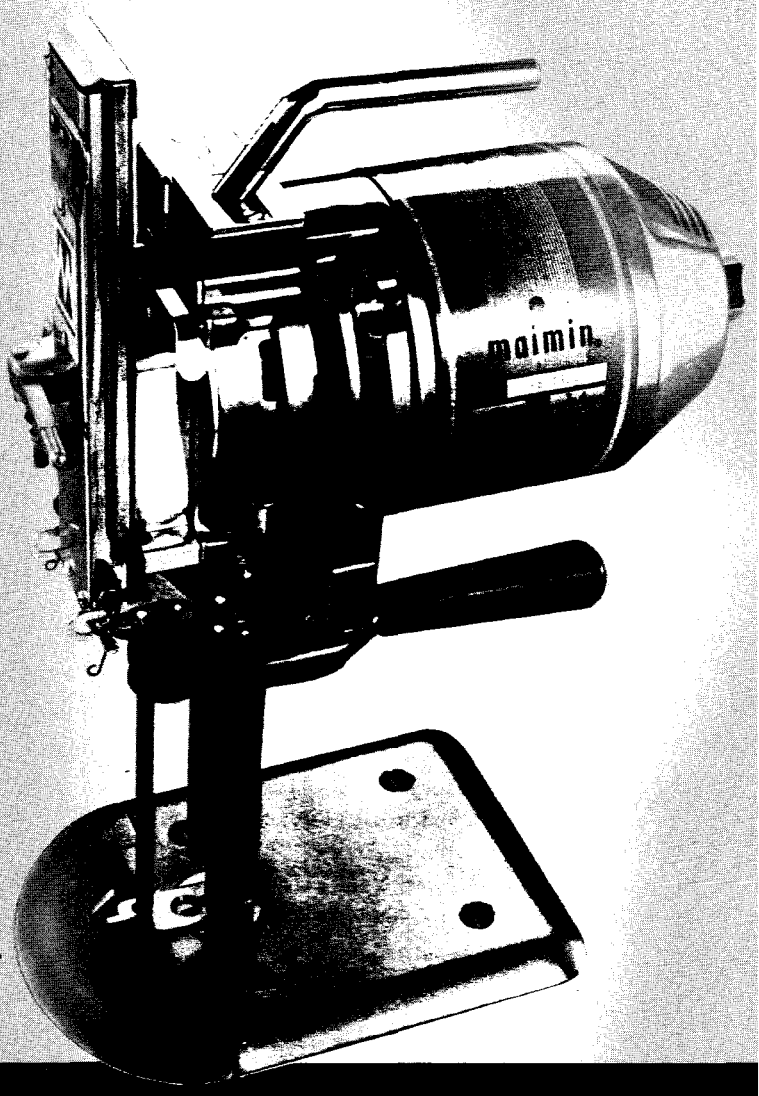
H. Maimin Co., Inc. 119 West 40th St., New York, N.Y. 10018 U.S.A. **BOOK NO. 22101**

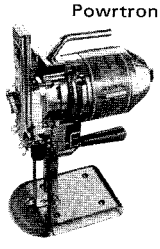
Maimin®

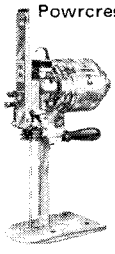
STRAIGHT KNIFE CUTTING MACHINE WITH (Two-Edge) STONE SHARPENER

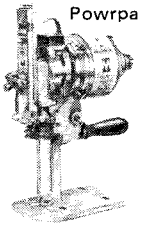


Model K

INSTRUCTIONS and PARTS LIST


Powrtron


Powrcrest II


Powrpak II

Edition 5

© 1980 H.M.C.

From the library of: Superior Sewing Machine & Supply LLC

SAFETY INSTRUCTIONS
for
Maimin Cutting Machines

1. **BE SURE MACHINE IS PROPERLY GROUNDED**
   The cutting machine should be grounded while in use to protect the operator from electrical shock. Surrounding the Terminal Pins is a Ground Shield which is designed to be used with a Maimin Grounded Connector (#458B, or #458A for 3 phase machine). See tag supplied with Connector for wiring instructions.

2. **USE CORRECT ELECTRICAL WIRING**

U.S.A. ONLY	1 phase: Use AWG 16/3 SJ, SJO, SJT	
	3 phase: Use AWG 16/4 SJ, SJO, SJT	
INTERNATIONAL	1P+N+⏚: Use 3x1,0	mm^2 CEE(2)61
	3P+⏚: Use 4x1,0	mm^2 CEE(2)61

3. **KEEP CUTTING AREA CLEAN**
   A cluttered table can cause accidents.

4. **AVOID DANGEROUS ENVIRONMENT**
   Do not use machine in a damp or wet location.
   The work area should be well lit.

5. **KEEP VISITORS AWAY**
   They should be kept at a safe distance from the cutting area.

6. **STORE MACHINE PROPERLY**
   When not in use, the machine should be stored in a dry location.

7. **MAINTAIN MACHINE WITH CARE**
   Keep machine clean and blade sharp for best and safest performance.
   Follow instructions for lubricating.

8. **ALWAYS DISCONNECT MACHINE:**
   – when not in use
   – before servicing
   – when changing blades

9. **REMOVE KNIFE KEY AND WRENCHES**
   The knife key and other wrenches must be removed from machine before starting motor.

10. **AVOID ACCIDENTAL STARTING**
    Disconnect electrical cord before carrying machine.
    Be sure switch is off before connecting cord.

11. **KEEP GUARDS IN PLACE AND IN WORKING ORDER**

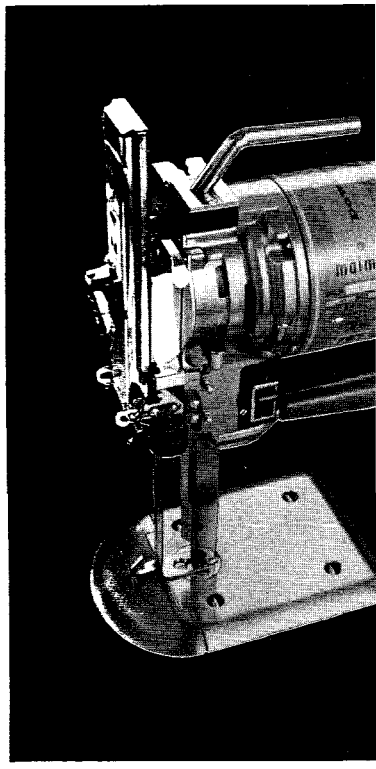
12. **KEEP HANDS AWAY FROM CUTTING BLADE**

From the library of: Superior Sewing Machine & Supply LLC

Contents

Instructions and Parts List

Maimin Model K



From the library of: Superior Sewing Machine & Supply LLC

SECTION I

DESCRIPTION

1-1. GENERAL

Your new Maimin "POWR" straight knife machine is delivered ready for operation. It is merely necessary to connect it to an electrical outlet of the correct voltage, oil it, and then begin cutting. The straight knife machine can be used for cutting various types of materials from a few ply to the full height of the standard. However, for best results, it is recommended that the minimum height of the lay be no lower than the bottom of the cutting blade at its highest position. On the left side of the sharpener you will note a lever - the Edge Control Arm (Key No. K136B)* - which permits sharpening of either a rough or a smooth edge on the blade for cutting different types of materials. The presserfoot leg (Key No. K10) acts as a protective guard for the operator so that it should be down at all times. The presserfoot should lie lightly on top of the lay when cutting in order to prevent the material from vibrating.

1-2. SHARPENING STONES AVAILABLE

There are three different grits of sharpening stones (Key No. K15) available for use in this machine:

#60 grit - coarse.
Recommended for hard and coarse materials. Can be used on ZZT and ST blades.

#100 grit - fine.
Recommended for fine woolens, synthetics and cotton. Can be used on all blades.

#150 grit - very fine.
Recommended for sheer fabrics and very soft materials. Can be used on BT and ZZT blades.

1-3. BLADES AVAILABLE

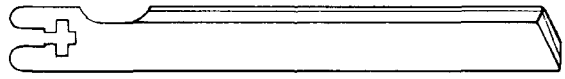
The cutting blades (K234) come in three grades, and also in several different shapes for cutting unusual or difficult materials. The three grades available are:

BK - Carbon Alloy Steel.
A good quality steel but less durable than the ZZT blade.

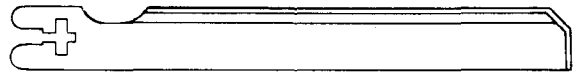
ZK - High Speed Steel.
Most popular blade available as it wears well, retaining its cutting edge for a long time.

TK - Treated high speed steel.
Used only for special materials such as fiberglass and heavy canvas that dull the cutting edge very quickly. Retains cutting edge very well but is very expensive.

The various shaped blades are illustrated and their uses are described:

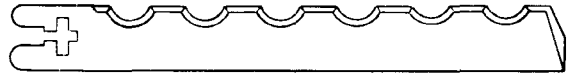


Regular Blade (K) - Recommended for general purpose cutting. Available in BK and ZK grades.

