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*Here are the instructions on
how to install,
operate, maintain and make
repairs on the...*

S5P BOX STITCHER

Serial Number _____ Model Number _____

Wire _____ Crown Width _____

When ordering parts, please state: quantity required, part number, part name, model, wire size, crown width and serial number of your Interlake Stitcher.

Your Interlake Model S5P Stitcher has been engineered, tested, and developed to provide you with the finest stitching equipment available for your fastening needs. With proper care and maintenance it will give you years of satisfactory, efficient service. This manual shows you how to get top performance from your stitcher. Read it thoroughly. Study it carefully. Best stitching performance will be assured, if all the 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

USE SILVERSTITCH STITCHING WIRE-25 LB. COILS

.103 x .017 }
.013 x .020 } Stitcher makes a 7/16" Crown ARCUATE
.103 x .023 }

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 as 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 or maintain your Stitcher, contact your Interlake Service Representative.*

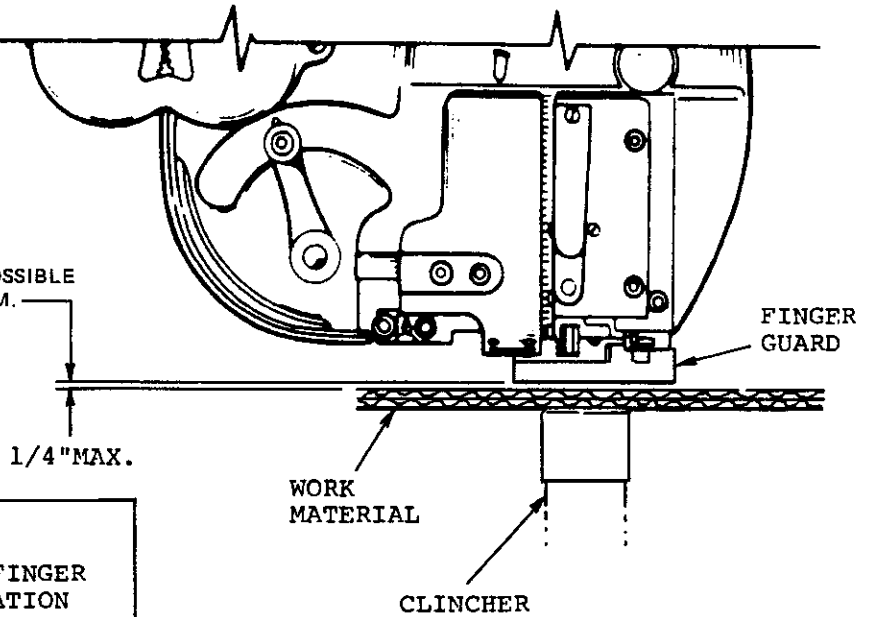
SAFETY GUARDS

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

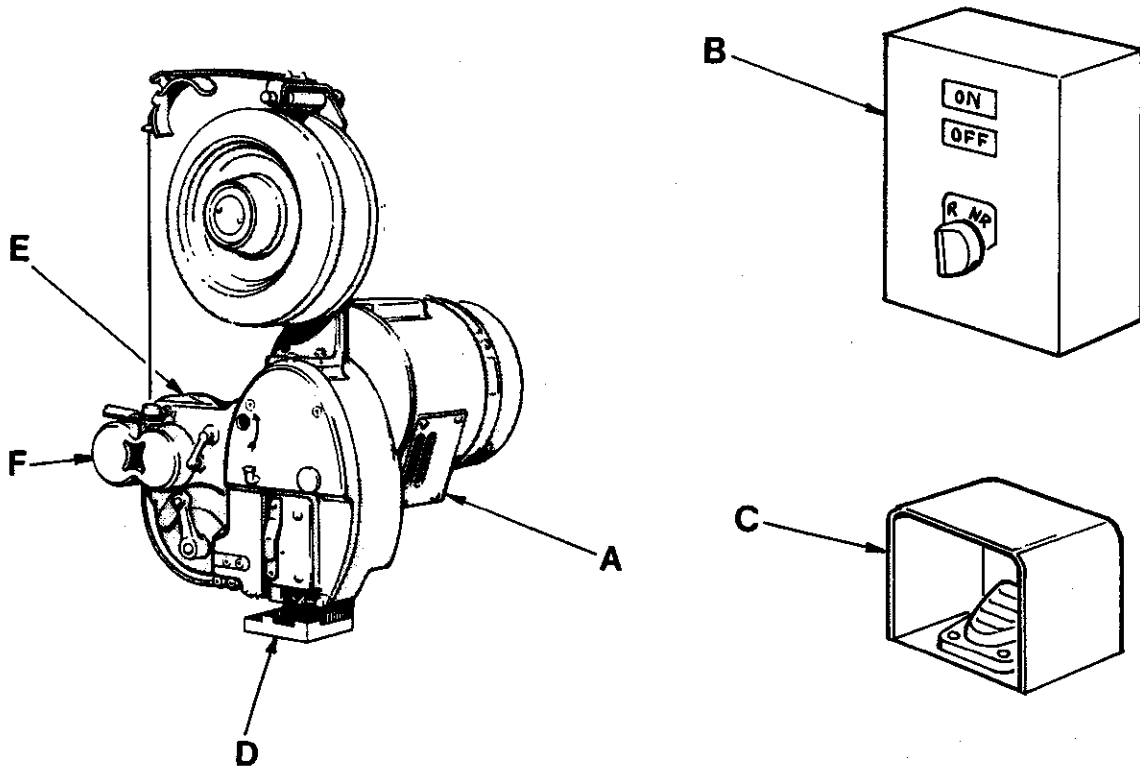
- A. **LOUVER PLATE (C-18231-F)** — *This guard covers a revolving part. Do not operate machine unless this guard is properly in place.*
- B. **CONTROL PANEL (A-7852-A)** — *Control Panel contains motor starter with overload protection and control circuit for Stitcher's electric clutch and brake. Motor will restart after electric power is interrupted, but the Stitcher cannot cycle until the foot pedal is depressed.*
- C. **FOOT PEDAL GUARD (CB-2095-A)** — *This guard safeguards against accidental actuation of machine. DO NOT remove.*
- D. **FINGER GUARD (CB-2113)** — *This guard helps to prevent the operator's fingers from entering a pinch point area. Never put fingers under this guard. (See finger guard adjustment on Page 5).*
- E. **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.*
- F. **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.*

Safety Guards

ADJUST FINGER GUARD AS CLOSE AS POSSIBLE TO WORK MATERIAL, 1/4" GAP MAXIMUM.



WARNING
NEVER PUT FINGERS UNDER FINGER GUARD. SEE SAFETY INFORMATION AT THE BEGINNING OF THIS MANUAL.



Section **2** INSTALLATION

INSTALLATION INSTRUCTIONS

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

Before Uncrating. Examine your Interlake S5P Stitcher crate for any visible damage. If damaged, **DO NOT UNCRATE THE MACHINE.** Notify transportation officials.

After Uncrating: Examine your stitcher carefully for damage in transit. If damaged **DO NOT INSTALL THE MACHINE.** Notify transportation officials and your local representative listed on back cover.

Location of Foot Treadle: Your stitcher is controlled by an electric solenoid, non-repeat trip which is energized by the micro switch in the foot treadle. The foot treadle should be located on the floor within comfortable reach of the operator's foot.

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 at the oiling points indicated in figure 1. Use SAE-20 oil at index A, B, and C.

Oiling Schedule

**Twice every eight hours of operation
Use SAE-20**

Mount Coil Holder: The coil holder furnished with your stitcher is packed for safe shipment in a carton with the tools. To assemble follow the procedure listed below.

1. Remove coil holder from box.
2. Bolt coil holder bracket (Index 2, figure 2) to the head plate casting (Index 1, figure 2).

Check Motor: The motor of your 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. Stitches equipped with 110-volt or 220-volt motors require only one power supply line. If your stitcher is equipped with a 440-volt motor, the electric trip solenoid and magnetic contactor is wired for 110-volt. Therefore 2 power supply lines are required, 1-440-volt outlet for the motor and 1-110-volt outlet for the electric trip solenoid and magnetic contactor.

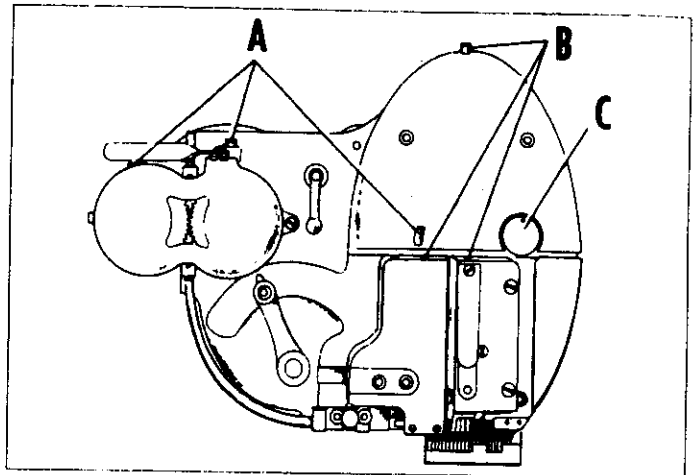


Figure 1

Mounting Wire Coil: A 25-pound coil holder with a detachable front plate is furnished with your stitcher. Unless your application requires a very special wire, a ten pound coil of the recommended wire is also furnished. To properly place the coil of wire on the coil holder, follow the steps listed below.

1. Remove front plate of the coil holder by unscrewing plate **COUNTER-CLOCKWISE.**
2. Place coil of wire on the hub of the coil holder. **DO NOT REMOVE THE WIRE BINDING TIES.** Make sure that the starting end of the wire is on top of the coil facing so that the coil unwinds **COUNTER CLOCKWISE.**
3. Replace the front plate of the coil holder. Tighten securely.

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 holder **EXCEPT** the tie that holds the starting end.
2. While holding the starting end cut the last binding tie.
3. Turn the feed control lever (Index 3, figure 2) **COUNTER CLOCKWISE** and up, to open the wire feed gears (Index 6 & 7, figure 2).
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 down into the upper wire tube (Index 4, figure 2).
6. Thread the wire down into the upper wire tube (Index 5, figure 2) and through the wire feed gears and down through the lower tube (Index 5, figure 2) until the wire is seen at the tube exit.
7. Guide the wire through the wire straightener (Index 8, figure 2) and into the cutter block (Index 9, figure 2) until it passes through the cut off die (Index 10, figure 2).
8. Turn wire feed control lever **CLOCKWISE** to close the wire feed gears.

