

 **DELUXE STITCHER**
COMPANY INC.
ISP Stitching & Bindery Products

**OWNERS
MANUAL**

**S5F
BOX
STITCHER**



MODEL 55F BOX STITCHER

CONTENTS

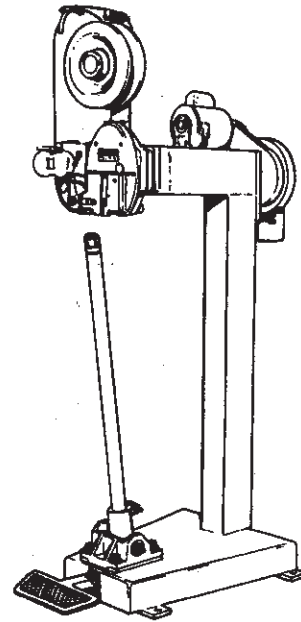
INSTRUCTION PREFACE	4
KNOW YOUR STITCHER	5
SAFETY PRECAUTIONS AND PROCEDURES	5
INSTALLATION	6
UNCRATING STITCHER	6
LOCATION FOR STITCHER	6
LUBRICATION POINTS	6
COIL HOLDER AND WIRE COIL	7
SET MACHINE FOR STITCHING	7
OPERATING INSTRUCTIONS	8
POST STITCHERS	8
ARM, TOP AND SEAM STITCHERS	8
FREIGHT RULES	9
TROUBLE SHOOTING CHART	10
HEAD PLATE ASSEMBLY	10
CLUTCH DRIVE ASSEMBLY	12
FRAME, PEDAL, ARM AND POST ASSEMBLY	12
MAINTENANCE AND ADJUSTMENTS	13
CLINCHER BLOCK	13
CLINCHER COMPRESSION	13
MAIN SHAFT BEARING	13
CLUTCH PIN	14
DRIVE PINS	14
V-BELT	14
BRAKE BRACKET ADJUSTMENT	14
BRAKE SAFETY LATCH	15
CLUTCH PLATE	16
PEDAL SET SCREWS	16
FORMERS	16
DRIVER	16
IMPROPER WIRE CUT-OFF	17
IMPROPER WIRE SIZE	17
MANDREL	17
MANDREL SPRING	18
GRIPPER LIFTER CRANK	18
25 - POUND COIL HOLDER BRAKE ADJUSTMENT	18
WIRE STRAIGHTENER	19
SHOE	19
ADJUSTABLE DRIVE BAR LINK	19
CUTTER BLOCK ASSEMBLY	19
WIRE FEED IDLER GEAR	20
WIRE FEED CLUTCH	20
MAIN DRIVE WHEEL	20
FINGER GUARD	20
POST	21
PARTS LIST	22-32
COIL HOLDER ASSEMBLY	22
STITCHING HEAD	23-24
SHOE PLUNGER AND FACE PLATE ASSEMBLY	25-26
CUTTING AND FRONT BLOCK ASSEMBLY	27
CAM AND SHAFT ASSEMBLY	28
CLUTCH AND DRIVE ASSEMBLY	29-30
FRAME, PEDAL, ARM AND POST ASSEMBLY	31-32

INSTRUCTIONS FOR:

**INSTALLATION
MAINTENANCE
OPERATION**

OF THE

MODEL S5F BOX STITCHER



Set for _____ wire stitching

Serial Number _____ Type _____

Wire Size _____ Crown Width _____

Cutter Blade Size _____

Special Parts: _____

The S5F Box Stitcher incorporates the latest in engineering design for attaining optimum mechanical performance, improved service ability, and adequate operator safety. With these plus features at hand and with proper care and service, your S5F Box Stitcher will give years of reliable, trouble free and safe service. This manual points the way to get top performance from your stitcher. Read the instructions thoroughly - study the diagrams carefully. Best stitching performance will be assured if all adjustments are made as instructed so that you get the following desired results.

- 1 GOOD CUT-OFF**
- 2 UNIFORM WIRE DRAW**
- 3 EQUAL LEG LENGTH**
- 4 PROPER CLINCHER ALIGNMENT**
- 5 SUFFICIENT COMPRESSION**

MODEL S5F BOX STITCHER

KNOW YOUR STITCHER

YOUR MODEL S5F BOX STITCHER MAY BE EQUIPPED FOR EITHER FLAT WIRE STITCHING OR FOR ARCUATE STITCHING. KNOW WHICH SYSTEM IS USED IN YOUR STITCHER TO DETERMINE PROPER MAINTENANCE, SERVICE, AND ORDERING OF PARTS.

FLAT WIRE STITCHER

Flat stitching wire is fed from a coil, through the stitcher feed wheels, onward through the guide tube and straightener rolls, to the former and driver assembly where a stitch is formed and driven.

The cross section of stitching wire remains flat.



FLAT WIRE CROSS SECTION

ARCUATE STITCHER

Flat stitching wire is fed from a coil, through special feed wheels which induce an arc in the wire cross section before the wire is fed onward through the guide tube and straightener rolls, and to the former and driver assembly where a stitch is formed and driven.



ARCUATE WIRE CROSS SECTION

SAFETY PRECAUTIONS And PROCEDURES

Good safety habits are a personal contribution that must be made by S5F Box Stitcher operating personnel. Operators should familiarize themselves with the various mechanical segments of the S5F Box Stitcher that are dynamically involved when making a stitch: Clincher and drive assembly --- post assembly --- cam shaft assembly --- drive wheel --- face plate assembly. All these segments, plus others, contain revolution or movement of mechanical parts motivated by electric power. Once momentarily actuated the stitcher goes through one complete stitching cycle before stopping. Keep hands away from these potential danger areas while the stitcher is under power.

Before servicing the S5F Box Stitcher, turn power OFF or disconnect its electrical source. Make no attempt to clean, adjust, lubricate, or repair this stitching machine while power is turned ON or while it is in operation.

General good housekeeping and area cleanliness around the S5F Box Stitcher will contribute greatly to personal safety. Keep floor area around stitcher clean and free from debris. Route stitcher electrical cable away from aisles or pedestrian lanes.

A WELL MAINTAINED MACHINE IS A SAFER MACHINE.

INSTALLATION

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

Before uncrating, examine your stitcher for any visible damage in transit. If damaged, **DO NOT UNCRATE THE MACHINE**. Instead notify transportation officials immediately.

Uncrating Stitcher:

NOTE

For uncrating Stitcher in closed crate, follow instructions on crate. For open type crates, see below.

(1) Remove the end of the crate at which the motor is located. (2) Remove two bolts which hold the base of the stitcher to the bottom of the crate. (3) Remove the cross brace in the upper half of the crate. (4) Pull the stitcher from the crate.

After uncrating, examine the stitcher carefully for any damage in transit. If damaged, **DO NOT INSTALL THE MACHINE**. Instead notify transportation officials and your ISP representative immediately. Make certain that you get a signed copy of the Carrier Inspector's Report of the damage incurred.

Location for Stitcher:

Your stitcher should be placed on a level floor. Best performance is obtained by fastening the machine to the floor.

After cleaning, your stitcher should be lubricated at all oiling points (figure 1). The machine should be oiled twice every eight operating hours.

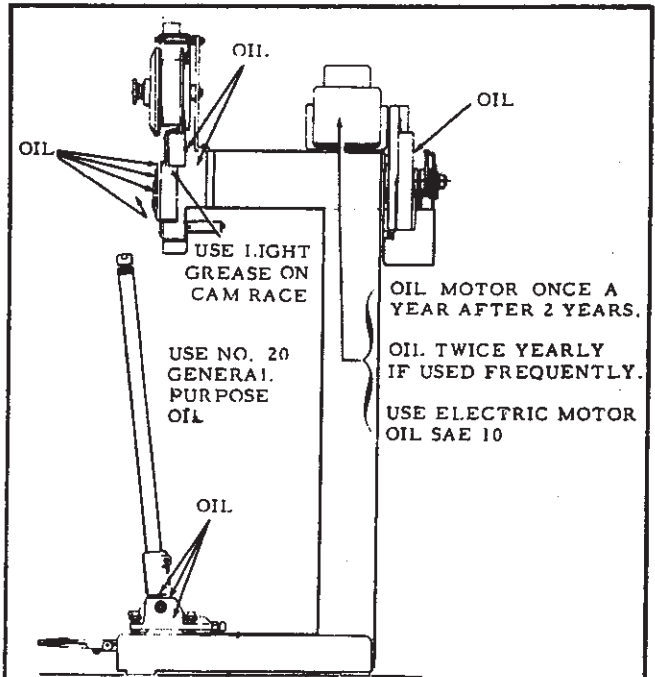
Check Motor:

The type of motor for your machine was specified on your purchase order. These specifications are repeated on a tag which is attached to your stitcher. Check this tag before connecting the machine to electric current.

CAUTION

Before operating stitcher by motor power, depress the foot pedal and turn drive wheel by hand to make sure that the stitcher head will complete its cycle without interference.

LUBRICATION POINTS



OIL TWICE EVERY EIGHT OPERATING HOURS.
USE S. A. E. #20 OIL

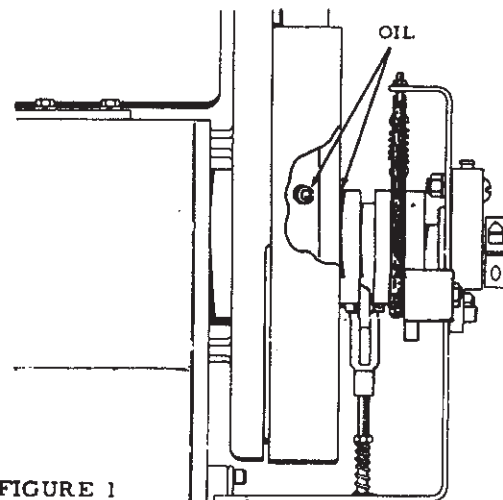
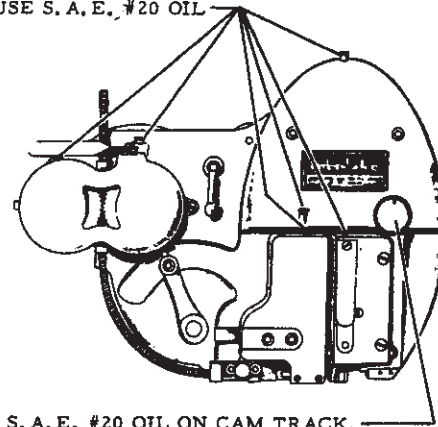


FIGURE 1

MODEL S5F BOX STITCHER

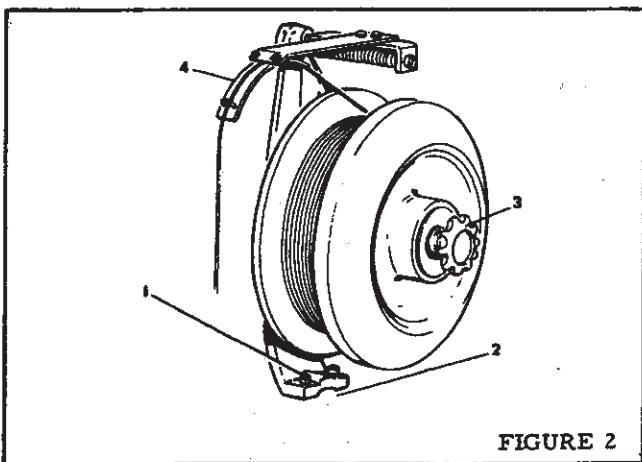
COIL HOLDER AND WIRE COIL

Coil Holder:

Remove twine and packing used to secure the coil holder during shipment. Make sure stitching wire is threaded through the feed tube and wire straightener assembly and into the cutter tube.

Wire Coils:

1. Remove wrapper from 25 pound coil of stitching wire. Make sure that the wire is the proper size for your stitching machine.
2. Remove cover of 25 pound coil holder by pressing inward on the knob (index 3, Fig. 2) while turning knob to release the cover shaft from main hub and reel assembly.
3. Place coil of stitching wire on the hub. Make sure the leading end of the stitching wire feeds toward the wire guide, (index 4, Fig. 2). Hold the wire end in one hand and cut tape ties from coil of stitching wire. Replace cover, press knob inward and turn 90 degrees.
4. Turn wire feed control handle (index 3, Fig. 4) to open wire feed gears (index 4 and 5, Fig. 4).
5. Pull a length of wire from the coil holder. Cut off the bent end. Then straighten wire by pulling it through your fingers.
6. Thread the wire over the top of the coil holder tension spring (index 6, Fig. 4) and down through the staple of the tension spring.
7. Now, thread the wire down into the wire tube (index 7, Fig. 4) and through the wire feed gears.
8. Turn wire feed control handle to close wire feed gears.
9. Step on foot pedal and turn drivewheel by hand until wire is visible at the bottom of the wire tube.
10. Guide the wire through the wire straightener (index 8, Fig. 4) and into the cutter block (9) until it has passed through the cut-off die (10).



Set Machine for Stitching:

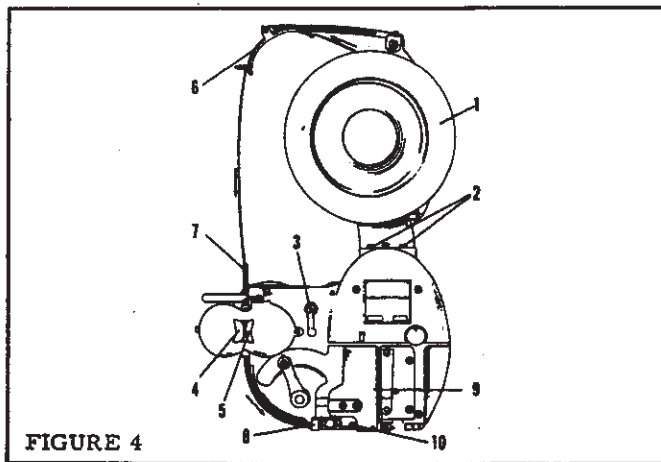
To set your machine properly, follow these six important steps:

1. Lower the clincher (index A, Fig. 5) as far as possible.
2. Open the wire feed gears. Step on foot pedal and turn drivewheel by hand until the formers (index C, Fig. 5) are at the lowest point of their stroke.
3. Place the material to be stitched over the clincher. If the work material is solid fibre, adjust clincher upward until the material is held firmly between the clincher and formers (see figure 5). If the work material is corrugated fibre, adjust clincher upward until the formers and clincher slightly compress the work material (see figure 5). Readjust if necessary to obtain the desired amount of compression.
4. Turn drivewheel by hand until the formers return to the highest point of their stroke.
5. Close wire feed gears. Operate machine under motor power, driving several stitches. Examine resulting stitches to determine if the correct amount of wire is being used (Fig. 10 shows what stitches should look like).
6. To increase or decrease the leg length of the stitches, loosen the screws of the wire feed index lever (index D, Fig. 5) and the cutter block (index 9, Fig. 4). Move index lever to the right for more leg length -- to the left for less leg length. Tighten screws of the index lever and cutter block. Repeat step 5.

The wire should have an arc of .028" to .032" (see figure 3). If there is not enough arc in the wire, increase the wire feed pressure by turning the wire feed pressure adjusting screw clockwise one or two turns. See U on page 19.



If your machine is set for flat wire stitching, disregard this instruction.