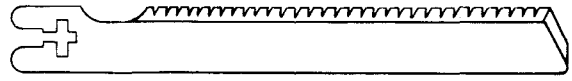


Long Blade (K) - 1/8" longer and with different shaped bottom corner than regular blades, it is used for loosely woven or very hard materials. For terry cloth, quilting, denim. ZK and TK grades only. Also available with Teflon Coating in 6", 8", 9" sizes to reduce fusing of synthetic materials.

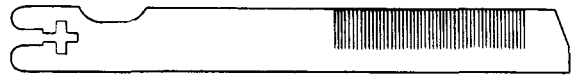
Slotted Blade (K) - For synthetic leather, supported fabrics, rubber-backed fabrics, and certain types of plastics. ZK grade only.



Wave Blade - Popularly used for plastics. Also taffeta and buckram. BK and ZK grade available.



Saw Blade (K) - Used for rubberized fabrics, canvas, crinoline, BK only.



Serrated Blade (K) - For fabrics with designs adhering to surface. BK only.

*See Plates 1, 2, and 3 for key number identification.

From the library of: Superior Sewing Machine & Supply LLC

SECTION II

OPERATION

2-1. TO START

(a) Oil crosshead (K241) at oil cup (K258)

(b) Plug in connector to terminal pins (K246).

(c) Flip switch (K259) to "on" position.

2-2. TO CUT

(a) Raise presserfoot to height of lay by pressing down on presserfoot trigger (K162) and lifting presserfoot lift (K7).

(b) When entering lay, lower presserfoot until it rides on top of lay. Then release presserfoot trigger.

(c) When making turns, it is sometimes advisable to let the presserfoot ride freely on top of lay by pressing down presserfoot trigger.

(d) When the machine is not in use, lower the presserfoot to the baseplate. The presserfoot leg acts as a safety guard for the knife.

2-3. TO SHARPEN BLADE

(a) Remove machine from lay and make sure presserfoot is down on the baseplate.

(b) With motor running, pull sharpener trigger (K110) outwards and release it. Sharpener will automatically sharpen the entire blade. Repeat if necessary.

(c) The sharpening cycle will have to be repeated a number of times to sharpen the initial edge on a new blade. Thereafter, it will only be necessary to sharpen once or twice to renew the edge.

(d) Note: Do NOT press the presserfoot trigger when sharpening as this will loosen presserfoot leg which guides the sharpener.

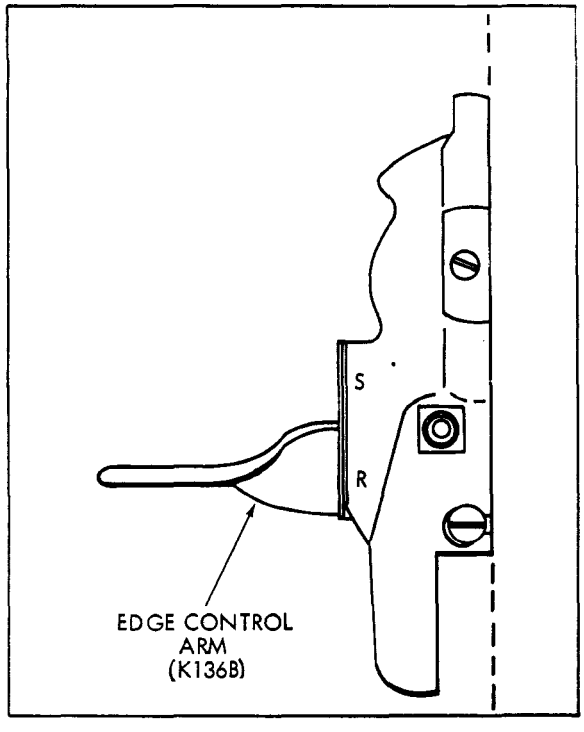
2-4. TO SHIFT EDGE CONTROL ARM

(a) Edge control arm (K136B) protrudes from the left side of sharpener.

(b) With sharpener not operating, simply move the arm upwards or downwards. It will snap into position.

(c) In the "UP" position (marked S), the sharpener will put a smoother edge on the blade. In the "DOWN" position (marked R), the sharpener will put a rougher edge on the blade.

(d) The rougher edge is used for hard or coarse materials and also for cutting through the body of the lay. The smoother edge is for finer or bulky materials and for trimming.



SECTION III

CARE AND MAINTENANCE

3-1. MAINTENANCE SCHEDULE

Daily: Before starting motor, fill the oil cup (K258) to the crosshead two times daily for the first month...then once a day thereafter.

From the library of: Superior Sewing Machine & Supply LLC

Weekly: Clean stones (K15)
Clean sharpener
Clean inserts (K253)
Oil gears under carrier block (K43)

Monthly: Clean motor

Every six months: Check carbon brushes (K218), Clean commutator on armature (K226), Adjust crosshead and gibbs (K243) and Clean rollers (K227)

3-2. TO OIL

Oil the machine daily as noted above. Be sure to use either Maimin oil or a good grade of "30 weight" oil. Do not use sewing machine oil or any other light oil as they are not designed to give the lubrication needed for the cutting machine. All new machines have grease-sealed ball bearings which require no lubrication.

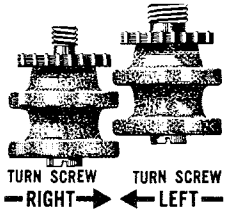
3-3. TO CLEAN STONES

After repeated use, the sharpening stones become coated with oil and dirt and do not sharpen the blade effectively. To remove this coating, spray Maimin Stone Cleaner directly onto the stone rims. Or put a little cleaning fluid on a toothbrush, and scrub the stone rims. Because some of the cleaning fluid may get on the gears near the stones, put a few drops of oil on the gears under the Carrier Block (K43) afterwards.

3-4. TO CHANGE STONES

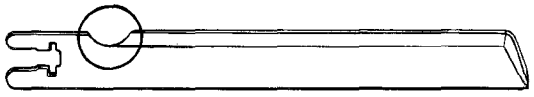
To remove the stones, use a screwdriver in the slotted screw head underneath the stones and turn in the direction as shown below. Note that the stone screws unloosen by turning in opposite directions. To put on new stones, tighten by turning the stone screws in reverse direction of that shown in the diagram.

TO REMOVE STONES

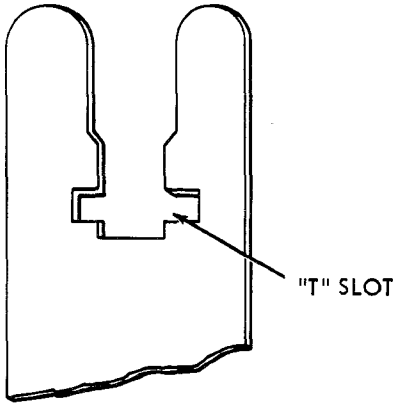


3-5. TO CHANGE BLADE

The blades used in your model "K" machine must have the "cut-out" in the blade as illustrated in the diagram below, or the stones will be damaged and the blade will not be sharpened properly.



To remove the blade, lower the blade to its bottom position by turning fibre knob (K220) and raise the presserfoot leg (K10). Unlock the knife bolt and nut (K239) with the knife key. Slide blade out, and clean inserts. Slide the new blade up through the inserts until its "T"-shaped shoulder is firmly against the knife locking bolt. Hold the lower part of the blade up and against the back of the inserts. Lock the knife securely. Always use genuine Maimin blades with the patented "T" slot.



Always tighten the knife locking bolt and nut before running the machine to prevent damage to the crosshead and gibbs. Before installing a new blade, the bottom edge should be sharpened on an oil stone to prevent ravelling and to insure a clean cut on loosely woven fabrics. For very soft or very hard materials, it is also recommended that the bottom front corner of the blade be rounded slightly.

3-6. TO CLEAN INSERTS

The inserts (K253) which guide the knife in the standard must be cleaned occasionally and whenever the knife is changed. Otherwise dirt collected in the inserts can cause the knife to cock and not sharpen properly. Clean the inserts by sliding the saw-tooth slot cleaner (or bottom back corner of the blade) up and down the back of the inserts.

From the library of: Superior Sewing Machine & Supply LLC

3-7. TO CLEAN THE COMMUTATOR -
(Single Phase Motor Only except Powrtron)

The copper commutator on the armature (K226) develops a black carbon ring after considerable use. This carbon ring prevents proper contact between the carbon brushes (K218) and the copper commutator which causes arcing and prevents the motor from reaching full speed quickly. While the motor is running, touch a piece of the commutator chalk or fine emery cloth lightly against the copper commutator to clean off this black carbon ring.

3-8. TO CLEAN THE SHARPENER

Run the sharpener to its lowest position, turn off the motor, and blow out the lint and dust with compressed air. Check the gears to see that no dirt or bits of cloth are packed in the teeth. Put one drop of oil on each of the gears underneath the carrier block (K43) and the gears attached to the frame (K105) to insure smooth running.

