

ISP Stitching & Bindery Products

OWNERS
MANUAL

MODEL S3A 7/8" BOOK STITCHER



MODEL S3A 7/8" BOOK STITCHER

WHEN ORDERING PARTS, PLEASE STATE: QUANTITY REQUIRED, PART NUMBER, PART NAME, MODEL, WIRE SIZE, AND CROWN WIDTH OF YOUR ISP STITCHER.

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Section 1 SAFETY PRECAUTIONS And PROCEDURES

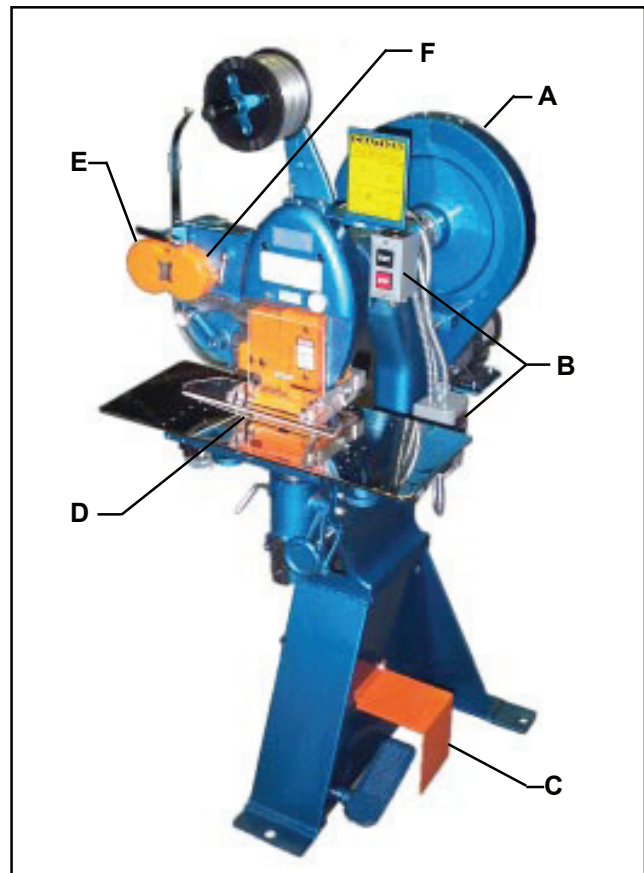
SAFETY PRECAUTIONS And PROCEDURES

1. Make sure electrical power is turned off before performing any adjustment or maintenance.
2. Keep hands, tools, and clothing clear of stitching area.
3. Become familiar with the moving components of your machine. Keep fingers away from areas that could pinch or cut.
4. Wear adequate safety equipment for eye and face protection. Observe your plant safety rules.
5. Exert "good housekeeping" in your work area. Keep it as clean and uncluttered as possible.
6. A well maintained machine is a safer machine. Clean and lubricate the machine at regular intervals. Check machine daily for broken or worn parts. Replace as necessary. DO NOT attempt to operate the machine if a part is broken.
7. Route all electrical cables away from pedestrian and transportation lanes.
8. See "Safety Guards" information. It points out areas where additional caution should be exercised. If you are unsure how to safely operate your Stitcher, contact your Service Representative.

SAFETY GUARDS

FOR YOUR SAFETY, MAKE SURE ALL SAFETY GUARDS ARE PROPERLY IN PLACE BEFORE OPERATING MACHINE.

- A. **DRIVE WHEEL GUARD (CEEE-73)** - This guard covers a revolving part. Do not operate machine unless this guard is properly in place. Keep hands, clothing, and tools clear when machine is in operation or handwheel is used to cycle machine.
- B. **POWER RELAY (CB-2454)** - On-off switch provides low voltage protection. The motor is prevented from automatically re-starting if electrical power is interrupted.
- C. **FOOT PEDAL GUARD (CA-134)** - This guard safeguards against accidental actuation of the machine. DO NOT remove.
- D. **FINGER GUARD (CDD-3009 or CDD-2986)** - This guard helps to prevent the operator's fingers from entering a pinch point area. Never put fingers under this guard. See pages 4 and 5 for complete details.
- E. **WIRE FEED GEAR GUARD (C-8001-F)** - This guard covers revolving gears. Do not operate machine unless this guard is properly in place. Keep hands, clothing, and tools clear when machine is in operation.
- F. **WIRE FEED MECHANISM GUARD (C-8003-F)** - This guard covers moving parts that could pinch or cut. Do not operate machine unless this guard is properly in place.



FINGER GUARD

WARNING

NEVER PUT FINGERS UNDER FINGER GUARD.

IMPORTANT

INDIVIDUAL GUARDS ARE PROVIDED FOR FLAT STITCHING AND SADDLE STITCHING. NEVER OPERATE THE MACHINE WITHOUT THE TABLE OR SADDLE IN PLACE ALONG WITH THE PROPER GUARD.

FLAT STITCHING:

The flat table finger guard features a hinged gate that rests on the table. When work is pushed into the point of operation, the gate rides up on top of the work. The gate helps prevent inadvertent entrance to the point of operation, however be careful to never put fingers under the gate. Electrical interlocks are provided to prevent the machine from running unless both the table and the table finger guard are in place.

Install flat table and table finger guard as follows:

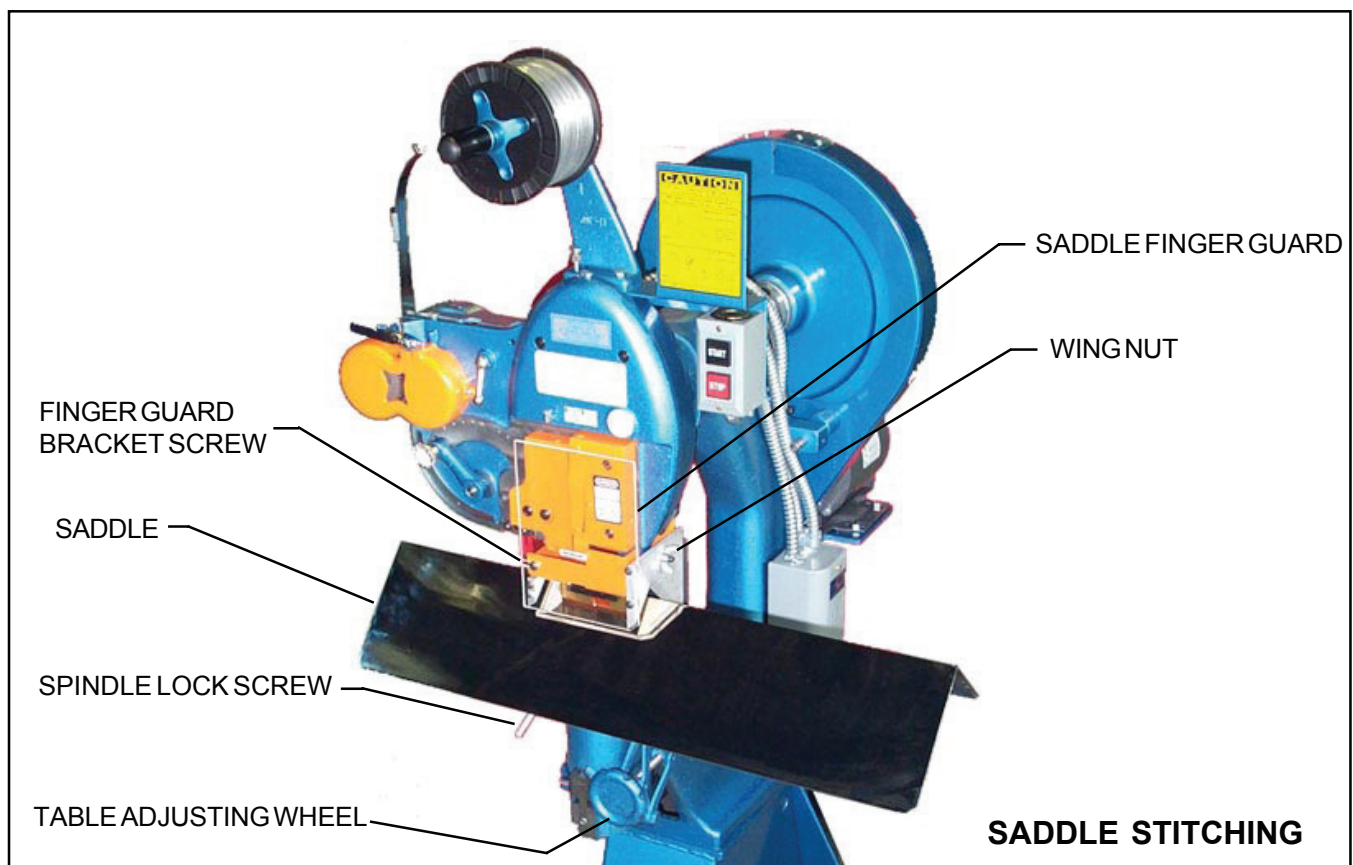
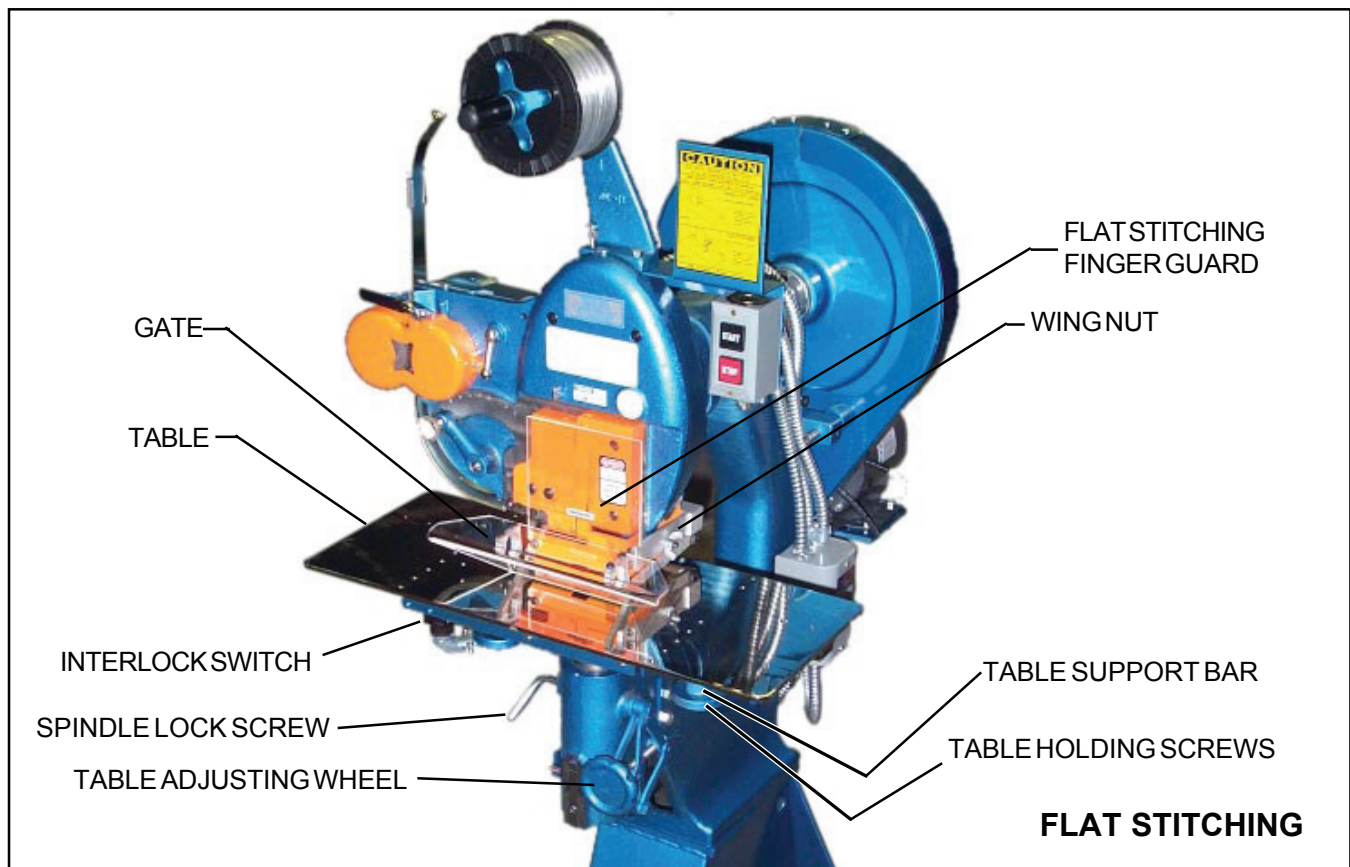
1. Loosen spindle lock screw and turn table adjusting wheel counterclockwise to lower table support bar and provide enough clearance to install flat table.
2. Place table on support bar so holes in table bracket fit over bushings on support bar. Table can be positioned so wide flange faces front or rear of stitcher as work needs require.
3. Tighten table holding screws and push interlock key into interlock switch.
4. From right side, hold finger guard with gate hanging down, and slide the guard onto the finger guard bracket screws. Be sure interlock key on finger guard engages the front interlock switch behind the stitcher head.
5. Lock finger guard in place with wing nut.

SADDLE STITCHING:

The saddle table guard is a fixed guard that matches the contour of the saddle. A narrow gap between the guard and the saddle allows the work to enter into the point of operation. A mechanical stop prevents lowering the saddle so far as to create an unsafe gap. An electrical interlock prevents the machine from running unless the saddle finger guard is in place.

Install saddle and saddle finger guard as follows:

1. Loosen spindle lock screw and turn table adjusting wheel counterclockwise to lower table support bar and provide enough clearance to install saddle.
2. Place saddle on support bar so holes in saddle fit over bushings on support bar. Turn adjusting wheel clockwise until the support bar is approaching its highest position.
3. Tighten table holding screws.
4. From right side, slide the guard onto the finger guard bracket screws. Be sure interlock key on finger guard engages the rear interlock switch behind the stitcher head.
5. Lock finger guard in place with wing nut.



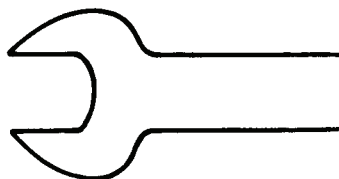
IMPORTANT

FOR CLARITY, SOME FIGURES IN THIS MANUAL PICTURE THE MACHINE WITH SAFETY DEVICES REMOVED.

WARNING

NEVER OPERATE MACHINE WITHOUT ALL SAFETY EQUIPMENT PROPERLY IN PLACE. FOR DETAILED SAFETY INFORMATION, SEE PAGES 3, 4, AND 5.

Section **2**



INSTALLATION

INSTALLATION INSTRUCTIONS

These instructions must be followed to insure proper installation, efficient operation and the prevention of serious damage to your Book Stitcher.

Before Uncrating: Examine the stitcher crate for any visible damage. If damaged, DO NOT UNCRATE THE MACHINE. Notify the carrier who delivered the stitcher.

After Uncrating: Examine your stitcher carefully for damage in transit. If damaged, DO NOT INSTALL THE MACHINE. Notify your representative and the carrier who delivered your stitcher. Make certain that you get a signed copy of the Carrier Inspector's Report of the damaged incurred.

Location of Machine: Your stitcher should be placed on a level floor. Better performance can be obtained by fastening the machine to the floor.

Clean the Machine: When shipped from our factory, your machine is coated with a rust-resistant compound.