CAUTION

Avoid damage to your stitcher by following these rules:

1. Never operate your stitcher with wire feeding unless you have work material between the clincher and formers.
2. Do not drive one stitch on top of another.

Certain parts of your Model S5F INTERLAKE BOX STITCHER are more apt to require replacement than others. For this reason, it is recommended that you keep the following parts in stock.

QUANTITY	PART NUMBER	PART NAME
2	CBB-52 W	Cut-Off Die
2	D-38578-F	Knife
1	D-31267-F	Knife Screw
1	D-38620-F	Driver
1	CD-130-B	Clutch Pin
1	CB-128	Clutch Pin Spring
1	D-30087-F	Cam Roller

Parts that should be kept in stock if your stitcher is equipped for the Arcuate Wire Stitching method.

These parts may be ordered by writing or telephoning your nearest INTERLAKE Sales & Service office (see addresses on back cover).

* Specify wire size when ordering this part.

QUANTITY	PART NUMBER	PART NAME
2	D-37013-F	Cut-Off Die
2	D-38350-F	Knife
1	D-31267-F	Knife Screw
1	*	Driver
1	CD-130-B	Clutch Pin
1	CB-128	Clutch Pin Spring
1	D-30087-F	Cam Roller

Parts that should be kept in stock if your stitcher is equipped for flat wire stitching.

When ordering parts, include the following information:

- (a) Serial number of stitcher.
- (b) Wire Size.
- (c) Stitcher, Model Number
- (d) Stitch width, (example) 3/8", 7/16" or 1/2" crown.
- (e) Equipped for Flat or Arcuate stitching.

OPERATING INSTRUCTIONS

WARNING

PREVENT ACCIDENTS BY FOLLOWING THESE RULES.....

1. DO NOT PUT YOUR HANDS NEAR AREA TO BE STITCHED WHEN MACHINE IS OPERATING.
2. TURN THE MOTOR OFF WHEN THE STITCHER IS NOT IN USE.

Turn ON the power and place the material over the clincher. Make sure that the box is in the correct position for stitching (Fig. 6 shows the correct placement of stitches).

POST STITCHERS

Press down on the foot pedal gradually until the post is locked in an upright position. Then press the pedal down the rest of the way to engage the clutch. The machine will continue to stitch until the pedal is raised slightly.

ARM, TOP AND SEAM STITCHERS

The clutch is engaged by stepping on the foot pedal (or electric trip if the machine is so equipped). These models will also continue to stitch while the pedal is held down.

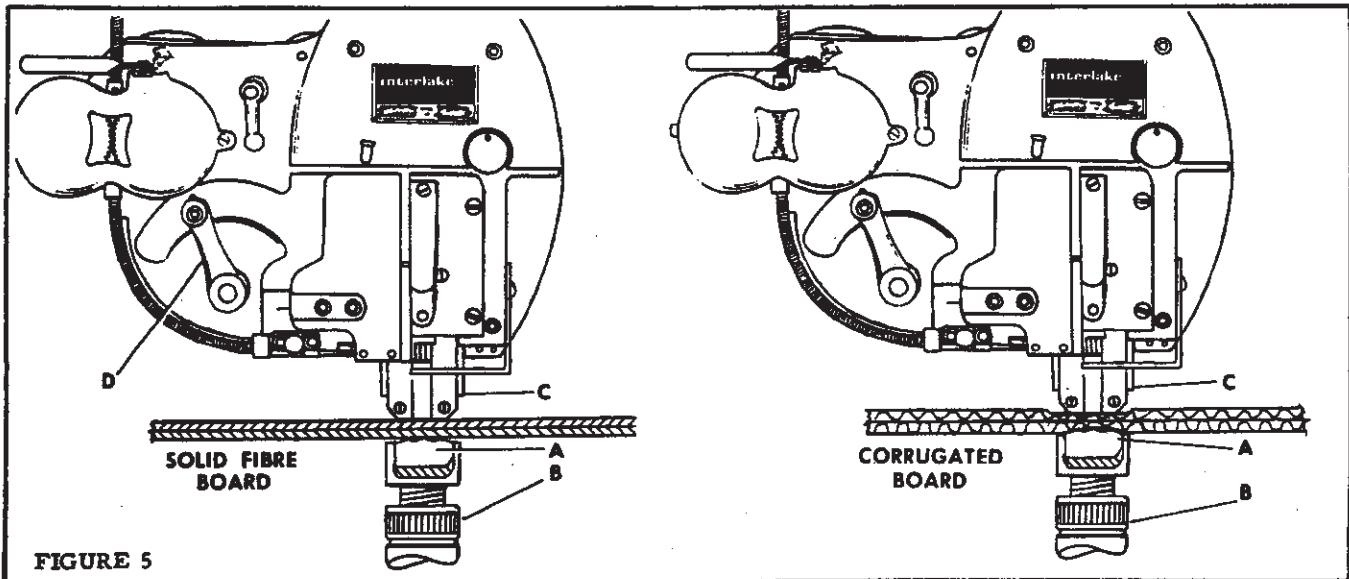
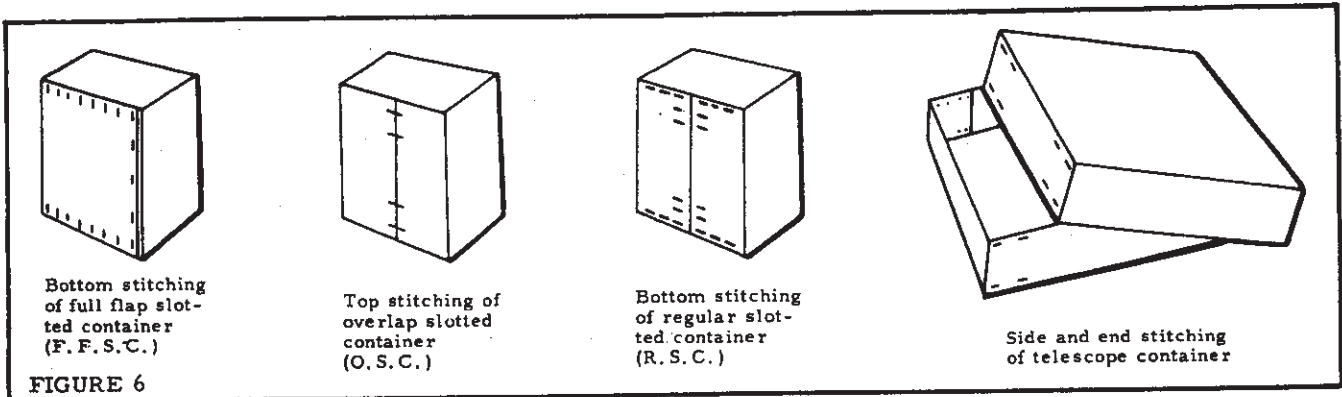


FIGURE 5

MODEL S5F BOX STITCHER



NOTE

According to the Consolidated Freight Classification Rulings, wire stitches used to close corrugated and solid fibre shipping boxes should be placed not more than 2-1/2" apart along the edges of the flaps. While the number of stitches required depends primarily

on the size of the box, the weight of the contents should also be considered. A box with a heavy load will often need more than the minimum number of stitches. The illustrations shown in Fig. 6 are a guide for the correct placement of stitches.

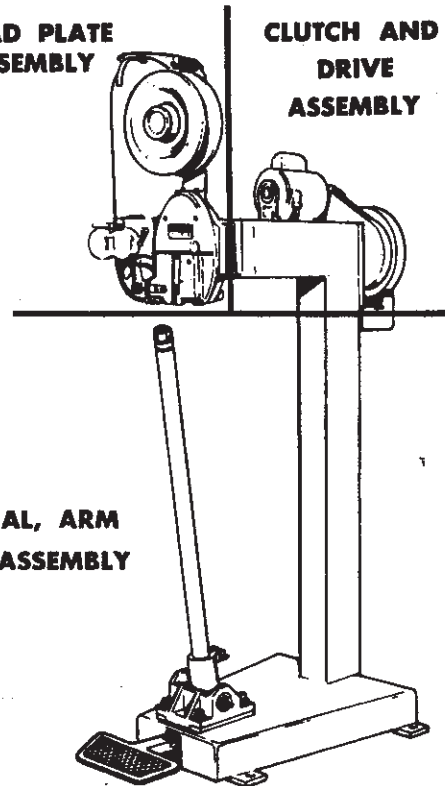
TROUBLE SHOOTING CHART

The Maintenance Trouble Shooting and Adjustment information in this section plays a very important role in eliminating or reducing production line down time.

The 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. The remedies are indexed to the various sections under Adjustments, which gives more detailed information about your stitcher and recommended remedies. Unless you recognize which of the causes is correct, check each one until the correct cause is located.






HEAD PLATE ASSEMBLY




CLUTCH AND DRIVE ASSEMBLY



FRAME, PEDAL, ARM AND POST ASSEMBLY

HEAD PLATE ASSEMBLY (Includes wire feeding, straightening, and forming parts)

TROUBLE	POSSIBLE CAUSE	REMEDY
A. DEFECTIVE STITCHES		
		PAGE
One or both legs buckled. 	<ol style="list-style-type: none"> Clincher block is worn or improperly aligned. Insufficient compression. Worn formers. 	See page 12.
Wrinkled crown. 	<ol style="list-style-type: none"> Improper wire cut-off. Wire too light for material being stitched. Unequal leg length. Lack of shoe support. Worn clincher. Worn mandrel. 	12 15 16 16 12, 16, 17, 18, 19 18 12 16
One leg is consistently too short or too long. 	<ol style="list-style-type: none"> Cutter block improperly positioned. 	18
Varying leg length 	<ol style="list-style-type: none"> Improper brake tension on coil holder. Insufficient tension on idler gear. Slippage in wire feed clutch. Weak mandrel gripper spring. Too much tension on wire straightener. 	17 19 19 17 18
Stitches come out in pieces. 	<ol style="list-style-type: none"> Mandrel assembly is worn or improperly adjusted. Wrong wire size. 	16, 17 16

TROUBLE	POSSIBLE CAUSE	REMEDY
<p>Corner or crown distorted or fractured.</p> 	<ol style="list-style-type: none"> 1. Too much compression. 2. Clincher block out of line. 3. Improper mandrel alignment. 4. Worn or broken formers. 5. Worn or broken driver. 6. Edges of the mandrel are worn. 7. Driver comes out too far. 8. Corners of the shoe are nicked or too sharp. 9. Worn clincher. 	<p>12 12 16 15 15 16 18 18 12</p>
<p>One or both legs turn out.</p> 	<ol style="list-style-type: none"> 1. Improper wire cut-off. 2. Clincher block out of line. 3. Worn mandrel. 4. Worn formers. 5. Wire straightener is improperly adjusted. 	<p>16 12 16 15 18</p>
<p>Crown of stitch not flush with surface of work material.</p> 	<ol style="list-style-type: none"> 1. Driver does not come down far enough. 2. Lack of compression. 	<p>18 12</p>
<p>B. WIRE BUCKLES BETWEEN WIRE STRAIGHTENER AND CUTTER BLOCK.</p>		
	<ol style="list-style-type: none"> 1. Wire straightener slide is improperly adjusted. 2. Broken mandrel gripper. 3. Worn or broken gripper lifting 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. 	<p>18 16 17 16 16 17</p>

TROUBLE	POSSIBLE CAUSE	REMEDY
CLUTCH DRIVE ASSEMBLY		

A. CLICKING NOISE	PAGE
-------------------	------

NOTE

Always drive one stitch under power since clicking noise will normally occur when motor is turned on after machine has been turned over by hand

	13
1. Broken clutch pin	13
2. Broken clutch pin spring	13
3. Worn drive pins	13
4. Brake is improperly adjusted	13

B. RAPID WEAR OF V-BELT	
-------------------------	--

	13
1. Improper tension	13
2. Motor pulley improperly aligned with main drive wheel	13
3. Oil on V-belt	13

C. MOTOR HUMS OR GRINDS	
-------------------------	--

NOTE Check to see if motor specifications are the same as your power supply

D. STITCHER REPEATS WITHOUT PRESSURE ON THE FOOT PEDAL	
--	--

	13
1. Broken clutch pin	15
2. Broken clutch plate or spring	19
3. Main drive wheel is frozen on drive shaft	14
4. Broken safety latch or spring	

FRAME, PEDAL, ARM AND POST ASSEMBLY

A. MACHINE WON'T STITCH WHEN FOOT PEDAL IS PRESSED AS FAR AS POSSIBLE	
---	--

	14
1. Safety latch engaged	15
2. Clutch plate out of adjustment	15
3. Set screw on foot pedal requires adjusting	15
4. Stitcher is not place on a level floor	15
5. Worn clutch plate	15

B. POST DOES NOT RETURN OR RETURNS SLOWLY WHEN PRESSURE IS REMOVED FROM FOOT PEDAL.	
---	--

	20
1. Pivot stud is too tight or not lubricated	20
2. Foot Pedal return spring is weak or broken	20
3. Toggle links not adjusted properly or not lubricated	

MODEL S5F BOX STITCHER

Maintenance And Adjustments

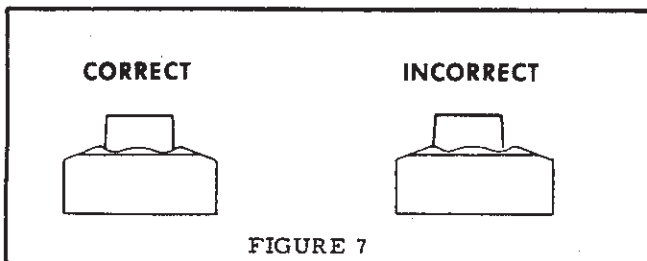
CLINCHER BLOCK

The purpose of the clincher block (index 7, Fig. 25) for Post-type stitchers or index 53 Fig. 25 for Arm-type stitchers) is to turn back the legs of the stitch after they have penetrated the work material. To do this, the legs must strike the block with equal spacing from the outside edges of the grooves (Fig. 7).

To test this alignment, drive five or ten stitches into a section of your work. The high spots on either side of the clincher block will leave impressions on the under side of the material being stitched. It is an easy matter then to see if the space between the point each stitch leg penetrates the board and the impression of the clincher block are equal. If one leg is closer to the impression on the material than the other, the clincher block will require adjusting.

To adjust, loosen set screw (index 8, Fig. 25; index 51 on 25) and move block in the proper direction to center legs. Tighten screw. The clincher block is reversible and can be turned when it becomes worn along one side.

For additional information on adjustment of posts, see page 20.



CLINCHER COMPRESSION

Unless the work material is compressed properly between the clincher block (index A, Fig. 8) or (index 7, Fig. 25) and the former and driver unit (index B, Fig. 8), the stitches will not penetrate or clinch properly. Insufficient compression causes the legs of the stitch to buckle or the stitch crown to wrinkle or bow downward. Excessive compression causes the corners of the stitch to fracture and the clincher block to indent the underside of the board excessively. It will also cause damage to many of the working parts.

Never operate the machine without work material under the stitching head since the formed stitch might be drawn up into the head. This causes the wire to buckle on the next stitch.