3-9. TO CLEAN MOTOR

Over a period of time, dust and lint will build up inside the motor and prevent proper cooling. With the motor running, point a stream of compressed air into the back of the motor and then into the side of the front housing by the fan to eject the dust and lint.

3-10. TO CLEAN ROLLERS

If the rollers (K227) in the baseplate (K255) do not roll freely, blow out the dust or dirt in the rollers. Do not oil as it will collect dirt, causing the rollers to bind. Use a powdered graphite for lubrication if necessary.

SECTION IV

TROUBLE SHOOTING GUIDE

4-1. SHARPENER TROUBLE SHOOTING

1. Blade Edge Not Sharp -

a. Check for a worn out blade.

b. Check the stones for excessive wear or dirtiness. (Par. 3-3)

c. Check for weak or broken guide springs. (Par. 5-1a)

d. Check for misalignment of the standard and presserfoot leg. (Par. 5-1d)

e. Check the pulley for excessive wear or oiliness. (Par. 5-1e)

2. Bevel Too Wide -

a. Presserfoot leg set too close to the standard. (Par. 5-1d)

b. Standard set too far forward. (Par. 5-2c)

c. Check for excessive stiffness of the guide springs. (Par. 5-1a)

d. Stones out-of-shape because of not using "cut-out" blades. (Par. 3-5)

3. Bevel Too Narrow -

a. Trouble shoot under #1, above.

b. Standard set too far back. (Par. 5-2c)

4. One Side of Blade Not Sharpening -

a. Check for a weak or broken guide spring. (Par. 5-1a)

b. Check for worn inserts. (Par. 5-2d)

5. Uneven Blade Wear -

a. Check the pulley for excessive wear or oiliness. (Par. 5-1e)

b. Presserfoot leg loose when sharpener operating. Do not press presserfoot trigger when sharpening

c. Check that presserfoot leg is straight.

6. Blade Sharpening at an Angle -

a. Check for dirt in the inserts. (Par. 3-6)

b. Make certain that the blade is tight against the back of the inserts. (Par. 3-5)

c. Check for misalignment of the presserfoot leg and the standard. (Par. 5-1d)

d. Check for loose crosshead and gibbs. (Par. 5-2b)

7. Bottom of the Blade Chewed Out -

a. Check for a stone loose on its bushing.

From the library of: Superior Sewing Machine & Supply LLC

b. Stone rims uneven from not using "cut-out" blade. (Par. 3-5)

8. Sharpener Overrunning -

a. Check for a weak or broken pulley brake. (Par. 5-1c)

b. Check for too low a setting of the trigger stop screw (K21).

9. Sharpener Not Running Smoothly -

a. Check Molded Pulley for excessive oil or wear (Par. 5-1e)

b. Oil Gears under Carrier Block (K43) and gears on Upper Gear Block (K170A)

10. Sharpener Traverses But the Stones Fail to Rotate -

a. Check that gear shift is engaged properly. (Par. 5-1b)

b. Check for broken teeth on 842 and 887 gears. (Par. 5-1j)

11. Sharpener Fails to Operate -

a. Make certain that the presserfoot leg is all the way down. (Par. 2-3)

b. Check the Molded Pulley for excessive oil or wear (Par. 5-1e).

c. Check for cloth jammed in the gears.

d. Check for stripped 829 or 830 gear (K150, K147).

12. Presserfoot Leg Slipping -

a. Check for a weak or broken presserfoot trigger spring. (Par. 5-1h)

b. Check front plate for worn V Block. (Par. 5-1j)

c. Check that thick section of cam shoe is against presserfoot leg. (Par. 5-1k)

13. Presserfoot Leg Fails to Operate -

a. If the sharpener is not all the way up -

(1) The motor is stopping before the sharpening cycle is completed.

(2) The pulley brake and/or trigger stop screw is set too high.

(3) Oil on pulley causes slipping. (Par. 5-1e)

b. If the safety lock screw is interfering -

(1) Reset safety lock screw (K115).

14. Latch Slipping From Chain Roller

a. Check for a worn latch (K3) and/or latch spring (K2).

b. Check for a worn chain roller (K106).

15. Sharpener Screeching -

a. Make certain that the edge control arm is engaged. (Par. 2-4)

b. Oil gears under carrier Block (K43) and on upper gear block (K170A).

16. Material Ravelling Beneath Stroke of Blade -

a. Make certain that the bottom of the blade was sharpened prior to inserting into the machine and that the bottom front corner of the blade was rounded. (Par. 3-5)

4-2. MACHINE TROUBLE SHOOTING

1. Bottom Corner of Blade Breaks -

a. Inserts badly worn - change. (Par. 5-2d)

b. Need wide slot throat plate for cutting hard materials.

c. Latch slipped off chain roller. (Par. 4-1 [14])

2. Motor Slow in Reaching Full Speed -

a. Check that proper voltage is being delivered in line.

b. Single phase (except Powrtron):

(1) Brushes worn. (Par. 5-2a)

(2) Commutator dirty. (Par. 3-7)

c. Three phase:

(1) Fuse on one line probably out.

(2) Ground wire incorrectly connected to machine.

3. Motor Binds at One Spot -

a. Check freeness of crosshead and gibbs. (Par. 5-2b)

From the library of: Superior Sewing Machine & Supply LLC

b. Check alignment of standard with blade in crosshead. (Par. 5-2c)

c. Check for bent standard.

4. Motor Becomes Hot -

a. Clean commutator. (Par. 3-7)

b. Check brushes. (Par. 5-2a)

c. Clean lint and dust out of motor. (Par. 3-9)

d. Three phase:

(1) One electric line not working.

e. Single phase:

(1) Back housing incorrectly aligned with field. (Par. 5-2h)

5. Motor Rotates Wrong Way -

a. Single phase:

(1) Back housing incorrectly aligned with field. (Par. 5-2h)

b. Three phase:

(1) Change any two wires in terminal block or connector.

6. Motor Does Not Start -

a. Check that connector is firmly attached to terminal pins. (Par. 2-1)

b. Check for burned-out switch (K259).

c. Check for broken shunt wire (K223).

7. Terminal Block and or Connector Becomes Very Hot -

a. Inserts in connector worn - change connector.

b. Terminal pins (K248) worn - change pins.

8. Machine Does Not Roll Freely on Table -

a. Clean rollers in roller carriers. (Par. 3-10)

b. Check condition of surface of cutting table.

SECTION V

ADJUSTMENTS AND REPAIRS

5-1. SHARPENER

(a) Guide Spring Adjustment - The pressure of each stone against the blade should be approximately equal to produce the same width bevel on each side of the blade. To change the bevel width, change the guide spring pressure: first release the spring (K17) from the hook in the guide for stone carrier (K13). Then unscrew the stud (K16) for spring until the short end of the guide spring can be pulled out of the hole in the slide (K22). To increase spring pressure, put that short end of the spring in the next hole above, and tighten the stud. Engage the spring in the guide.

There are two holes for each guide spring drilled into the slide. If the spring is already in the top hole and requires increased pressure, it is necessary to replace the guide spring. Put the short end of the new guide spring in the lowest hole.

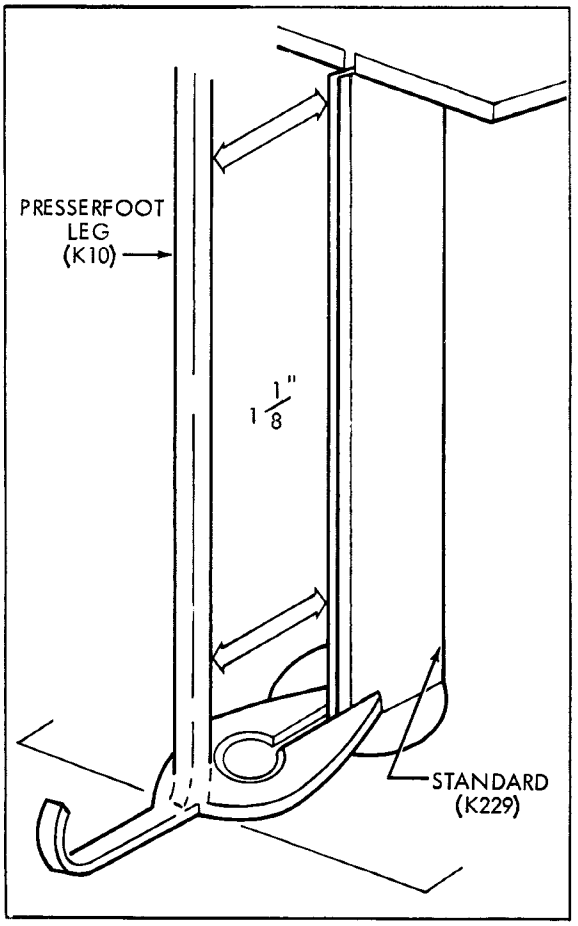
(b) Edge Control Arm Adjustment - If the edge control arm (K136B) slides out of position when the sharpener is operating, then it is necessary to increase the spring pressure on the arm lock pin (K152B). To do this, turn the arm lock set screw (K152D) one full turn or until the edge control arm will not slide out of engagement when the sharpener is running.