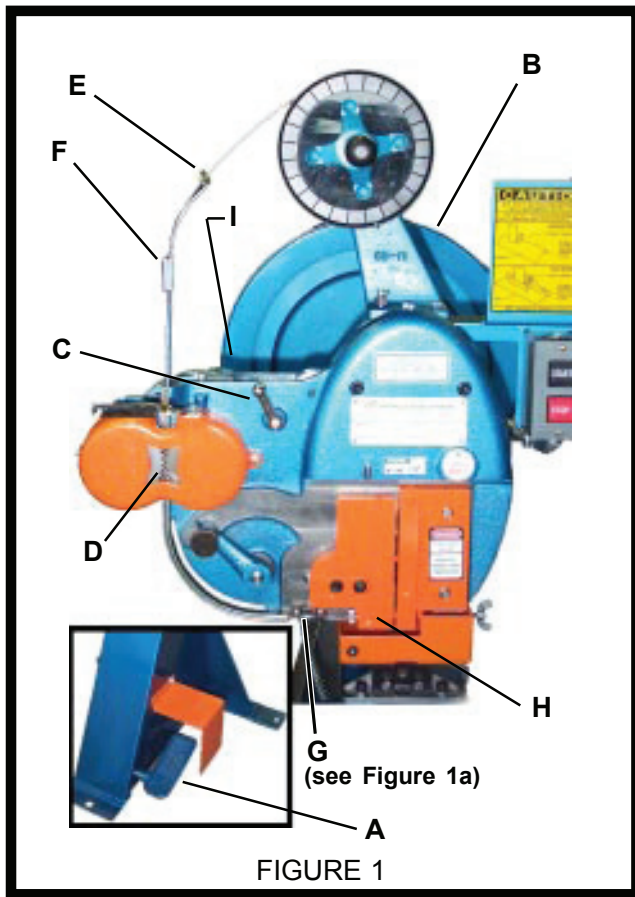
remove this coating with a grease and oil solvent before operating.

Required Lubrication: After cleaning, your stitcher should be lubricated with SAE-20 oil per instructions on page 32.

Check Motor: The motor of you machine is specified on your purchase order. Those specifications are noted on a tag and attached to your stitcher. Check this tag before connecting the machine to your electrical power supply. Stitchers equipped with 110-volt or 220-volt motors require only one supply line.



ISP Stitching & Bindery Products



NOTE

Before operating stitcher by motor power, depress the foot treadle (Index A, figure 1) and turn fly-wheel (Index B, figure 1) by hand (clockwise when viewed from front of machine) to make sure that the stitcher head will complete its cycle without interference.

Mounting Wire Coil: A 5 pound coil holder with a detachable front plate is furnished with your stitcher. Unless your application requires a very special wire, a 5 pound coil of wire is furnished for setting up the stitcher. (See WIRE SIZE CHART, Page 9.)

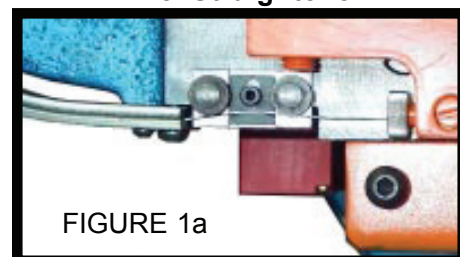
Place the coil of wire (still bound tightly) on the coil holder after removing the front plate of the holder. Make sure that the coil unwinds COUNTERCLOCKWISE. Replace the front plate and tighten securely. Remove the spool retaining nut and front friction spider from the spool holder spindle and install the spool. Adjust the friction so that the natural spring of the wire will not cause the spool to unwind. Too little friction may result in tangling of the wire. Too much friction might cause the wire feed rolls to slip and give an uneven feed. All such adjustments are made by the wire spool friction nut.

Threading the Wire: To thread the wire into your stitcher, follow the steps listed below.

1. Cut all binding ties that hold the wire on the coil EXCEPT the tie that holds the starting end.
2. While holding the starting end, cut the last binding tie. Remove *all* ties.
3. Turn the feed control lever (Index C, figure 1) COUNTERCLOCKWISE and up, to open the wire feed gears (Index D, figure 1).
4. Straighten a section of wire 6" to 8" long. Cut off any bent portion at the starting end of the wire.
5. Thread the wire through the loop on the tension spring (Index E, figure 1).
6. Thread the wire down into the wire guide (Index F, figure 1) and through the wire feed gears and down until the wire is seen at the tube exit.
7. Guide the wire through the wire straightener (Index G, figure 1) and into the cutter block (Index H, figure 1) until it passes through the cut-off die.
8. Turn wire feed control lever CLOCKWISE to close the wire feed gears.
9. Insufficient pressure on the wire feed roll will give a short or uneven draw. Excessive pressure will flatten the wire. The pressure should be such that a uniform draw is attained for each stitch. To increase the pressure turn the wire pressure screw (Index I, figure 1) at the top of the face plate to the right; to decrease, in the opposite direction. This adjustment should be checked whenever the size of wire is changed.

Adjust Wire Straightener: To make sure that the wire will enter the mandrel (Index J, figure 2) properly, it may be necessary to adjust the wire straightener (Figure 1a). See Adjustment section, Page 16.

Wire Straightener



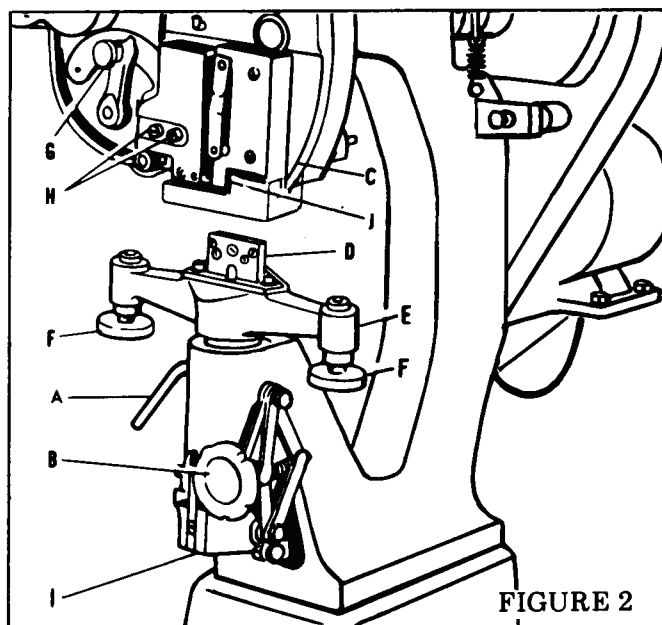


FIGURE 2

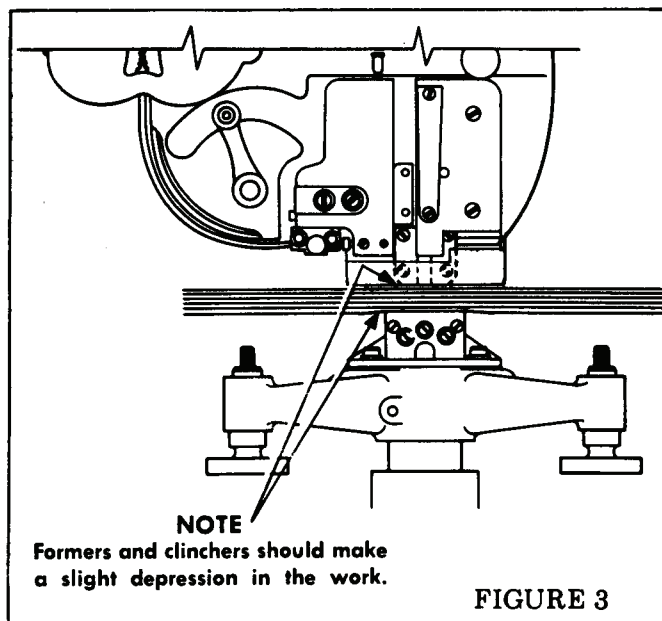


FIGURE 3

SETTING UP MACHINE FOR STITCHING:

Install Flat Table or Saddle Assembly: Selection is dependent upon the type of work to be stitched.

IMPORTANT

Individual finger guards are provided for flat stitching and saddle stitching. Never operate the machine without the table or saddle in place along with the proper finger guard.

See pages 4 and 5 for instructions to install the saddle or table and the corresponding finger guard.

TO SET YOUR STITCHER PROPERLY, FOLLOW THESE SEVEN IMPORTANT STEPS.

1. Lower the clincher as far as possible.
2. Open the wire feed gears. Depress the foot treadle (Index A, figure 1) and turn the flywheel by hand until the formers are at the lowest part of their stroke.
3. Place the material to be stitched over the clincher. Adjust the clincher upward until the formers and clincher make a slight depression in the work material. See figure 3.
4. Turn flywheel by hand to complete the cycle and return the formers to the highest point of their stroke.
5. Close wire feed gears. Operate the stitcher under motor power, driving several stitches into material of the same thickness as the work to be stitched. Examine resulting stitches to determine if the correct amount of wire is being used (figure 4 shows what the stitch should look like).
6. To increase or decrease the leg length of the stitches, loosen the screw of the wire feed index lever (Index G, figure 2) and the two screws of the cutter block (Index H, figure 2). Move the wire feed index lever to the right (or next higher number) for more leg length — to the left (or next lower number) for less leg length. Tighten screws of index lever and cutter block. Repeat step 5.
7. If one stitch leg is longer than the other, see Adjustment Section, Page 18 for the proper procedure to follow to equalize the legs.

The height adjustment of the clincher in step 3 is only approximate. For finer adjustment it may be necessary to raise or lower the clincher slightly to obtain the desired amount of compression. See Adjustment Section, Page 13 for compression adjustments.

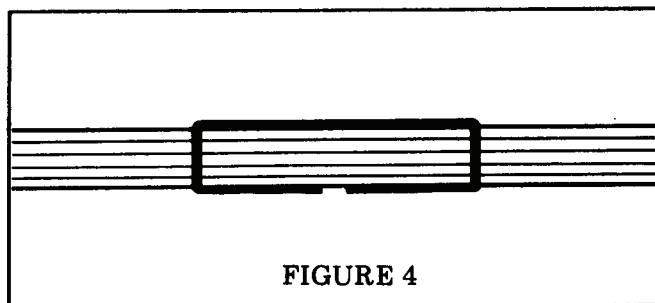


FIGURE 4

Section **3** OPERATION

OPERATING INSTRUCTIONS

WARNING

MAKE SURE ALL SAFETY GUARDS ARE PROPERLY IN PLACE BEFORE OPERATING MACHINE.

Turn the power ON and place the work material over the clincher. Make sure that the material is in the correct position for stitching. Press down on the foot treadle and drive the stitch.

WARNING

DO NOT DRIVE A STITCH WITHOUT WORK MATERIAL OVER THE CLINCHER. DO NOT DRIVE ONE STITCH ON TOP OF ANOTHER.

Wire sizes are given in gauge numbers and the larger the gauge number the smaller the wire. It is possible to use smaller wire in parts designed for larger wire, as listed below. However, **DO NOT USE LARGER WIRE IN PARTS DESIGNED FOR SMALLER WIRE.**

WIRE SIZE CHART

Wire Size	Maximum Recommended Work Thickness	Use Formers and Driver For	Cut-Off Die
No. 25 (Round)	2 sheets of paper to ¼"	No. 25	Round Hole
No. 20 x 25 (Flat)	¼" to ½"	No. 20 x 25	Slot
No. 19 x 21½ (Flat)	½" to ¾"	No. 19 x 21½	Slot

PERMISSIBLE VARIATIONS

These variations should give good results, but for maximum performance with any size wire, the Formers and Driver should correspond to that wire size.

- No. 27 and No. 28 wire can be used in No. 25 Formers and Driver for thicknesses to 1/8".
- No. 21 x 25 wire can be used in No. 20 x 25 Formers and Driver for work between 1/4" and 7/16" thickness.

This Book Stitcher is sent to you equipped with formers, driver and a round die for use with No. 20 x 25 Flat Bookbinders Wire unless otherwise marked on the tag attached to the stitcher. Two sets of formers and drivers (one for No. 19 x 21½ Flat and one for No. 25 Round) and a cut-off die for No. 25 Round Bookbinders Wire are also furnished. Formers and Driver sets for the other sizes of wire listed above are available.

All formers and drivers are properly marked. The cut-off die with the slot is for flat Bookbinders wire and the cut-off die with the round hole is for round wire.

Section **4** MAINTENANCE TROUBLE SHOOTING ADJUSTMENTS

GENERAL

The Maintenance, Trouble Shooting and Adjustments information in this section plays a very important role in eliminating or reducing production line shut-down time. A careful study of the items mentioned will assure proper performance of the machine.

The illustration of your stitcher (shown at right) is divided into three sections for the purpose of identifying mechanical troubles and listed as follows under Trouble Shooting.

1. HEAD 2. REAR 3. BASE

Like any equipment that has moving parts, certain parts of your stitcher will be subjected to more wear than others and require replacement. For this reason the following listing was prepared in two groups. Either group of parts should be kept in stock according to your preference.

Group 1. Includes all the parts required for minimum maintenance and good operation of your Book Stitcher.

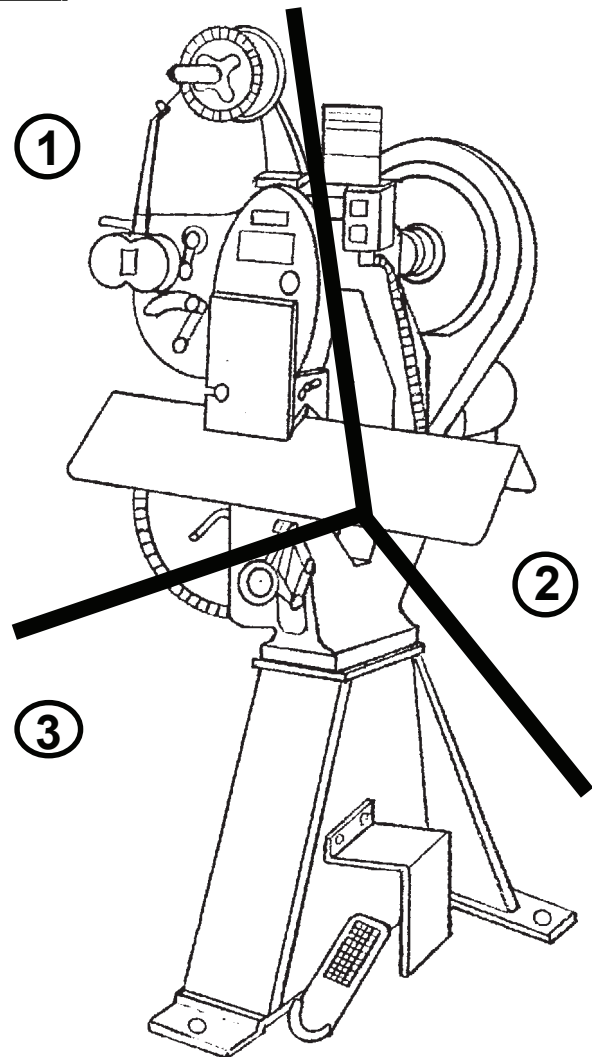
Group 2. Includes all parts in group 1, plus parts for emergency servicing where a part is likely to be damaged inadvertently as well as by normal wear.

GROUP 1	
Part Name	Quantity

Knives	2
Knifescrew	1
Cut-off Dies	2
Driver	1
Clutch Bolt	1
Formers	2

GROUP 2	
Part Name	Quantity

Former Screws	2
Clutch Face Pins	2
Clutch Face Screws	2
Gripper Lifter Assy.	1
Main Cam Roller	1
Clinchers	2



NOTE

WHEN ORDERING PARTS, please state the quantity required, part number, part name, type, wire size, crown width and serial number of your machine.

LUBRICATION: For efficient operation, your machine must be oiled according to directions on page 32.

THE PART NUMBERS FOR THE SPARE PARTS MAY BE FOUND IN SECTION 5, PAGES 21 to 27.