Obtain Correct Compression:

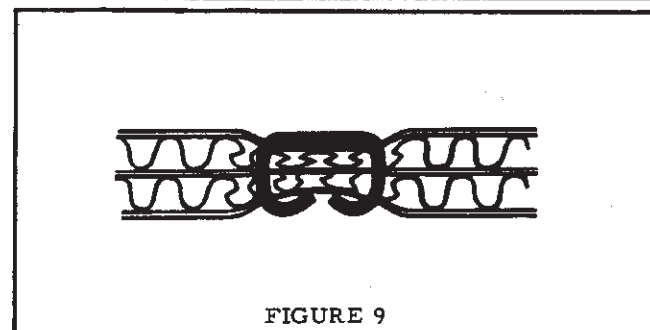
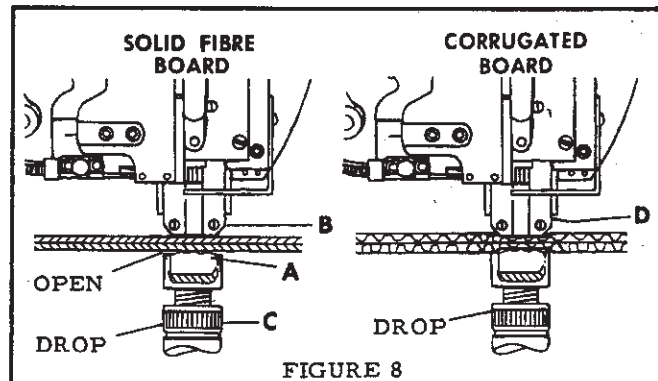
See Fig. 8. (1) Lower the clincher block (index A) as far as possible. (2) Step on the foot pedal and turn the drive wheel in the direction of blue arrow by hand until the former housing (index B) is at the lowest point of its stroke. (3) Place work material on the clincher block with your left hand. (4) If the material is solid fibre, turn the adjusting nut (index C on post type stitchers; Index 50, Fig. 25 on arm type machines) until the material is held firmly between the clincher block and formers. If the work material is corrugated fibre, turn the adjusting nut (index C, Fig. 6) until the clincher block and formers slightly compress the work material.

MAIN SHAFT BEARING

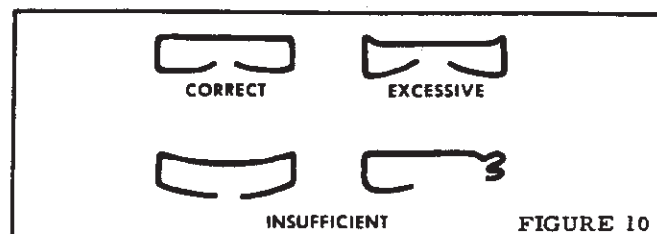
Flange Cartridge Bearing: (See Figure 12).

The integral locking bearing provides a firm and positive mounting with three point contact. Two contact points are created by the locking clips; the third contact point provided where the shaft is wedged up to meet the inner ring. Remove the integral locking bearing as follows:

1. Remove collar, index 34, Fig. 24.
2. Release actuating rod hook by pulling downward and turning its hook 90 degrees to clear the actuating lever.



3. With fingers grasping clutch hub and with thumbs against the shaft end, pull outward to remove the entire clutch brake assembly.
4. Remove Woodruff key.
5. Remove motor pulley guard, "V" belt and drive wheel.
6. Using a screw driver or drift pin, unlock integral locking bearing by moving the clips to their unlocked position, see Fig. 12. Be careful not to scratch drive shaft. Bearing must be re-locked to drive shaft when replacing.
7. Remove two screws and washers holding the bearing housing. Pry housing from frame.
8. Remove bearing and housing from drive shaft.
9. Insert tool through bearing and turn bearing 90° in housing. Pull bearing from housing.
10. Reassemble in reverse order.



CLUTCH PIN

Power from the drive wheel (index 15, Fig. 24) is delivered to the drive shaft (index 1, Fig. 23) through the engagement of the clutch pin (index 50, Fig. 24) with the drive wheel pins (index 21, Fig. 24).

The clutch pin gradually wears with use and eventually causes a clicking noise. The machine will not stitch when the pin becomes badly worn and does not engage with the drive wheel pin. The same condition occurs when a broken clutch pin spring (index 51, Fig. 24) cannot push the clutch pin out of the clutch hub or when the clutch plate (index 36, Fig. 24) raises a burr on the pin and causes it to stick in the hub.

Occasionally, the machine will continue to stitch because the clutch pin breaks and becomes wedged between the main drive wheel pin and the clutch hub.

Replace Clutch Pin or Spring as follows:

1. Remove collar, index 34, Fig. 24.
2. Pull down on actuator rod and turn 90 degrees to free its hooked end from the actuating lever.
3. With fingers grasping clutch and brake assembly, and with thumbs against drive shaft end, pull entire clutch and brake assembly free from the drive shaft.
4. Clutch hub along with its pin and spring are now easily accessible.
5. Service or replace clutch parts and assemble in reverse order.

NOTE

The driving end of the clutch pin is squared off so that it will engage the drive wheel pins either in a forward or a reverse direction. This feature will enable the operator to back off the stitching mechanism from any jam that may occur by turning the drive wheel by hand in a reverse direction while the clutch pin is engaged.

DRIVE PINS

Each drive wheel contains two drive pins (index 21, Fig. 24). The clutch pin (index 50, Fig. 24) engages these pins causing the drive shaft to rotate. The drive pins wear with use and must be replaced. However, the original pins can be given a quarter turn and used a second time (Fig. 11).

Replace or turn the Drive Pins:

1. Remove drive wheel employing steps listed under bearing removal, page 12.
2. Remove drive pin set screws (index 19 & 20, Fig. 24) from the drive wheel. Insert a drift pin into the hole and tap out the drive pins. Turn each drive pin to gain a new working surface or insert new drive pins. Make sure that their top surfaces are flush with the drive wheel hub. Insert set screws. Reassemble drive wheel and clutch and brake assembly.

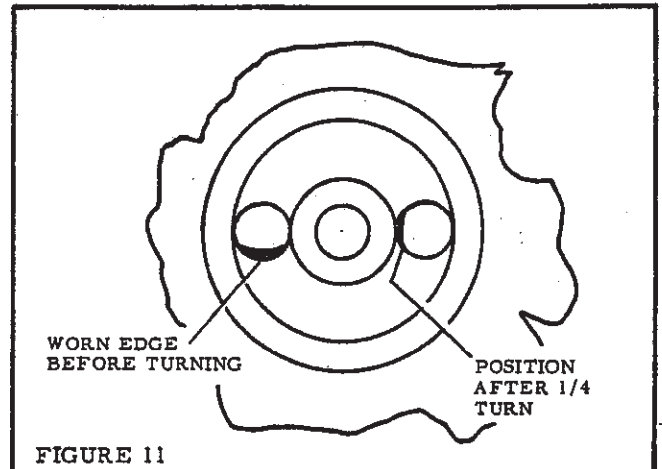


FIGURE 11

V-BELT

The V-belt (index 13, Fig. 24) transmits power from the motor pulley to the main drive wheel. It must be properly adjusted and free from distortion or it will wear out rapidly.

If the V-belt is too loose, the stitcher will run slower than intended; if too tight, it will cause excessive strain and wear of the motor and drive wheel bearings.

A properly adjusted V-belt fits snugly in the grooves of the motor pulley and of the drive wheel. Alignment between the pulley and drive wheel groove must be accurate for straight line tracking of the belt.

To adjust for proper alignment, loosen the motor pulley set screw (index 14, Fig. 24) and slide the pulley on its shaft until it aligns with the drive wheel pulley groove. Tighten set screw.

To adjust V-belt tension, loosen motor mounting screws (index 3, Fig. 24) and slide motor horizontally to achieve tension desired. Before tightening motor mount screws, be sure motor has not assumed a cocked position with relation to the attitude of the drive wheel. Upon accurate motor alignment, tighten motor mounting screws.

IMPORTANT

Make sure there is no oil on the V-belt or in the pulley grooves.

BRAKE BRACKET ADJUSTMENT

The S5F Box Stitcher employs a constant pressure brake belt to assure that the stitching cycle consistently stops in neutral position. Neutral is indicated when the drive wheel turns freely.

If the brake belt is too loose, the machine will overrun its normal stopping position and trip a safety device latch in the clutch hub assembly and prevent further machine actuation. The safety latch must first be reset before proceeding. See "BRAKE SAFETY LATCH".

MODEL 55F BOX STITCHER

Maintenance And Adjustments

To tighten brake, first loosen both wing nuts (index 27, Fig. 24). Then lower the hex nuts (index 28, Fig. 24) approximately one-sixteenth of an inch and re-tighten the wing nuts.

To loosen the brake, loosen both wing nuts to the desired brake tension. Then turn the hex nuts up to the bracket and re-tighten the wing nuts.

If oil has been permitted to saturate the brake belt, erratic stopping conditions may occur. When this happens, replace brake belt and clean oil film from the clutch hub before reassembling. Do not attempt to overcome this condition by adding tension to the brake bracket, or parts failure may occur.

BRAKE SAFETY LATCH

The brake safety latch is designed to prevent the stitcher from cycling should the brake fail, or become worn or maladjusted. See preceding instructions "Brake Bracket Adjustment". When actuated, because the brake fails to halt the stitcher in neutral position, the safety latch prevents the clutch pin from engaging with the drive wheel pins. Further cycling action is impossible until the safety latch is pivoted to release the clutch pin. To reset turn power off and

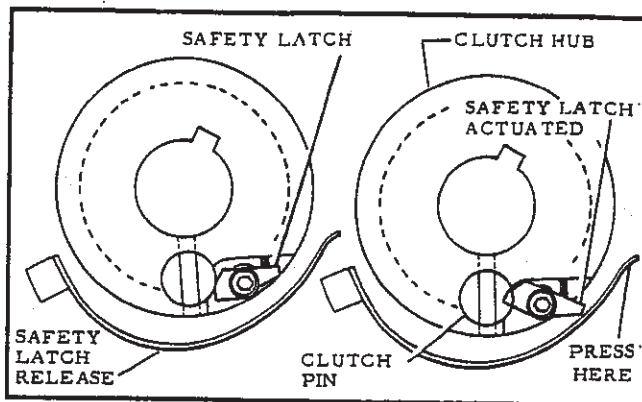


FIGURE 13

press safety latch release causing clutch pin to release. Then manually turn drive wheel in direction of arrow marker until stitcher is in neutral position. (Neutral is indicated when drive wheel turns over freely by hand).

Before turning power ON, adjust brake tension (see Brake Bracket Adjustment, page 13). Turn power on and cycle machine to check brake setting. Continue with brake adjustment until machine stops properly.

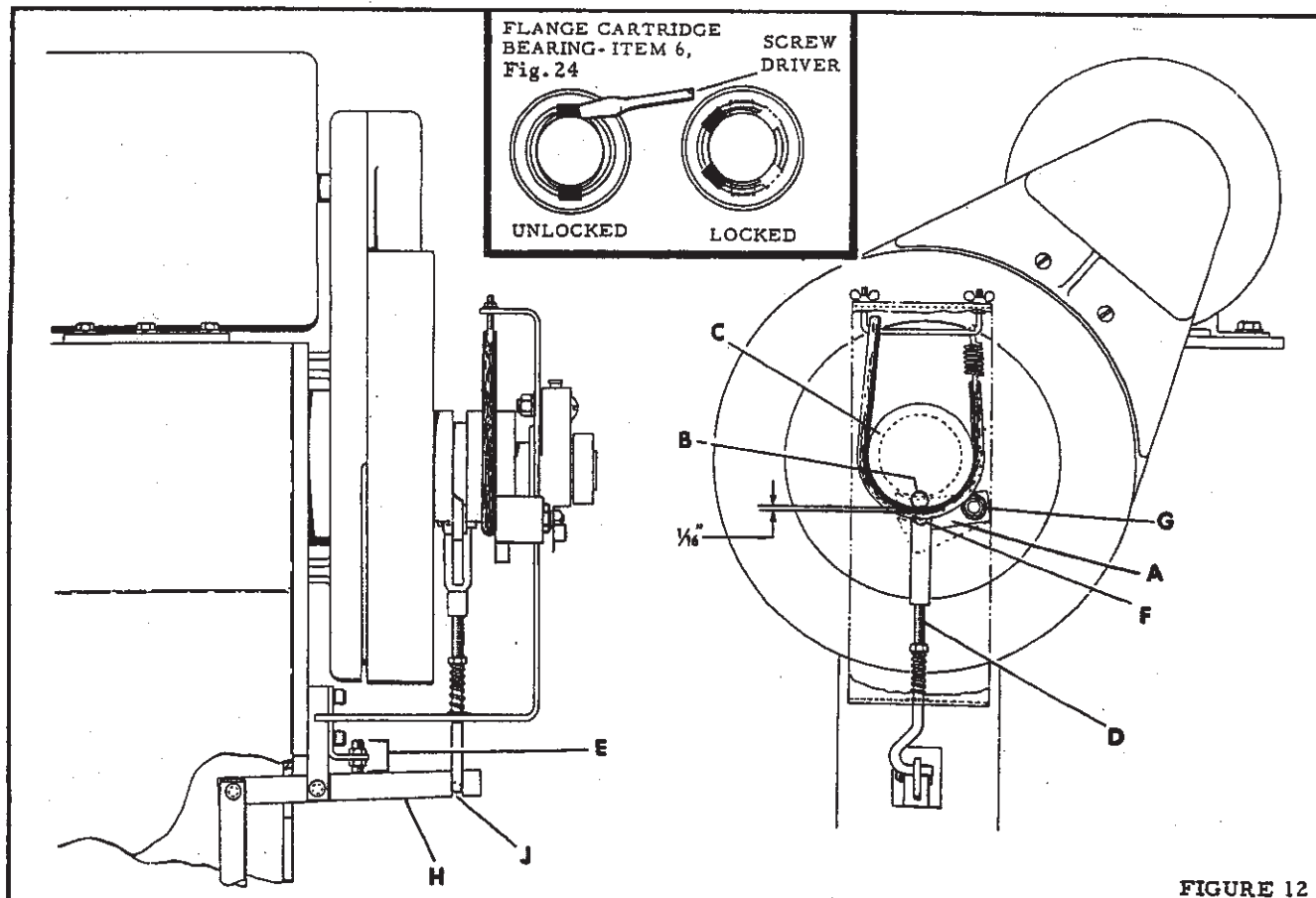


FIGURE 12

CLUTCH PLATE (SEE FIG. 12).

The clutch plate (index A, Fig. 12) holds the clutch pin (index B, Fig. 12) in a retracted position in the clutch hub (index C, Fig. 12). When the foot pedal is pressed, the clutch plate should lower sufficiently to clear the clutch pin, allowing the pin to spring forward to engage the drive pins in the drive wheel.

Proper clutch plate adjustment requires the clutch plate to be activated by the pull rod (index D, Fig. 12) after the post is in stitching position. The clutch plate must clear the clutch pin (index B, Fig. 12) by about one-sixteenth of an inch when the clutch plate is in its lowered position.

Before adjusting the clutch plate, check the spring setting (index J, Fig. 15). With the post in "out" position, the nut and washer should confine the spring but not compress it.

Slowly depress the foot pedal until the post is in stitching position. At this point, pull rod lever (index H, Fig. 12) should only slightly move if it moves at all. If the lever moves too much, lower set screw (index E, Fig. 12). If the lever moves after the post is in position, raise the set screw and securely tighten the nuts.