(c) Pulley Brake Adjustment - If the sharpener starts by itself or fails to stop running, the fault is generally the Pulley Brake (K245). Remove the Pulley Cover (K207), insert a screwdriver under the Brake (at a point one-third the distance from the lower tip) and across the sides of the Pulley Cover. Bend the bottom portion of the Brake downwards, and remove the screwdriver. The Brake should then be curved so that its bottom tip touches the Pulley Cover.

From the library of: Superior Sewing Machine & Supply LLC

Fasten the Pulley Cover to the Front Housing again. If the Pulley (K122A) still turns when the machine is operating, the curve in the Brake must be increased by repeating the method above. If the sharpener stops too far below the top of its traverse, the curve in the Brake must be reduced by removing the Pulley Cover and depressing the Brake with a finger.

(d) Presserfoot Leg Adjustment - To obtain the proper uniform bevel on the blade, it is necessary that the presserfoot leg (K10) be at the right distance from the standard (K229). With the presserfoot leg all the way down, the distance from the back of the leg to the standard should be equal at both the top of the standard and at the bottom of the standard. For the model "K" machine, this distance should be approximately 1-1/8"(29 mm). See illustration below:



If the presserfoot leg is too far in at the bottom, then the stones will sharpen behind the blade edge on the lower part of the blade. This condition can be corrected by pulling the presserfoot leg out slightly and squeezing the presserfoot toes together with pliers. This will cause the presserfoot leg to set further out at the bottom.

If the presserfoot leg is too far out at the bottom, the blade will have a tendency to hook out. To correct this, lightly tap the curved front of the presserfoot with a mallet. This will cause the presserfoot toes to spread slightly and permit the presserfoot leg to move in closer to the standard.

(e) Pulley Replacement - Occasionally oil gets on the Crank (K206) and the Molded Pulley (K122A) causing the Pulley to slip and the sharpener to operate improperly. With a cloth wipe the oil from the Pulley and the side of the Crank while turning the motor by the Knob (K220).

To change a worn Molded Pulley (K122A). Remove sharpener from machine. Insert rod into hole in front of Pulley Shaft (K117A), and unscrew Pulley Nut (K120). Slide Molded Pulley off shaft, replace with new one, and lock tightly with Pulley Nut. Fasten sharpener onto machine, and replace Pulley Cover.

(f) Stone Carrier Adjustment - After considerable use, the stone carriers (K33, 35) may wear so that there will be vertical movement of the stone carriers on the carrier tube (K32). This play could permit the stones to drop too low on the blade and cause cutting-in of the bottom of the blade. To remove the vertical play of the stone carriers, first remove the guide springs (K17,19) and sharpening stones (K15). Then loosen the carrier tube lock screw (K30), and turn the carrier tube clockwise 1/4 turn. Check that the play has been removed but that both stone carriers still move freely. When the adjustment is correct, tighten the carrier tube lock screw tightly.

(g) Sharpener Removal - To remove the sharpener in preparation for disassembly, remove the Presserfoot Lift (K7) by unscrewing the two Presserfoot Lift Screws (K9). Pull the Latch (K3) forward to clear the Chain Roller (K106), and simultaneously pull the Slide (K22) half way down the Frame (K105). Then remove the Pulley Cover (K207) and the four Sharpener Screws (K101, K153, K123), noting that these four screws are of different lengths and must be replaced in the proper locations when the sharpener is attached to the machine again. Pull the sharpener away from the Front Housing (K213).

From the library of: Superior Sewing Machine & Supply LLC

(h) Sharpener Disassembly - Remove the Presserfoot Leg (K10) by pressing down on the Presserfoot Trigger (K162) and pulling the leg out through the bottom of the sharpener. Remove the Bearing Block (K5) by unscrewing its two screws (K4). Then pull the Slide (K22) from the Frame (K105). Do not lose the Presserfoot Cam Shoe (K169).

(i) Slide Disassembly - Unhook both guide springs (K17,19) from the stone carrier guides (K13,23). Unscrew the two spring studs (K16) and the two carrier block screws (K18). The slide will then come off the carrier block (K43).

The stone carrier guide can be removed by unscrewing the two slide guide screws (K14). The slide guide (K45) consists of two parts (snapped together) and can be pried apart.

The M Transfer Gear (K50) and the M Reverse Gear (K48) will slip off their shafts after removing the Retaining Rings (K46). The Long Gear Shaft (K47) and the Short Gear Shaft (K49) will come out of the Carrier Block by unscrewing the two Lock Screws (K38A).

To remove the stone carriers (K33,35), open and pull off the carrier tube snap ring (K37). The stone carriers will then slide off the tube. Take off the snap ring (K36) to remove the lower stone carrier gear (K34). Do not lose the tube washers (K32A).

(j) Frame Disassembly - Remove presserfoot cam shoe (K169). Remove the front plate (K163) by unscrewing the two spacer rod screws and the two front plate screws (K167). Remove the presserfoot trigger spring (K161) by lifting up on the presserfoot trigger. Take off the side cover (K130) by removing the holding screw (K129).

The 16-tooth bevel gear (K135) can be removed by unscrewing the stud for bevel gear bushing (K171) then lifting out the bushing (K134) and gear. The pulley support spring (K159) can be removed by pushing up on the pulley bracket (K114) and prying the spring out of the socket in the pulley bracket with a screwdriver. The upper gear block (K170A) can be removed from the frame by unscrewing the two screws (K102 & K144). The frame can then be lifted from the upper gear block.

(k) Sharpener Assembly - Insert the assembled slide into the assembled frame making sure that the square shaft (K6) fits into the bevel gear (K135). Place the cam shoe (K169) on the cam (K131). The heavier section of the cam shoe should be against the presserfoot leg. Slide the presserfoot leg up into the slide and the frame, holding down on the presserfoot trigger to permit the leg to move up past the cam. Replace the bearing block top (K5) onto the square shaft with the wider section of the bearing block top facing the chain. Attach the sharpener to the front housing with the four screws. Tighten the screws evenly and in a clockwise direction. Run the sharpener until the chain roller (K106) engages the latch. Run the sharpener before replacing the pulley cover to make sure that the sharpener is operating properly.

IMPORTANT - If the stones are on the sharpener, be sure that there is a knife in the machine.

Replace the presserfoot lift on the presserfoot leg. Replace the pulley cover. Run the sharpener again to make sure that the pulley brake is properly adjusted.

5-2. MACHINE

(a) To Change Carbon Brushes (single phase machines except Powrtron) - If the motor starts slowly, probably the carbon brushes (K218) are worn out or the commutator is dirty (See paragraph 3-7). To change the carbon brushes, unscrew the two cap screws (K217), pull out the old brushes, and replace with new ones.

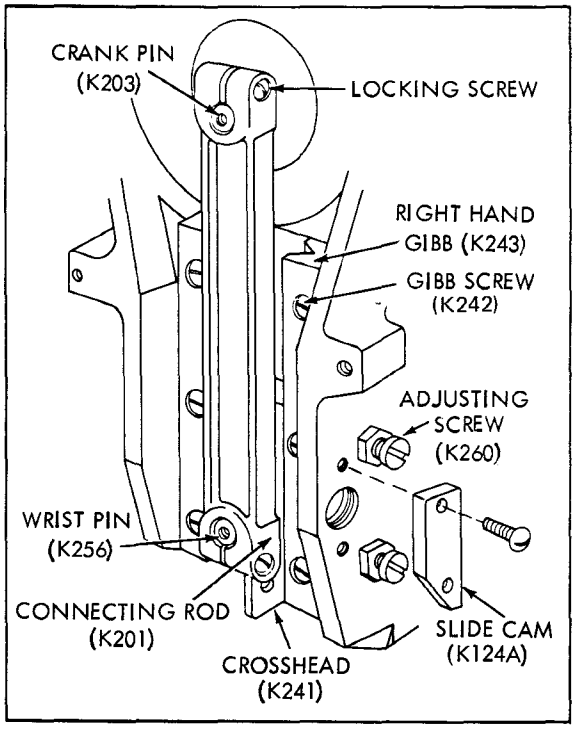
(b) To Adjust the Crosshead and Gibbs - After six months use, readjust the crosshead (K241) and gibbs (K243) to insure quieter and smoother operation. First remove the sharpener and blade from the machine and then the slide cam (K124A) on the right side of the front housing. Be sure to retighten knife locking bolt ing bolt and nut (K239).

Loosen both locking screws on the connecting rod (K201). Insert a #6-32 screw (you can use a Slide Cam Screw K124B) into wrist pin (K256) and draw wrist pin forward to prevent end play. Tighten the lower connecting rod locking screw, rotate the motor by hand a few times to seat the connecting rod properly on the crank pin (K203) and tighten the upper locking screw.