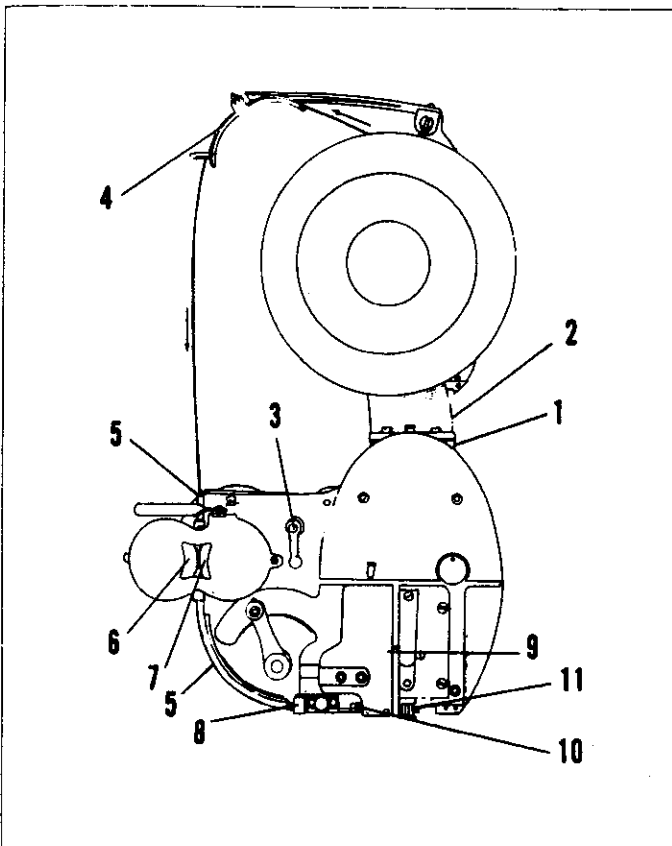


Figure 2

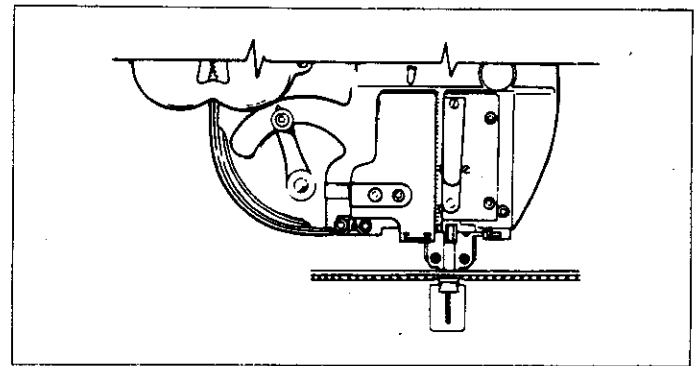


Figure 4

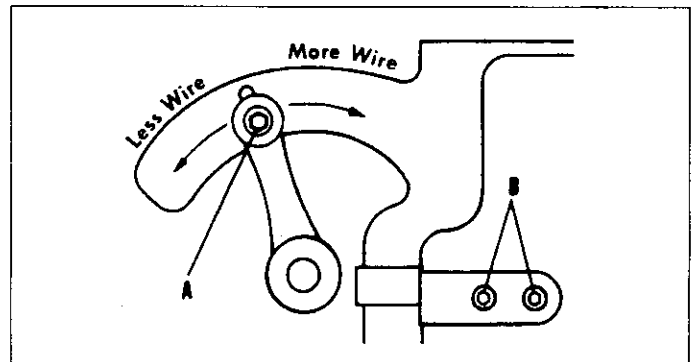


Figure 5

Adjust Wire Straightener: To make sure that the wire will enter the mandrel (Index 11, figure 2) properly, it may be necessary to adjust the wire straightener (Index 8, figure 2). See adjustment Section K, page 16.

Setting Up Machine for Stitching: To set your stitcher properly, follow these six important steps:

1. Lower the clincher as far as possible.
2. Open the wire feed gears. Lower formers with crank.
3. Place the material to be stitched over the clincher. If the work material is metal and is not compressible, adjust the clincher upward until the material is held firmly between the clincher and the formers. See figure 3. If the work material is not metal and is compressible, adjust clincher upward until the formers and clincher make a slight depression in the work material. See figure 4. Raise formers and remove hand crank.

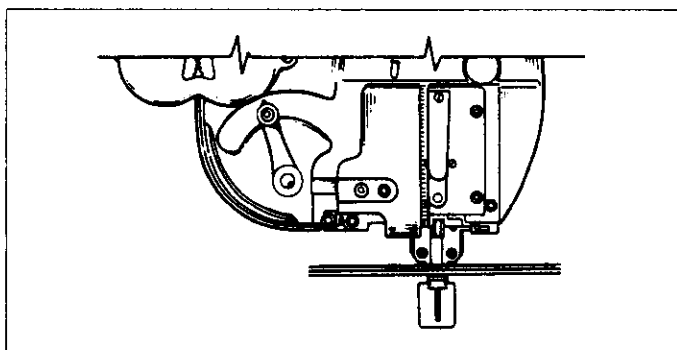


Figure 3

4. 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 6 shows what the stitch should look like.)

5. To increase or decrease the leg length of the stitches, loosen the screw of the wire feed index lever (Index A, figure 5) and the cutter block (Index B, figure 5). Move the wire feed index lever to the right for more leg length—to the left for less leg length. Tighten screws of index lever and cutter block. Repeat step 5.

If one stitch leg is longer than the other the stitch legs should be equalized. See adjustment section "O".

6. 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 "B" for compression adjustments.

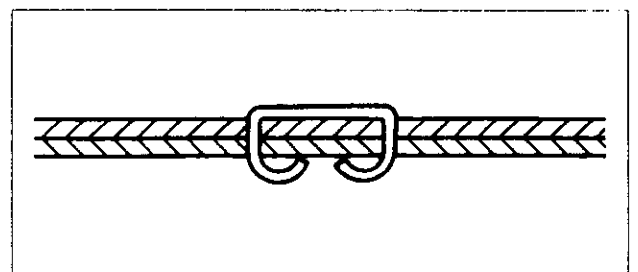


Figure 6

Section 3 OPERATION

OPERATING INSTRUCTIONS

Your Interlake S5P Stitcher is now set up and ready to operate. The foot switch should be placed in a convenient place for the operator.

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. The stitcher is equipped with an electrical non-repeat device and is set to drive only one stitch with each depression of the foot treadle. See section T, page 18 for repeat and non-repeat stitching.

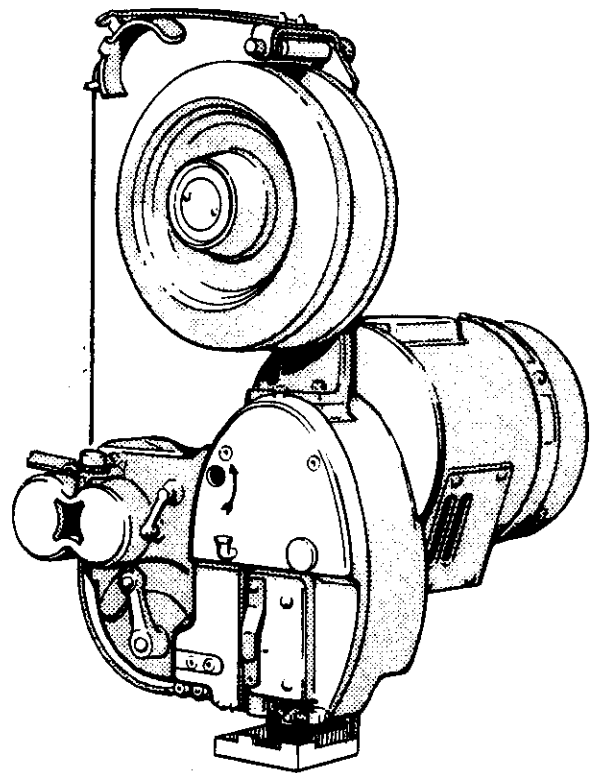
→WARNING←

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

Limitations: Your Interlake Stitcher has been tested and recommended for a specific job. Like any other piece of production machinery, it has its limitations and maximum capacity. These factors should be considered before changing and attempting to stitch other jobs.

If you are planning to stitch a new product or change the material specifications on your present product, we suggest that you send a sample. It will be tested in our modern product laboratories and the result will be sent to you with the least possible delay.



TO OPERATE BY HAND

- 1. TURN OFF THE POWER.**
- 2. Insert the Hand Crank into the hole on the faceplate as shown above. Be sure the teeth on the crank engage the gear.**
- 3. Turn the crank counterclockwise (see arrow).**
- 4. The cycle is complete when the wire blank has been cut, but the mandrel has not moved under the formers.**
- 5. REMOVE THE HAND CRANK BEFORE TURNING ON THE POWER.**

Section **4** MAINTENANCE
 TROUBLE SHOOTING
 ADJUSTMENTS

→WARNING←

**TURN OFF ELECTRICAL POWER BEFORE
 MAKING ANY ADJUSTMENTS.**

GENERAL

The Maintenance, Trouble Shooting and Adjustment 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 main sections for the purpose of identifying mechanical troubles and listed as follows under Trouble Shooting.

1. HEAD 2. REAR

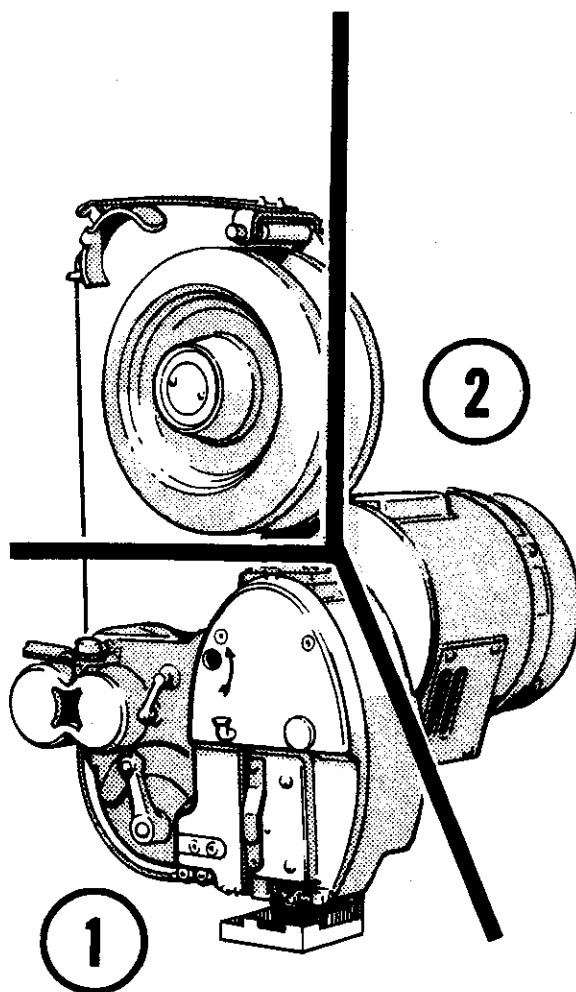
Like any equipment that has moving parts, certain parts of your stitcher will be subjected to more wear than others and require replacement. For this reason the following listing was prepared.

Spare Parts Stock

Part Number	Part Name	Quantity
CBB-52W	Cut-off Die (Square)	2
D-63301-F	Cut-off Die (15°)	2
D-40409-F	Cut-off Die (45°)	2
D-35878-F	Flat Knife (Square)	2
D-63302-F	Flat Knife (15°)	2
D-40412-F	Flat Knife (45°)	2
D-31267-F	Flat Knife Screw (Square)	1
D-40558-F	Flat Knife Screw (15° + 45°)	1
D-30087-F	Main Cam Roller	1

Lubrication

For efficient operation, your machine must be oiled every day. See oiling schedule page 6.



When ordering parts, please state: quantity required, part number, model, wire size, crown width and serial number of your stitcher. For example: One D-63301-F 15° S5P Stitcher. Wire size .1032 x .023, 7/16" crown, serial no. 16666.