Pull down on pull rod (index D, Fig. 12) and rotate the drive wheel 1/2 revolution in the direction of the blue arrow on the wheel. The clutch plate should now be in the clutch hub slot as far as it can go. The pull rod should be in pull rod lever slot (index J, Fig. 12) within one-sixteenth of an inch of the top of the slot. If it is necessary to adjust the pull rod to attain this position, pull the rod down and rotate it 90 degrees. Then pull down pull rod lever (index H, Fig. 12) and adjust the rod in or out to attain its proper position. Turn the pull rod 90 degrees and put into lever slot (index J, Fig. 12).

Should the clutch plate tip break off, the machine will continue to stitch without pressure on the foot pedal. This uncontrolled operation of the stitcher should alert the operator to turn the power OFF immediately before attempting to trouble-shoot the problem.

Infrequently the machine may fail to stitch because the clutch plate has raised a burr on the clutch pin or hub; a condition that will cause the clutch pin (index B, Fig. 12) to stick in the hub. Remove burr to resume operations.

To extract clutch plate, take out cotter pin and clevis pin (index F, Fig. 12) and remove hex nut and washer, Index G. Assemble in reverse order.

PEDAL SET SCREW

The set screw on the foot pedal (index 39, Fig. 25) controls the distance between the pedal and the floor. If the pedal contacts the floor before the clutch pin is released, the machine will not stitch. To remedy, loosen jam nut (Index 36, Fig. 25) and turn set screw to meet optimum condition.

FORMERS

The formers (34, figure 20) perform two functions. They (1) bend the wire over the mandrel and form it into a stitch and (2) guide and support the stitch as it is driven through the work material. The legs of an unclined stitch should be at right angle to the crown. When the formers become worn, the legs tend to flare out. This causes the legs to strike the clincher block improperly. As a result, one or both legs turn out. If the lower end of the former grooves becomes chipped, it will not support the wire and may cause the stitch to break at the crown.

Each former is reversible. When both ends are worn or chipped, it must be replaced.

To replace a Former:

- (1) Remove front block (11, figure 18). If left former must be replaced, remove cutter block (9, figure 18).
- (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.

DRIVER

The function of the driver (29 figure 20) 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.

The driver is reversible for longer wear.

To replace or reverse a Driver:

- (1) Remove front block (11, figure 18). (2) Remove the screws from right former (34A figure 20). (3) Slide former down and out. (4) Slide driver to right and out. (5) Reverse old driver or use a new driver. Replace by inserting key in driver bar slot. (6) Insert right former from bottom and push up to shoulder on former slide. (7) Replace and tighten former screws. (8) Replace front block and tighten screws.

Break-in instructions for new Formers and Drivers:

When replacing both former and driver with new parts the new replacement parts will fit very tight. It is recommended that they be run-in for about two minutes. The former screws should NOT be tight at this time, merely snugged into position. With the front block removed and the wire feed control turned off run the stitcher under power, stopping and tightening former screws about every half minute until they are tight. Keep the parts well oiled during the break-in period.

MODEL S5F BOX STITCHER

Maintenance And Adjustments

IMPROPER WIRE CUT-OFF

The purpose of the cut-off die and knife (54 and 57, figure 22) 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. 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 excessive resistance encountered when penetrating the work material or (3) a stitch leg to wander in the work material and miss the clincher block. If the knife travels too far, the left leg of the stitch may be deformed and buckle. If the knife binds and sticks in down position, it will prevent the wire from feeding and cause it to buckle between the wire straightener and cutter block.

To determine if the wire has been cut off properly, remove a straight piece from the mandrel (61, figure 22). Draw the wire between your thumb and index finger. If you feel burrs on the wire ends, the knife and/or cut-off die are dull or improperly adjusted. 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.

Stitchers equipped for Arcuate Wire Stitching have a reversible flat knife. This knife has one cut-off position on each side. To replace or reverse the knife: (1) Remove screw (58 figure 22). (2) Replace knife so that the radius of the cut-off section matches the corresponding profile on the cut-off die. (3) Tighten screw.

Stitchers equipped for flat wire stitching have a knife with a cutting edge on both sides of each end. These knives can be pivoted on the holding screw so that there are three cut-off points available on each edge.

The cut-off die, which also acts as a wire guide, is held in position by two set screws (54A figure 22). To replace the cut-off die: (1) Loosen set screws. (2) Remove cut-off die and insert new one. (3) Tighten flat knife in proper position as described above and apply pressure on left end of cut-off die, forcing it securely against flat knife. (4) Tighten set screws.

CAUTION

If excessive pressure is applied to the cut-off die, the flat knife will bind in its downward position. If too little pressure is applied, a poor cut-off will result and decrease the life of the die and knife.

To lengthen or shorten the travel distance of the knife:

(1) Remove the cutting block (53, figure 22). (2) Loosen lock nut (31A figure 20). (3) Turn the adjusting screw (31, figure 20) counterclockwise to lengthen travel of the knife; clockwise to shorten the travel of the knife.

IMPROPER WIRE SIZE

The correct wire size varies with the type of work being stitched. If you have any questions about the correct wire and machine set-up to accommodate a change in your material specifications, consult your nearest Interlake Sales and Service office (see addresses on back cover).

Machines set for Arcuate Wire Stitching can handle either .014", .017" or .020" thick x .103" width wire without change of parts. Machines set for .103" x .023" or .028" Arcuate and all flat wire sizes must have formers and drivers to correspond to that size.

If the wire used is larger than the formers were designed for, it will fracture and come out in pieces. If the wire used is smaller than the formers were designed for, it will lose some of its driving strength.

The size of Interlake Stitching Wire appears on the shipping case and inside the individual core liners. Stitcher parts are also marked to show the wire size for which they are made.

MANDREL

The mandrel (61, figure 22) performs three functions. It (1) receives wire from the cut-off die (54, figure 22) and holds the wire while it is being cut off, (2) carries the straight cut-to-length piece of wire under the formers (34, figure 20) and (3) supports the wire while it is being formed into a "U" shaped stitch.

The mandrel contains a spring actuated gripper (63, figure 22) 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 buckles between the wire straightener and the cutter block. If the gripper spring (63, figure 17) 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 formers will either break the wire into pieces or will nick or fracture the crown of the stitch.

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 (65 and 64, figure 22). 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.

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 block. This causes a buckled leg or the clinch to be turned the wrong way. A worn mandrel can also cause the stitch crown to fracture.

To check for broken Gripper or weak or broken Gripper Spring:

(1) Remove the front block. (2) Raise the gripper by pushing up on the gripper lifter crank roller (60; figure 22). If the gripper can't be raised, it is broken and must be replaced. (3) To check the 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 (62, figures 17 and 22), depressing the mandrel and sliding it out from under the gripper lifter crank. (2) Remove the spring retaining block (63, figure 17) by driving out the pin (61A figure 17) 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 pins 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, step on the foot pedal and turn drive wheel 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 roller must be made.

To adjust the eccentric and roller:

(1) Remove the front block and loosen the lock screw. (2) If the wire in the mandrel stops behind the former grooves, turn the eccentric slightly in the direction which will bring the thickest side toward the rear of the front block; if the wire stops in front of the former grooves, turn the eccentric slightly in the direction which will bring its thinnest side toward the rear of the front block. The amount the eccentric should be turned depends on the amount of adjustments required.

MANDREL SPRING

The mandrel spring (13, figure 17) exerts pressure on the mandrel (61, figure 22) so that it carries the wire under the formers. If the mandrel spring is weak or broken, or the mandrel spring binding screw (13A, figure 18) is loose, the mandrel will return to its original position still holding the wire. This prevents feeding of the next piece of wire into the mandrel (the next piece of wire will buckle between the wire straightener and the cutter block).

To check for a weak Mandrel Spring:

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

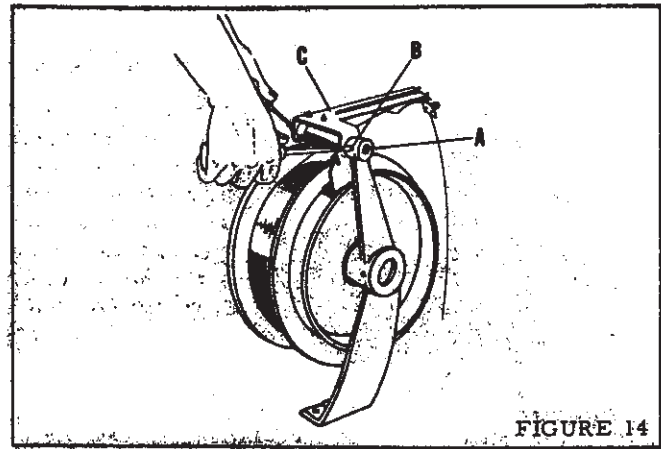


FIGURE 14

GRIPPER LIFTER CRANK

The gripper lifter crank (60, figure 22) 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 buckles between the wire straightener and the cutter block.

To replace Gripper Lifter Crank:

(1) Remove the front block. (2) Remove the crank screw and pull out the gripper lifter crank.

25-POUND COIL HOLDER, BRAKE ADJUSTMENT

This is made before shipment. If further adjustments are necessary, use two screw drivers, with the one in the left hand held securely in brake shaft (A, figure 14). Right hand operates the screw driver to loosen set screw (B, figure 14). Turn brake bracket shaft clockwise to tighten brake -- counterclockwise to loosen brake.

Brake pressure must not be too tight. However, there should be sufficient tension to apply the brake smoothly and prevent the wire coil from overrunning.

To adjust the Brake:

(1) Turn the brake bracket shaft counterclockwise until the wire guide assembly (C, figure 14) falls limp. (2) Turn the brake bracket shaft clockwise until the slack is removed and the brake shoe is just touching the brake drum. (3) Make one more full turn on the brake bracket shaft. (4) Tighten set screw. Be sure that the brake drum is kept clean. Dirt and rust will cause the brake to grab and prevent the coil holder from coming to a smooth, gradual stop.

If the wire guide assembly is broken, the brake on the coil holder will not function. Replace the wire guide assembly.

MODEL 55F BOX STITCHER

Maintenance And Adjustments

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 buckle at the cutter block. Improper straightening of the wire can also cause the stitch legs to buckle or turn out because they strike the clincher block improperly. If there is too much tension on the straightener, the wire will not feed properly. This causes the variation in leg length.

To determine if Straightener is adjusted properly:

(1) Remove the front block (11, figure 18). (2) Step on foot pedal and slowly turn machine over by hand. The wire should come out of the cut-off die horizontally. (3) If the wire turns up, loosen set screw (8, figure 18) and move adjusting slide upward. If the wire curves down, loosen set screw and move adjusting slide down. (4) Tighten set screw. (5) Check wire as it comes out of cut-off die to determine if further adjustment is necessary.

SHOE

The shoe (32, figure 20) 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 of the top surface of the shoe are too sharp or nicked, the corners of the stitch crown will fracture.

To inspect the Shoe:

(1) Step on the foot pedal and turn the drivewheel by hand, until the formers touch the work material and the legs of the stitch are about to leave the formers (at this point, the shoe should be touching the under side of the crown). (2) Continue turning the drivewheel 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 shoe support is insufficient, back off the adjusting nuts (17A figure 19). 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 (61, figure 22). 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 a fine emery cloth.

ADJUSTABLE DRIVE BAR LINK

The adjustable drive bar link 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.

NOTE

If an attempt is made to bury the crown too deeply in hard material, the corner of the crown will fracture.

At the lowest part of its stroke, the driver end should be approximately 1/64" below the ends of the formers. If adjustment is required follow these steps:

1. Remove the face plate assembly (figure 20).
2. Remove the former slide assembly (30 figure 20) from the face plate.
3. Remove the driver bar (29, figure 20) and drive bar link by sliding from the face plate. Be careful not to let the two parts become disengaged.
4. Make a mark on the drive bar link opposite the mark on the eccentric so there will be a locating point from which to gage the amount of adjustment. (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 the 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 results. Repeat above steps if necessary.

CUTTER BLOCK ASSEMBLY

The cutter block (9, figure 18) contains the cut-off die, flat knife and the parts required to equalize the stitch leg length. The adjusting slide, (10, figure 18) is directly connected to the wire draw linkage in the 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 improper adjustment of the cutter block by driving ten stitches into the work material. Adjustment is required if one leg is consistently short. Note if it is the right or left leg (as you face the stitcher) which is short.

Maintenance And Adjustments

To equalize the Legs:

(1) Make certain that the index lever set screw (6 figure 18) is tight. (2) Loosen the cutter block screws (9A figure 18) one-half turn and the set screw (55, figure 17) not more than one-eighth turn. (3) To increase the length of a short right leg, turn the adjusting screw (10A, figure 18) clockwise. For a short left leg turn the adjusting screw counterclockwise. (4) Press the cutter block to the left as far as possible. Tighten the cutter block and set screws. (5) Drive several stitches (the new adjustment will not show up until after the third stitch). (6) Repeat above steps if necessary.

WIRE FEED IDLER GEAR

The wire feed idler gear provides the pressure to feed the wire and acts as the male form roll. On stitchers equipped for flat wire stitching, the surface of the roll is flat. Too much pressure causes excessive wear on parts and -- occasionally -- slippage of the wire feed clutch. Insufficient pressure will cause variation in the amount of wire feed for each stitch.

To check for the proper amount of tension:

(1) Feed the wire through the wire straightener (8, figure 18) but not into the cut-off die. (2) Operate the stitcher under motor power until approximately two feet of wire have been fed. The arc section should measure .028" to .032" thick. (3) If the wire measures less than .028", increase tension by turning set screw (37A figure 18) clockwise one or two turns. If there is excessive tension, turn set screw counterclockwise one or two turns. (4) Repeat steps 1 and 2 to recheck tension.

If the tension is too loose for a stitcher set for flat wire, gradually increase the pressure until the wire feed is even.

WIRE FEED CLUTCH

The function of the clutch assembly (41, figure 21) is to feed the same amount of wire for each stitch. The assembly consists 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 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 (3, figure 17). (2) Loosen set screw (38A, figure 17). (3) Remove screw (38, figure 17) and slide clutch from shaft. (4) Remove three screws (41A figure 17) and lift off front plate (41, figure 17). (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 (41B, figure 17) prevents overfeed. Keep the part clean and free of oil.

MAIN DRIVE WHEEL

While the motor is running, the main drive wheel (15, figure 24) rotates constantly on the drive shaft. When the foot pedal is depressed, the clutch pin (50) engages the drive pins (21) and causes the shaft to rotate. If the main drive wheel is not oiled sufficiently, it will wear rapidly, and freeze on the shaft and the machine will stitch without pressure on the foot pedal. Excessive tension on the V-belt will also cause wear on this part.

To free the Main Drive Wheel:

(1) Remove the guard. (2) Slip off the V-belt. (3) Remove Collar. (4) Fill the drive wheel oil cup with a light penetrating oil. (5) If the drive wheel cannot be removed from the shaft by hand, place a wooden block near drive wheel hub and pound off with hammer. After the drive wheel has been removed from the shaft, clean the oil groove, clean the bearing surface of the drive wheel and polish the drive shaft, removing all burrs. Oil the bearing surfaces well with SAE #20 oil and reassemble.