Loosen slightly the three screws on the right hand gibb (K243) on the same side of the housing as the two adjusting screws (K260). Then loosen the adjusting screw nuts and turn both upper and lower adjusting screws just enough to allow the crosshead to slide up and down without side play.

From the library of: Superior Sewing Machine & Supply LLC

Lock the adjusting screws by tightening the nuts. Tighten the three gibb screws. Turn the motor over several times by hand to be sure that the crosshead still moves freely. If any binding occurs, reset connecting rod. If bind remains, readjust gibbs. Then oil, and turn on the power before replacing the sharpener to make sure the motor is running properly.

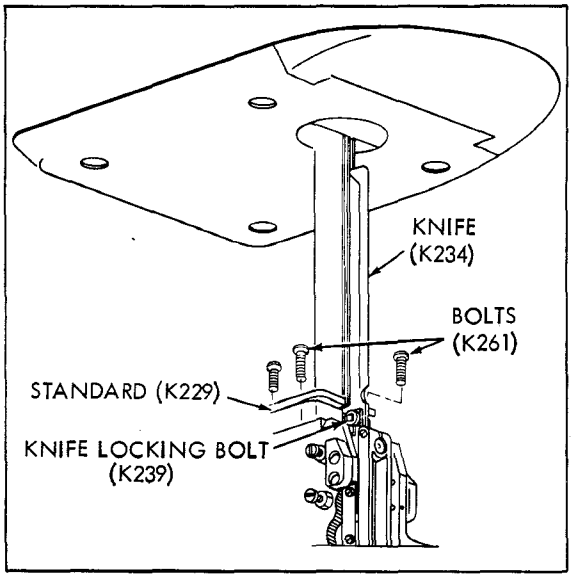


(c) To Set the Position of the Standard - It is sometimes necessary to change the position of the standard (K229) because of the readjustment of the crosshead and gibbs, replacement of inserts, or to change the width of the bevel on the blade. With the sharpener removed, turn the machine upside down and do the following:

Loosen the three bolts (K261) connecting the standard to the housing (K213) so that the standard is free to slide. Then loosen the knife locking nut (K239) and slide a knife (K234) into the standard and into the knife locking bolt Move the standard forward to the point where the back of the "T" slot in the knife will press against the knife bolt, causing the knife to cock. Then back off a slight amount so that the knife has about 1/16" (2mm) play in the knife lock, and lock the knife in this position. With the knife locked, keep the standard pressed firmly against back of knife. This will determine the forward position of the standard.

Rotate the motor with the fibre knob (K220) and slowly turn the standard from side to side until the knife determines the freest position. Finger tighten the connecting bolts, and check again to make sure that the knife will move freely in the standard.

Holding the standard firmly to the housing to prevent shifting, tighten the connecting bolts to lock the standard into place. Turn the motor over by hand again. If there is any binding when the blade is in the machine and none when it is out, the standard is not properly set and the above procedure must be repeated.



(d) To Replace the Inserts - When the inserts (K253) are worn so badly that the knife slaps between them, they must be replaced.

Remove the two or three screws (K254) on the right side of the standard and slide the old inserts down and out through the bottom of the standard. Clean out the slot in the standard, install the new inserts, and replace the screws.

With fine emery cloth or oil stone rub both ends of each screw in the standard to eliminate any burrs on the side of the standard which might interfere with cutting.

(e) To Remove the Crank - It is necessary to remove the crank (K206) from the armature (K226) in order to change the bearings or to disassemble the motor. First remove the sharpener from the machine to expose the crank.

Single Phase Machine - Have someone hold the fibre knob (K220), insert the knife key handle into the hole in the face of the crank. Tap against the knife key in the direction shown by the arrow on the crank until the crank loos-

From the library of: Superior Sewing Machine & Supply LLC

ens on the armature. The crank has a left-hand thread and must be turned clockwise to be removed from the armature.

3 Phase Machine - The crank is secured by a stud locked against the armature shaft. The stud is held in position by a 1/4-20 set screw. Insert a 1/8" Hex Key into set screw located in front of crank, and loosen screw. Remove crank as described above.

(f) To Replace the Motor Bearings - The motor bearings must be changed if the motor operates noisily without the crosshead and gibbs.

Back motor bearing (K219) - It is necessary first to remove the back housing (K222) and then push the bearing out. Replace the back housing and tighten the motor bolts (K224). Then put in the new back bearing. When installing a new bearing, place the old bearing behind it while tapping it into the back housing. Rotate the old bearing when tapping so that the pressure will be evenly distributed. In this way, neither the inner nor the outer race of the new bearing will be harmed.

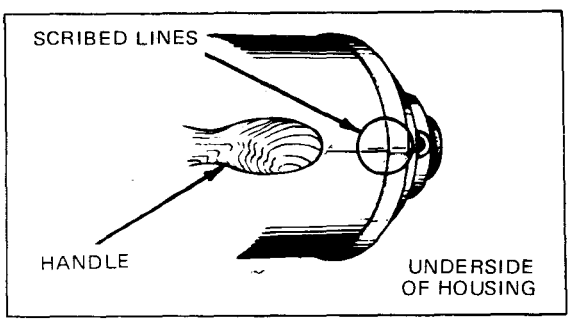
Front motor bearing (K246) - Remove the armature (K226) after removing the crank and back housing. Unscrew the bearing lock (K244) and then (from the armature side) push the bearing forward and out. Install the new bearing as described in the previous paragraph.

(g) To Replace Crank Pin Bearing - The crank pin bearing (K204) must be changed when the crank pin (K203) is loose in the bearing or when the crank pin does not turn smoothly in the bearing. Remove the bearing lock (K202) on the face of the crank, remove the screw in the back of the crank, and tap the bearing out from the back.

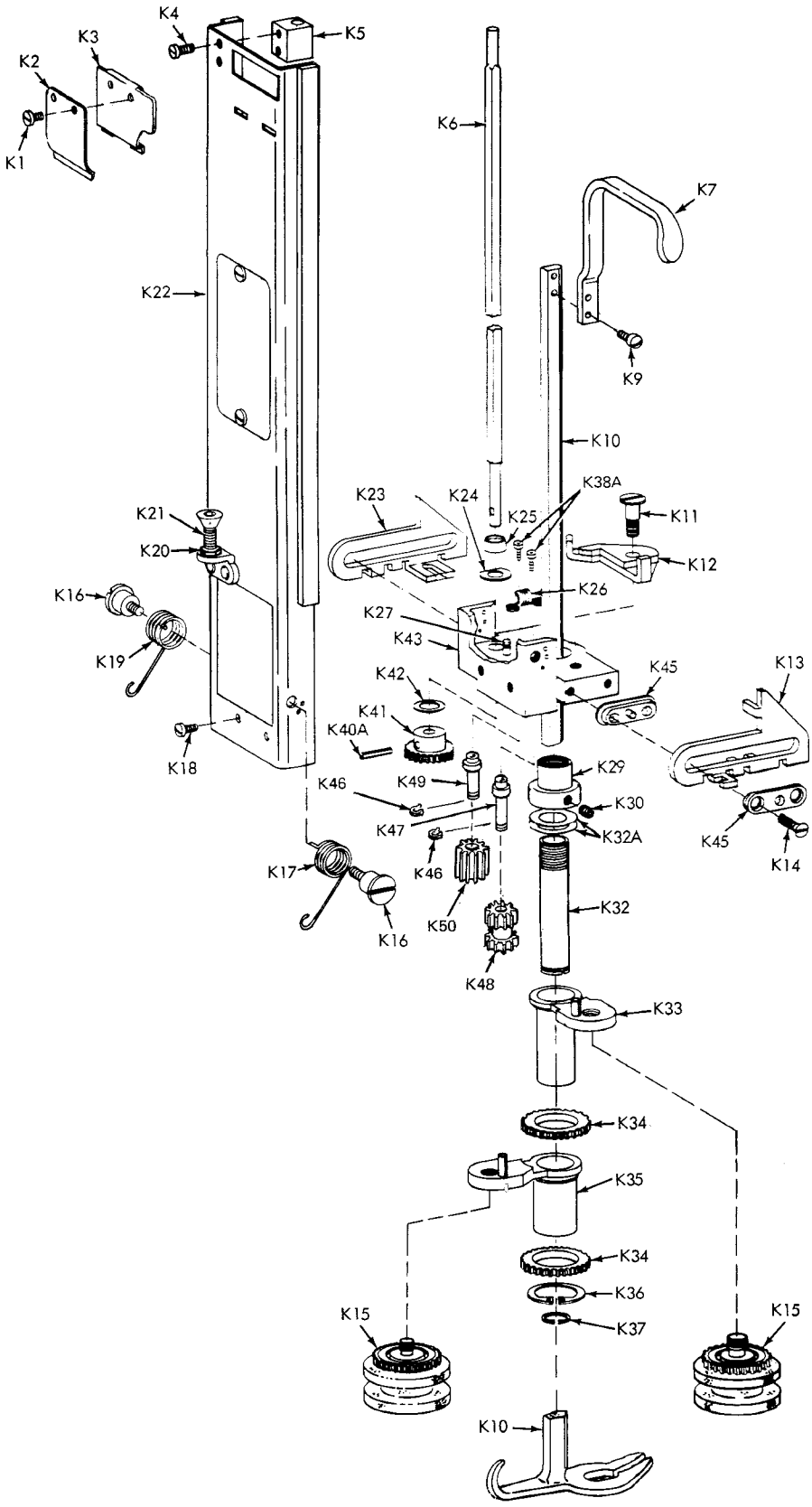
(h) To Reassemble Motor - (Single phase Powrcrest II only) It is extremely important that the stator (K216) and the back housing (K222) be replaced in proper position on the front housing or the motor itself will not function properly.