Section 4 MAINTENANCE TROUBLE SHOOTING ADJUSTMENTS

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

EXAMPLE: Assume that your machine drives a stitch with a buckled leg. Refer to the section under **Head** and then to the sub-heading **Defective stitches**. Of the various types of defective stitches, the first is buckled legs along with probable causes listed under it.

1 HEAD

TROUBLE	POSSIBLE CAUSE	REMEDY
A. Defective stitches		
One or both legs buckled. Wrinkled crown.	<ol style="list-style-type: none"> 1. Clincher block is worn or improperly aligned. 2. Insufficient compression. 3. Worn formers. 4. Improper wire cut-off. 5. Wire too light for material being stitched. 6. Unequal leg length 7. Lack of shoe support 8. Worn clincher. 9. Worn mandrel. 	See A, page 12 See B, page 12 See C, page 13 See O, page 16 See F, page 14 See O, R, pages 16 & 17 See M, page 16 See A, page 12 See E, page 14
One leg is consistently too short or too long.	<ol style="list-style-type: none"> 1. Cutter block improperly positioned. 	See O, page 16
Varying leg length	<ol style="list-style-type: none"> 1. Improper brake tension on coil holder. 2. Insufficient tension on idler gear. 3. Slippage in wire feed clutch. 4. Weak mandrel gripper spring. 5. Too much tension on wire straightener. 	See J, page 15 See Q, page 17 See R, page 17 See H, page 15 See K, page 16
Stitches come out in pieces.	<ol style="list-style-type: none"> 1. Mandrel assembly is worn or improperly adjusted. 2. Wrong wire size. 	See G, pages 14-15 See F, page 14

Trouble Shooting

TROUBLE	POSSIBLE CAUSE	REMEDY
Corner of crown distorted or fractured.	<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. 	See B, page 12 See A, page 12 See G, page 14 See C, page 13 See D, page 13 See G, page 14 See N, page 16 See M, page 16 See A, page 12
One or both legs turn out.	<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. 	See E, page 14 See A, page 12 See G, page 14 See C, page 13 See K, page 16
Crown of stitch not flush with surface of work material	<ol style="list-style-type: none"> 1. Driver does not come down far enough. 2. Lack of compression. 	See N, page 16 See B, page 12

B. Wire buckles between wire straightener and cutter block.

	<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. 	See K, page 16 See G, page 14 See I, page 15 See E, page 14 See E, page 14 See H, page 15
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② REAR

<ol style="list-style-type: none"> 1. Stitcher repeats without pressure on the foot treadle 2. Stitcher won't stitch when foot treadle is pressed as far down as possible. 	<ol style="list-style-type: none"> 1. Worn or broken switch in foot treadle 2. Worn or broken micro switch in non-repeat switch 	See T, page 18 See T, page 18
<ol style="list-style-type: none"> 3. Stitcher repeats when foot switch is held in depressed position 	<ol style="list-style-type: none"> 1. Switch on electrical box is not in position for non-repeat stitching 	See T, page 18
<ol style="list-style-type: none"> 4. Formers are not at top of stroke when stitcher is in neutral position 	<ol style="list-style-type: none"> 1. Brake improperly adjusted 	See T, page 18

ADJUSTMENTS

→WARNING←

Turn the MOTOR OFF before making any adjustments.

A. Clincher Adjustments

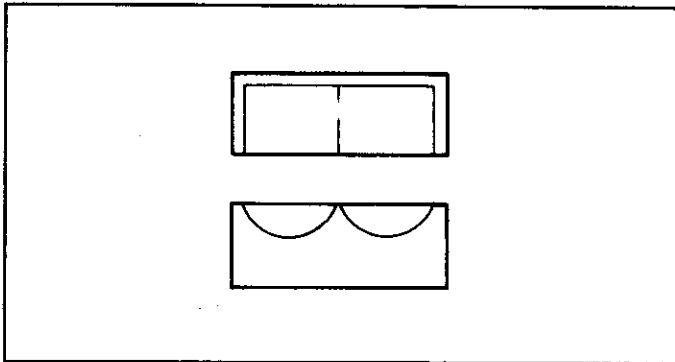


Figure 7

The purpose of the clincher is to turn the legs of the stitch back after they have penetrated the work material. Figure 7 shows a general purpose clincher with two grooves and one side closed. Special clinchers may be designed for a specific purpose depending upon the stitcher application and the type of material to be stitched.

The proper alignment of the clincher under the formers is one of the MOST CRITICAL adjustments. Therefore extreme care must be used to align the clincher at the same time equal distance from the sides.

If the clincher is out of alignment, any of the following troubles may develop:

1. Stitch legs buckle.
2. Wrinkled stitch crown.
3. Corners become distorted or fractured.
4. One leg turns outward.

The clincher can be repositioned from back to front to obtain the proper alignment. Simply loosen the set screw and move the clincher forward or backward. Tighten set screw.

To test the clincher alignment, particularly the Tear Drop type, make sure that the leg lengths are equal. Drive several stitches into a section of the same material that is to be stitched. The clinched loops of both legs should be identical and aligned with each other. If one loop is

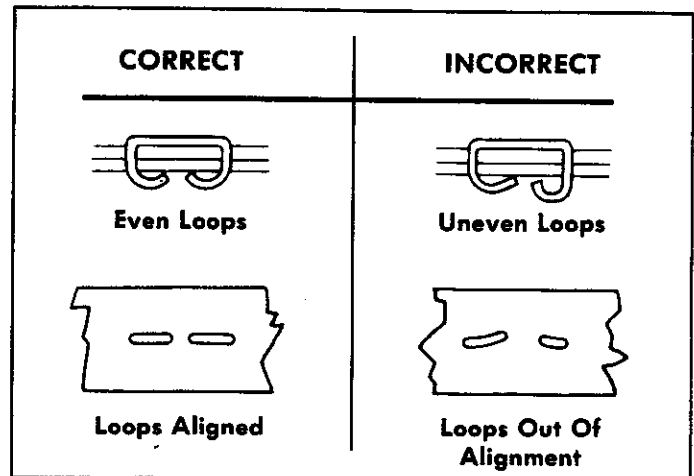


Figure 8

larger than the other or the loops are not in alignment, the clincher needs adjustment.

The grooves in the clincher should be smooth. Any interference (particularly worn grooves), which change the original radii, will cause the stitch legs to buckle and/or the corners of the crown to fracture.

NOTE

Adjustment: (1) Insert the hand crank through the hole in the face plate and turn the cam by hand until legs of the stitch appear just below the formers. (2) Turn the adjusting screw (Index 4, figure 25) to raise the clincher until it is approximately 1/8" from the legs of the stitch. (3) To move clincher to the right, loosen both lock nuts and the left adjusting bushing (Index 9 & 10, figure 25) and draw up the left adjusting bushing. After both adjusting bushings are drawn up snug, tighten both lock nuts.

B. Insufficient or Excessive Compression

Proper compression of work material between the clincher 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 cannot always be detected by a faulty stitch, therefore care should be taken when making compression adjustments. If the stitcher is operated for any length of time with excessive compression, it will cause excessive wear and possibly break the main cam (Index 4, figure 23), main cam roller (Index 45, figure 20) and stud, also the driver bar connecting link assembly (Index 43, figure 20). Excessive compression will also damage or mutilate the work being stitched.

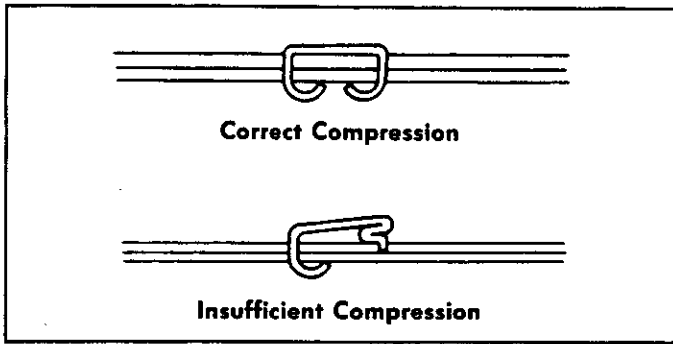


Figure 9

When proper compression is obtained, the formers will leave a slight impression on top of the work material. To obtain correct compression, place work material on the clincher block. Then raise or lower the clincher so that the work material is held firmly between the clincher 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 9.

C. Formers

The formers (Index 34, figure 19) 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 unclined stitch should be perpendicular to the crown. When the formers become worn, the legs tend to flare out. This causes the legs to strike the clincher improperly. As a result, one or both legs will crumple and a broken driver or a broken former can result. 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.

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

To replace a former: (1) Remove the front block (Index 11, figure 17). If left former must be replaced, remove cutter block (Index 9, figure 17). (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 after reading break-in instructions which follow. (6) Replace cutter block and front block. (7) Tighten screws. Since the formers and driver function together, read the following section on driver.

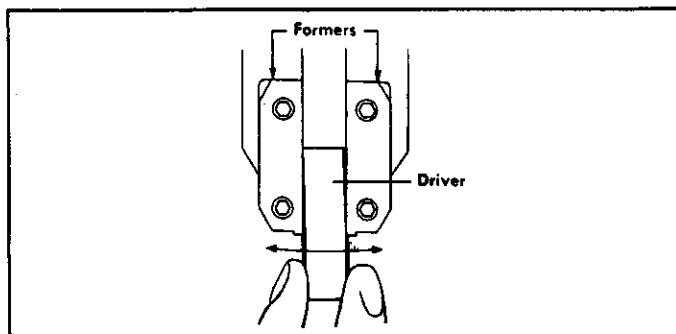


Figure 10

Break-in Instructions For New Formers and Drivers

NOTE

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 break-in period.

D. Driver

The function of the driver (Index 33, figure 19) 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 chipped driver is usually the result of driving a stitch on top of another stitch. 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 (Index 11, figure 17). (2) Remove the screws from the right former (Index 34A, figure 19). (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 side. (7) Replace and tighten screws after reading break-in instructions above.

It is very important that the driver fits snugly between the formers. If the driver is loose and can be moved from side to side, .005" or more, the former slide (Index 30, figure 19) is probably spread at the point where the formers are fastened. To check: Turn the crank by hand until the driver extends about an inch below the formers. Exert pressure on the driver from side to side. See figure 10.

If the former side is spread, it should be replaced with a new one. However, a temporary repair can be made by placing a shim between the former and the shoulder of the former slide. Start with a .003" shim and shim up one of the formers. If more shimming is necessary, shim up both sides equally. To insert shim, loosen the former screws and slip shim in place between the former and former slide

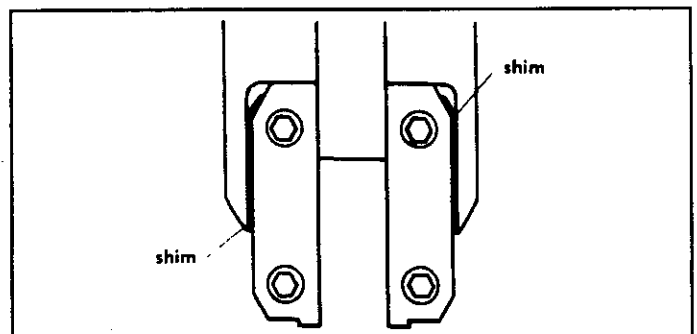


Figure 11

S5P BOX STITCHER

shoulder (see figure 11). Tighten the screws gradually, applying pressure on all screws until tight.