FINGER GUARD

The S5F Box Stitcher is equipped with a fingerguard for operator protection while using the stitching machine. It is designed to prevent accidental contact by the operator's fingers with the point where a stitch is formed, between the clincher and driver. For stitching safety DO NOT remove the fingerguard or attempt to overcome its purpose.

Adjustment for the fingerguard is provided so that it can be located as low as the work permits.

MODEL 55F BOX STITCHER

POST FIG. 15

The function of the post, figure 15, is to provide a ridged support for the clincher block. Any unauthorized movement of this part, or any excessive travel in any direction will cause the clincher block to be improperly aligned with the stitch legs. For this reason, the stitcher should never be moved by pulling or pushing on the post.

If it is impossible to align the clincher block with the stitch legs by adjusting at top, it is likely that the post is loose or misadjusted. Make sure first that post is firmly held in the base clamp by tightening the clamp screw, (index A, Fig. 15).

Lateral misadjustment, or excessive lateral looseness may be corrected by adjusting nuts "B" one on either side. Loosen one nut and tighten the other to attain proper lateral attitude. After adjustment is met, tighten both nuts slightly to stabilize the setting. Do not over tighten or the post will bind. If binding is evident, loosen each side nut until the post moves freely.

Accurate IN-OUT post setting is also essential for properly locating the clincher under the stitch legs. This setting is accomplished by loosening lock nut "D", Fig. 15, and by turning set screw "C" in or out to achieve correct stopping position for the post. After proper setting is met, tighten lock nut.

Pedal-Post actuation linkages "E", Fig. 15, must be adjusted properly to achieve positive yet effortless post movement. With the post at "IN" position, the toggle links should form an angle of 10 to 15 degrees with each other.

Make this adjustment with post in "in" position by first loosening set screw "H". Back-off jam nut "F" and turn set screw "G" in or out to attain correct linkage relationship. When 10 - 15° angle is met, tighten jam nut "F" and set set screw "H".

Replacement of specific post actuating parts or linkages may require that the entire post support assembly be separated from the base frame. Remove the post support assembly as follows:

1. Extract elastic stop nut, spring, and flat washers "J".
2. Remove four capscrews "K".
3. Lift entire post and post support assembly from the base frame.

During disassembly of the post support from the base frame, the adjusting feet "L" may become disturbed, or of necessity, be removed altogether. These adjusting feet control the attitude of the entire post assembly and, hence, the relation of the clincher block to the former and driver assembly. Slight adjustment or movement of the adjusting feet is magnified greatly at the top of the post and, therefore, precise adjustment is imperative.

Before replacing the post support assembly, make sure each of the adjusting feet protrude from the bottom of the support by 1/16 inch. Place post support on the base frame and insert, but do not tighten the four holding capscrews. Push post in toward the head assembly and check visual alignment. Turn adjusting feet, if needed, to obtain correct attitude of the post.

Replace elastic stop nut, spring and flat washers "J". Tighten four capscrews "K".

The outward excursion of the post to its resting position may be regulated by set screws "M". One set screw point provides a stop which contacts the post support; the other set screw locks the adjustment.

To alter post excursion, loosen outer set screw with allen wrench. Push wrench completely through outer set screw and into the inner set screw. Turn wrench to obtain desired post position. Tighten outer set screw.

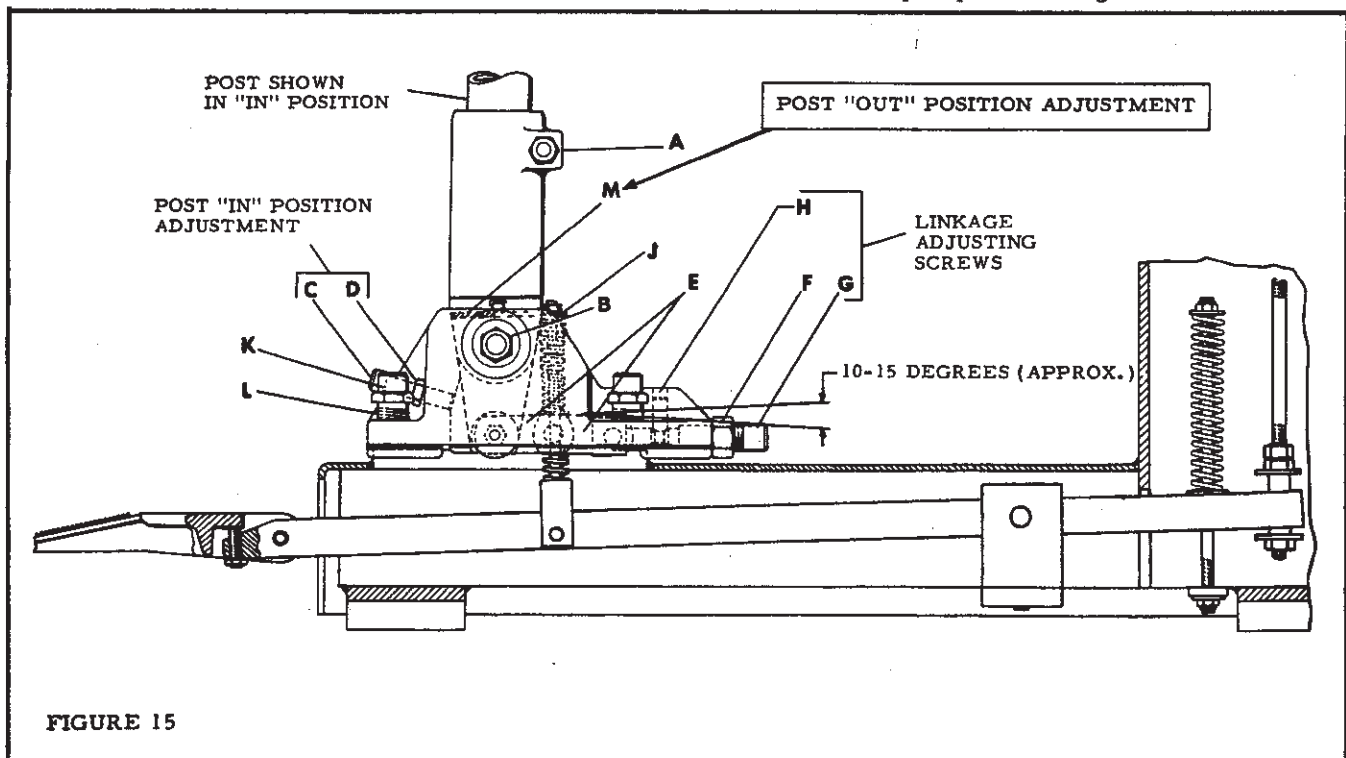
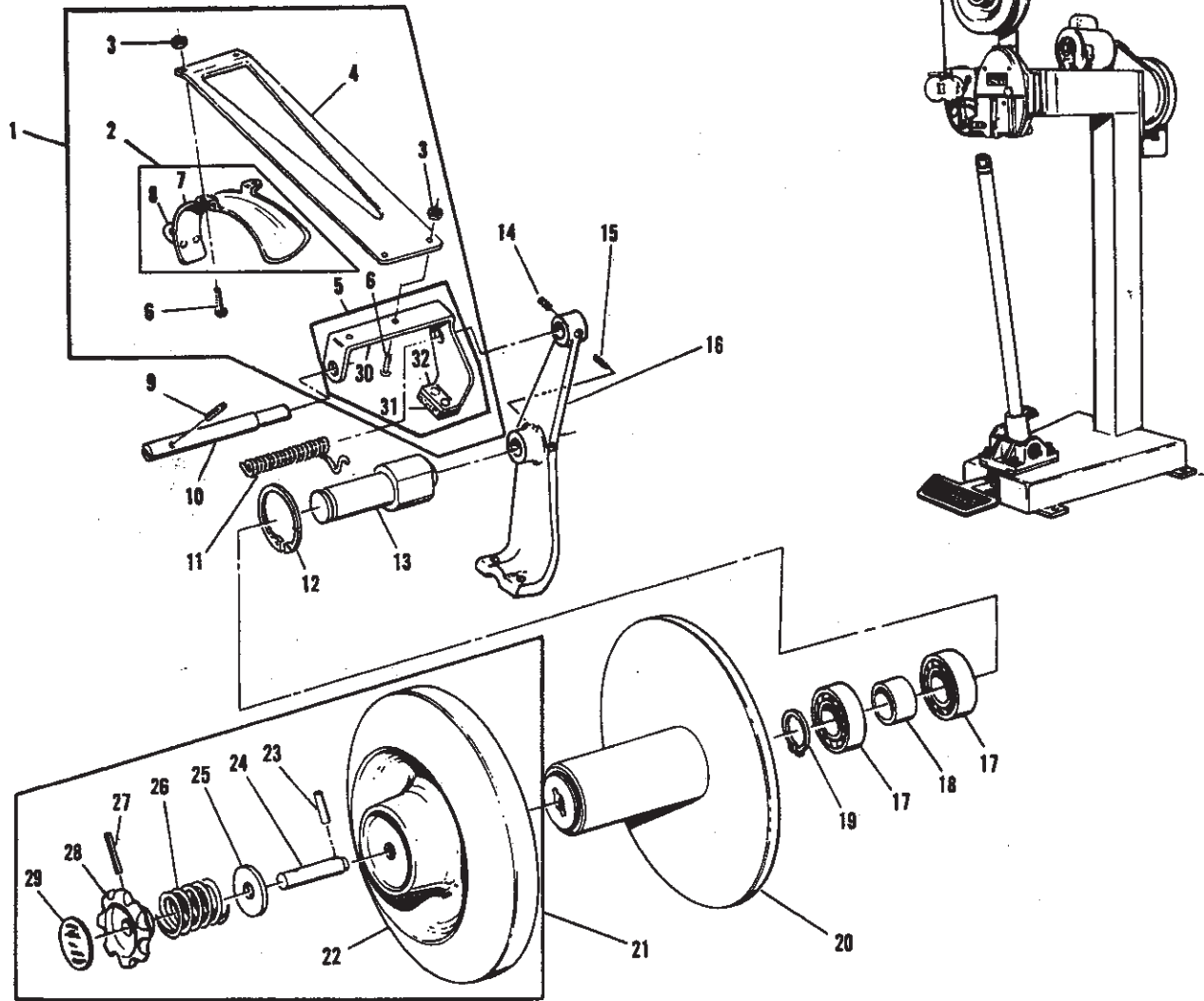


FIGURE 15

PARTS LIST

COIL HOLDER ASSEMBLY



CBBB-23-M

FIGURE 16

Index Number	Part Number	Part Name	Number Required	Index Number	Part Number	Part Name	Number Required
1	B-5603-A	Wire Guide Assembly Complete	1	17	D-26889-F	Bearing	2
2	C-7433-A	Wire Guide Assembly	1	18	D-27394-F	Bearing Spacer	1
3	D-27398-F	5-40 N. C. Elastic Stop Nut	4	19	D-26892-F	Retaining Ring	1
4	C-7432-F	Wire Guide Spring	1	20	CBB-24-A	Main Hub & Reel Plate Reel Assy.	1
5	C-20528-A	Brake Bracket & Lining Assy.	1	21	CBBB-1787	Cover Assembly - Complete	1
6	D-27396-F	Round Hd. Machine Screw	4	22	CBB-1787	Cover Assembly	1
7	C-7433-F	Guide	1	23	CB-1784	Driv-Lok Pin	1
8	CB-38	Staple	1	24	CB-1785	Stud	1
9	D-25524-F	Roll Pin	1	25	CB-1896	Washer	1
10	D-27399-F	Brake Bracket Shaft	1	26	D-24821-F	Cam Lock Spring	1
11	D-26894-F	Torsion Spring	1	27	D-25931-F	Roll Pin	1
12	D-26893-F	Retaining Ring	1	28	D-24826-F	Knob	1
13	D-27395-F	Hub Shaft	1	29	CB-1870	Decal	1
14	D-20609-F	Setscrew	1	30	C-7507-F	Brake Bracket	1
15	D-34058-F	Setscrew	1	31	D-26886-F	Brake Lining	1
16	B-5654-F	Bracket	1	32	D-26887-F	Rivet	2

MODEL 55F BOX STITCHER

NOTE

The exploded view on this page contains all the parts in the stitching head. These parts and index numbers are duplicated in Figures 18 to 22 along with a complete listing of part numbers and part names.