MAINTENANCE

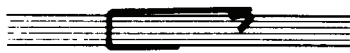
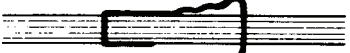
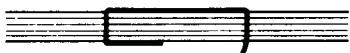


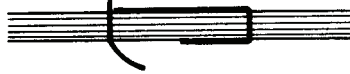
Trouble Shooting

TROUBLE SHOOTING

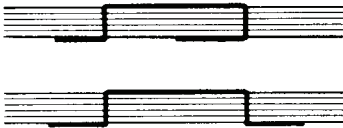
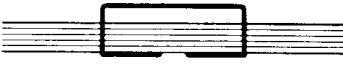

Various kinds of mechanical trouble that may occur in your stitcher are described below. Possible causes and remedies are given for each kind of mechanical trouble and are listed under each section. The remedies are indexed to the Adjustment Section which gives more detailed information about your stitcher, the mechanical trouble that may occur and suggested remedies.

1 HEAD

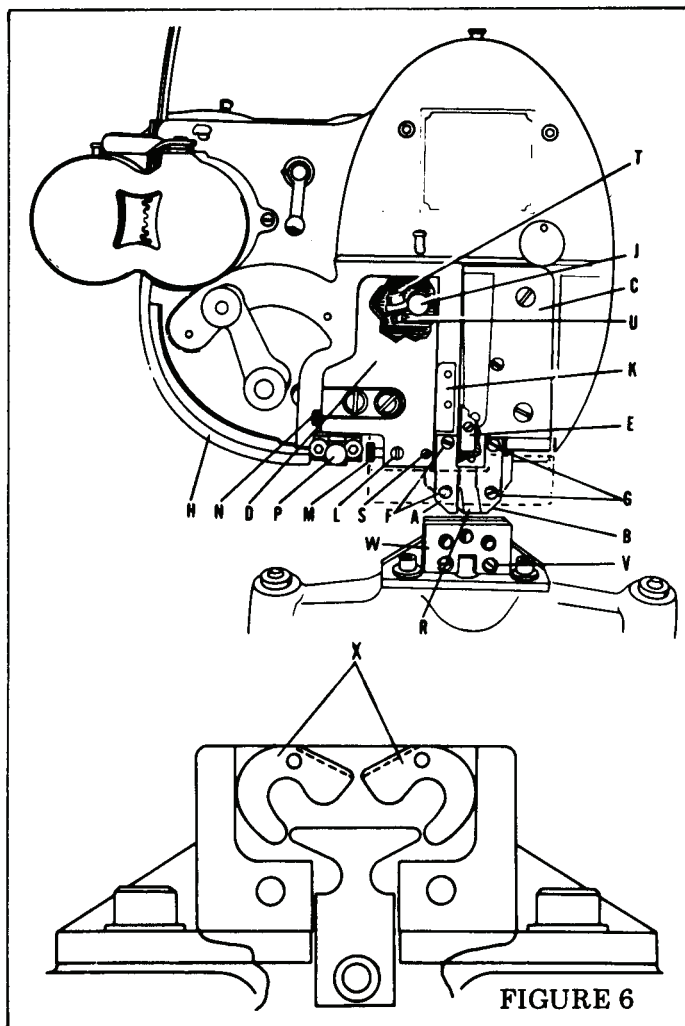
TROUBLE SHOOTING CHART

TROUBLE	POSSIBLE CAUSE	REMEDY
A. Defective Stitches		
1. One or both legs buckled 	1. Clincher is worn 2. Insufficient compression 3. Worn formers 4. Improper wire cut-off 5. Wire too light for material being stitched	see A, page 13 see B, page 13 see C, page 13 see E, page 14 see F, page 15
2. Wrinkled crown 	6. Unequal leg length 7. Lack of shoe support 8. Worn mandrel	see O, page 18 see M, page 17 see G, page 15
3. One leg is consistently too short or too long 	1. Cutter block improperly positioned	see O, page 18
4. Varying leg length 	1. Improper tension on coil holder 2. Insufficient pressure on idler gear 3. Slippage in wire feed clutch 4. Weak mandrel gripping spring 5. Too much tension on wire straightener	see J, page 16 see P, page 18 see Q, page 19 see H, page 16 see K, page 16
5. Stitch breaks in pieces 	1. Mandrel assembly is improperly adjusted 2. Wrong wire size	see G, page 15 see Wire Size Chart, page 9
6. Corner of crown distorted or fractured 	1. Too much compression 2. Improper mandrel alignment 3. Worn or broken formers 4. Worn or broken driver 5. Edges of the mandrel are worn 6. Driver comes down too far 7. Corners of the shoe are nicked or too sharp 8. Worn clinchers 9. Spread former slide	see B, page 13 see G, page 15 see C, page 13 see D, page 14 see G, page 15 see N, page 17 see M, page 17 see A, page 13 see C, page 13

TROUBLE SHOOTING CHART

TROUBLE	POSSIBLE CAUSE	REMEDY
<p>7. One or both legs turn out</p> 	<p>1. Improper wire cut-off 2. Worn mandrel 3. Worn formers 4. Wire straightener is improperly adjusted</p>	<p>see E, page 14 see G, page 15 see C, page 13 see K, page 16</p>
<p>8. Crown of stitch not flush with surface of work material</p> 	<p>1. Driver does not come down far enough 2. Lack of compression</p>	<p>see N, page 17 see B, page 13</p>
<p>9. Legs of stitch not flush with surface of work material</p> 	<p>1. Clincher is improperly adjusted</p>	<p>see A, page 13</p>
B. Wire path is blocked causing wire to buckle		
<p>1. Wire does not feed</p>	<p>1. Wire straightener slide is improperly adjusted 2. Broken mandrel gripper 3. Worn or broken gripper lifter crank assembly 4. Improper wire cut-off 5. Flat knife travels too far down or sticks in down position 6. Weak or broken mandrel spring 7. Wire tangled on coil holder</p>	<p>see K, page 16 see G, page 15 see I, page 16 see E, page 14 see E, page 14 see H, page 16 see J, page 16</p>
2 REAR		
<p>1. Stitcher repeats without pressure on the foot pedal</p>	<p>1. Brake strap too loose 2. Flywheel frozen on the shaft 3. Worn or broken clutch bolt 4. Broken or weak trip spring</p>	<p>see L, page 16 see R, page 19 see S, page 20 see T, page 20</p>
<p>2. Clicking noise</p>	<p>1. Brake is functioning improperly 2. Worn or broken clutch bolt</p>	<p>see L, page 16 see S, page 20</p>
3 BASE		
<p>1. Stitcher won't stitch when foot pedal is pressed as far down as possible</p>	<p>1. Clutch bolt binding or weak or broken clutch bolt springs 2. Worn clutch bolt and/or clutch face</p>	<p>see S, page 20 see S, page 20</p>

MAINTENANCE



ADJUSTMENTS

WARNING

Turn off electrical power before making any adjustments.

A. Clincher Adjustment

The purpose of the clinchers is to bend the legs of the stitch flat against the work material after they have penetrated it.

Clincher alignment is permanently set at the factory, no adjustment is required.

The grooves in the clincher should be smooth. Worn grooves may cause the stitch legs to clinch loosely or be deformed.

For average work, clinchers should come up parallel with top of clincher box or slightly above. To adjust:

1. Loosen lock nut located under spindle (Index I, figure 2).
2. Turn adjusting screw to right to raise clinchers, and to the left to lower. Then tighten lock nut.

Adjustments

To Replace Clinchers:

1. Remove mounting screws (Index V, figure 6).
2. Remove front plate (Index W, figure 6).
3. Replace clinchers (Index X, figure 6).
4. Replace front plate and mounting screws.

B. Insufficient or Excessive Compression

Proper compression of work material between the clinchers and the formers is necessary so that the stitch penetrates the work material and clinches correctly. Insufficient compression causes buckled legs, a wrinkled crown or the crown to be above the work surface. Excessive compression causes the corners of the stitch crown to fracture.

To obtain correct compression, place work material on the clinchers. Then raise or lower the clinchers so that the work material is held firmly between the clinchers and the formers when the formers are at the lowest point of their stroke (turn flywheel by hand to lower formers). Final adjustment should then be made with the stitcher under motor power until the stitch has the correct compression. See figure 4.

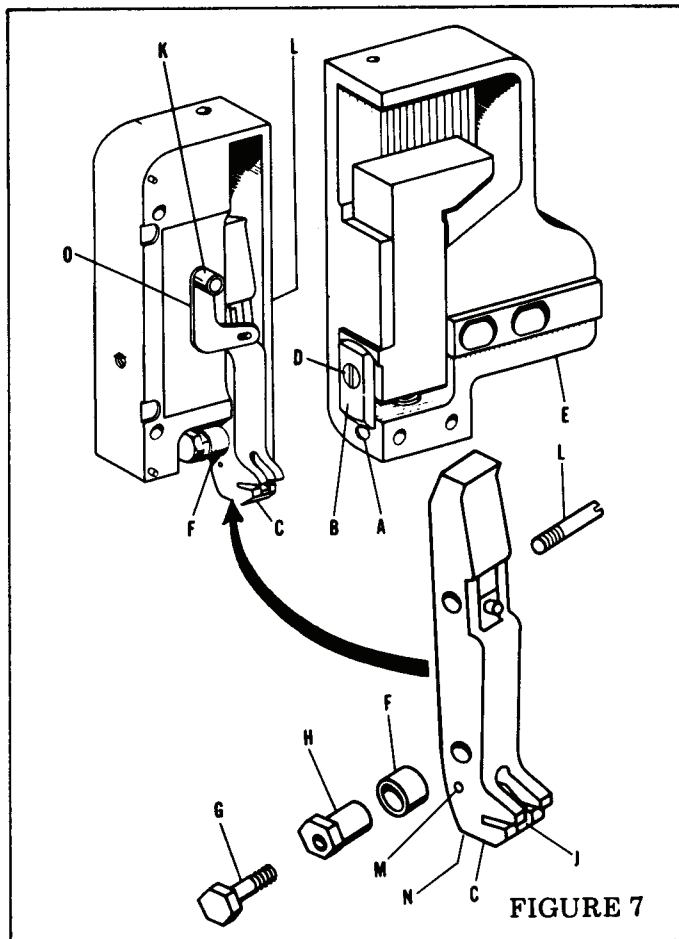
C. Formers

The formers (Index A & B, figure 6) perform two functions: (1) They bend the wire over the mandrel and form it into a stitch. (2) They guide and support the stitch as it is driven through the work material. The legs of an unclinchd stitch should be at right angles to the crown. When the formers become worn, the legs tend to flare out. See figure 8. This causes the legs to strike the clincher improperly. As a result, one or both legs will crumple. If the lower end of the former groove becomes chipped, it will not support the wire and may cause the stitch to break at the crown.

To Replace a Former:

1. Remove the front block (Index C, figure 6). If left former must be replaced, remove cutter block (Index D, figure 6).
2. Remove screws from broken or worn former.
3. Slide former down and out.
4. Insert new former from the bottom and push up to shoulder on the former slide.
5. Replace and tighten screws.
6. Replace cutter block and front block.
7. Tighten screws. Since the formers and driver function together, read the following section on driver.

Adjustments



D. Driver

The function of the driver (Index E, figure 6) is to exert pressure on the crown of the stitch to force it through the work material. A chipped driver allows the leg of the stitch to back up into the broken area. This causes the corner of the crown to fracture or a "spike" section to protrude above the crown. A worn driver often causes deformed stitches or fracturing at the corners of the crown.

To Replace a Driver:

1. Remove front block and cutter block (Index C & D, figure 6).
2. Remove the screws from the formers (Index F & G, figure 6).
3. Slide formers down and out.
4. Remove driver.
5. Replace by inserting Driver (with printing forward) over dowel pin. **Mandrel will be damaged or broken if Driver is installed backward.**
6. Insert formers from bottom and push up to shoulder on former side.
7. Replace and tighten screws.

E. Wire Cut-Off Die and Flat Knife

The purpose of the cut-off die and knife (Index A & B, figure 7) is to shear the wire cleanly. If the travel of the knife is insufficient, the wire may not be cut-off or it may be broken off roughly. The resulting burr may cause (1) the wire to buckle at the wire straightener or feed wheels, (2) the stitch legs to buckle because of the excessive resistance encountered when penetrating the work material, (3) a stitch leg to wander in the work material and miss the clincher. If the knife travels too far, the left leg of the stitch may be deformed and buckle. If the knife binds and sticks in the down position, it will block the wire exit in the cut-off die and cause the wire to buckle.

The travel of the flat knife is satisfactory when the knife, at the lowest part of its stroke, stops just below the cutting edge of the cut-off die.

To Change the Knife and/or replace the Cut-Off Die:

1. Loosen the wire guide screw (Index L, figure 6) and the cut-off die set screw (Index S, figure 6).
2. Remove knife lock screw (Index D, figure 7). If only changing knife and not cut-off die, skip to step No. 6.
3. Remove wire guide (Index M, figure 6). Insert small punch and tap out die.
4. Place new die in cutter block.
5. Replace wire guide.
6. Change or reposition the knife so that it is aligned with the opening in the cut-off die.
7. Replace knife lock screw.
8. Turn the feed control lever (Index L, figure 1) COUNTERCLOCKWISE and up, to open the wire feed gears.
9. Depress the foot treadle (Index A, figure 1) and turn the flywheel by hand until the knife just begins covering the opening in the cut-off die.
10. Gently push on the wire guide until the cut-off die rests firmly against the knife. Tighten the die set screw and the wire guide screw.
11. Turn flywheel by hand to complete the cycle. Close wire feed gears.

To Lengthen or Shorten Knife Travel:

1. Remove the cutting block (Index D, figure 6).
2. Loosen lock nut (Index T, figure 6).
3. Turn the adjusting screw (Index U, figure 6) clockwise to shorten the travel of the knife; counterclockwise to lengthen the travel.
4. Tighten lock nut securely.

WARNING: Mandrel will be damaged or broken if Driver is installed backward.

Adjustments

F. Proper Wire (See Wire Guide Chart, Page 9)

If the wire used is larger than the formers were designed for, it will fracture and come out in pieces. Also, serious damage to the stitcher may result. If the wire used is smaller than the formers were designed for, it will lose some of its driving strength. Stitcher parts are also marked to show the wire size for which they were made.

G. Mandrel

The mandrel (Index C, figure 7) performs three functions:

1. It receives wire from the cut-off die (Index A, figure 7) and holds the wire while it is being cut.
2. It carries the straight, cut-to-length, piece of wire under the formers (Index A & B, figure 6).
3. It supports the wire while it is being formed into a "U" shaped stitch.

The edges of the mandrel determine a definite angle at which the wire is bent to form a stitch. If these edges become worn, the legs of the stitch will flare out and miss the grooves in the clincher. See figure 8. This causes a buckled leg. A worn mandrel can also cause the stitch crown to fracture.

When the wire in the mandrel is carried under the formers, its alignment with the former grooves is insured by the mandrel eccentric and roller (Index F, figure 7). The roller rides against the right former and limits the inward travel of the mandrel. If the eccentric and roller are improperly adjusted, the wire in the mandrel will not be aligned with the former grooves. This causes the descending formers to break the wire into pieces or to nick or fracture the crown of the stitch. An improperly aligned mandrel can also cause the wire to be retained in the mandrel. This prevents the feeding of the next piece of wire into the mandrel, or permits two or more pieces of wire to jam in the mandrel which can result in a broken mandrel.