CAUTION

After shimming be sure to check and see that the mandrel (Index 61 figure 21) and the shoe (Index 32 figure 19) enter between the formers properly without interference.

The common cause for a spread former slide are—

1. Driving one stitch on top of another
2. Misaligned clincher
3. Worn clincher
4. Excessively worn formers

Any one of the above will allow the wire to wedge between the driver and formers, damaging the parts and spreading the former slide.

E. Wire Cut-Off Die and Flat Knife

The purpose of the cut-off die and knife (Index 54 & 57, figure 21) 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) short wire feed, (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 prevent the wire from feeding.

To determine if the wire has been cut off properly, remove a straight piece from the mandrel (Index 61, figure 21). Draw the wire between your thumb and index finger. If you feel burrs on the wire ends, the knife and/or the 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.

Interlake Stitchers have a double end reversible notched flat knife. It has 12 cut-off positions. To replace or change cutting position: (1) Remove screw (Index 58, figure 21). (2) Change or re-position the knife so that the notch in the knife is aligned with the opening in the cut-off die. (3) Replace and tighten screw.

The cut-off die is held in position by two set screws (Index 54A, figure 21). 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 the 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 (Index 9, figure 17). (2) Loosen lock nut (Index 31A, figure 19). (3) Turn the adjusting screw (Index 31, figure 19) clockwise to shorten the travel of the knife; counterclockwise to lengthen the travel. (4) Tighten lock nuts securely.

F. Proper Wire

The correct wire size and tensile strength varies with the type of material being stitched. If there are any questions about the correct wire and stitcher set-up to accommodate a change in your material specifications, send sample of the material to us.

**DO NOT ATTEMPT
TO USE A DIFFERENT SIZE WIRE.**

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. The size and tensile strength of the wire appears on the shipping case and inside the individual case liners. Stitcher parts are also marked to show the wire size for which they were made.

G. Mandrel

The mandrel (Index 61, figure 21) performs three functions. (1) It receives wire from the cut-off die (Index 54, figure 21), and holds the wire while it is being cut. (2) It carries the straight, cut-to-length, piece of wire under the formers (Index 34, figure 19). (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. This causes a buckled leg and possibly a broken driver or former. 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 64 & 65, fig. 21). 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.

MAINTENANCE

To adjust the Mandrel: (1) Loosen eccentric screw (Index 66, figure 21). (2) Turn eccentric bushing (Index 65, figure 21) 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 63, figure 21) 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. (2) Raise the gripper by pushing up on the gripper lifter crank roller (Index 60, figure 21). 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 62, figure 21). Depress the mandrel and slide it out from under the gripper lifter crank. (2) Remove the spring retaining block (Index 63, figure 21) 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, turn the flywheel by hand until the formers descend 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.

H. Mandrel Spring

The mandrel spring (Index 13, figure 17) exerts pressure on the mandrel (Index 61, figure 21) so that it carries the wire under the formers. If the mandrel spring is weak or broken, or the mandrel spring binding screw (Index 13A, figure 17) 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.

Adjustments

To Check for a Weak Mandrel Spring: (1) Make sure that the mandrel screw is tight. (2) Depress the trip rod lever 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.

L. Gripper Lifter Crank

The gripper lifter crank (Index 60, figure 21) 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 a short wire feed.

To replace the Gripper Lifter Crank: (1) Remove the front block. (2) Remove the crank screw and pull out the gripper lifter crank.

J. Coil Holder Brake Tension

This is made before shipment. If further adjustments are necessary, use two screw drivers, with the one in the right hand held securely in brake shaft (Index A, figure 12). Left hand operates screw driver to loosen set screw (Index B, figure 12). Turn brake bracket shaft clockwise to tighten brake—counterclockwise to loosen brake.

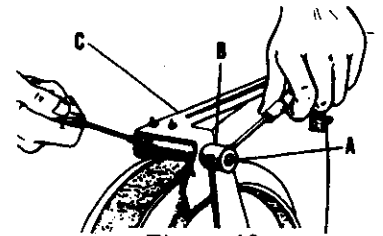


Figure 12

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 over-running.

To adjust the brake: (1) Turn the brake bracket shaft counterclockwise until the wire guide assembly (Index C, figure 12) 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.

S5P BOX STITCHER

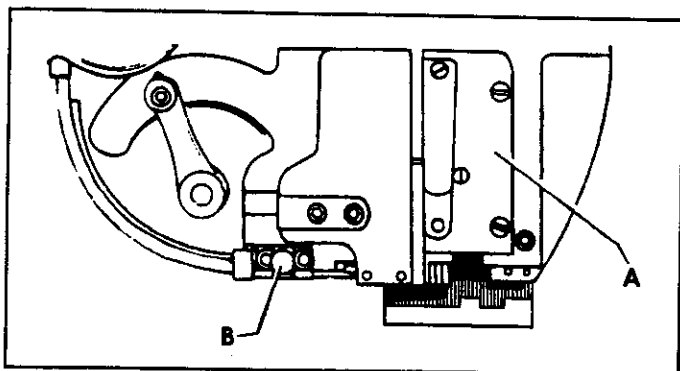


Figure 13

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

To determine if the Straightener is Adjusted Properly: (1) Remove the front block (Index A, figure 13). (2) turn the stitcher over by hand. The wire should come out of the cut-off die horizontally. (3) If the wire turns up, loosen set screw (Index B, figure 13) and move adjusting slide upward. If the wire curves down, 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.

M. Shoe

The shoe (Index 32, figure 19) 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 shoes are too sharp, or nicked, the corners of the stitch crown will fracture.

To Inspect the Shoe: (1) Insert the hand crank and cycle the machine 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 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 17G, figure 16). This permits the plunger roller to push the shoe further to the front of the stitcher. Make certain that the shoe does not come so far forward that it strikes the mandrel (Index 61, figure 21). 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.

NOTE

The top surface of the shoe should be kept free of metal deposits which accumulate due to friction with the wire. This can be accomplished by occasionally cleaning with fine emery cloth and polishing with crocus cloth.

N. Adjustable Drive Bar Link

The adjustable drive bar link (Index 43, figure 20) 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.

→WARNING←

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

At the lowest part of its stroke, the driver end should be approximately .020" below the ends of the formers.

To Adjust Drive Bar Link: (1) Remove the face plate assembly (Index 1, figure 17). (2) Remove the former slide assembly (Index 30, figure 20) from the face plate (3) Remove the driver bar and drive bar link (Index 43, figure 20) by sliding from the face plate. Be careful not to let the two pieces become disengaged. (4) If the drive bar link is not already marked for locating make a mark on the drive bar link opposite the mark on the eccentric (Index 43A, figure 20) 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 because of certain other factors which may have caused a change in the relative position. (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 A, figure 14) contains the cut-off die, flat knife and the parts required to equalize the stitch length. The adjusting slide (Index B, figure 14), 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 improper 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) Insert the hand crank and turn the cam shaft 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 set screw (Index 6, figure 17) is tight. (2) Loosen the cutter block screws (Index C, figure 14) one-half turn and the set screw (Index D, figure 14) not more than one-eighth turn. (3) To increase the length of a short right leg, turn the adjusting screw (Index E, figure 14) 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 screws and 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 Stop Screw

NOTE

Adjust Wire Stop Screw (Index F, figure 14) after the leg lengths are equalized.

The wire blank for the stitch is properly centered in the mandrel at the time of cut-off. The purpose of the wire stop screw is to keep the wire centered and to prevent it from the jumping in the mandrel gripper (Index G, figure 14) while it is being cut off. If the wire blank is not kept centered in the mandrel as the formers descend, the formed stitch will not have equal legs.

To Adjust Stop Screw: (1) Back off the wire stop screw to allow enough clearance for the wire blank to enter the mandrel. (2) Drive 3 or 4 stitches under power into some soft material. (3) Turn off motor switch. (4) Turn wire stop screw in until it pushes the wire blank against the cut off die. (5) Then back-off the wire stop screw 1/2 turn and lock in place with lock nut.

CAUTION

The wire stop screw should not stop the wire at anytime while the wire is being fed. This causes excessive wear on the feed wheels.

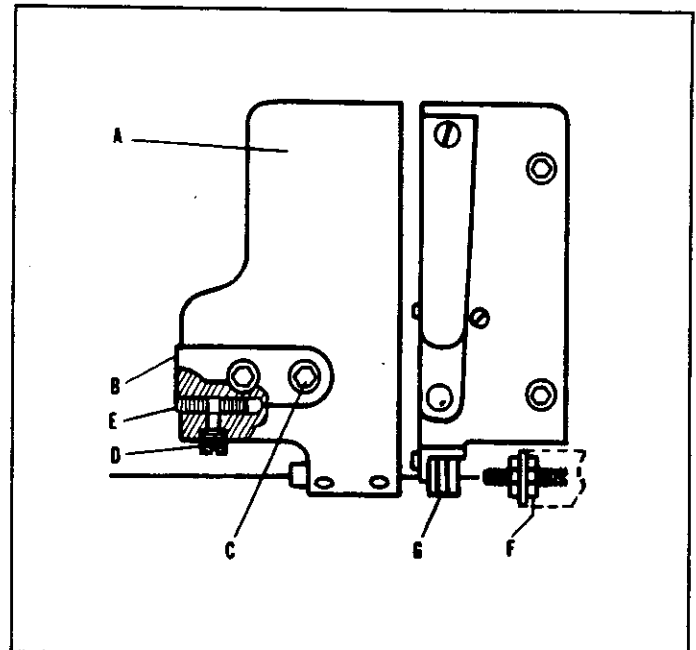


Figure 14

Q. 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. Insufficient pressure will cause variation in the amount of wire feed for each stitch.

To Check for Proper Amount of Tension: (1) Remove the front block assembly (Index 11, figure 17) and lower the arm. (2) With stitcher under power, trip the foot treadle and cut 20 to 30 pieces of wire and catch them in a piece of cloth held under the formers. (3) Check length variation. If the longest and shortest pieces vary by more than .025", adjust the tension on idler. (4) To increase the tension on the feed lever assembly (Index 23, figure 19) turn the set screw (Index 37A, figure 20) clockwise.

R. Wire Feed Clutch (one piece feed gear & shaft)

The function of the wire feed clutch assembly (Index 41, figure 20) is to feed the same amount of wire for each stitch. This assembly consists of an outer ring and 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.

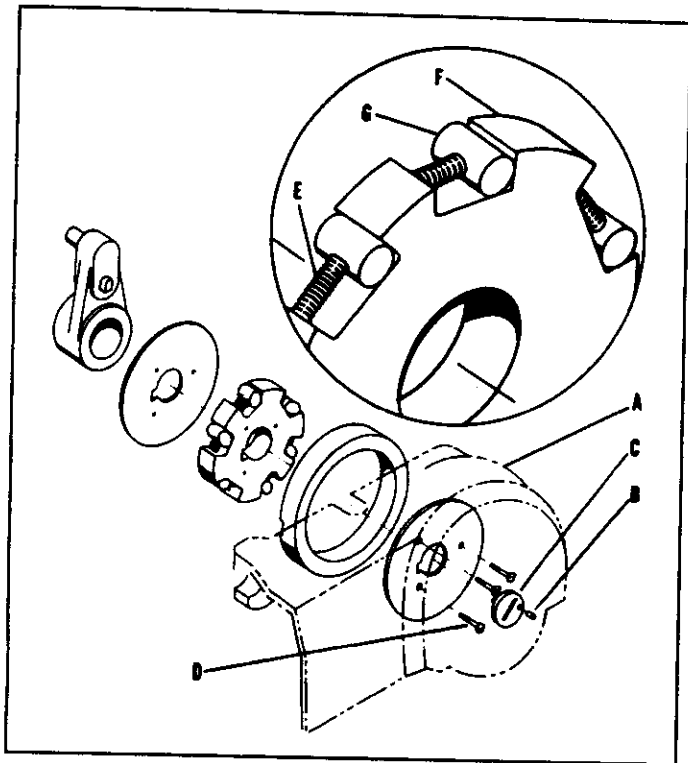
Since it is difficult to determine if the wire feed clutch is causing variation in the stitch leg length, check all other possible causes for this condition first. If the trouble persists, remove and inspect the clutch.