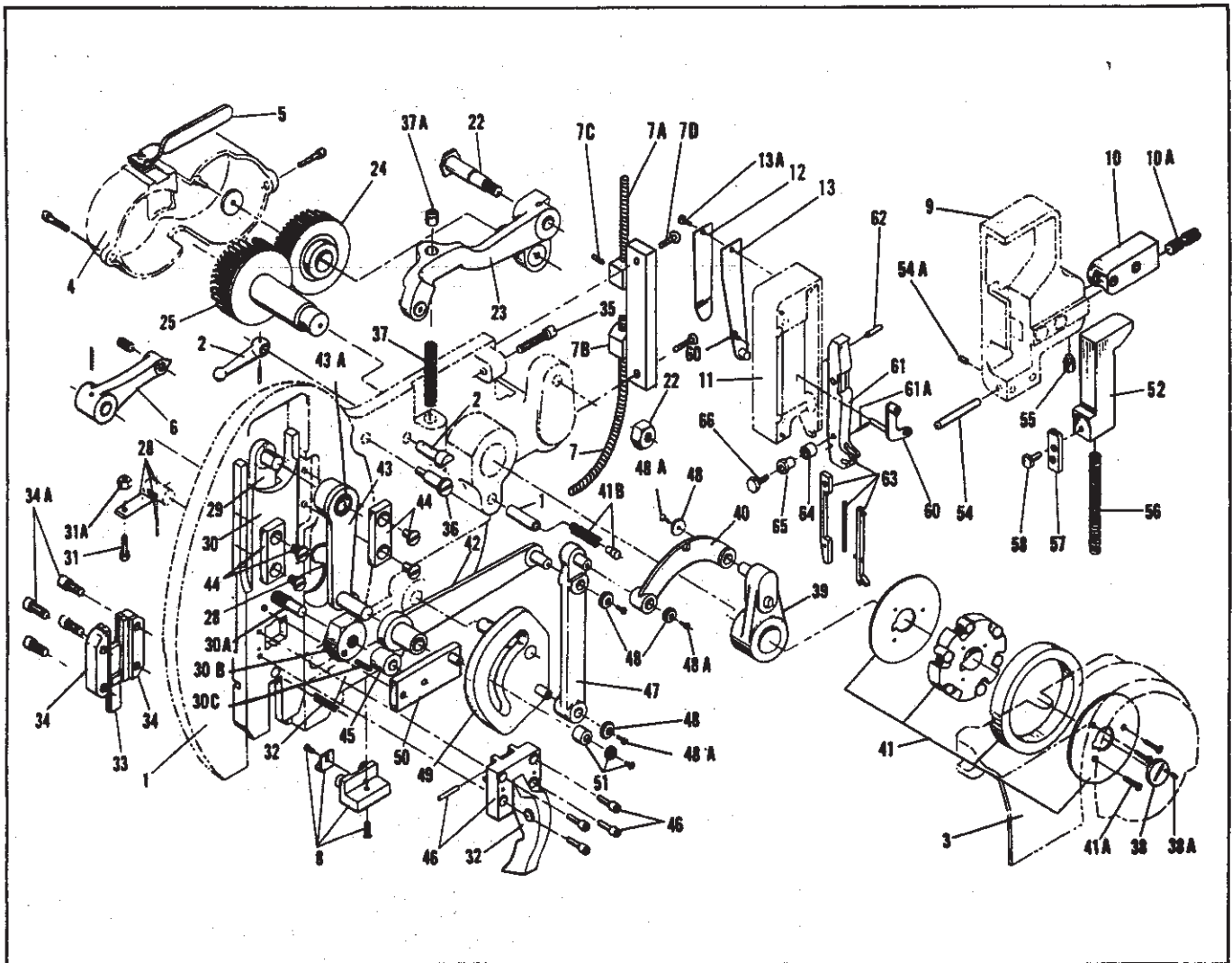


FIGURE 17

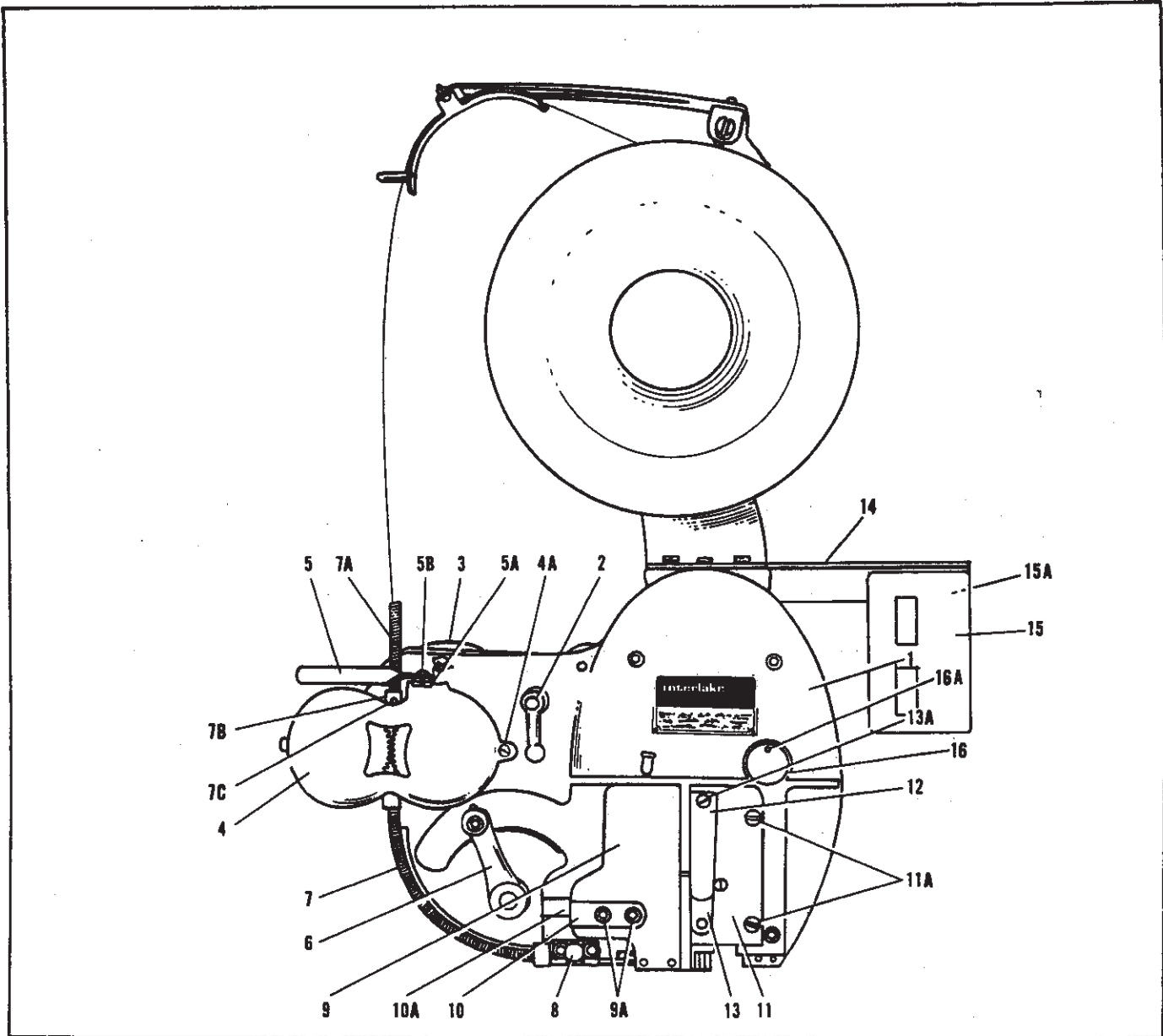


FIGURE 18

Index Number	Part Number	Part Name	Index Number	Part Number	Part Name
1	D-30193-A	Face Plate Assembly	8	D-38677-A	Wire Straightener Assembly
	D-30084-F	Gib		D-38678-F	Wire Straightener Body
	D-8520-F	Gib Screw		D-30200-F	Slide
	D-30542-F	Oiler		D-43086-F	Screw
	D-30543-F	Oiler		D-37547-F	Roller
	D-30611-F	Friction Spring Tube		D-30618-F	Mounting Screw
	D-36452-F	Oil Hole Cover	9	C-9200-F	Cutter Block (Only)
	D-33621-F	Name Plate	9A	D-32122-F	Cutter Block Screw
2	D-30238-A	Wire Feed Control Assembly	10	D-30915-F	Cutter Block Adjustment Slide
3	C-8003-F	Wire Feed Guard	10A	D-30593-F	Adjusting Screw
4	C-8001-F	Feed Gear Guard	11	B-6078-A	Front Block & Pin Assy.
4A	D-30605-F	Feed Gear Guard Screw	11A	D-38144-F	Front Block Screw
5	D-31264	Hand Wire Cutter Handle	12	D-31269-F	Anvil Bar Auxiliary Spring
5A	D-30099-F	Cutter Knife	13	D-30049-A	Anvil Bar Spring Assy.
5B	D-30421-F	Cutter Knife Screw	13A	D-30591-F	Anvil Bar Spring Assy. Screw
6	B-6109-A	Wire Feed Index Lever Assy.	14	CB-2107	Switch Bracket
7	D-38495-F	Wire Feed Tube (Lower)	15	CB-285-A2	Manual Starting Switch
7A	D-38494-F	Wire Feed Tube (Upper)	15A	CB-112	8-32 x 5/16" Rd. Hd. Screw
7B	C-9210-F	Wire Feed Tube Bracket	16	D-36452-F	Cover
7C	D-22872-F	Set Screw	16A	D-3938-F	Drive Screw

MODEL 55F BOX STITCHER

Shoe Plunger And Face Plate Assembly Parts List

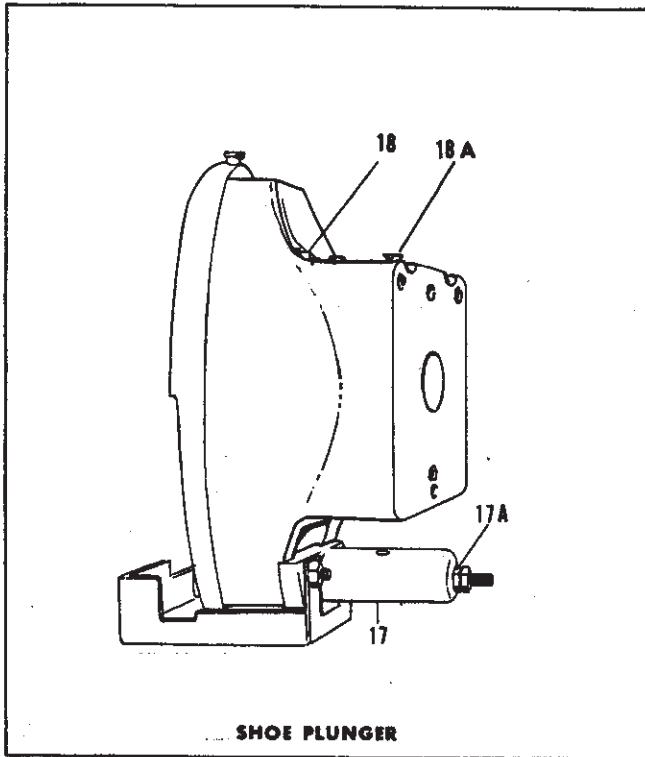


FIGURE 19

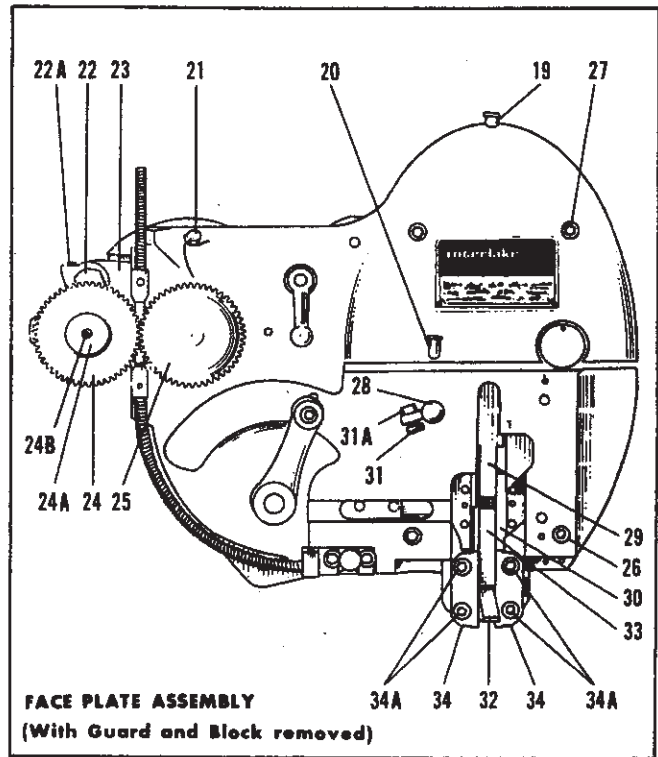


FIGURE 20

Index Number	Part Number	Part Name	
17	D-36993-A	Shoe Plunger Bracket Assembly	1
	D-30161-F	Bracket (only)	1
	D-31340-F	Plunger	1
	D-38065-F	Guide Pin	1
	D-31903-F	Roller	1
	D-31904-F	Roller Pin	1
	D-31302-F	Plunger Stud	1
	D-13931-F	Jam Nut	2
	D-36995-F	Plunger Spring	1
17A	D-37650-F	Lock Nut	1
	D-31028-F	Set Screw	1
18	D-30575-F	Nut	4
	D-13260-F	Lockwasher	4
18A	CB-46	Oiler	1

Index Number	Part Number	Part Name	
19	D-30542-F	Oiler	
20	D-30543-F	Oiler	
21	D-30552-F	Oiler	
22	D-30016-F	Idler Lever Fulcrum Stud	
22A	D-30541-F	Idler Lever Fulcrum Stud Nut	
23	D-38679-A	Feed Idler Lever Assembly	
24	D-38617-F	Idler Gear	
24A	D-30015-F	Washer	
24B	D-30602-F	Screw	
25	D-38616-A	Feed Gear and Shaft Assembly	
26	D-38178-F	Face Plate Screw	
27	D-33841-F	Face Plate Screw	
28	D-31217-A	Cutting Block Tilter Crank Assy.	
29	C-8147	Driver Bar	
30	C-9218-A	Former Slide and Shoe Assy. (Incl. items covered by #32 and #46)	
	C-8145-A	Former Slide (only) Assy.	
	D-30191-F	Former Slide Stud	
	D-30609-F	Dowel Pin	
	D-30626-F	Former Slide Stud Nut	
31	D-30614-F	Adjusting Screw	
31A	D-5813-F	Adjusting Screw Lock Nut	
32	D-38681-F	Shoe	
	D-31956-F	Shoe Coil Spring	
33	D-38620-F	Driver for Wire Sizes .103 x .014 .017 and .020 Arcuate	
	D-44649-F	Driver for Wire Size .103 x .023 Arcuate	
	D-31086-F	Driver, Flat Wire	
34	D-38621-F	Formers for Wire Sizes .103 x .014, .017 & .020 Arcuate	
	D-33602-F	Former, Flat Wire Size .103 x .020	
	D-44650-F	Formers for Wire Size .103 x .023 Arcuate	