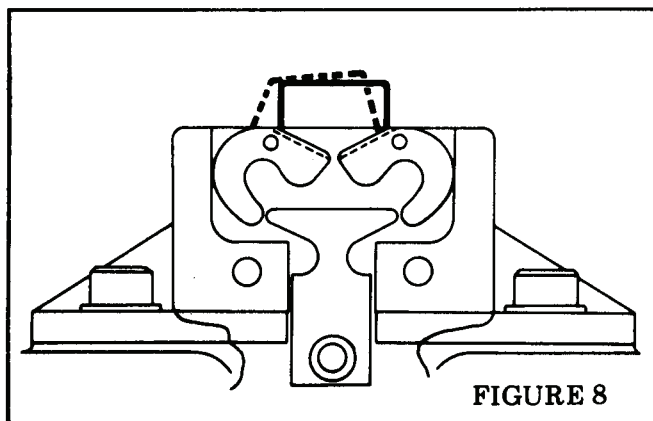


FIGURE 8

To Adjust the Mandrel:

1. Loosen eccentric screw (Index G, figure 7).
2. Turn eccentric bushing (Index H, figure 7) to change the inward position of the mandrel.
3. Tighten eccentric screw.
4. Check, and repeat if necessary until wire is in alignment.

The mandrel contains a spring actuated gripper (Index J, figure 7) which holds the wire in the mandrel while it is being cut off and continues to hold the wire to insure alignment for forming. This gripper is raised while the wire is being fed into the mandrel. If the gripper is broken, it cannot be raised. As a result, the wire will strike the side of the gripper and cause the wire to buckle between the wire straightener and the cutter block.

If the gripper spring becomes weak or broken, the wire can jump in the mandrel as it is cut. This makes the wire off center in the mandrel and results in unequal leg length. A weak or broken gripper spring can also cause the wire to be improperly positioned in the mandrel for alignment with the former grooves. The former will either break the wire into pieces or will nick or fracture the crown of the stitch.

To Check for Broken Gripper or Weak or Broken Gripper Spring:

1. Remove the front block (Index C, figure 6).
2. Raise the gripper by pushing to the left on the gripper lifter crank roller (Index K, figure 7). (If the gripper can't be raised, it is broken and must be replaced.)
3. To check the gripper spring, raise the gripper and place a piece of wire in the mandrel. Release the gripper. If the wire moves from side to side by pushing on it with the thumb and forefinger, the gripper spring must be replaced.

To Replace Broken Gripper or Weak or Broken Gripper Spring:

1. Remove the mandrel pivot screw (Index L, figure 7). Depress the mandrel and slide it out from under the gripper lifter crank.
2. Remove the spring retaining block (Index N, figure 7) by driving out the pin (Index M, figure 7) which is located below the eccentric. Close inspection will be required to find this pin because the surface of the mandrel is polished after the pin is inserted.

3. Replace the spring and/or gripper.
4. Reverse this procedure for assembly. To check the alignment of the wire in the mandrel with the former grooves, depress the foot treadle (Index A, figure 1) and turn the flywheel by hand until the formers have descended to a point just above the wire in the mandrel. The wire should be directly in line with the grooves in the former (a small pocket mirror will be helpful for observation). If the wire is not directly in line with the former grooves, an adjustment of the eccentric and rollers must be made as described earlier in this section.

H. Mandrel Spring

The mandrel spring (Index 94, figure 13) exerts pressure on the mandrel so that it carries the wire under the formers. If the mandrel spring is weak or broken, or the mandrel spring binding screw (Index 95, figure 13) is loose, the mandrel will return to its original position still holding the wire. This usually prevents feeding of the next piece of wire into the mandrel. If a second piece of wire is fed into the mandrel alongside the first piece, a broken mandrel may result.

To Check for a Weak Mandrel Spring:

1. Make sure that the mandrel spring binding screw is tight.
2. Depress the pedal and turn the flywheel by hand, observing the movement of the mandrel. The eccentric roller should contact the right former before the formers have started to form the stitch. If additional pressure is needed on the mandrel spring in order for the roller to contact the right former, replace the spring.

I. Gripper Lifter Crank

The gripper lifter crank (Index O, figure 7) raises the gripper so that the wire can be fed into the mandrel. If the gripper lifter crank is worn or broken, the gripper cannot be raised. As a result, the wire strikes the side of the gripper and causes the wire to buckle between the wire straightener and the cutter block.

To Replace the Gripper Lifter Crank:

1. Remove the front block.
2. Remove the crank screw (Index 97, figure 13) and pull out the gripper lifter crank.

J. Coil Holder Tension

The purpose of the coil holder front spider is to permit the wire to be unwound without tangling. A smooth flow of wire is essential for good stitch-

ing. If the tension is too loose, the coil will continue to rotate after the machine stops. This causes the wire to tangle. If the tension is too tight, a full length of wire will not be fed for each stitch. This causes variation in leg length.

To Adjust the Tension on the Coil Holder:

Loosen or tighten handle, depending on whether more or less tension is needed.

K. Wire Straightener

All coils of stitching wire have a certain amount of bundle curve. The purpose of the wire straightener is to remove this curve. If the wire is not straightened sufficiently, it will often miss the slot in the mandrel and cause the wire to buckle between the wire straightener and the cutter block. Improper straightening of the wire can also cause the stitch legs to buckle or turn out because they strike the clincher improperly. Too much tension on the straightener will cause the wire to buckle at the feed wheels.

To Determine if the Straightener is Adjusted Properly:

1. Remove the front block (Index C, figure 6).
2. Depress the foot pedal (Index A, figure 1) and slowly turn the flywheel over by hand. The wire should come out of the cut-off die horizontally.
3. If the wire turns up, loosen the lock screw (Index P, figure 6) and move adjusting slide upward. If the wire curves down, move adjusting slide down.
4. Tighten lock screw.
5. Check wire as it comes out of cut-off die to determine if further adjustment is necessary.

L. Brake Strap

The function of the brake (Index A, figure 9) is to stop the machine at the proper point in the stitching cycle. If the brake strap is too loose, the machine will continue to stitch after pressure is removed from the foot pedal. If there is excessive brake tension, the clutch bolt is not retracted completely and will cause a clicking noise. (When the flywheel is turned over by hand, the clicking noise will often occur after the motor has been turned on. Driving a single stitch will eliminate the clicking noise.) The brake is properly adjusted when the stitcher stops at neutral — the point where the formers (Index A & B, figure 6) stop above the level of the straight piece of wire held in the mandrel. If the formers descend to a point where they start to

MAINTENANCE

bend the wire over the mandrel, the brake is too loose. Too much oil on the strap will cause it to slip.

To Replace a Worn or Broken Brake Strap:

1. Remove the strap by removing the anchor screw and unhooking from spring (Index B, figure 9).
2. Replace with a new strap or clean the old one in a grease solvent.
3. Re-adjust the brake tension until the machine stops at neutral by pulling down on strap below the adjusting bracket (Index L, figure 9).
4. Tighten set screw (Index M, figure 9).

M. Shoe

The shoe (Index R, figure 6) supports the inside surfaces of the stitch as it is being driven into the work material. A lack of (or insufficient) shoe support will often cause the stitch crown to wrinkle or the legs of the stitch to buckle. If the corners on the top surface of the shoe are too sharp, or nicked, the corners of the stitch crown will fracture.

To Inspect the Shoe:

1. Depress the foot pedal and turn the flywheel by hand, until the formers touch the work material and the legs of the stitch are about to

Adjustments

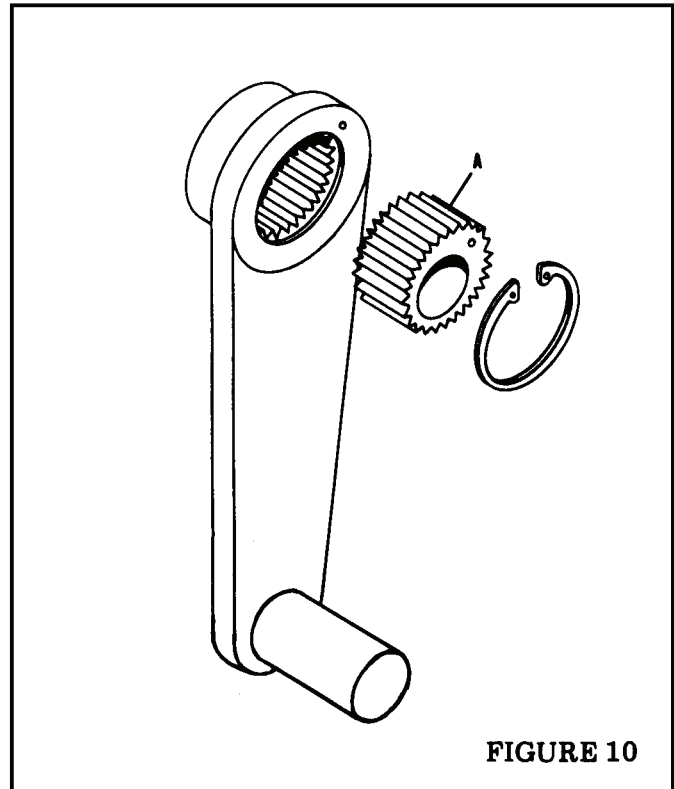
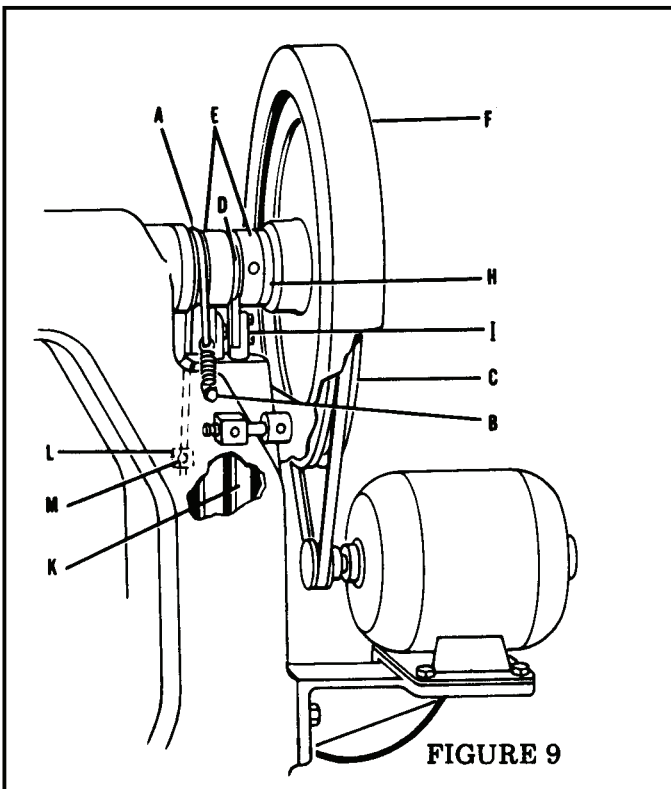
leave the formers. At this point, the shoe should be touching the underside of the crown.

2. Continue turning the flywheel until the stitch is completely driven. While the shoe is gradually retracted by the driver, it should remain under the crown of the stitch until the last instant before the crown touches the work material.

If the shoe support is insufficient, loosen lock screw in lock nut and back off the adjusting nuts (Index 135, figure 13). This permits the plunger roller to push the shoe further to the front of the stitcher. Make certain that the shoe does not come forward so far that it strikes the mandrel. This condition can damage the shoe and/or mandrel. If the corners of the shoe over which the stitch rides are square and sharp, round off slightly with fine emery cloth.

N. Adjustable Drive Bar Link

The adjustable drive bar link (figure 10 or Index 43, figure 13) controls the point at which the driver will stop at the lowest part of its travel. This makes it possible to bury the stitch in spongy material or elevate it above the work surface. At the lowest part of its stroke, the driver end should be approximately .010" below the ends of the formers.



To Adjust Drive Bar Link:

1. Remove the face plate assembly (Index 1, figure 13).
2. Remove the former slide assembly (Index 21, figure 13) from the face plate.
3. Remove the driver bar and drive bar link (Index 43, 44, figure 13) by sliding from the face plate.

NOTE

BE CAREFUL NOT TO LET THE DRIVE BAR LINK AND ECCENTRIC BECOME DISENGAGED. Make a mark on the drive bar link opposite the mark on the eccentric (Index A, figure 10) so there will be a locating point from which to gauge the amount of adjustment. Some machines already have marks that can be used as reference points in making necessary adjustments. Alignment of these marks does not necessarily indicate a correct setting.

4. The outer surface of the eccentric and the inner surface of the hole in the drive bar link are serrated. Changing the position of these two parts by moving one serration to the right or left, results in raising or lowering the driver in relation to the ends of the formers by approximately .005".
5. Remove the drive bar link from the drive bar stud. Slip the eccentric from the drive bar link.
6. To make the driver descend further, turn the eccentric one or more serrations in the direction which brings its thinnest section toward the stud in the drive bar link (this shortens the distance from the center of the hole in the eccentric to center of the drive bar link stud). To decrease the downward travel of the driver, turn the eccentric one or more serrations in the direction which brings its thickest section toward the stud in the drive bar link.
7. Reassemble parts. Check your results. Repeat above steps if necessary.

O. Cutter Block Adjusting Slide

The cutter block (Index 110, figure 13) contains the cut-off die, flat knife and the parts required to equalize the stitch length. The adjusting slide (Index 112, figure 13 top) is directly connected to the wire draw linkage in back of the stitcher head. The cutter block is adjusted on this slide to move the cut-off position in relation to the center of the stitch (this adjustment does not alter the amount of wire feed). The length of the shorter leg is increased by decreasing the length of the longer leg. Any adjustment made should therefore be one-half of the original stitch leg variation. Check for im-

proper adjustment of the cutter block by driving several stitches into the work material. Adjustment is required if one leg is consistently short.

Another way to check the stitch leg lengths is to turn a stitch out by hand: (1) Turn off motor. (2) Depress the foot pedal and turn the flywheel slowly by hand until the formers are at their lowest point and the driver pushes the stitch partially out of the formers. Note which leg is short (as you face the stitcher), right or left. Complete the stitch cycle before making adjustments by turning the flywheel by hand until it rotates freely.

To Equalize the Legs:

1. Make certain that the index lever lock screw (Index 70, figure 13) is tight.
2. Loosen the set screw (Index 114, figure 13 top) not more than one-eighth turn.
3. To increase the length of a short right leg, turn the adjusting screw (Index 113, figure 13) clockwise. For a short left leg turn the adjusting screw counterclockwise.
4. Tighten the set screw.
5. Drive several stitches (the new adjustment will not show up until after the third stitch).
6. Repeat above steps if necessary.

P. Wire Feed Idler Gear

The wire feed idler gear provides the pressure to feed the wire. Too much pressure causes excessive wear on parts — occasionally slippage of the wire feed clutch. Also too much pressure will induce camber in flat wire. Insufficient pressure will cause variation in the amount of wire feed for each stitch.

To Check for Proper Amount of Pressure:

1. Remove the front block assembly (Index 92, figure 13) and lower the table.
2. With stitcher under power, trip the foot pedal and cut 20 to 30 pieces of wire and catch them in a piece of cloth held under the formers.
3. Check for length variation. If the longest and shortest pieces vary by more than .025" adjust the tension.
4. To increase the tension on the feed lever assembly (Index 14, figure 13) turn the set screw (Index 18, figure 13) clockwise.