The stator should be replaced on the front housing so that the model name or "M" insignia on both sides of the nameplate are in the same horizontal plane

The Back Housing has a line scribed on the underside which matches a line scribed on the underside of the Stator. These two lines must be in line with one another when the Back Housing is replaced onto the Stator. See illustration below.



From the library of: Superior Sewing Machine & Supply LLC



ORDER BY PART NUMBER - NOT KEY NUMBER

From the library of: Superior Sewing Machine & Supply LLC

PARTS LIST 1

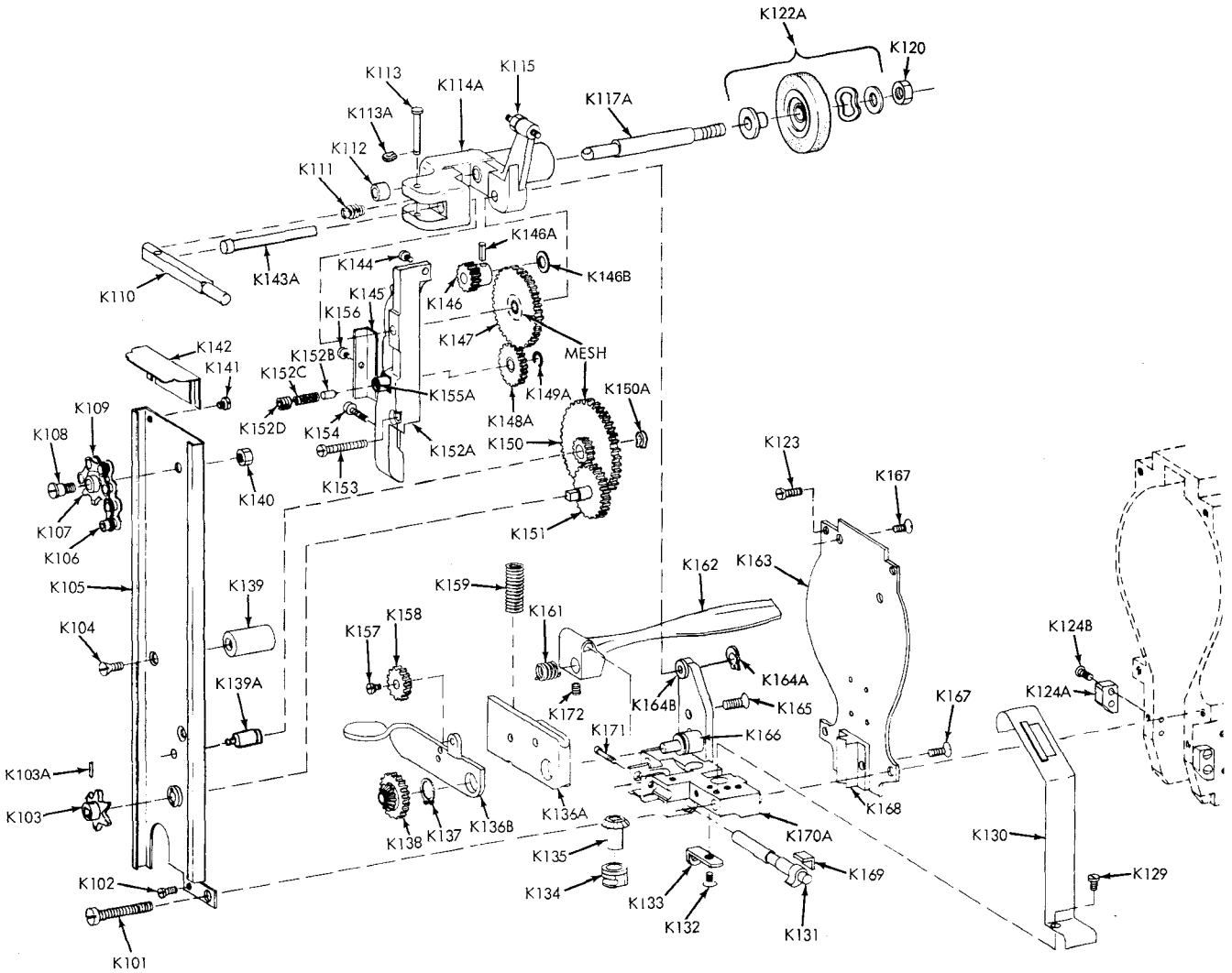
KEY	PART NO.	DESCRIPTION
K1	802S	Latch Spring Screw
K2	802	Latch Spring
K3	801	Latch
K4	822S	Screw For Bearing Block Top
K5	811	Bearing Block Top
K6	1229	K Square Shaft (give size)
K7	824	Presserfoot Lift
K9	824U	Screw For K Presserfoot Lift
K10	1171	K Presserfoot Leg (give size)
K11	1269	Pivot Screw For 1266
K12	1266	Presserfoot Leg Guide
K13	1291	Guide For Stone Carrier, Right
K14	1328	Screw For Slide Guide
K15	1300	#60 K Stones w/Bushing, Pair
	1301	#100 K Stones w/Bushing, Pair
	1302	#150 K Stones w/Bushing, Pair
K16	1296	Stud For Spring
K17	1294	Spring, Right, For Guide 1291
K18	822S	Screw For Carrier Block
K19	1295	Spring, Left, For Guide 1290
K20	803N	Trigger Stop Nut
K21	803	Screw For Trigger Stop
K22	1200	K Slide (give size and stroke)
K23	1290	Guide For Stone Carrier, Left

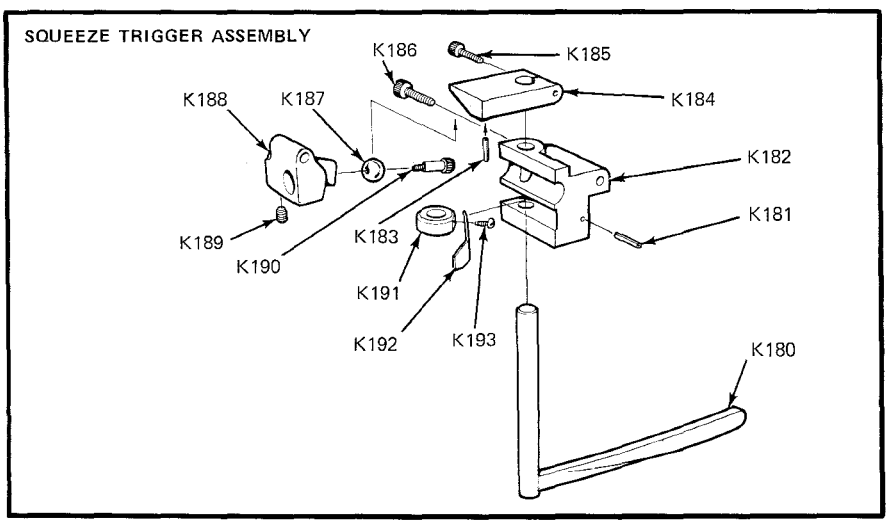
KEY	PART NO.	DESCRIPTION
K24	1245	Collar Washer, K Square Shaft
K25	813	Square Shaft Collar
K26	1265	Spring For Presserfoot Leg Guide
K27	1262	Pin for 1265
K29	1254	Carrier Tube Bushing
K30	1255	Lock Screw, Carrier Tube
K32	1258	Carrier Tube
K32A	1259	Washer For Tube
K33	1275	K Stone Carrier, Right
K34	1285	Gear, Stone Carrier, 32 T
K35	1276	K Stone Carrier, Left
K36	1261	Snap Ring For 1276
K37	1277	Snap Ring For 1258
K38A	824T	Screw to lock stud 1468 & 1469
K40A	805P	Roll pin for 1280
K41	1280	K Square Shaft Gear
K42	1279	Washer For Square Shaft Gear
K43	1475	Carrier Block w. 1254 and 1255
K45	1329	Slide Guide Pin
K46	1464	Retaining Ring
K47	1469	Gear Shaft, Long
K48	1465	W Reverse Gear
K49	1468	Gear Shaft, Short
K50	1466	W Transfer Gear

ALWAYS GIVE MACHINE **SERIAL NUMBER** WHEN ORDERING PARTS.
ORDER BY **PART NUMBER**—NOT KEY NUMBER.