Rear View Of Face Plate
Parts List

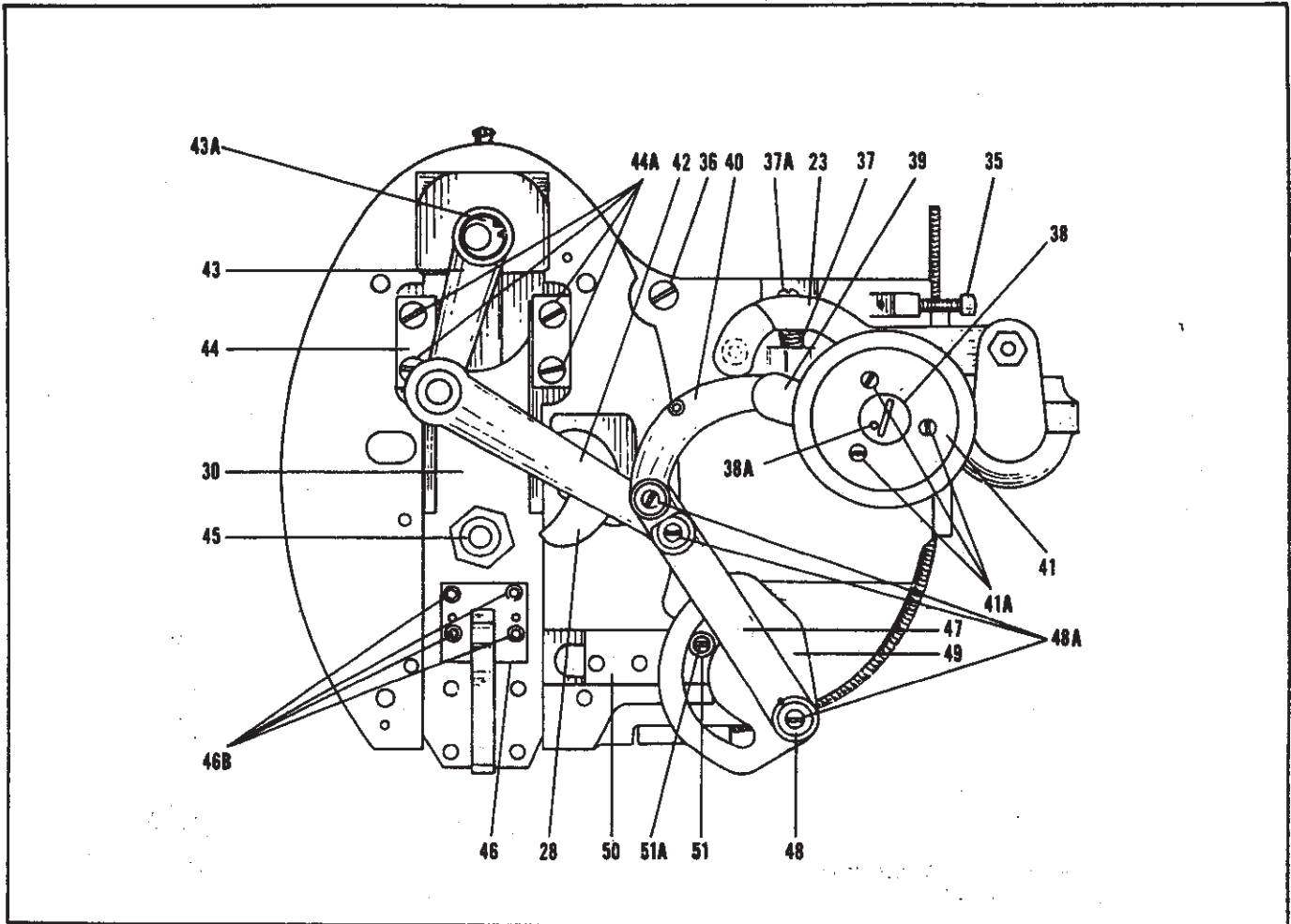


FIGURE 21

Index Number	Part Number	Part Name	Index Number	Part Number	Part Name
35	D-30586-F	Wire Feed Guard Screw	43	D-30237-A	Driver Bar Connecting Link Assy.
36	D-30203-F	Wire Feed Guard Screw	43A	D-30208-F	Eccentric
37	D-30472-F	Idler Lever Spring	44	D-30084-F	Former Slide Gib
37A	D-30613-F	Idler Lever Spring Adj. Screw	44A	D-8520-F	Former Slide Gib Screw
38	D-30190-F	Feed Clutch Screw	45	D-30087-F	Main Cam Roller
38A	D-30538-F	Lock Set Screw	46	D-31980-F	Shoe Bracket
39	D-30235-A	Feed Clutch Arm Assembly	46A	D-32109-F	Shoe Fulcrum Pin
40	D-30095-F	Third Wire Draw Bar	46B	D-11790-F	Shoe Bracket Screw
41	D-30115-A	Feed Clutch Assembly	47	D-30198-A	Intermediate Wire Draw Bar
	D-30106-F	Feed Clutch Ring	48	D-30601-F	Wire Draw Bar Washers
	D-30107-F	Feed Clutch Spider	48A	D-30338-F	Wire Draw Bar Washer Screws
	D-30625-F	Feed Clutch Roller	49	D-30223-A	Cutting Block Control Cam Assy.
	D-30440-F	Feed Clutch Springs	50	D-31223-A	Cutting Block Slide Assy.
	D-30098-F	Back Plate		D-30088-F	Cutting Block Slide Roller
	D-30097-F	Front Plate	51	D-30599-F	Slide Roller Washer
41A	D-30539-F	Screw	51A	D-30518-F	Slide Roller Washer Screws
41B	D-30236-A	Clutch Brake Spring Assy.			
42	D-30114-A	First Wire Draw Bar Assy.			

MODEL 55F BOX STITCHER

Cutting And Front Block Assembly

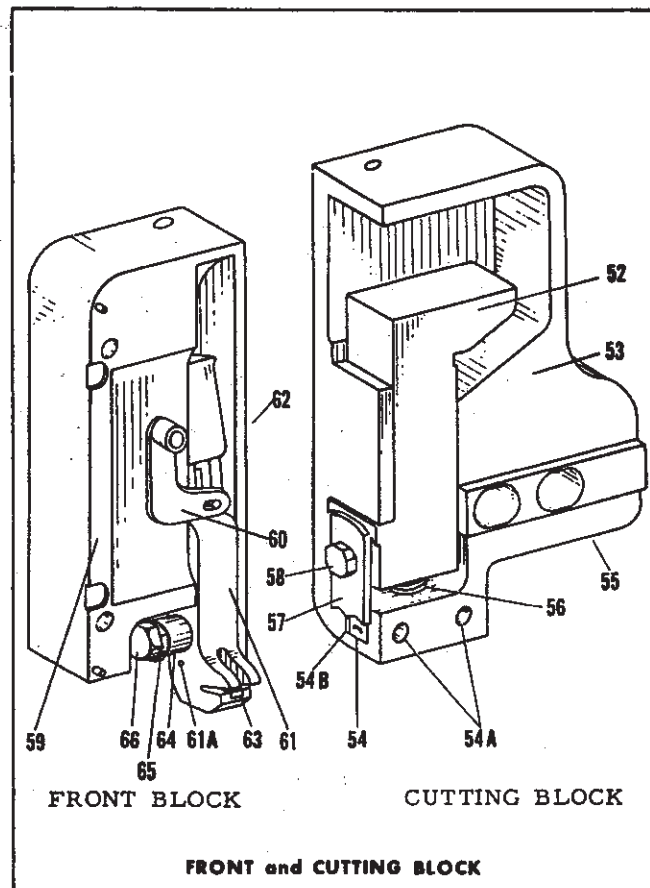


FIGURE 22

Index Number	Part Number	Part Name
CUTTING BLOCK - SQUARE CUT-OFF		
52	D-30118-F	Flat Knife Holder
53	B-7021-A	Cutter Block Assembly
54	CBB-52-W	Cut-Off Die
54A	D-5252-F	Cut-Off Die Lock Screws
54B	D-38724-F	Cut-Off Die Spacer
55	D-30594-F	Lock Screw
56	D-30425-F	Knife Spring
57	D-38578-F	Flat Knife
58	D-31267-F	Flat Knife Screw

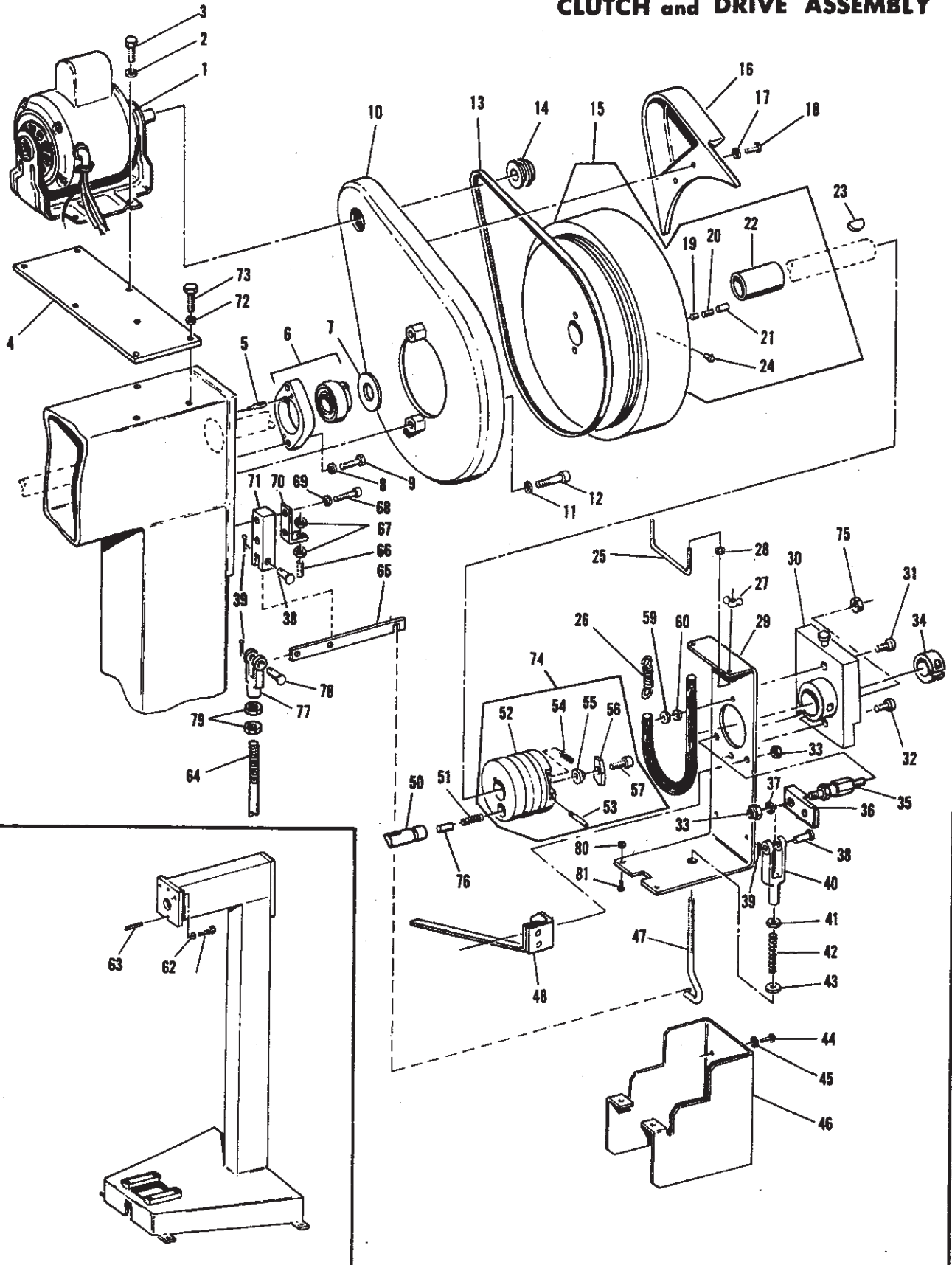
FRONT BLOCK

59	B-6111-A	Front Block Assembly
60	D-30222-A	Gripper Lifting Crank Assy.
61	D-37202-A	Mandrel bar Assembly
	C-8087	Mandrel Bar (Only)
61A	D-30631-F	Pin
62	D-30635-F	Mandrel Bar Pivot Screw
63	D-30117-F	Gripper Assembly
63A	D-36420-A	Gripper Spring and Plug Assy.
63B	D-30034-F	Spring Retaining Block
64	D-30936-F	Roller
65	D-30931-F	Eccentric Bushing
66	D-36460-F	Screw

Index Number	Part Number	Part Name
CUTTER BLOCK - 15°		
52	D-63300-F	Knife Holder
53	B-18962-A	Cutter Block Assy. - 15°
54	D-63301-A	Cut-Off Die
54A	D-5252-F	Dut-Off Die Lock Screw
54B	D-38724-F	Cut-Off Die Spacer
55	D-30594-F	Lock Screw
56	D-49083-F	Knife Spring
57	D-63302-F	Flat Knife
58	D-40558-F	Flat Knife Screw

MODEL S5F BOX STITCHER

CLUTCH and DRIVE ASSEMBLY



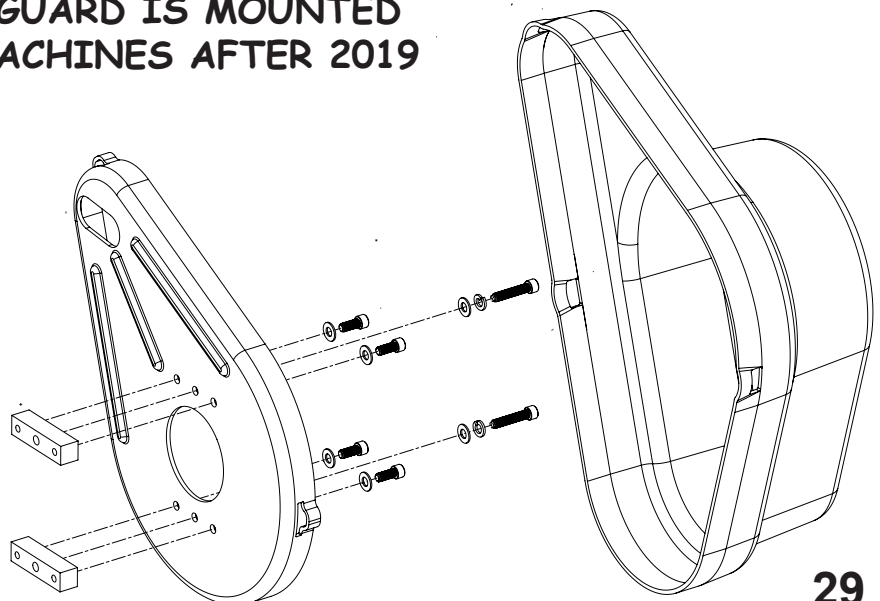
SK-632-D

FIGURE 24

Index Number	Part Number	Part Name	Number Required	Index Number	Part Number	Part Name	Number Required
1		Electric Motor, 1/3 H.P. - 1725 RPM-60 cycle - 7.0A - 1 Phase	1	42	CB-114	Spring	1
2	CB-175	Washer	4	43	CB-718	Washer	1
3	CB-35-A	5/16-18 x 5/8" Hex Hd. Screw	5	44	CB-287-A	6-32 x 1/4" Rd. Hd. Machine Screw	2
4	CB-13-P	Motor Bracket	1	45	CK-50	6-32 Lockwasher	2
5	CB-2075	Lok Dowel	2	46	CB-2054	Rear Cover	1
6	CBB-2073	Flange Cartridge Bearing	1	47	CB-2050	Clutch Plate Pull Rod	1
7	CB-2063	Washer	1	48	CDD-2122-A	Safety Latch Release Assy.	1
8	CB-371-B	Lockwasher	2	49	NOT USED		
9	CB-174-B	Hex Hd. Capscrew	2	50	CD-130-B	Clutch Pin	1
10	CB-2020-B	Belt Guard	1	51	CB-128	Spring	1
11	CB-371-B	Lockwasher	2	52	CB-129-H	Clutch Hub	1
12	CB-110-C	Socket Hd. Screw	2	53	CB-127	Clutch Pin Guide Screw	1
13	CB-1298-B	V-Belt	1	54	CB-239	Latch Spring	1
14	CB-176-A	Pulley	1	55	CA-9068	Friction Bushing	1
15	CBB-20-A2	Drive Wheel Assembly	1	56	CB-2084	Safety Latch	1
16	CB-2021	Motor Pulley Guard	1	57	CB-651-F	Socket Hd. Capscrew	1
17	CB-988	Lockwasher	2	58	CB-123-B	Brake Strap	1
18	CB-624	Round Hd. Machine Screw	2	59	CB-102	5/16-18 Hex Nut	2
19	CB-377-C	Socket Set Screw	2	60	CB-371-B	Lockwasher	2
20	CB-377-B	Socket Set Screw	2	61	CB-375-A	3/8-16 x 1-1/2" Hex Hd. Capscrew	3
21	CB-131	Drive Pin	2	62	CB-889	Lockwasher	3
22	CB-693-C	Bushing	1	63	DB-835-L	Roll Pin	2
23	CB-286	Woodruff Key	1	64	CB-2055-D	Lift Rod	1
24	CB-45	Oil Cup	1	65	CB-2051-B	Pull Rod Lever	1
25	CB-2059	U-Bolt	1	66	CK-30	Dog Point Set Screw	1
26	D-30473-F	Brake Spring	1	67	CB-411	Hex Jam Nut	2
27	CB-2174	Wing Nut, #5-40	2	68	CB-629-A	1/4-20 x 1" Soc. Hd. Screw	2
28	CB-2175	Nut, #5-40	2	69	CB-371-A	Lockwasher	2
29	CBB-2053	Bracket	1	70	CB-2067	Stop Bracket	1
30	CBB-2162-B	Bearing Block Assembly	1	71	CB-2052	Clevis	1
31	CB-2172	Upper Screw	1	72	CB-371-A	Lockwasher	3
32	CB-53	Lower Screw	1	73	CB-487-A	1/4-20 x 5/8" Hex Hd. Capscrew	3
33	CB-860	5/16-18 Elastic Stop Nut	2	74	CBB-129-J	Clutch Hub Assembly	1
34	CB-1297	Split Collar	1	75	CB-102	Nut	1
35	CB-133-A	Clutch Plate Stud	1	76	CB-2186	Buffer Spring	1
36	CD-134-D	Clutch Plate	1	77	CB-11	Guide Rod Fork	1
37	CT-32-B	Washer	1	78	CB-171-B	Pin	1
38	CB-171-A	Pin	1	79	D-30541-F	3/8-16 NC Nut	2
39	CB-451	Cotter Pin	3	80	D-27396-F	#5-40 x 3/8" Rd. Hd. Screw	2
40	CB-11-A	Fork	1	81	D-27398-F	#5-40 Elastic Stop Nut	2
41	CB-860-C	Elastic Stop Nut	1				