MAINTENANCE

Adjustments

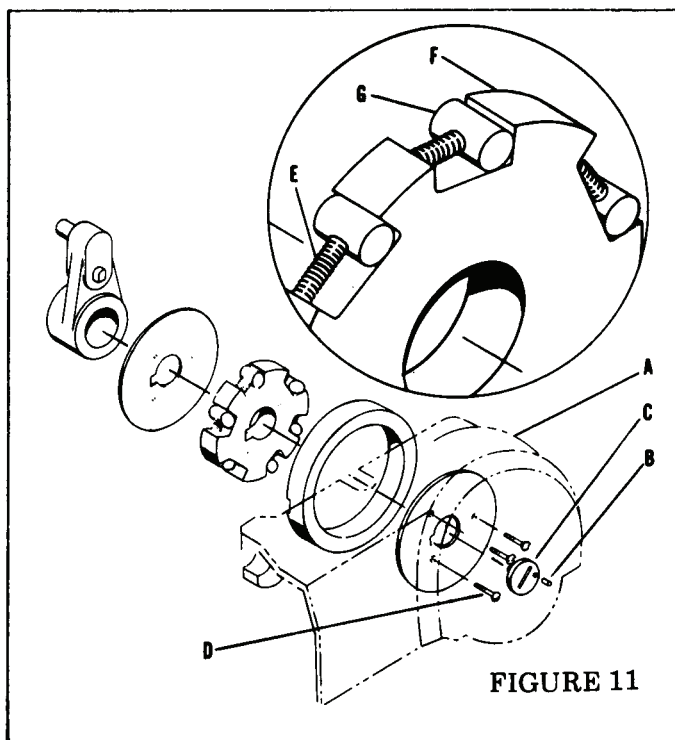


FIGURE 11

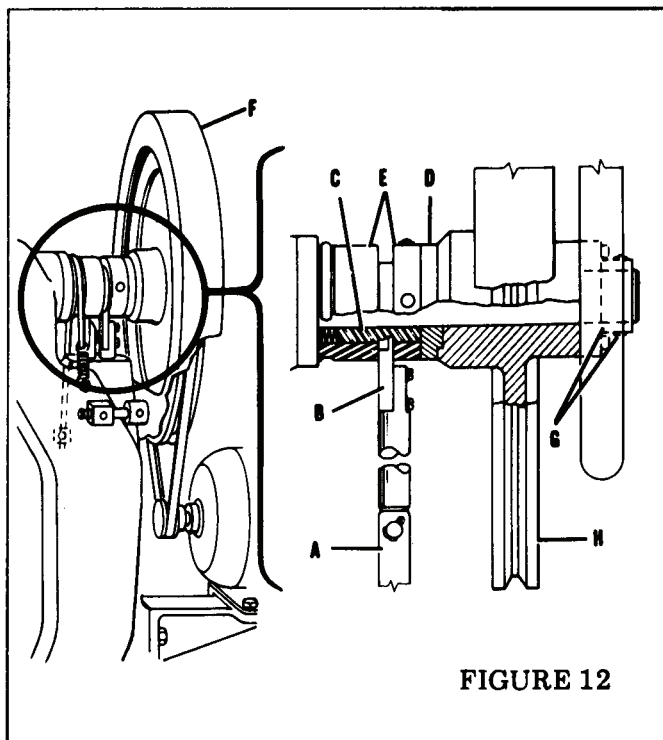


FIGURE 12

Q. Wire Feed Clutch (one piece feed gear and shaft)

The function of the wire feed clutch assembly (Index 50, figure 13) is to feed the same amount of wire for each stitch. This assembly is a simple over running clutch consisting of an outer ring and an internal spider which contains six rollers (each roller is backed by a light compression spring). When the outer ring is turned clockwise (facing this part from the back of the stitcher) the rollers are wedged between the spider and outer ring, causing the feed gear to turn. When turned counterclockwise, the outer ring moves independent of the spider and the feed gear remains stationary. The most common causes of slippage are (1) too much oil and/or dirt, (2) a broken spring or outer ring or (3) a worn spider.

Since it is difficult to determine if the wire feed clutch is causing variation in the stitch leg length, check all other possible causes for this condition first. If the trouble persists, remove and inspect the clutch.

To Clean or Repair the Clutch:

1. Remove wire feed guard (Index A, figure 11).
2. Loosen set screw (Index B, figure 11).
3. Remove clutch screw (Index C, figure 11) and slide clutch from shaft.
4. Remove three screws (Index D, figure 11) and lift off front plate.

5. Dip parts in a grease solvent and wipe dry.
6. Inspect the springs for signs of wear along the sides which contact the front and back plates.
7. Inspect the spider for wear in the bottom of the grooves which hold the rollers.
8. Inspect the rollers for wear. If these parts are worn, the wedging action of the rollers against the outer ring is lost.
9. Replace worn parts.
10. Oil parts lightly and reassemble. The wire feed clutch brake assembly (Index 64, figure 13) prevents overfeed. Keep this part clean and free of oil.

Q.Q. Wire Feed Clutch (two piece feed gear and shaft)

The Function of this clutch is identical to that in section Q. However, if this clutch malfunctions, it must be replaced as an assembly with the feed clutch arm assembly. (Index 145, figure 13).

R. Flywheel

The power from the motor is transmitted from the flywheel (Index H, figure 12) through the clutch bolt (Index C, figure 12) and the clutch coupling collar (Index E, figure 12) to the drive shaft. The flywheel rotates independently on the drive shaft except when the clutch is engaged. It must be kept

well lubricated. If the stitcher repeats when the clutch bolt (Index C, figure 12) is withdrawn from contact with the clutch face the flywheel has seized on the drive shaft. Lack of oil reaching the shaft causes this condition. To correct, remove belt guard (Index F, figure 12). Then remove the set screw and the main shaft collar (Index G, figure 12) and pull the flywheel with a wheel-puller if necessary. If not scored too severely, smooth part with fine emery cloth and reassemble. Make certain that the oil holes in the clutch coupling collar and flywheel retaining collar are open and free of dirt. If the scoring is severe, the shaft and flywheel should be replaced.

S. Clutch

The purpose of the spring-actuated, bolt type clutch is to furnish a positive link between the flywheel and the drive shaft.

The clutch bolt will not engage with the clutch face (Index D, figure 12) on the flywheel, if (1) the clutch bolt binds in the clutch coupling collar (Index E, figure 12), (2) the clutch spring breaks, (3) the end of the clutch bolt or the clutch face becomes worn. A clicking sound will result or the stitcher will fail to operate when the foot pedal is depressed. When pressure is removed from the foot pedal, the clutch throwout (Index B, figure 12) is pushed upward into a groove in the clutch bolt. This action disengages the bolt from the clutch face. If the bolt breaks, it is always the end which engages the clutch face. The clutch throwout retracts the main body of the bolt, but the broken end often remains in contact with the clutch face. This causes the stitcher to stitch continuously. If the clutch bolt is not retracted completely, a clicking noise will result. This can be caused by a worn groove in the clutch bolt or a worn clutch throwout. Wear on the groove in the clutch bolt and clutch throwout will be at the point where they contact each other. The clutch face and the end of the clutch bolt wear at the point they engage each other.

To Check or Replace the Bolt and Spring:

1. Remove belt guard (Index F, figure 12) and V-Belt.
2. Remove the set screw and main shaft collar (Index G, figure 12).
3. Slide flywheel (Index H, figure 12) off.
4. Remove bolt by pulling down on the clutch throwout (Index B, figure 12).
5. If the bolt is binding, clean and remove burrs.

T. Trip Rod and Spring

The purpose of the trip rod (Index A, figure 12) is to transfer the downward pull of the foot pedal to the clutch throwout (Index B, figure 12). This permits the clutch bolt (Index C, figure 12) to engage the clutch face (Index D, figure 12).

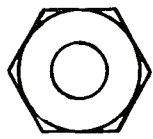
The purpose of the spring is to return the trip rod upward. If the trip rod binds in the body casting or if the spring is weak or broken, the clutch throwout cannot disengage the clutch bolt. As a result, the stitcher will continue to stitch after pressure is removed from the foot pedal.

To Remedy this Condition:

1. Remove any binding if present.
2. If the trip rod is free and the clutch throwout does not return enough to disengage the clutch bolt, try to move the trip rod up by hand.
3. If the trip rod spring is weak, insert a spacer at the bottom of the spring. If the trip rod is broken, it must be replaced.

WARNING

TURN THE MOTOR OFF WHEN THE
STITCHER IS NOT IN USE.



PARTS LIST

Section 5

NOTE

The exploded view illustrated on this page contains all the parts in the stitching head of your ISP S3A Book Stitcher. Additional pages of parts and parts listing are provided to aid in maintenance, adjustments and the ordering of replacement parts.

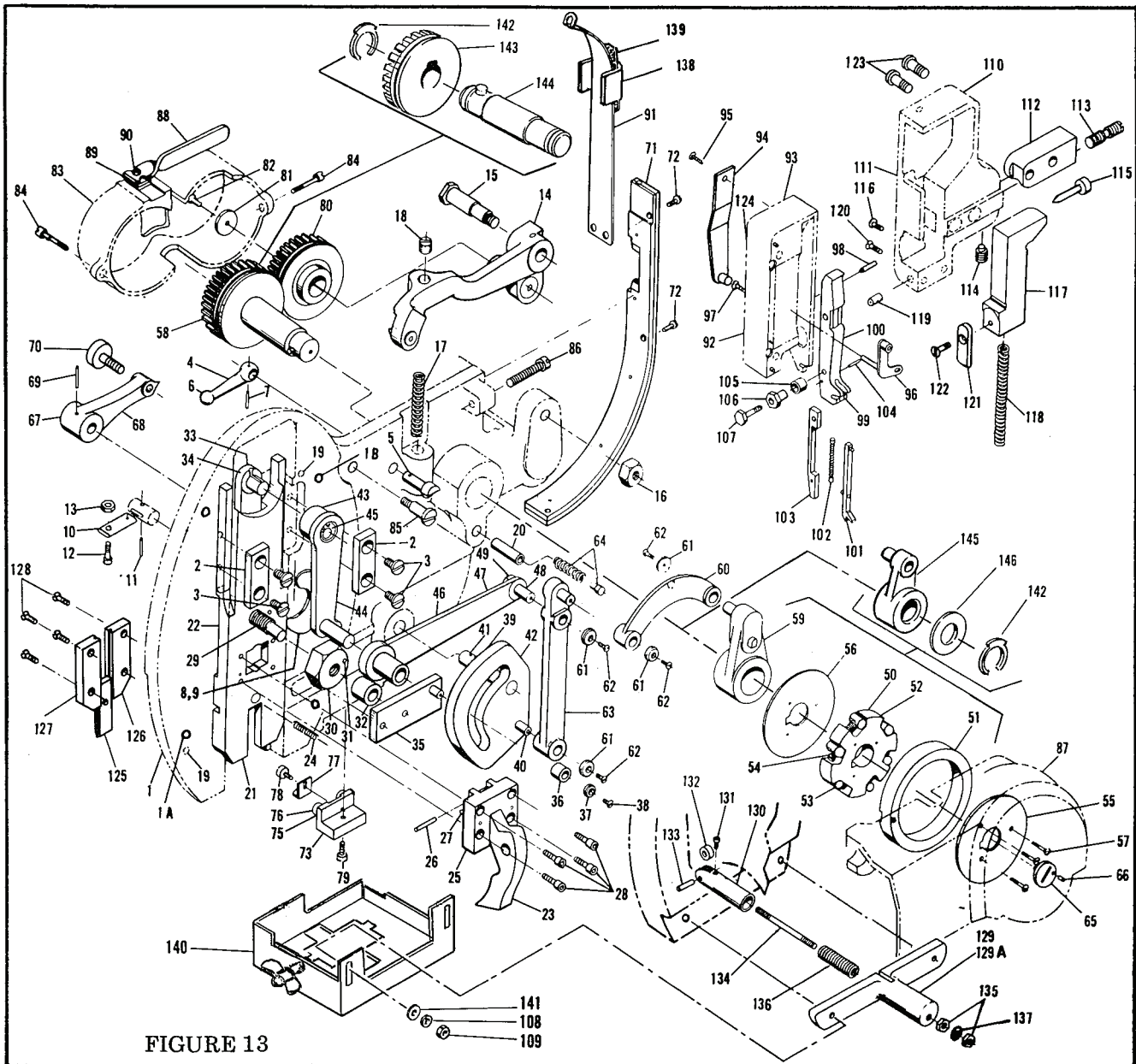


FIGURE 13

How to Order Replacement Parts . . . (DO NOT ORDER BY INDEX NUMBER)

When ordering parts, please state: Quantity required, part number, part name, model, wire size and crown width of your stitcher. For ex-

ample: One D-30629 Flat Knife for Model S3A Book Stitcher, Wire Size No. 25, Crown Width 7/16".

PARTS LIST

Section 5

NOTE

Indented part numbers are components of the assembly listed above them. They may be ordered separately, or ordered as a complete assembly when using the part number

identifying the assembly.

* Is a complete assembly, but individual parts through Index 107 can be ordered separately.

Index Number	Part Number	Part Name	Number Required	Index Number	Part Number	Part Name	Number Required
1	D-30193-A	Faceplate Assembly (incl. 2,3,19)	1	* 51	D-30106-F	Clutch Ring	1
1A	D-38178-F	Lower Plate Screw	2	* 52	D-30107-F	Clutch Spider (Obsolete)	1
18	D-33841-F	Upper Plate Screw	2	* 53	D-30625-F	Clutch Roller	6
2	D-30084-F	Former Slide Gib	2	* 54	D-30440-F	Clutch Spring	6
3	D-8520-F	Gib Screw	4	* 55	D-30098-F	Front Plate	1
4	D-36459-A	Feed Control Assembly	1	* 56	D-30097-F	Back Plate	1
5	D-30210-F	Feed Control Spindle	1	* 57	D-30539-F	Screw	3
6	D-30090	Lever	1	* 58	D-30224-A	Feed Gear Shaft Assembly	1
7	D-40936-F	Roll Pin	1	* 59	D-30235-A	Feed Clutch Arm Assembly	1
8	D-31217-A	Tilter Crank Assembly	1	60	D-30095-F	Third Wire Draw Bar	1
9	D-31043-F	Tilter Crank (only)	1	61	D-30601-F	Washer	4
10	D-30212-F	Arm	1	62	D-30338-F	Screw	6
11	D-38062-F	Roll Pin	1	63	D-30198-A	Intermediate Wire Draw Bar Assembly	1
12	D-30614-F	Adjusting Screw	1	64	D-30236-A	Clutch Brake Spring Assembly	1
13	D-30085-F	Adjusting Screw Locknut	1	* 65	D-30190-F	Feed Clutch Screw	1
14	D-30231-A	Feed Idler Lever Assembly	1	* 66	D-30538-F	Set Screw	1
15	D-30016-F	Fulcrum Screw	1	67	D-37731-A	Wire Feed Index Lever Assembly	1
16	D-30541-F	Nut	1	68	D-30083-F	Index Lever	1
17	D-37014-F	Idler Lever Spring	1	69	D-37751-F	Roll Pin	1
18	D-30613-F	Adjusting Screw	1	70	D-36455-F	Lock Screw	1
19	D-30610-F	Faceplate Dowel Pin	2	71	C-9033-A	Wire Feed Tube Assembly	1
20	D-30611-F	Friction Tube	1	72	CB-624	Screw	2
21	C-8861-A	Former Slide Assembly	1	73	D-31259-A	Wire Straightener Assembly	1
22	C-8860-F	Former Slide (only)	1	74	D-30213-F	Body	1
23	D-36994-F	Shoe	1	75	D-30010-F	Stud	2
24	D-31956-F	Shoe Spring	1	76	D-30616-F	Roller	2
25	D-31980-F	Shoe Bracket	1	77	D-30200-F	Slide	1
26	D-32109-F	Shoe Fulcrum Pin	1	78	D-43086-F	Slide Screw	1
27	D-30609-F	Dowel Pin	2	79	D-30618-F	Screw	1
28	D-11790-F	Shoe Bracket Screw	4	80	D-30225-F	Idler Gear	1
29	D-30191-F	Cam Roller Stud	1	81	D-30015-F	Washer	1
30	D-30626-F	Cam Roller Stud Nut	1	82	D-30602-F	Screw	1
31	D-30609-F	Dowel Pin	1	83	C-8001-F	Feed Gear Guard	1
32	D-30087-F	Cam Roller	1	84	D-30605-F	Screw	2
33	C-8054-F	Drive Bar (only)	1	85	D-30203-F	Guard Screw	1
34	C-8075-A	Drive Bar Assembly	1	86	D-30586-F	Screw	1
	D-30202-F	Anvil Bar Tilter	1	87	C-8003-F	Wire Feed Guard	1
	D-30338-F	Screw	2	88	D-38180-F	Wire Feed Cutter Handle	1
35	D-30056-A	Cutter Block Slide Assembly	1	89	D-30099-F	Cutter Knife	2
36	D-30088-F	Roller	1	90	CB759	Cutter Knife Screw	1
37	D-30599-F	Washer	1	91	D-36451-A	Spring Wire Guide Assembly	1
38	D-30518-F	Screw	1	92	B-6786-A	Front Block Assembly	1
39	D-30223-A	Control Cam Assembly	1	93	C-8924-A	Front Block and Pin	1
40	D-30012-F	Stud	1	94	D-36444-A	Mandrel Spring Assembly	1
41	D-30076-F	Spindle	1	95	D-36442-F	Mandrel Spring Screw	1
42	D-37751-F	Roll Pin	1	96	D-30222-A	Gripper Lifter Crank Assembly	1
43	D-30237-A	Driver Bar Connecting Link Assembly	1	97	D-36449-F	Gripper Lifter Crank Screw	1
44	D-30127-A	Link	1	98	D-30635-F	Mandrel Pivot Screw	1
45	D-30208-F	Eccentric	1	* 99	D-30228-A	Mandrel Assembly	1
46	D-30114-A	First Wire Draw Bar Assembly	1	100	C-8009-F	Mandrel	1
47	D-30096-F	Wire Draw Bar	1	101	D-30117-F	Gripper	1
48	D-30624-F	Stud	1	102	D-36420-A	Spring Plug Assembly	1
49	D-16651-F	Nut	1	103	D-30034-F	Retaining Block	1
* 50	D-30115-A	(Replaced by CBBB-3000-P4)	1	104	D-30631	Pin	1