S5P BOX STITCHER**T. Electric, Clutch, Brake and Non-Repeat Device**

An electric clutch drives the stitcher and an electric brake keeps the stitcher in neutral when not stitching. The clutch and brake are controlled by the same relay. When one is energized the other is de-energized. The brake is energized as soon as the switch on the control box is turned on.

When you step on the foot switch, the brake releases and the clutch engages the drive shaft to start the stitching cycle. The clutch releases and the brake engages when the cam behind the drive gear hits the non-repeat limit switch. This ends the cycle and stops the stitcher in neutral.

The rheostat in the control box regulates the brake. If the cycle stops too soon the cam will not pass the non-repeat limit switch and the clutch cannot be energized. Adjust the rheostat so the cycle is completed when the formers are above a straight piece of wire held in the mandrel.

**Figure 15****To Clean or Repair the Clutch:**

1. Remove wire feed guard (Index A figure 15).
2. Loosen set screw (Index B figure 15).
3. Remove clutch screw (Index C figure 15) and slide clutch from shaft.
4. Remove three screws (D figure 15) 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 reassembly. The wire feed clutch brake assembly (Index 41B figure 16) prevents over feed. Keep this part clean and free of oil.

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

The Function of this clutch is identical to that in section R. However, if this clutch malfunctions, it must be replaced as an assembly with the feed clutch arm assembly. (Index 15, figure 18)

Section **5** PARTS LIST

NOTE

The exploded view on this page contains all the parts in the stitching head. These parts and index numbers are duplicated in Figure 17 to 21 along with a complete listing of part numbers and part names.

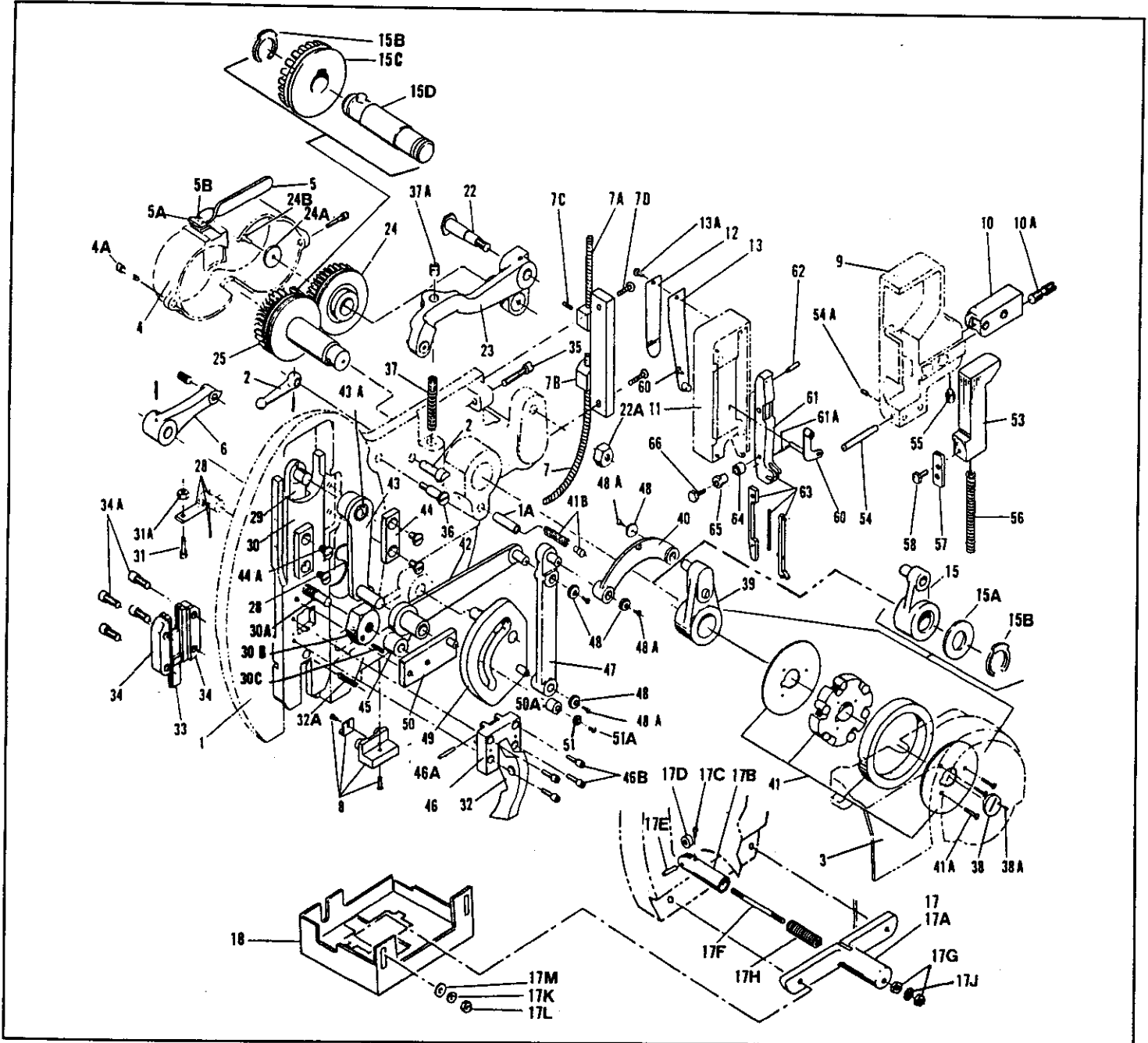


Figure 16

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

When ordering parts, please state: quantity required, part number, model, wire size, crown width and serial number of your stit-cher. For example: One D-30084-F Gib for model S5P Box Stitcher, wire size .103 x .023. Arcuate, crown width 7/16" serial no. 1666.

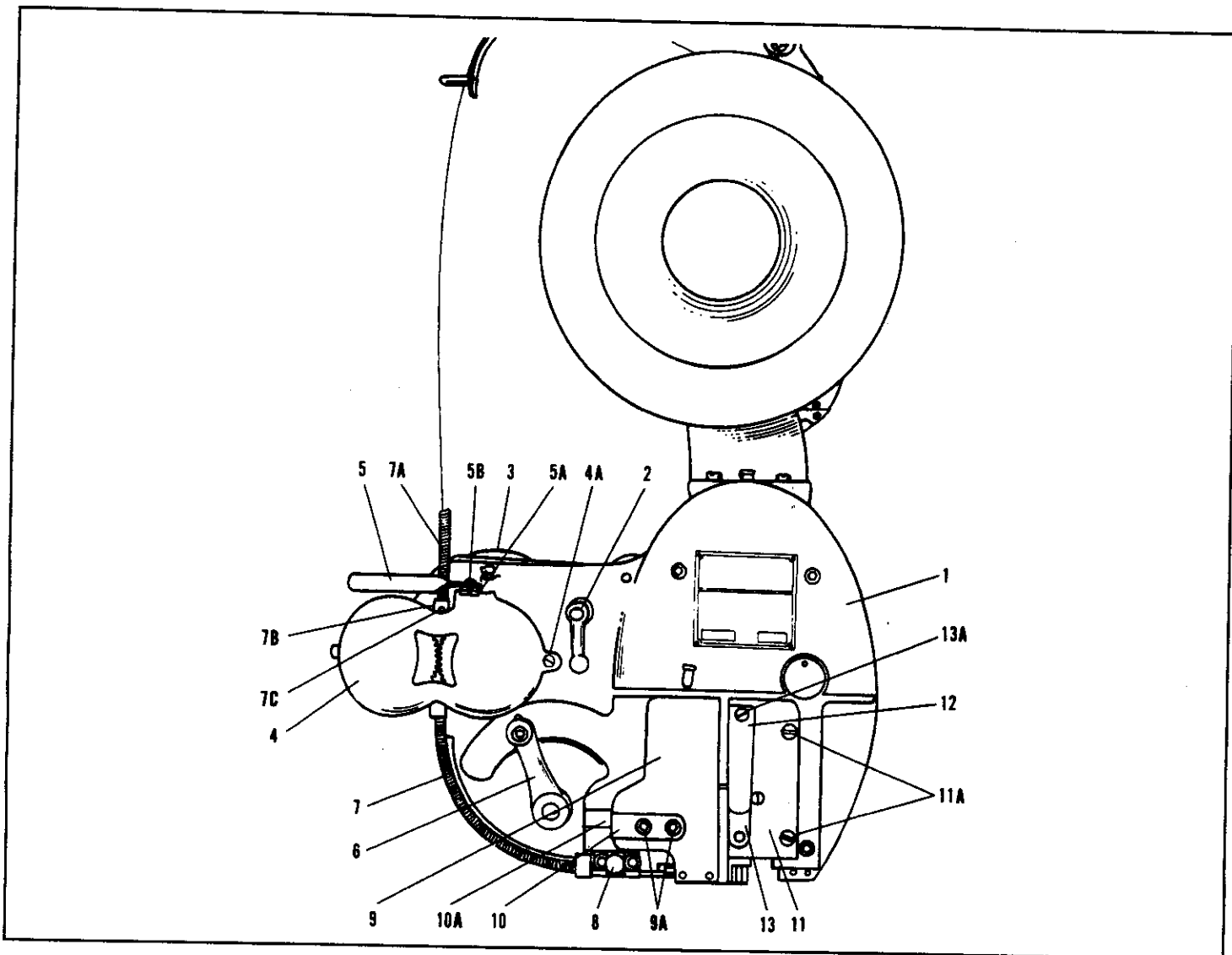


Figure 17

Index Number	Part Name	Part Number	Index Number	Part Name	Part Number
1	Face Plate	A-5537-F	7C	Set Screw	D-22872-F
	Face Plate (Inverted Head)	CB-1275-E	7D	Mounting Screw	D-38869-F
	Gib	D-30084-F	8	Wire Straightener Assembly	D-38677-A
	Gib Screw	D-8520-F		Wire Straightener Body	D-38678-F
	Oiler	D-30542-F		Slide	D-30200-F
	Oiler	D-30543-F		Thumb Screw	D-43086-F
1A	Friction Spring Tube	D-30611-F		Roller	D-37547-F
	Oil Hole Cover	D-36452-F		Mounting Screw	D-30618-F
	Name Plate	D-33621-F	9	Cutter Block (Only)-Square Cut	C-9200-F
2	Wire Feed Control Assembly	D-30238-A		Cutter Block (Only)-15°	C-27499-F
3	Wire Feed Guard	C-8003-F		Cutter Block (Only)-45°	C-17812-A
4	Feed Gear Guard	C-8001-F	9A	Cutter Block Screw	D-32122-F
4A	Feed Gear Guard Screw	D-30605-F	10	Cutter Block Adjustment	
5	Hand Wire Cutter Handle	D-31264-F		Slide-15° Square Cut	D-30915-F
5A	Cutter Knife	D-30099-F		Cutter Block Adjustment Slide-	
5B	Cutter Knife Screw	D-30421-F		15° and 45°	D-49082-F
6	Wire Feed Index Lever Assembly	B-6109-A	10A	Adjusting Screw	D-30593-F
	Lever	D-30083-F	11	Front Block (Only)	B-6078-A
	Set Screw	D-30680-F	11A	Front Block Screw	D-38144-F
	Roll Pin	D-37751-F	12	Anvil Bar Auxiliary Spring	D-31269-F
7	Wire Feed Tube (Lower)	D-38495-F	13	Anvil Bar Spring Assembly	D-30049-A
7A	Wire Feed Tube (Upper)	D-38494-F	13A	Anvil Bar Spring Assembly	
7B	Wire Feed Tube Bracket	C-9210-F		Screw	D-30591-F