From the library of: Superior Sewing Machine & Supply LLC

ALWAYS GIVE MACHINE SERIAL NUMBER WHEN ORDERING PARTS





From the library of: Superior Sewing Machine & Supply LLC

PARTS LIST 2

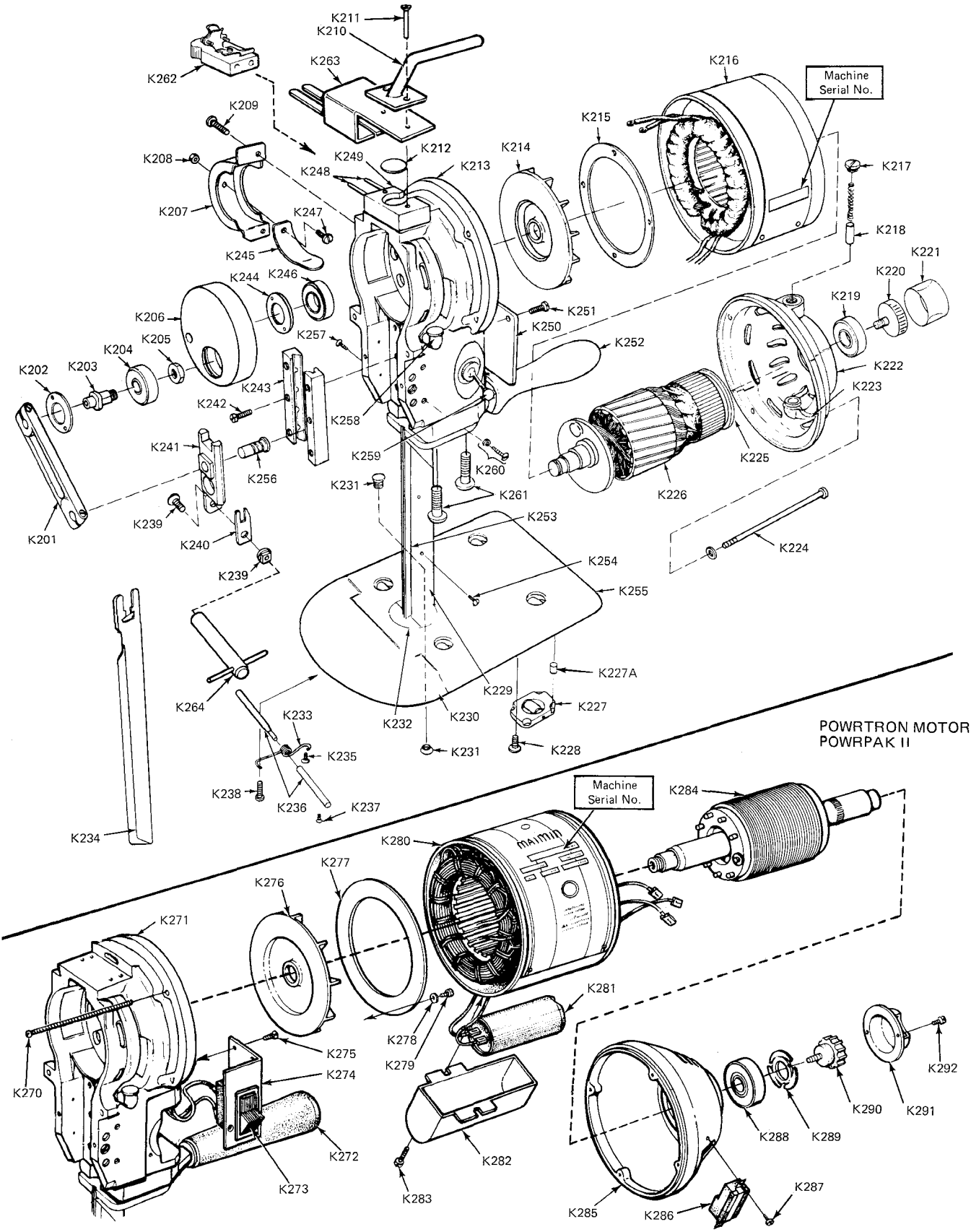
KEY	PART NO.	DESCRIPTION
K101	859C	Screw, Lower Right, to Fasten K Sharpener to Machine
K102	822S	Screw For Upper Gear Block
K103	837	Driver Sprocket
K103A	837R	Pin
K105	1100	K Frame (give size and stroke)
K106	834R	Chain Roller
K107	835	Idler Sprocket
K108	836	Stud For Idler Sprocket
	836A	Eccentric Stud (w/807W)
K109	1125	K Chain (give size and stroke)
K110	840	Trigger For Sharpener
K111	840A	Spring For Sharpener Trigger
K112	838C	Bearing For Pulley Support (outer)
K113	840P	Trigger Pin
K113A	840D	Retaining Ring
K114A	1492	Pulley Bracket w/Bushings (for 1491 & 1497)
K115	1156	Safety Lock Screw
	836N	Safety Lock Nut
K116	838B	Bearing For Pulley Support (inner)
K117A	1491	Shaft For Pulley (with 1492 & 1497)
K120	838N	Nut For Pulley
K122A	1499	Slip Pulley
K123	1187	Sharpener Anchor Screw - 3/8"
K124A	1327	Slide Cam, nylon
K124B	1328	Screw For Slide Cam
K129	802S	Screw For Side Cover
K130	1325	K Side Cover
K131	856	Presserfoot Cam
K132	816FS	Screw For Cam Bracket
K133	858A	Cam Bracket
K134	841B	Bushing For Bevel Gear
K135	842B	Bevel Gear 16
K136A	1164	Shifter Plate
K136B	1165	Edge Control Arm
	1165X	Edge Control Arm w/887
K137	1160	Snap Ring For Pivot Stud
K138	843	Gear 28/16 Mitre Assembly
K139	1151	Spacer Rod
K139A	829B	Stud For 829 Gear
K140	836N	Nut For Idler Sprocket
K141	802S	Screw For Cover Slide Top
K142	831	Cover Slide Top
K143A	1340	Rod For Pulley Bracket (with 1158A)
K144	516	Front Bracket Screw, Upper
K145	848C	Spacer, Front Bracket
K146	839	Gear 16 Teeth
K146A	805P	Pin, Gear
K146B	839W	Washer, Gear
K147	830	Gear Assembly 50/12 Teeth
	*830A	Gear Assembly 50/20 Teeth
K148A	1190	Gear 28/12 T (large bore)
	*1190B	Gear 28/26T (large bore)

KEY	PART NO.	DESCRIPTION
K149A	1186	Retaining Ring
K150	829	Gear Assembly 64/20 Teeth
	*829C	Gear Assembly 56/20 Teeth
K150A	1481	Retaining Ring
K151	828	Sprocket Gear 32 Teeth
K152A	1184	K Front Bracket (for edge control arm) w 1185, 1186
	1184X	K Front Bracket w/1185, 1186, 1190
K152B	1188	Arm Lock Pin
K152C	1189	Spring, Arm Lock
K152D	1192	Arm Lock Set Screw
K153	848B	Screw, Lower Left, to Fasten Sharpener to Machine
K154	410	Front Bracket Screw, Lower
K155A	1185	Lock Stud For Edge Control Arm
K156	802S	Screw For 848C
K157	864S	Screw For 887 Gear
K158	887	20 Tooth Gear
	*887B	18 Tooth Gear
K159	1191	K Pulley Support Spring
K161	492	Trigger Spring
K162	489	Presserfoot Trigger
K163	1193X	K Front Plate w/1n V Block
K164A	1341	Retaining Ring
K164B	1158C	Liner
K165	427	Screw For Shifter Support
K166	1159	K Pivot Stud
K167	870S	Screw For Front Plate
K168	1194	V Block
K169	856L	Presserfoot Cam Shoe
K170A	1158A	Upper Gear Block
K171	841A	Stud For Bevel Gear Bushing
K172	490	Trigger Screw
K180	480A	Handle Assembly
K181	1256	Roll Pin
K182	480D	Bracket
K183	323PJ	Pin
K184	481C	Cam
	481B	Cam with 480E and Pins
K185	480E	Screw 10x5 8 Socket Cap
K186	480E	Screw 10x5 8 Socket Cap
K187	481G	Ball
K188	481E	Presserfoot Lever
	481D	Presserfoot Lever with 490
K189	490	Screw 5 16x3 8 Set
K190	481F	Screw 1 4x3 8 Shoulder
K191	480F	Collar with Screw
	480G	Collar with 480H and 481A
K192	480H	Spring
K193	481A	Screw 6x1 8 Round Hd.
—	480X	Squeeze Trigger Assembly with 480D and 481D

* For Half Speed and Cyclomatik Machines Only

ALWAYS GIVE MACHINE **SERIAL NUMBER** WHEN ORDERING PARTS.
ORDER BY **PART NUMBER**—NOT KEY NUMBER.