NOT
SHOWN

PARTS LIST

Stitching Head Assemblies

Index Number	Part Number	Part Name	Number Required	Index Number	Part Number	Part Name	Number Required
105	D30936F	Roller	1	128	D30523F	Former Screws	4
106	D30931F	Eccentric	1	129	D36993A	Shoe Plunger Bracket Assembly	1
107	D36460F	Eccentric Screw	1	129A	D30161F	Bracket (only)	1
108	D13260F	Lock Washer	2	130	D31310F	Plunger	1
109	D30575F	Nut	2	131	D38065F	Screw	1
110	B6066A	Cutter Block Assembly	1	132	D31903F	Roller	1
111	C8006F	Cutter Block (only)	1	133	D31904F	Roller Pin	1
112	D36458F	Adjusting Slide	1	134	D31302F	Plunger Stud	1
113	D36445F	Adjusting Screw	1	135	D13931D	Jam Nut	2
114	D36441F	Lock Screw	1	136	D48961F	Plunger Spring	1
115	S30058F	Wire Guide	1	137	D52891F	Lock Washer	1
116	D36447F	Wire Guide Screw	1	138	D38152F	Wiper Body	1
117	D30026F	Flat Knife Holder	1	139	D38154F	Felt Wiper	1
118	D30425F	Knife Holder Spring	1	140	CDD3011	Finger Guard Bracket Assembly	1
119	D30630F	Round Die (round wire)	1	141	CB175	Flat Washer	2
119	D30253F	Round Die (flat wire)	1	142*	CD2391	Klip Ring	2
120	CB56i	Round Die Screw	1	143*	CD2347B	Feed Gear	1
121	D30629F	Flat Knife	1	144*	CDD2345B	Feed Gear Shaft	1
122	CB312B	Flat Knife Screw	1	145*	CDD1283A	Feed Clutch Arm Assembly	1
123	D36446F	Attaching Screw	2	146*	CB2063	Thrust Washer	1
124	D36453F	Attaching Screw - Front Block	2				
125	D30189F	Driver, 7/16" Crown, No. 25	1				
		Wire (round)					
125	D30956F	Driver, 7/16" Crown, No. 20 x 25	1				
		Wire (flat)					
125	D34001F	Driver, 7/16" Crown, No. 19 x 21½	1				
		Wire (flat)					
126	D30205F	L.H. Former, No. 25 Wire (round)	1				
126	D37422F	L.H. Former, No. 19 x 21½	1				
		Wire (flat)					
126	D30952F	L.H. Former, No. 20 x 25 Wire (flat)	1				
127	D30188F	R.H. Former, No. 25 Wire (round)	1				
127	D37421F	R.H. Former, No. 19 x 21½	1				
		Wire (flat)					
127	D30953F	R.H. Former, No. 20 x 25 Wire (flat)	1				

*Use index number 58, 59, 56, 50, 52, 54, 53, 51, 57, 66, 65, for machines equipped with one piece feed gear and shaft assembly (index No. 58).

Use index numbers 142, 143, 144, 145, 146, for machines equipped with 2 piece feed gear and shaft.

these parts can be ordered as a kit: Use part No. CBBB3000P4.

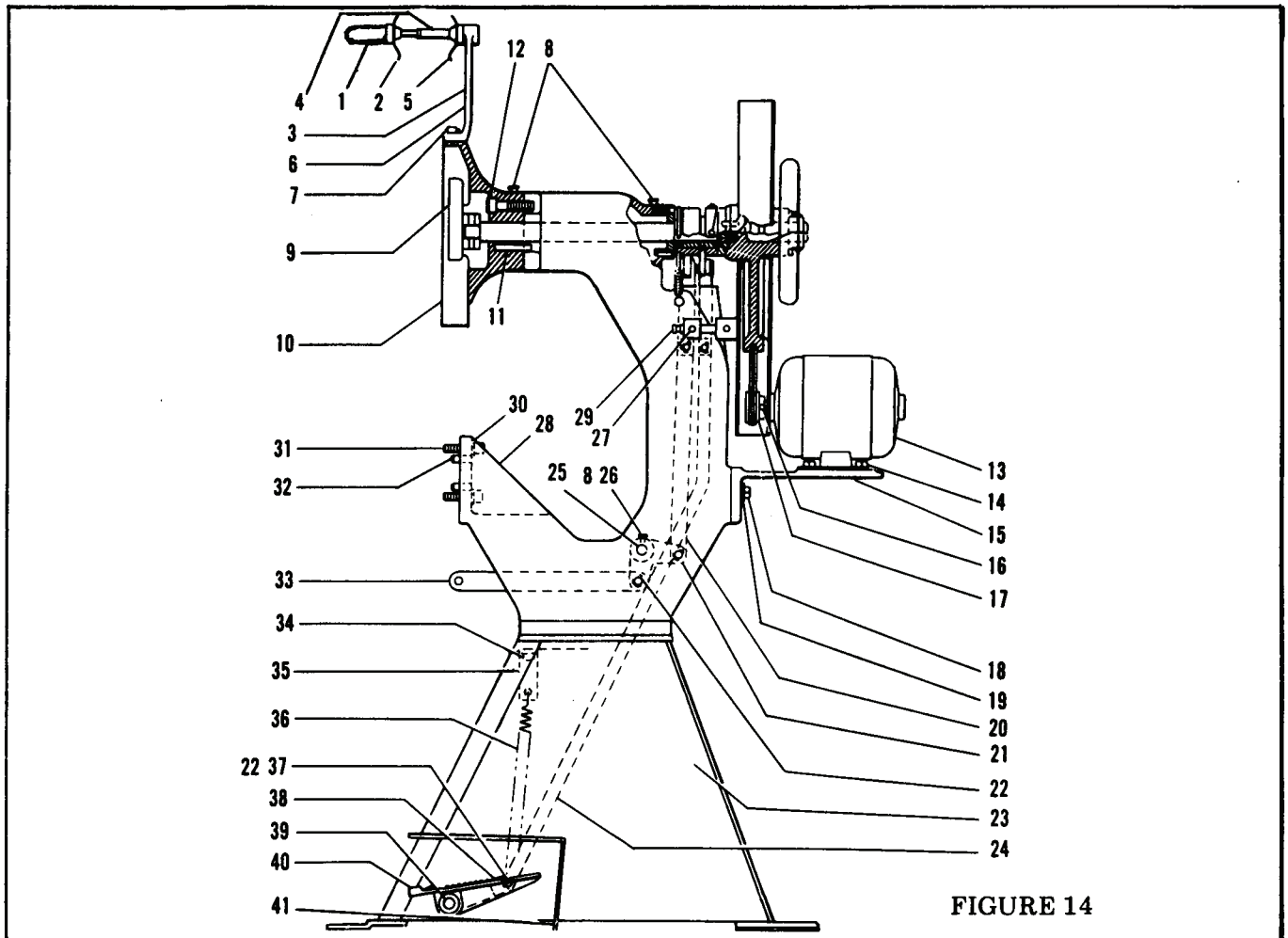


FIGURE 14

Index Number	Part Number	Part Name	Number Required	Index Number	Part Number	Part Name	Number Required
1	CN-56	Spindle Knob	1	25	D-30066-F	Bell Crank Fulcrum Pin	1
2	D-31051-A	Front Spider Assembly	1	26	CB-722	Set Screw	2
3	CNN-11	Wire Spool Bracket Assembly	1	27	CB-138	1/4-20 x 3/8" Set Screw	4
4	D-30075-F	Spindle	1		CB-841	Nylon Plug	2
5	D-31096-A	Rear Spider Assembly	1	28	CN-2	Top Frame	1
6	CN-11	Wire Spool Bracket (only)	1	29	CN-7	Pulley Guard Stud	2
7	CB-1385	Oiler Screw	1	30	CB-865	Washer	4
	CB-487-B	1/4-20 x 1" Hex Hd. Capscrew	1	31	CB-192-C	7/16-14 x 1-1/2" Soc. Hd. Capscrew	4
8	CB-45	Oil Cup	3	32	CE-103	3/8 x 1-1/2" Dowel Pin	2
9	CNN-4	Drive Shaft and Cam Assembly	1	33	D-37741-A	Horizontal Connecting Bar Assembly	1
10	CN-497-K	Neck Extension	1	34	CB-379	1/2-13 x 2" Soc. Hd. Capscrew	4
11	CB-1244	3/8 x 2" Dowel Pin	2	35	CE-40	Spring Anchor	1
12	CB-618	1/2-13 x 1-3/4" Soc. Hd. Capscrew	4	36	CE-39	Foot Pedal Spring	1
13		Motor - Give Complete Specifications	1	37	CE-38	Clutch Rod Pin	1
14	CB-35-A	5/16-18 x 5/8" Hex Hd. Capscrew	4	38	CE-29	Clutch Rod Lever	1
15	CA-6	Motor Bracket	1	39	CA-14-A	Foot Pedal Shaft	1
16	CB-177	Set Screw	1		CA-112	Taper Pin	2
17	CB-176-A	Motor Pulley	1		CA-102	Collar	1
18	CB-375	3/8-16 x 1-1/4" Hex Hd. Capscrew	2		CA-47	Set Screw	1
19	CB-179	Washer	2		CB-110	5/16-18 x 1" Soc. Hd. Capscrew	2
20	D-37740-A	Vertical Connecting Bar Assembly	1		CD-1742	Bearing	1
21	D-30021-F	Clincher Bell Crank	1		CA-133	Bearing Block	1
22	CB-168	Cotter Pin	5	40	CA-7	Foot Pedal - R.H.	1
23	CA-1-A	Base	1		CA-8	Foot Pedal - L.H.	1
24	CN-8	Clutch Operating Bar	1	41	CA-134	Foot Pedal Guard	1

DRIVE SUB-ASSEMBLY

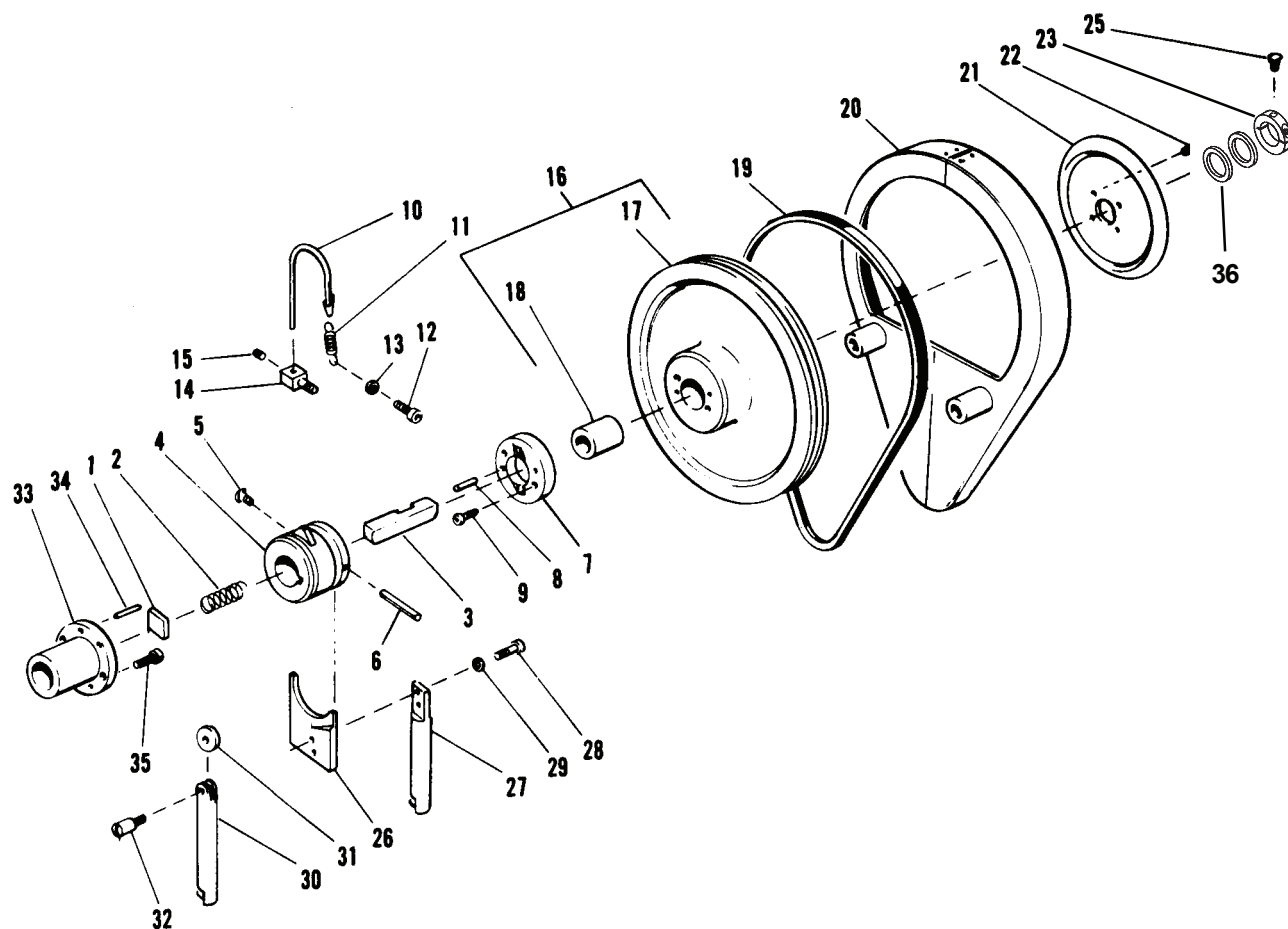
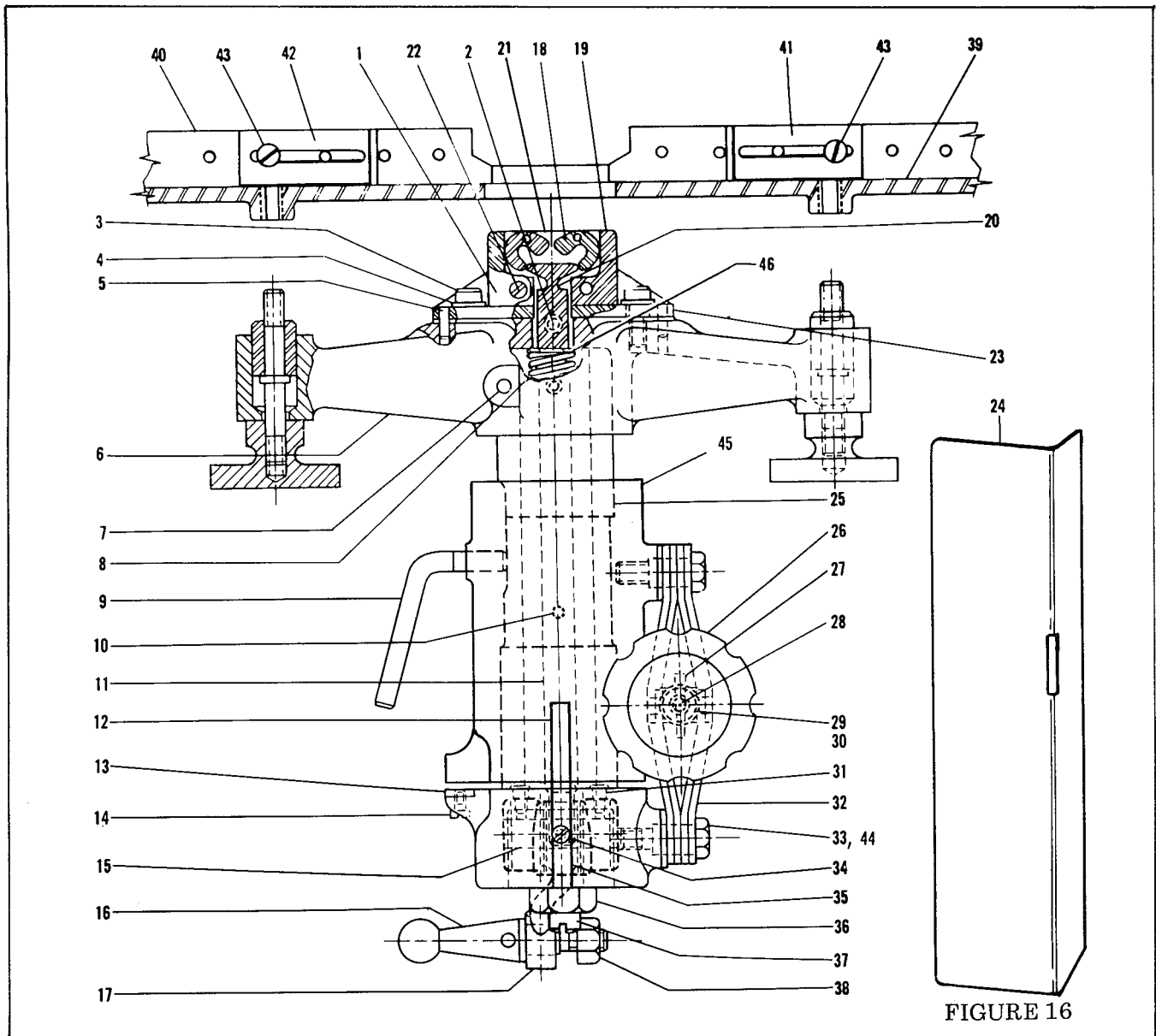