S5P BOX STITCHER

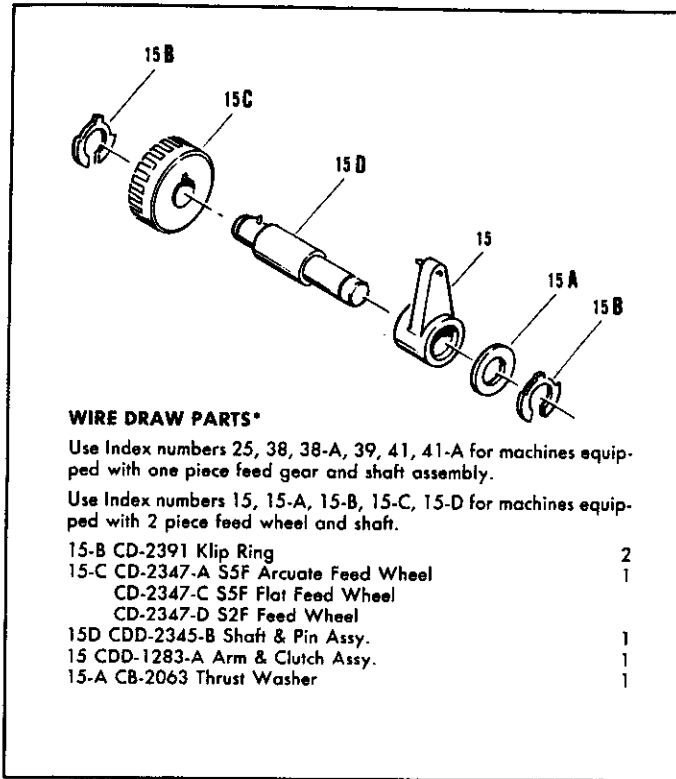


Figure 18

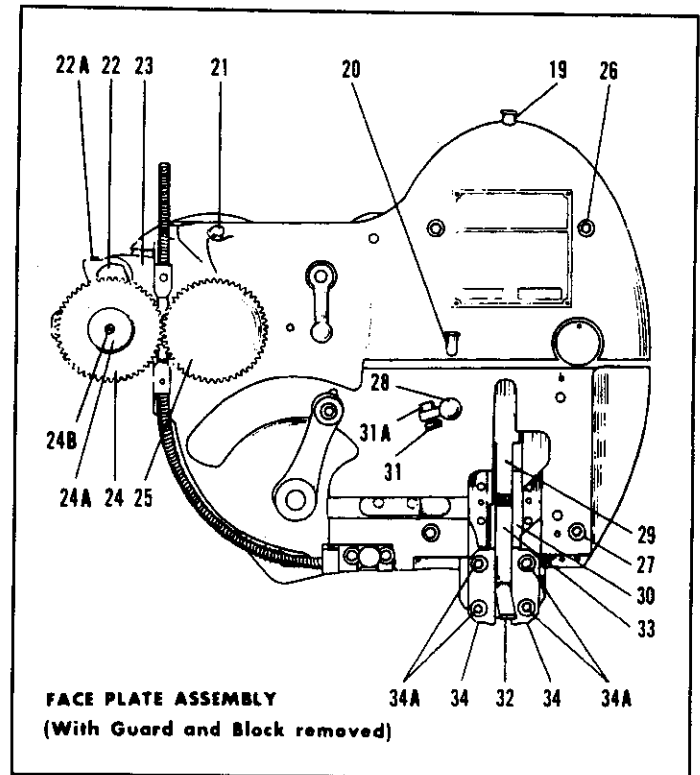


Figure 19

Index Number	Part Name	Part Number
*15	Arm & Clutch Assy.	CDD-1283-A
*15A	Thrust Washer	CB-2063
*15B	Klip Ring	CD-2391
*15C	S5F Arcuate Feed Wheel	CD-2347-A
	S5F Flat Feed Wheel	CD-2347-C
	S2F Feed Wheel	CD-2347-D
*15D	Shaft & Pin Assy.	CDD-2345-B
17	Shoe Plunger Bracket Assembly	D-36993-A
	Shoe Plunger Bracket Assembly (Inverted Head)	CDD-2048
17A	Bracket (only)	D-30161-F
	Inverted Bracket (only)	CD-2048
17B	Plunger	D-31310-F
17C	Guide Pin	D-38065-F
17D	Roller	D-31903-F
17E	Roller Pin	D-31904-F
17F	Plunger Stud	D-31302-F
17G	Jam Nut	D-13931-F
17H	Plunger Spring	D-36995-F
17J	Washer	D-52891-F
17K	Lockwasher	D-13260-F
17L	Nut	D-30575-F
17M	Flat Washer	CB-175
18	Finger Guard	CB-2113

Index Number	Part Name	Part Number
19	Oiler	D-30542-F
20	Oiler	D-30543-F
21	Oiler	D-30552-F
22	Idler Lever Fulcrum Stud	D-30016-F
22A	Idler Lever Fulcrum Stud Nut	D-30541-F
23	Feed Idler Lever Assembly	D-38679-A
	Feed Idler Lever Assembly (Inverted Head)	CBB-1288-A
24	Idler Gear	D-38617-F
24A	Washer	D-30015-F
24B	Screw	D-30602-F
*25	Feed Gear and Shaft Assembly	D-38616-A
26	Face Plate Screw	D-38178-F
27	Face Plate Screw	D-33841-F
28	Cutting Block Tilter Crank Assembly	D-31217-A
29	Driver Bar	C-8147-F
30	Former Slide and Shoe Assembly	C-9218-A
	(Includes #32, 46, 46A, & 46B)	
	Former Slide Assembly (only)	C-8145-A
30A	Former Slide Stud	D-30191-F
30B	Stud Nut	D-30626
30C	Dowel Pin	D-30609-F
31	Adjusting Screw	D-30614-F
31A	Adjusting Screw Lock Nut	D-30085-F
32	Shoe	D-38681-F
32A	Shoe Coil Spring	D-31956-F
33	Driver for Wire Sizes .103 x .017, .020, and .023 Arcuate Formers for Wire Sizes .103 x .017, .020, and .023 Arcuate	D-44649-F
34	Formers for Wire Sizes .103 x .017, .020, and .023 Arcuate	D-44650-F
34A	Formers Screws	D-3051-F