From the library of: Superior Sewing Machine & Supply LLC



From the library of: Superior Sewing Machine & Supply LLC

PARTS LIST 3

KEY	PART NO. 1 PHASE	PART NO. 3 PHASE	DESCRIPTION
K201	412A	412A	Connecting Rod – H
	412B	412B	Connecting Rod – M
	412C	412C	Connecting Rod – L
	412D	412D	Connecting Rod – LI
K202	413W	413W	Bearing Lock
K203	415	415	Crank Pin
K204	414	414	Crank Bearing
K205	415N	415N	Crank Pin Nut
K206	413BX	413GX	Crank with 413W, 414, 415 – H
	413CX	413HX	Crank with 413W, 414, 415 – M
	413DX	413JX	Crank with 413W, 414, 415 – L
	413EX	413KX	Crank with 413W, 414, 415 – LI
K207	866X	866X	Pulley Cover with Brake
K208	867N	867N	Nut
K209	516	516	Screw, 8x5/16 Fil. Hd.
K210	407D	407D	Top Handle
K211	408	408	Screw, 8x1-1/8 Flat Hd.
K212	405F	405B	Fibre Cover
K213	402K	402D	Front Housing (Give Serial No.)
K214	400F	400F	Fan (Give Serial No.)
K215	400W	400W	Fan Washer (Give Serial No.)
K216	15000 Series	15000 Series	Field (Give Serial No.)
K217	421	–	Brush Cap
K218	420	–	Carbon Brush
K219	418	418	Bearing #202
K220	422B	422M	Knob Assembly
K221	422CB	422CB	Knob Cover
K222	417C	417D	Back Housing (Give Serial No.)
	417CX	–	Back Housing Assembled with Brush Tubes, 2-421, 417L (Give Serial No.)
K223	417L	–	Shunt Wire
K224	419	419	Bolt (Give Serial No.)
	419N	419N	Nut (Give Serial No.)
K225	400G	–	Short-Circuitor (Give Serial No.)
K226	15000 Series	15000 Series	Armature (Give Serial No.)
K227	436	436	Roller Carrier Assembly
	436A	436A	Roller Carrier for Small Baseplate
	436B	436B	Roller Carrier Cover for 436A
K227A	436K	436K	Rubber Cushion
	436L	436L	Rubber Cushion for Small Baseplate
K228	436S	436S	Screw, Roller Carrier
K229	424A	424A	Standard – 9"
	424B	424B	Standard – 8"
	424C	424C	Standard – 7"
	424D	424D	Standard – 6"
	424E	424E	Standard – 5"
	424F	424F	Standard – 4"
	424H	424H	Standard – 11"
	424M	424M	Standard – 14"
K230	430	430	Lip
	430A	430A	Lip for Small Baseplate
K231	435	435	Cone Lock and Nut
K232	426	426	Throat Plate
	426B	426B	Throat Plate – 9" Standard
	426V	426V	V-Throat Plate with 427N
	427	427	Screw, 10x7/16 Flat Hd.
	427N	427N	Nest, Brass
K233	433A	433A	Spring, Lip
	433B	433B	Spring for Small Baseplate
K234			Blade (See Next Page)
K235	802S	802S	Screw, 6x3/16 Bind. Hd.
K236	431A	431A	Shaft, Long
	431B	431B	Shaft, Short
K237	436S	436S	Screw, Roller Carrier
K238	802S	802S	Screw 6x3/16 Bind. Hd.
K239	416	416	Knife Bolt and Nut
K240	411A	411A	T-Slot Lock

KEY	PART NO. 1 PHASE	PART NO. 3 PHASE	DESCRIPTION
K241	411	411	Crosshead with Wrist Pin
K242	490A	490A	Screw 8x3/4 Fil. Hd.
K243	409	409	Gibbs, Pair
K244	404C	404C	Bearing Lock
K245	867	867	Brake
K246	403	403	Bearing #203
K247	822S	822S	Screw 6x1/4 Bind. Hd.
K248	406	406A	Terminal Pin
K249	405	405A	Terminal Block with Pins
K250	441C	441C	Cover, Switch
K251	441S	441S	Screw 6x5/16 Fil. Hd.
K252	423	423	Handle Only
	423A	423A	Handle with Block
	423B	423B	Handle, Upturned, with Block
	423E	423E	Handle Assembly Drilled for Oiler
K253	428A	428A	Insert for Standard – 9"
	428B	428B	Insert for Standard – 8"
	428C	428C	Insert for Standard – 7"
	428D	428D	Insert for Standard – 6"
	428E	428E	Insert for Standard – 5"
	428F	428F	Insert for Standard – 4"
	428H	428H	Insert for Standard – 11"
	428M	428M	Insert for Standard – 14"
K254	428S	428S	Insert Screw
K255	429	429	Baseplate with Rollers and Lip
	429A	429A	Small Baseplate with Rollers and Lip
K256	411P	411P	Wrist Pin
K257	409S	409S	Screw 8x3/8 Truss Hd.
K258	402B	402B	Oil Cup Assembly
K259	442	442B	Switch
K260	410	410	Screw 8x1/2 Fil. Hd.
	410N	410N	Nut #8
K261	425	425	Bolt
K262	458B	458A	Current Connector, Grounded
K263	458K	458M	Ground Shield
K264	457	457	Knife Key
			POWRTRON & POWRPAK II MOTORS
K270	419Y	419Y	Bolt 8x4
	419X	419E	Bolt, Powrpak II
K271	402F	402G	Front Housing
K272	464A	464A	Tapered Handle with Block
	464B	464B	Tapered Handle Only
	464F	464F	Tapered Handle Assembly for Oiler
K273	443	443A	Switch, Rocker
K274	466	466	Switch Box Cover
K275	818S	818S	Screw 6x1/4 Flat Hd.
K276	400FB	400FB	Fan XX
K277	400FD	400FD	Fan Washer XX
K278	438W	438W	Washer
K279	802S	802S	Screw 6x3/16 Bind. Hd.
K280	15080	15086	Field, Powrtron
	15105	15030	Field, Powrpak II
K281	15079	–	Capacitor
	15078	–	Capacitor, Powrpak II
K282	15084	–	Cover, Capacitor
K283	1187	–	Screw 10x3/8 Fil. Hd.
K284	15081	15085	Armature, Powrtron
	15115	15027	Armature, Powrpak II
K285	302L	302K	Back Housing, Powrtron
K286	365	–	Relay
	365B	–	Relay, Powrpak II
K287	441S	–	Screw 6x 5/16 Fil. Hd.
K288	403	403	Bearing #203
K289	404D	404D	Loading Spring
K290	422B	422M	Back Knob
K291	422E	422E	Knob Cover
K292	434	434	Screw 6x3/16 Rnd. Hd.

ALWAYS GIVE MACHINE **SERIAL NUMBER** WHEN ORDERING PARTS.

ORDER BY **PART NUMBER**–NOT KEY NUMBER.

From the library of: Superior Sewing Machine & Supply LLC

PART NUMBERS OF BLADES AVAILABLE

BLADE SIZE

		4"	5"	6"	7"	8"	9"	11"	14"
	Dozen	30010	30011	30012	30013	30014	30015	—	—
	Each	30040	30042	30044	30046	30048	30050	—	—
	Dozen	30041	30043	30045	30047	30049	30051	—	—
ɔng	Each	30080	30082	30084	30086	30088	30090	30092	30094
	Dozen	30081	30083	30085	30087	30089	30091	30093	30095
eflon	Each	—	—	30100	—	30102	30104	—	—
	Dozen	—	—	30101	—	30103	30105	—	—
ɔw Wave	Each	30110	30112	30114	30116	30118	—	—	—
	Dozen	30111	30113	30115	30117	30119	—	—	—
ɔw Wave	Each	30130	30132	30134	30136	30138	30140	—	—
	Dozen	30131	30133	30135	30137	30139	30141	—	—
	Each	—	30152	30154	—	30158	—	—	—
	Dozen	—	30153	30155	—	30159	—	—	—
	Each	30170	30172	30174	30176	30178	—	—	—
	Dozen	30171	30173	30175	30177	30179	—	—	—
ɛd	Each	30210	30212	30214	30216	30218	30220	30222	30222
	Dozen	30211	30213	30215	30217	30219	30221	30223	30223
	Each	30230	—	30234	—	30238	—	—	—
	Dozen	30231	—	30235	—	30239	—	—	—
ɛed	Each	30250	30252	30254	30256	30258	—	—	—
	Dozen	30251	30253	30255	30257	30259	—	—	—
	Each	30340	30342	30344	30346	30348	30350	30352	30354
	Dozen	30341	30343	30345	30347	30349	30351	30353	30355

Note that there is a different part number for single blades and boxes of one dozen (12). Please order by part number.

H. MAIMIN CO., INC.

119 WEST 40th ST., NEW YORK, N.Y. 10018 U.S.A.

Printed in U.S.A.

From the library of: Superior Sewing Machine & Supply LLC