FIGURE 15

Index Number	Part Number	Part Name	Number Required	Index Number	Part Number	Part Name	Number Required
1	D30645F	Clutch Bolt Spring Backing	1	20	CEEE73	Guard Assembly	1
2	D30480F	Clutch Bolt Spring	1	21	CB270	Hand Wheel	1
3	D30218F	Clutch Bolt	1	22	CB126	Screw	4
4	D30220A	Clutch Coupling Collar Assembly	1	23	CN14A	Collar	1
5	D30558F	Oiler	1	24	CB77	Screw, 10-32 x .625 Soc. Hd. (Included with item 23)	1
6	CB835H	Roll Pin	1	25	CB45A	Oiler	1
7	D30086F	Clutch Face	1	26	D30199F	Clutch Throw-Off	1
8	D30604F	Clutch Face Pin	2	27	D37742A	Clutch Throw-Off Rod Assembly	1
9	D30649F	Clutch Face Screw	2	28	CB271	Screw	2
10	D38572F	Brake Strap	1	29	CB371	Washer	2
11	D30473F	Brake Spring	1	30	D37739A	Push Rod Assembly	1
12	CB629A	Screw	1	31	D31843F	Roller	1
13	D1020F	Nut	1	32	D30233F	Screw	1
14	D38558F	Brake Strap Bracket	1	33	CN5	Bearing	1
15	D30524F	Set Screw	1	34	CB118	Dowel Pin	4
16	CNN20	Drive Wheel and Bushing Assembly	1	35	CB77A	Screw	2
17	CN20	Drive Wheel	1	36	CN59	Spacer	2
18	CN29	Bushing	2				
19	CN16	V-Belt	1				



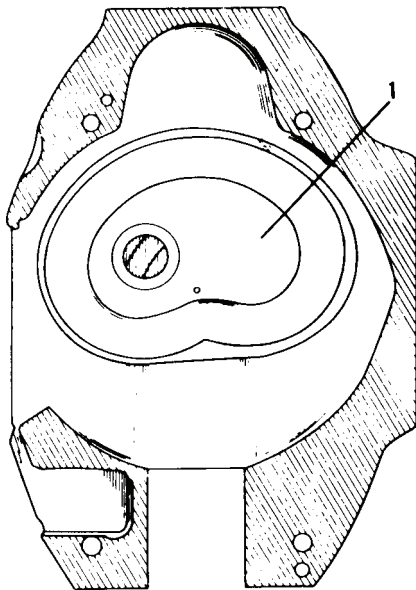
Index Number	Part Number	Part Name	Number Required	Index Number	Part Number	Part Name	Number Required
1	D-30215-F	Clincher Front Plate	1	17	D-30192-F	Clincher Front Bell Crank	1
2	CB-622-A	Clincher Lifter	1	18	D-30108-F	Clincher	2
3	D-30534-F	Screw	2	19	D-30197-F	Side Plate	2
4	D-13260-F	Lockwasher	2	20	D-30110-F	Clincher Lifter	1
5	D-30422-F	Dowel Pin	2	21	D-30216-F	Clincher Back Plate	1
6	C-9039-A	Table Support Assembly	1	22	D-30865-F	Flat Hd. Screw	2
7	CB-835-H	Roll Pin	1	23	D-30072-F	Clincher Box Bracket	1
8	D-30481-F	Clincher Push Rod Spring	1	24	A-2178-A	Saddle Assembly	1
9	D-30037-F	Spindle Lockscrew	1	25	B-6028	Table Raising Spindle	1
10	D-37765-F	Roll Pin	1	26	D-30078-F	Table Adjusting Screw Wheel	1
11	D-30068-F	Clincher Push Rod	1	27	D-38063-F	Roll Pin	1
12	D-30069-F	Thickness Gauge Pointer Bar	1	28	D-30046-F	Table Adjusting Screw	1
13	D-30030-F	Paper Gauge Spacer Block	1	29	D-30074-F	R.H. Toggle Nut	1
14	CB-622-A	Paper Gauge Screw	1	30	D-30070-F	L.H. Toggle Nut	1
15	D-30076-F	Bell Crank Pivot Pin	1	31	D-30542-F	Gits Oiler	2
16	D-36454-F	Bell Crank Handle	1	32	D-30101-F	Toggle Link	8

PARTS LIST

Index Number	Part Number	Part Name	Number Required	Index Number	Part Number	Part Name	Number Required
33	CN-9	Toggle Joint End Screw	2		B-06002-F	Table Bracket	1
34	CB-622-A	Pointer Bar Screw	1		D-05042-F	Screw	6
35	D-30536-F	Screw	1	40	CD-3013	Table Gauge	1
36	D-05894-F	Clincher Adjusting Screw Nut	1	41	D-50732-F	Table Gauge Angle R.H.	1
37	D-30204-F	Clincher Adjusting Screw	1	42	D-50733-F	Table Gauge Angle L.H.	1
38	D-30541-F	Nut	1	43	D-37725-F	Gauge Screws	4
39	A-2177-A	Table Assembly includes:		44	CB-253	Washer	2
	B-06067-F	Table	1	45	D-45194-F	Washer	1

NOT SHOWN

CD-3004	Saddle Stop	1	CB-1262	Washer #10	4
CB-375-A	Screw 3/8-16 x 1-1/2 Hex Hd	2	CG-59	Wave Washer	4
D-30541-F	Nut 3/8-16	2	RTM1327C	Interlock Key	2
CD-3002	Key Slide	2	CG-26-A	Screw #10-32 x 1/2 Button Hd	4
CD-3001	Spacer	4	CB-278	Nut #10-32	4
CG-26	Screw #10-32 x 3/8 Button Hd	4			

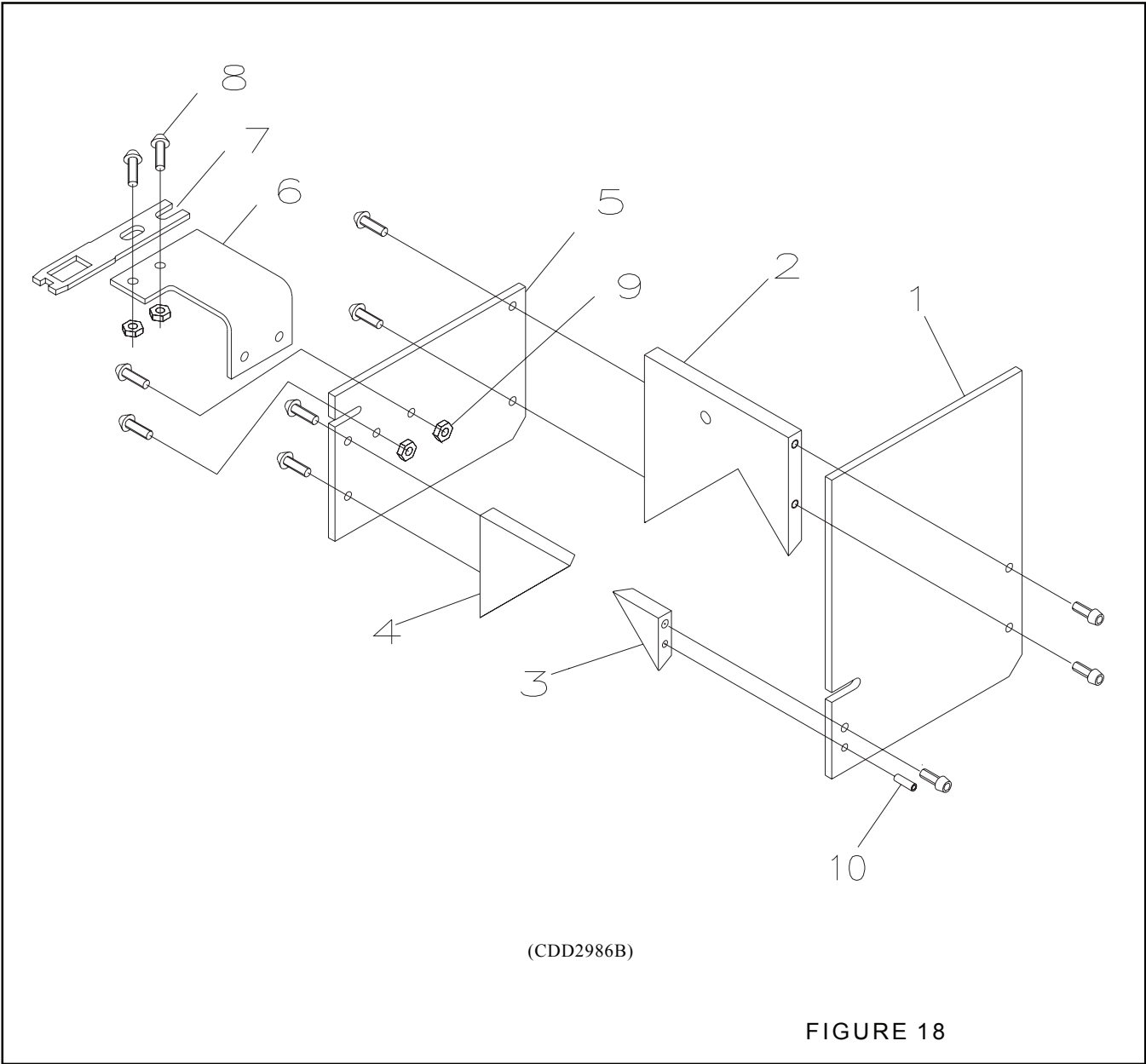


CAM and SHAFT Assembly*

Figure 17

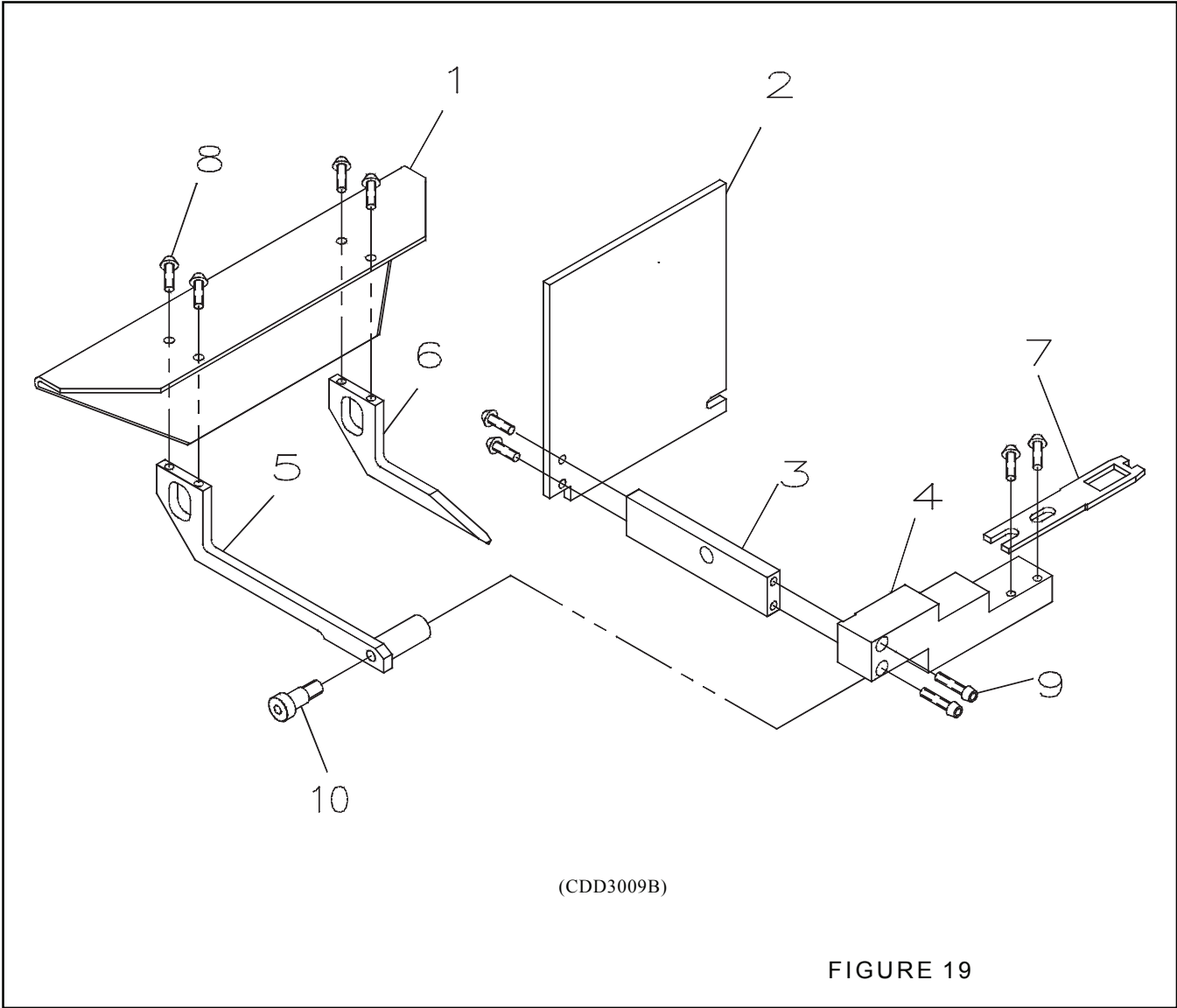
Index Number	Part Number	Part Name	Number Required
1	CNN-4	Cam & Shaft Assembly	1