Rear View Of Face Plate Parts List

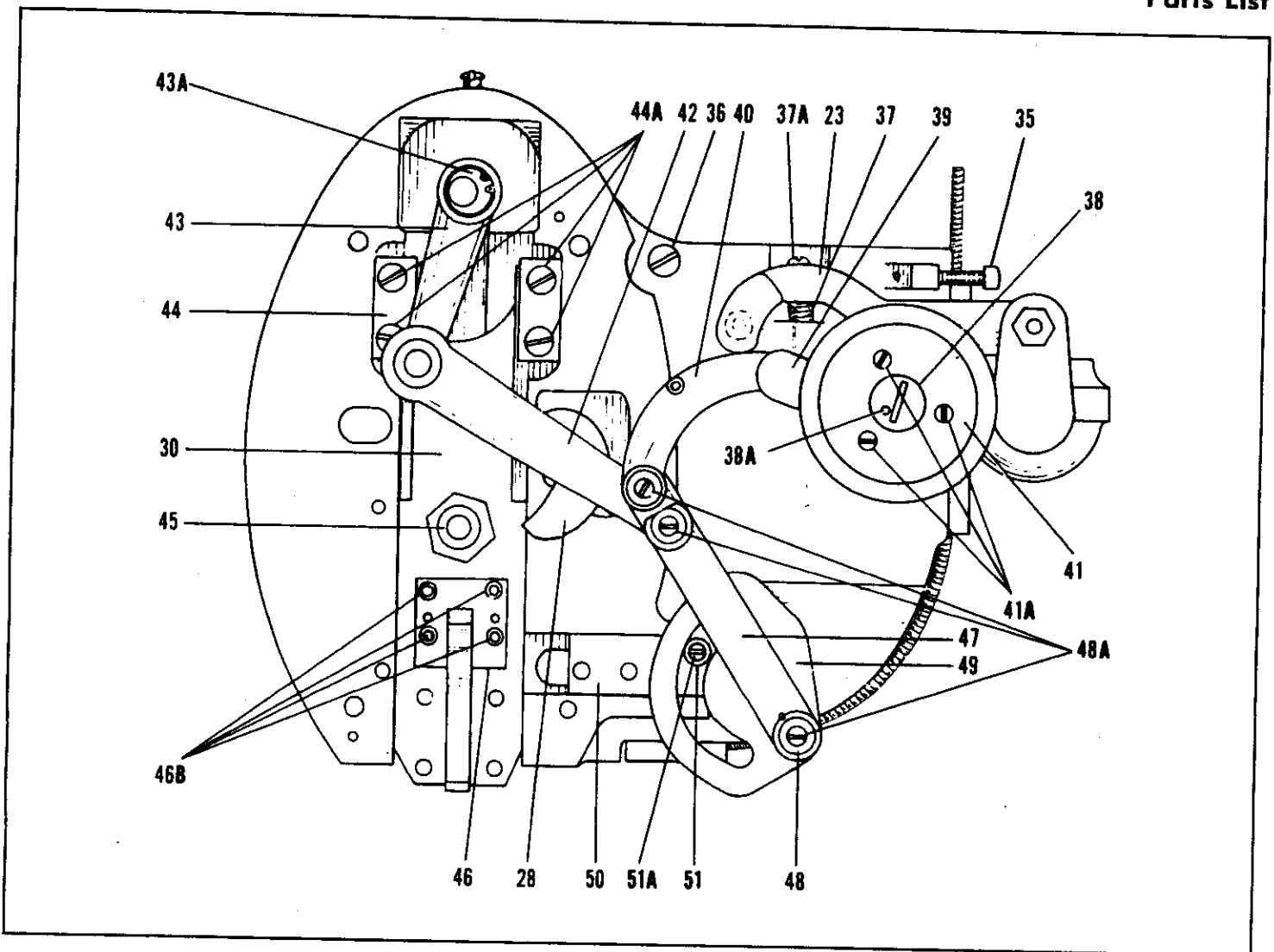


Figure 20

Index Number	Part Name	Part Number	Index Number	Part Name	Part Number
35	Wire Feed Guard Screw	D-30586-F		First Wire Draw Bar Assembly (Inverted Head)	D-38431-A
36	Wire Feed Guard Screw	D-30203-F		Driver Bar Connecting Link Assembly	D-30237-A
37	Idler Lever Spring	D-30472-F	43	Eccentric	D-30208-F
37A	Idler Lever Spring Adj. Screw	D-30613-F	43A	Former Slide Gib	D-30084-F
*38	Feed Clutch Screw	D-30190-F	44	Former Slide Gib Screw	D-8520-F
*38A	Lock Set Screw	D-30538-F	44A	Main Cam Roller	D-30087-F
*39	Feed Clutch Arm Assembly (Inverted Head)	D-30235-A	45	Shoe Bracket	D-31980-F
			46	Shoe Fulcrum Pin	D-32109-F
40	Third Wire Draw Bar	D-30095-F	46A	Shoe Bracket Screw	D-11790-F
			46B	Intermediate Wire Draw Bar (Inverted Head)	D-30198-A
*41	Feed Clutch Assembly	D-30115-A	47	Intermediate Wire Draw Bar (Inverted Head)	D-38428-F
	Feed Clutch Ring	D-30106-F	48	Wire Draw Bar Washers	D-30601-F
	Feed Clutch Spider	D-30107-F	48A	Wire Draw Bar Washer Screws	D-30338-F
	Feed Clutch Roller	D-30625-F	49	Cutting Block Control Cam Assembly	D-30223-A
	Feed Clutch Springs	D-30440-F	50	Cutting Block Slide Assembly	D-31223-A
	Back Plate	D-30098-F	50A	Cutting Block Slide Roller	D-30088-F
	Front Plate	D-30097-F	51	Slide Roller Washer	D-30599-F
41B	Clutch Brake Spring Assembly	D-30236-A	51A	Slide Roller Washer Screws	D-30518-F
*41A	Screw	D-30539-F			
42	First Wire Draw Bar Assembly	D-30114-A			

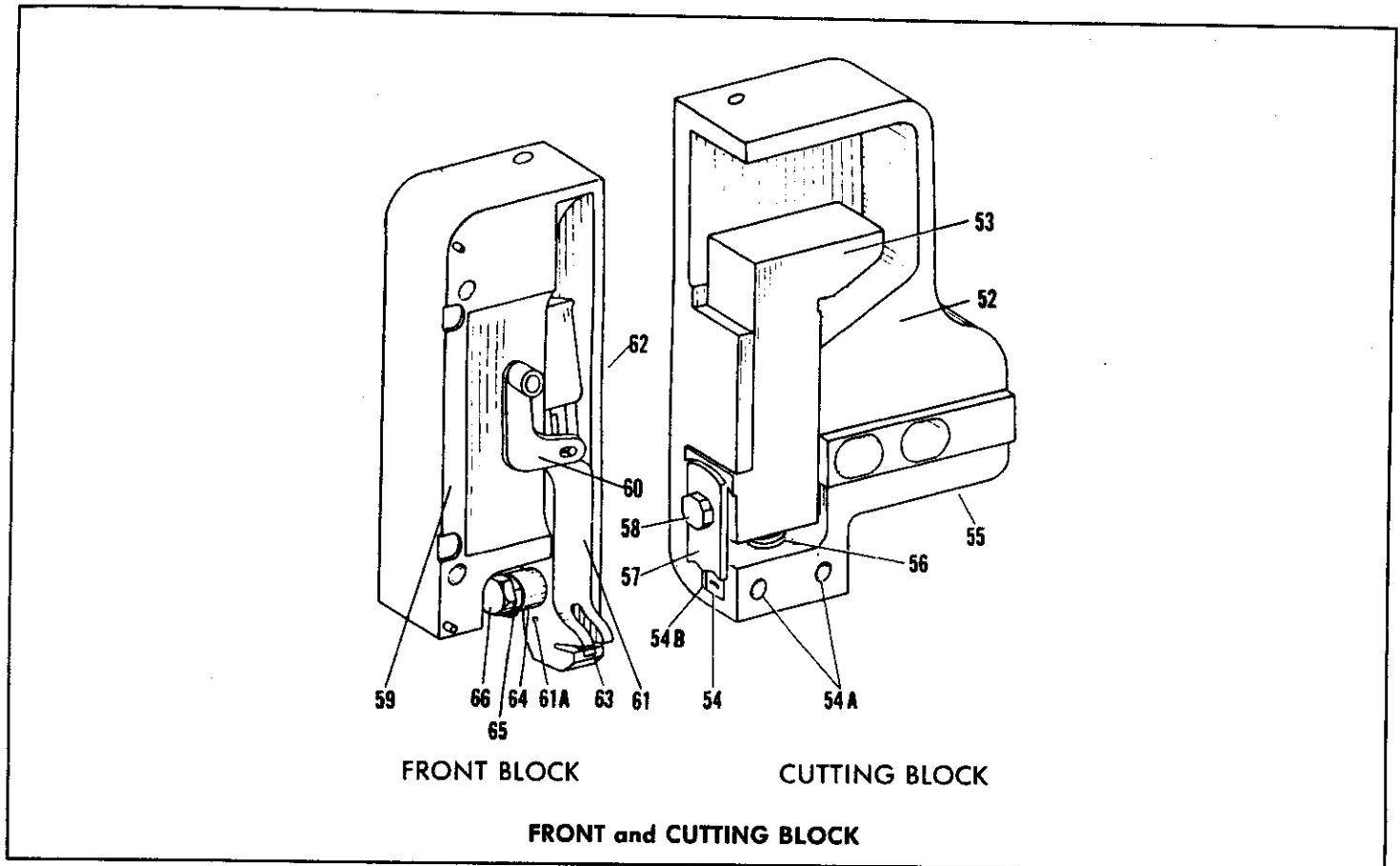


Figure 21

Index Number	Part Name	Part Number	Index Number	Part Name	Part Number
CUTTING BLOCK—SQUARE CUT-OFF			CUTTING BLOCK - 15°		
52	Cutter Block Assembly - Square Cut	B-7021-A	52	Cutter Block Assembly - 15° Cutter Block Assembly - 15° (Inverted Head)	B-18962-A CBB-1291-F
53	Cutter Block Assembly - Square Cut (Inverted Head)	CBB-1291-E	53	Knife Holder	D-63300-F
54	Flat Knife Holder	D-30118	54	Cut-off Die	D-63301-A
54A	Cut-off Die	CBB-52W	54A	Cut-off Die Lock Screw	D-5252-F
54B	Cut-off Die Lock Screws	D-5252-F	54B	Cut-off Die Spacer	D-38724-F
55	Cut-off Die Spacer	D-38724-F	55	Lock Screw	D-30594-F
56	Lock Screw	D-30594-F	56	Knife Holder Spring	D-49083-F
57	Knife Spring	D-30425-F	57	Flat Knife	D-63302-F
58	Flat Knife	D-38578-F	58	Flat Knife Screw	D-40558-F
58	Flat Knife Screw	D-31267-F	FRONT BLOCK		
CUTTING BLOCK - 45°			59	Front Block Assembly	B-6111-A
52	Cutter Block Assembly - 45°	B-12079-A	60	Front Block Assembly (Inverted Head)	B-12675-A
53	Cutter Block Assembly - 45° (Inverted Head)	CBB-1291-D	61	Gripper Lifting Crank Assembly	D-30222-A
54	Knife Holder	D-40411-F	61A	Mandrel Bar Assembly	D-37202-A
54A	Cut-off Die	D-40409-A	61A	Mandrel Bar (Only)	C-8087-F
54B	Cut-off Die Lock Screw	D-5252-F	62	Pin	D-30631-F
55	Cut-off Die Spacer	D-38724-F	62	Mandrel Bar Pivot Screw	D-30635-F
56	Lock Screw	D-30594-F	63	Gripper Assembly	D-30117-F
57	Knife Holder Spring	D-49083-F	63A	Gripper Spring and Plug Assembly	D-36420-A
58	Flat Knife	D-40412-F	63B	Spring Retaining Block	D-30034-F
58	Flat Knife Screw	D-40558-F	64	Roller	D-30936-F
			23 65	Eccentric Bushing	D-30931-F
			66	Screw	D-36460-F