NEW BELT GUARD IS MOUNTED ON NEW MACHINES AFTER 2019

FOR MACHINES
MADE BEFORE 2019
WE OFFER SUBASSEMBLY KIT
CBB2021C
WITH EASY INSTALLATION GUIDE
DBS1149



MODEL S5F BOX STITCHER

FRAME, PEDAL, ARM AND POST ASSEMBLY

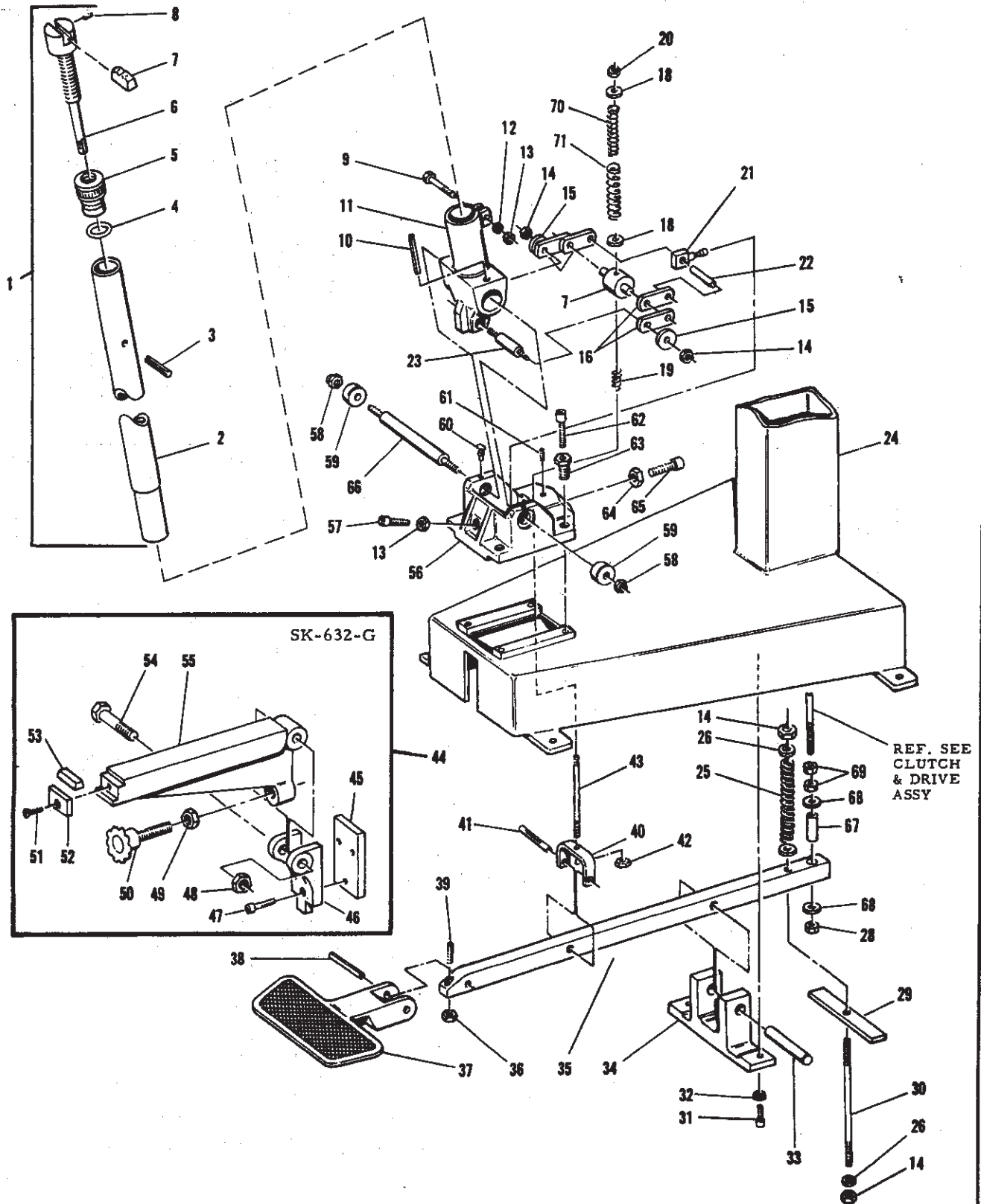


FIGURE 25

Index Number	Part Number	Part Name	Number Required	Index Number	Part Number	Part Name	Number Required
1	CBBB-121-A3	Post Assembly	1				
2	CB-121-A3	Post Tube	1	46	CB-2120-A	Back Plate - 25" Stitcher	1
3	CB-835-M	Roll Pin	1		CB-18	Arm Bracket - 16" Stitcher	1
4	CB-2074	"O" Ring	1	47	CB-18-A	Arm Bracket - 25" Stitcher	1
5	CB-15-B	Adjusting Nut	1		CB-192-B	Arm Bracket Scr. - 16" Stitcher	3
6	CB-14-M	Post Head	1		CB-379	Arm Bracket Scr. - 25" Stitcher	3
7	CB-119	Clincher Block (1/2" Crown)	1	48	CB-195	Pivot Bolt Nut - 16" Stitcher	1
	CB-119-W	Clincher Block (7/16" Crown)	1		CB-195-A	Pivot Bolt Nut - 25" Stitcher	1
	CB-119-B	Clincher Block (3/8" Crown)	1	49	CB-302	Hex Nut	1
8	CB-59	Clincher Block Screw	1	50	CBB-19-A	Arm Adjusting Nut & Stud - 16" Stitcher	1
9	CB-631	3/8-16 x 2-1/2" Hex Hd. Capscrew	1		CBB-19-A	Arm Adjusting Nut & Stud - 25" Stitcher	1
10	CB-835	Roll Pin	1	51	CB-189	Clamp Screw - 16" Stitcher	1
11	CB-2-D	Post Support	1		CB-189-A	Clamp Screw - 25" Stitcher	1
12	CB-889	Lockwasher	1	52	CB-188	Clincher Block Clamp - 16" Stitcher	1
13	CB-125	3/8-16 N.C. Hex Jam Nut	2		CB-188-B	Clincher Block Clamp - 25" Stitcher	1
14	CB-860	5/16-18 Elastic Stop Nut	2	53	CB-187	Clincher Block - 16" Stitcher - 7/16" Crown	1
15	CB-329	Washer	2		CB-187-B	Clincher Block - 25" Stitcher - 7/16" Crown	1
16	CB-2088	Toggle Link	4		CB-187-C	Clincher Block - 16" Stitcher - 3/8" Crown	1
17	CB-2089	Toggle Pin	1		CB-187-E	Clincher Block - 25" Stitcher - 3/8" Crown	1
18	CB-718	Washer	2		CB-187-F	Clincher Block - 16" Stitcher - 1/2" Crown	1
19	CB-364	Spring	1		CB-187-H	Clincher Block - 25" Stitcher - 1/2" Crown	1
20	CB-860-C	Elastic Stop Nut	1	54	CB-191	Pivot Bolt - 16" Stitcher	1
21	CB-2092	Toggle Adjusting Stud	1		CBB-191-A	Pivot Bolt - 25" Stitcher	1
22	CB-2091	Toggle Pin	1	55	CB-17-H8	Straight Arm - 16"	1
23	CB-2090	Post Toggle Pin	1		CB-17-J8	Straight Arm - 25"	1
24	CB-1-M5	Frame (16" Stitcher)	1	56	CB-158-F	Post Support Bracket	1
	CB-1-N5	Frame (25" Stitcher)	1	57	CB-377-E	Socket Hd. Capscrew	1
25	CB-199	Foot Lever Spring (16" Mach.)	1	58	CB-860-A	1/2-20 NF3 Elastic Stop Nut	2
	D-30841-F	Foot Lever Spring (25" Mach.)	1	59	CB-827	Pivot Bearing	2
26	CB-175	Washer	2	60	CB-45	Oil Cup - Gits No. 360	2
27	NOT USED			61	CB-377-B	Socket Set Screw	1
28	CB-821	3/8-16 Elastic Stop Nut	1	62	CB-689	1/2-13 x 1-3/4" Soc. Hd. Capscrew	4
29	CB-2098	Bar	1	63	CB-828-A	Adjusting Foot	4
30	CB-2099	Rod	1	64	CB-2094	5/8-18 Hex Nut	1
31	CB-487-B	1/4-20 x 1" Hex Hd. Capscrew	2	65	CB-2093	5/8-18 x 1-1/2" Hex Hd. Capscrew	1
32	CB-371-A	1/4" Lockwasher	2	66	CB-2056	Pivot Stud	1
33	CB-2061	Pivot Pin	1	67	CB-2196	Spacer	1
34	CB-2018-A	Bracket	1	68	CB-179	Washer	2
35	CB-4-F	Foot Pedal Lever - 16" Mach.	1	69	D-30541-F	Hex Nut	2
	CB-4-G	Foot Pedal Lever - 25" Mach.	1	70	CB-2197	Compression Spring 3" Long	1
36	CB-102	Nut	1	71	CB-2198	Compression Spring 2" Long	1
37	CB-16-H	Foot Pedal	1				
38	CB-835-N	Roll Pin	1				
39	CB-890	Hollow Set Screw	1				
40	CB-2101	Bracket	1				
41	CB-2106	Grooved Pin	1				
42	CB-493	1/4 Hex Nut	1				
43	CB-2100-A	Toggle Pull Rod	1				
44	CBB-17-H8	Straight Arm Assembly	1				
45	CB-2120	Back Plate - 16" Stitcher	1				

Cam And Shaft Assembly Parts List

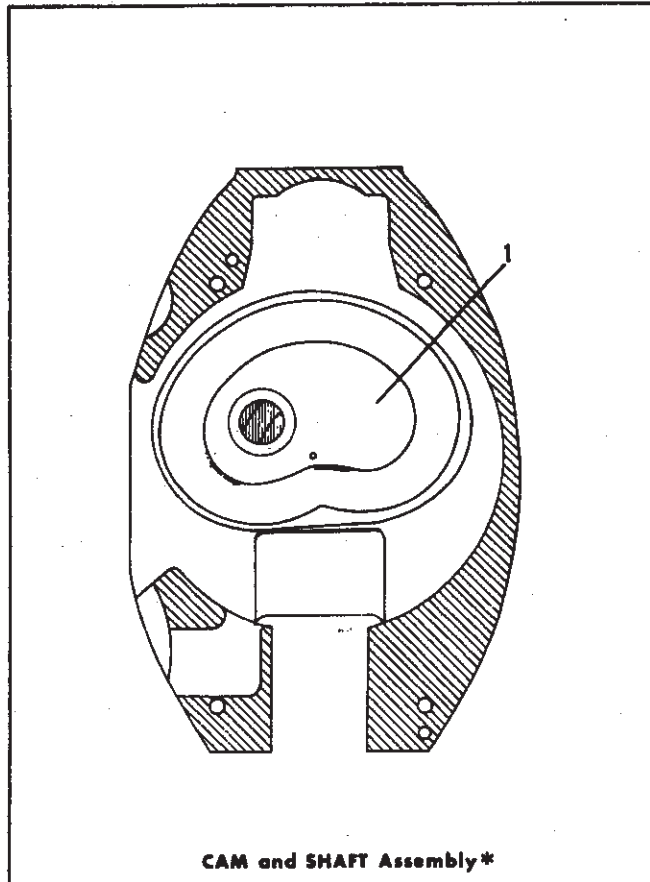


FIGURE 23

Index Number	Part Number	Part Name
1	CDD-107-T4 16"	Cam & Drive Shaft Assembly
1	CDD-107-V4 25"	Cam & Drive Shaft Assembly

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

REGISTRATION

To better service your wire stitching needs, please take a moment to fill out and return this registration card.

Name : _____
(First) (Middle Initial) (Last)
Company : _____
Street Address : _____
City : _____ State/Province : _____ Zip : _____
Country : _____
Phone : _____ Fax : _____ E-mail : _____

CUSTOMER

Machine(s) Purchased : _____
Serial Number(s) : _____
With Head(s) : _____ (Type/Quantity Purchased)
Serial Number(s) : _____
Head(s) Purchased : _____
Serial Number(s) : _____

PRODUCT

Date Received : _____
Dealer Name : _____
Dealer Street Address : _____
City : _____ State/Province : _____ Zip : _____
Country : _____
Dealer Phone : _____

DEALER

Other Bindery Products Used : _____

Please take a moment to fill out the attached card and mail it to DeLuxe Stitcher Company, Inc. In addition, duplicate the information for your records to assist when making further inquiries.

PRODUCT

Machine(s) Purchased : _____
Serial Number(s) : _____
With Head(s) : _____ (Type/Quantity Purchased)
Serial Number(s) : _____
Head(s) Purchased : _____
Serial Number(s) : _____

DE LUXE STITCHER GRAPHIC ARTS REPRESENTATIVE

Date Received : _____
Dealer Name : _____
Dealer Street Address : _____
City : _____ State/Province : _____ Zip : _____
Country : _____
Dealer Phone : _____

Would you like information sent to you about new products that would benefit your company? Yes No

PLACE
STAMP
HERE

DELUXE STITCHER

COMPANY INC.

3747 N. Acorn Lane

Franklin Park, IL 60131 U.S.A.

Attn: Customer Service



Limited

DeLuxe Stitcher Company warrants to the original retail purchaser that this product is free from defects in material and workmanship and agrees to repair or replace, at *DeLuxe Stitcher's* option, any defective product within 90 days from the date of purchase. This warranty is not transferable. It covers damage resulting only from defects in material or workmanship and does not cover conditions or malfunctions resulting from normal wear, neglect, abuse or accident.

This warranty is in lieu of all other express warranties. Any warranty of merchantability or fitness for a particular purpose is limited to the duration of this warranty. *DeLuxe Stitcher* shall not be liable for any incidental or consequential damages.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

To obtain warranty service you must return the product, at your expense, together with proof of purchase to an authorized *DeLuxe Stitcher Company* Graphic Arts Dealer.

Always use genuine *DeLuxe Stitcher* parts. When ordering parts, please identify the part number, the part name, the wire size and crown size of your *Stitcher*.

DeLuxe Stitcher Company, Inc.
3747 N. Acorn Lane
Franklin Park, Illinois 60131
Phone: 847-455-4400 800-634-0810



Warranty

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



3747 Acorn Lane • Franklin Park • Illinois 60131
Phone: 847-455-4400 • 800-634-0810
Fax: 847-455-4900 • 800-417-9251
<http://www.deluxestitcher.com>

FORM 1229 - 0421