*Cam, Pin, and Drive Shaft furnished as an assembly only



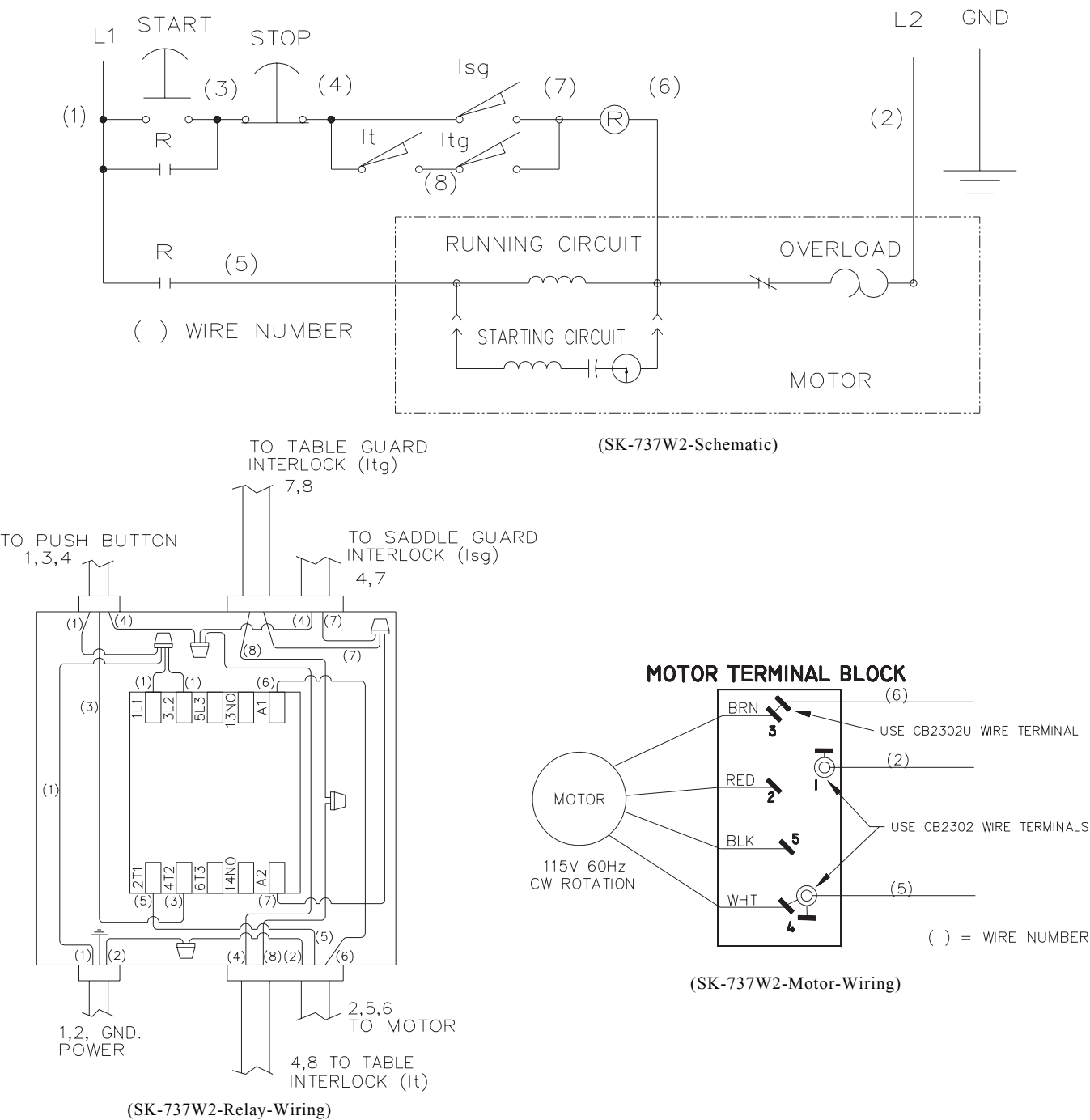
Index Number	Part Number	Part Name	Number Required
1	CD-2986	Finger Guard	1
2	CD-2987	Side Guard-RH	1
3	CD-2988	Side Guard-LH	1
4	CD-2989	Side Guard-LH Rear	1
5	CD-2990	Rear Guard	1
6	CD-2992	Key Bracket	1
7	RTM1327C	Interlock Key	1
8	CG-26-A	Screw #10-32 x 1/2 Button Head	11
9	CB-278	Nut #10-32	4
10	D-38062-F	Roll Pin .156x.500 Long	1

TABLE FINGER GUARD ALLEMBLY



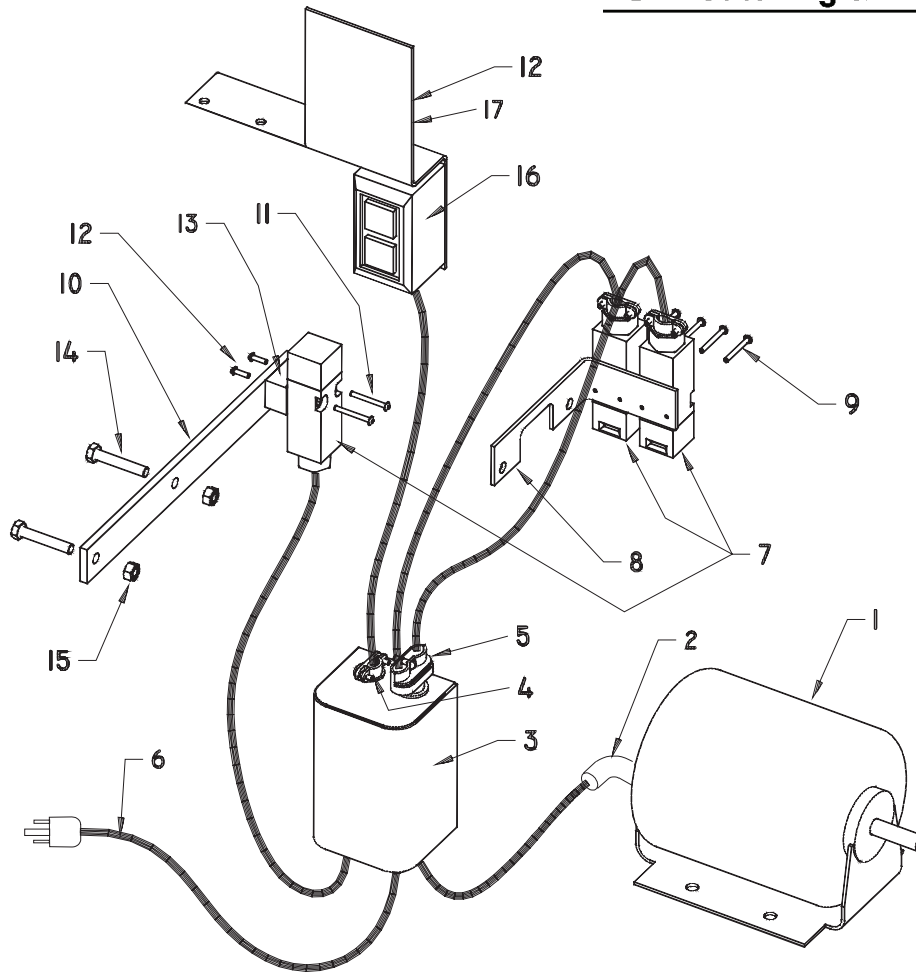
Index Number	Part Number	Part Name	Number Required
1	CD-3009	Finger Guard Gate	1
2	CD-2995	Front Cover	1
3	CD-2996	Mounting Bar	1
4	CD-2997	Support Bar	1
5	CDD-2998	Gate Arm Assembly	1
6	CD-3010	Side Bar	1
7	RTM1327C	Interlock Key	1
8	CG-26-A	Screw #10-32 x 1/2 Button Head	8
9	CB-1090	Screw #10-32 x 1 Soc Hd Cap	2
10	CD-3008	Shoulder Screw	1

115V, 60HZ., 1 PHASE, POWER



QTY	PART#	DESCRIPTION
9'	E-14	3/8 FLEX. STL. CONDUIT
25'	EF1309F	14 GA. STR. WIRE BLACK
2'	EF1311F	14 GA. STR. WIRE WHITE
10	D37200F	BUSHING
6	CB2302	PRESSURE TERMINAL
2	ERC55	WIRE JOINT
5	CB2302B	DISCONNECT TERMINAL
3	CB2302	WIRE JOINT
1	CB2302U	DISCONNECT TERMINAL

COLOR	WIRE NUMBER
WHITE	2
BLACK	1,3,4,5,6,7,8
GREEN	GROUND

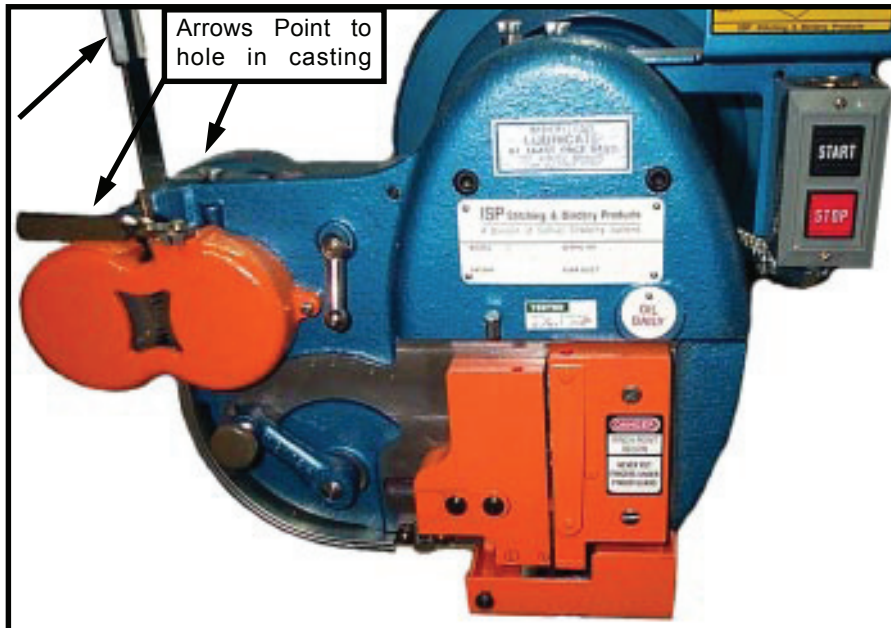
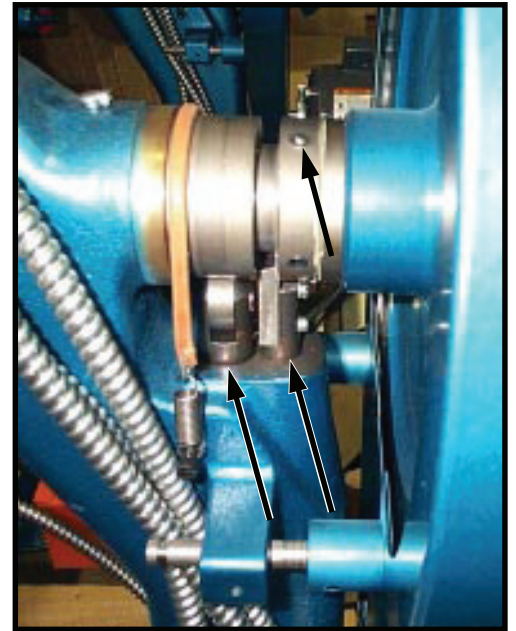


(SK-737W2-Exploded)

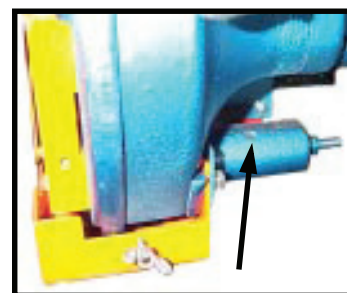
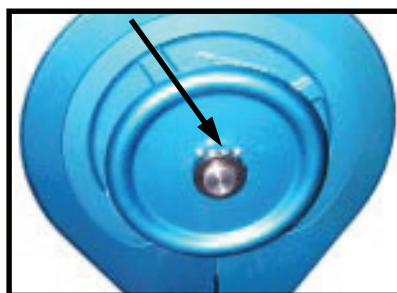
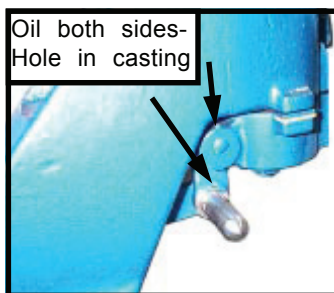
Index Number	Part Number	Part Name	Number Required
1	M3L	MOTOR-1/3 HP. 115V	1
2	CB544	90° CONNECTOR	2
3	CB2454	POWER RELAY	1
	CB2455	RELAY ENCLOSURE	1
	CB126	SCREW #10-32 x 3/8" RD. HEAD (ENCLOSURE FRAME)	2
	CB988	LOCKWASHER #10	2
	CB1070B	GROUNDING SCREW	1
	CB2457	SCREW #8-32 x 1/2" PAN HEAD	1
	CB860J	NUT #8-32 NYLOK	1
4	CB429	CONNECTOR	5
5	D38384F	DUAL CONNECTOR	2
6	CB283	POWER CORD	1
7	RTM1326F	INTERLOCK SWITCH	3
8	CD2991A	SWITCH BRACKET	1
9	RTM1324F	SCREW #6-32 x 1.25" BUTTON HEAD	4
10	CD3003A	SWITCH BRACKET	1
11	RTM1324F	SCREW #6-32 x 1.25" BUTTON HEAD	2
12	CB287E	SCREW #6-32 x 1/2" RD. HD.	2
13	CB3006A	SPACER	1
14	CB620	SCREW 5/16-18 x 1 3/4" HEX	2
15	CB102A	NUT 5/16-18	2
16	CB285K2	PUSH BUTTON SWITCH	1
	CB126	SCREW #10-32 x 1/2 RD. HD.	2
	CB988	LOCKWASHER #10	2
	CB278	NUT #10-32	2
17	CNN57	SWITCH BRACKET	1

Lubrication Schedule

- Lubricate motor per manufacture's recommendation.
- Lubricate all oil cups daily with SAE-20 oil.
- All other points indicated on this page should be lubricated daily with SAE-20 oil.



Oil top and bottom on backside of faceplate



WHEN ORDERING PARTS, PLEASE STATE: QUANTITY REQUIRED, PART NUMBER,
PART NAME, MODEL, WIRE SIZE, AND CROWN WIDTH OF YOUR STITCHER.

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