Motor And Housing Assembly

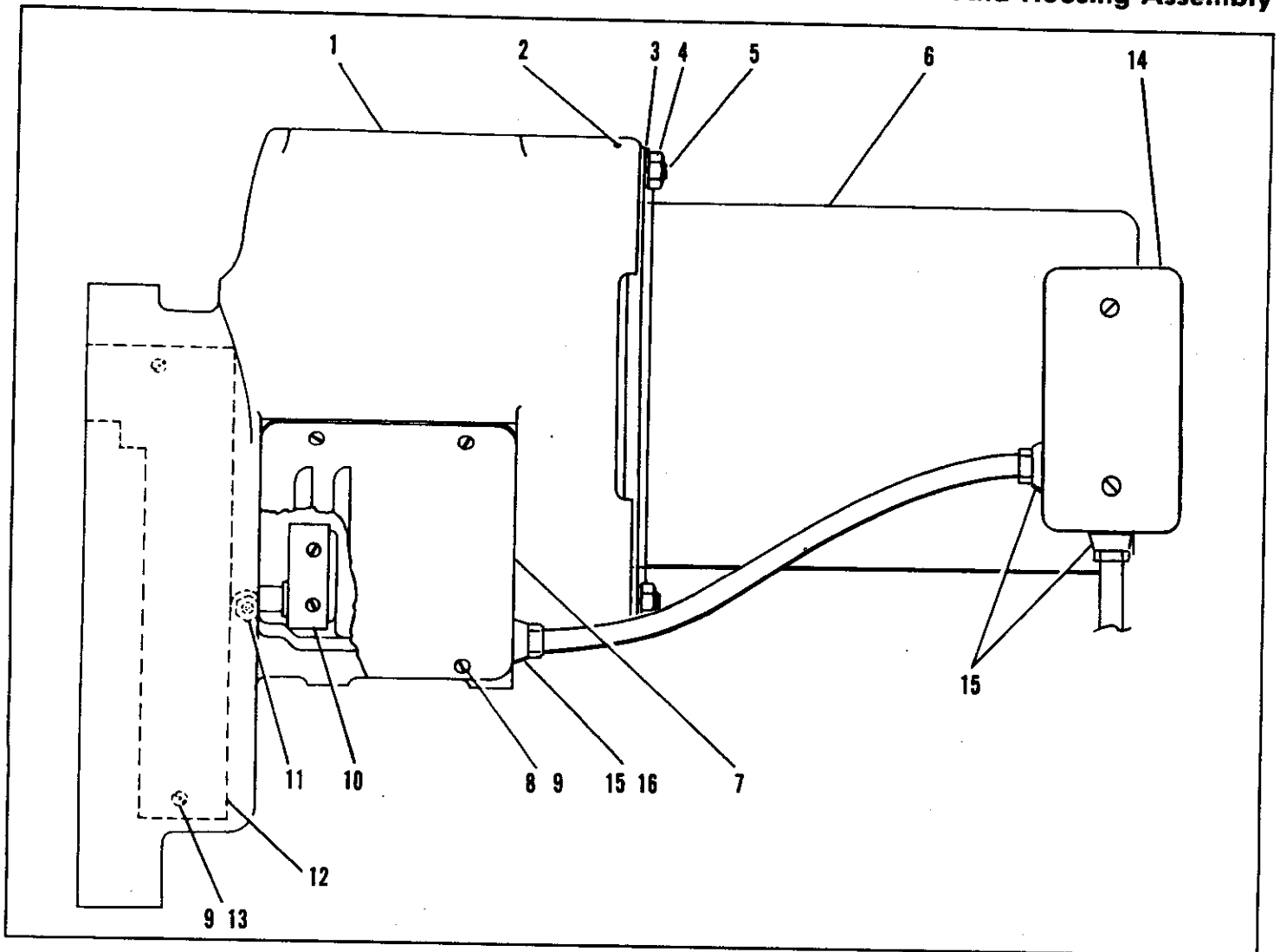


Figure 22

Index Number	Part Name	Part Number	Index Number	Part Name	Part Number
1	Stitcher Housing	E-169-F	14	Junction Box	CB-847
2	Roll Pin	D-23940-F		Cover	CB-848
3	Lockwasher	D-13260-F		Nipple	CB-1892
4	Hex. Nut	D-30575-F		Drive Nut (4)	CB-2194
5	Threaded Stud	D-41301-F	15	Sealtite Fitting	D-45687-F
6	Motor Assembly	CDD-2049-F	16	Reducer	CB-429-F
	Motor 3/4HP, 220/440v	CD-2049-B			
	Adapter Ring	CD-2199			
	Screw 3/8-16x3/4 (4)	CB-314-A			
	Lockwasher 3/8 (4)	CB-889			
7	Louver Plate	C-18231-F			
8	Screw	D-1021-F			
9	Lockwasher	D-7951-F			
10	Limit Switch	D-41308-F			
11	Grease Fitting	D-41307-F			
12	Guard	C-19244-F			
13	Screw	D-30526-F			

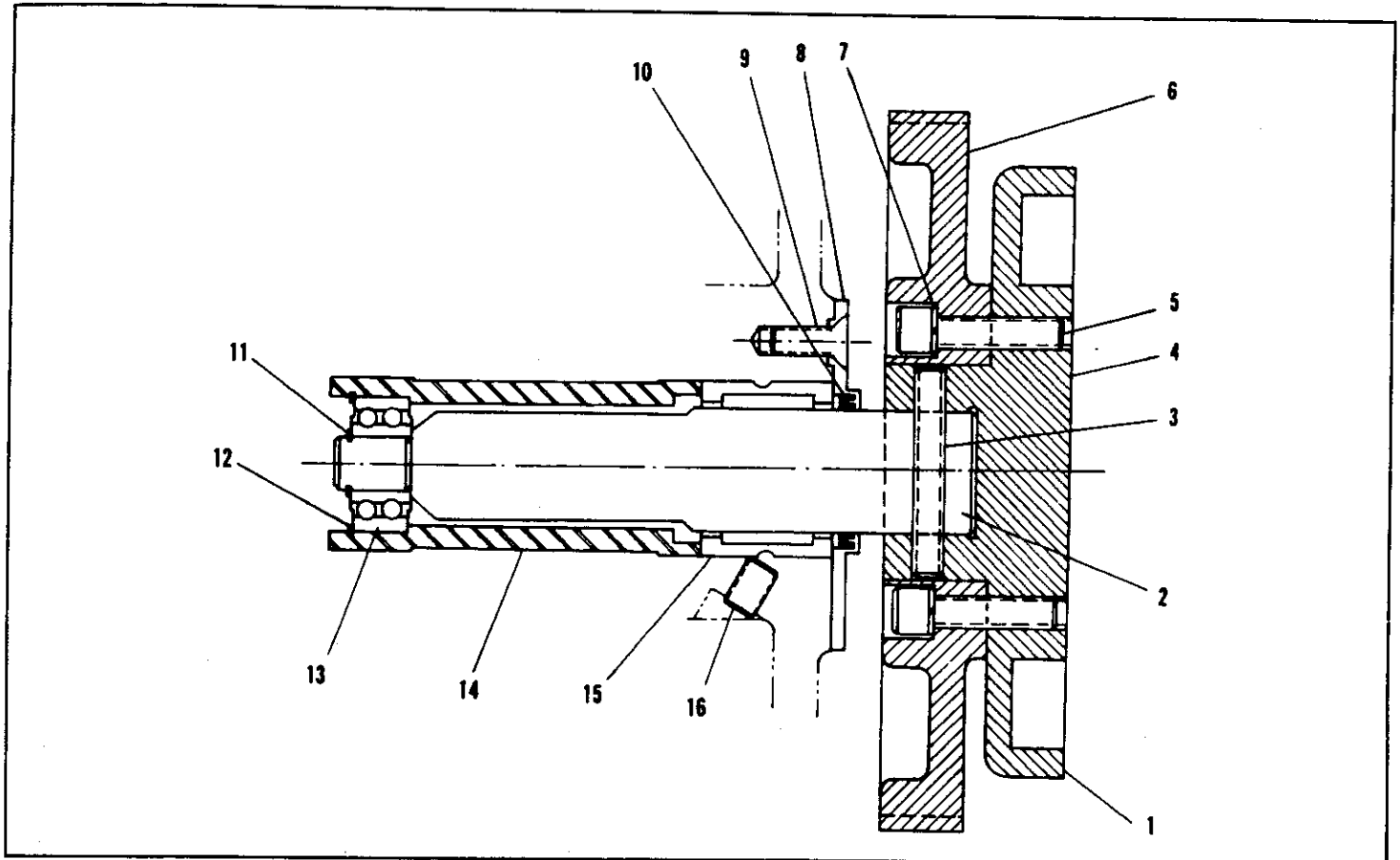


Figure 23

Index Number	Part Name	Part Number	Index Number	Part Name	Part Number
1	Cam Assembly	B-12222-A	9	Seal Housing Screw	D-41305-F
2	Cam Shaft	C-18228-F	10	Oil Seal	D-41304-F
3	Roll Pin	D-38016-F	11	Shaft Retaining Ring	D-40783-F
4	Cam	B-12238-F	12	Sleeve Retaining Ring	D-40166-F
5	Cap Screw	D-33807-F	13	Bearing	D-40154-F
6	Gear	B-12223-F	14	Bearing Sleeve	C-18230-F
7	Lockwasher	D-17451-F	15	Bearing	D-40782-F
8	Seal Housing	C-18229-F	16	Pipe Plug	D-41306-F

Clutch and Brake Assembly

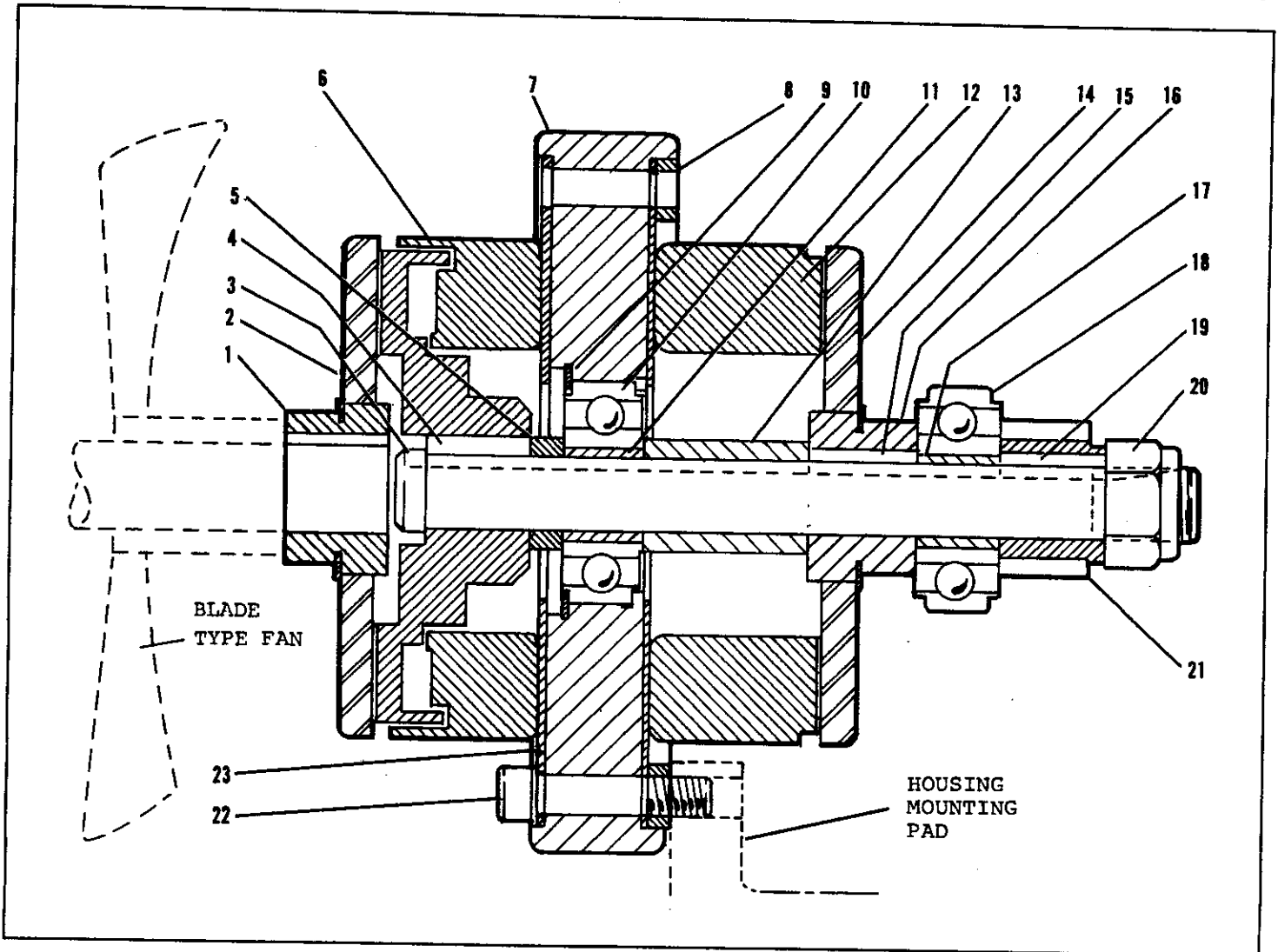


Figure 24

Index Number	Part Name	Part Number	Index Number	Part Name	Part Number
1	Amature Hub	*D-43594-A	13	Brake Spacer	D-40773-F
2	Armature	D-43593-F	14	Armature	D-43593-F
3	Shaft	C-18227-F	15	Key	D-40771-F
4	Key	D-40771-F	16	Armature Hub	D-43595-A
5	Clutch Spacer	D-40775-F	17	Brg. Bushing	D-40776-F
6	Clutch Assy.	C-24232-A	18	Ball Bearing	D-40260-F
7	Mtg Disc	C-18226-F	19	Key	D-40772-F
8	Spacer	CD-2721	20	Nut	D-40779-F
9	Ret. Ring	D-40777-F	21	Pinion	D-40774-F
10	Ball Bearing	D-40260-F	22	Screw 5/16-18x1½ Soc. Hd.	D-30490-F
11	Brg. Bushing	D-40776-F	23	Gaskets	D-44012-F
12	Brake Assembly	D-40778-A			

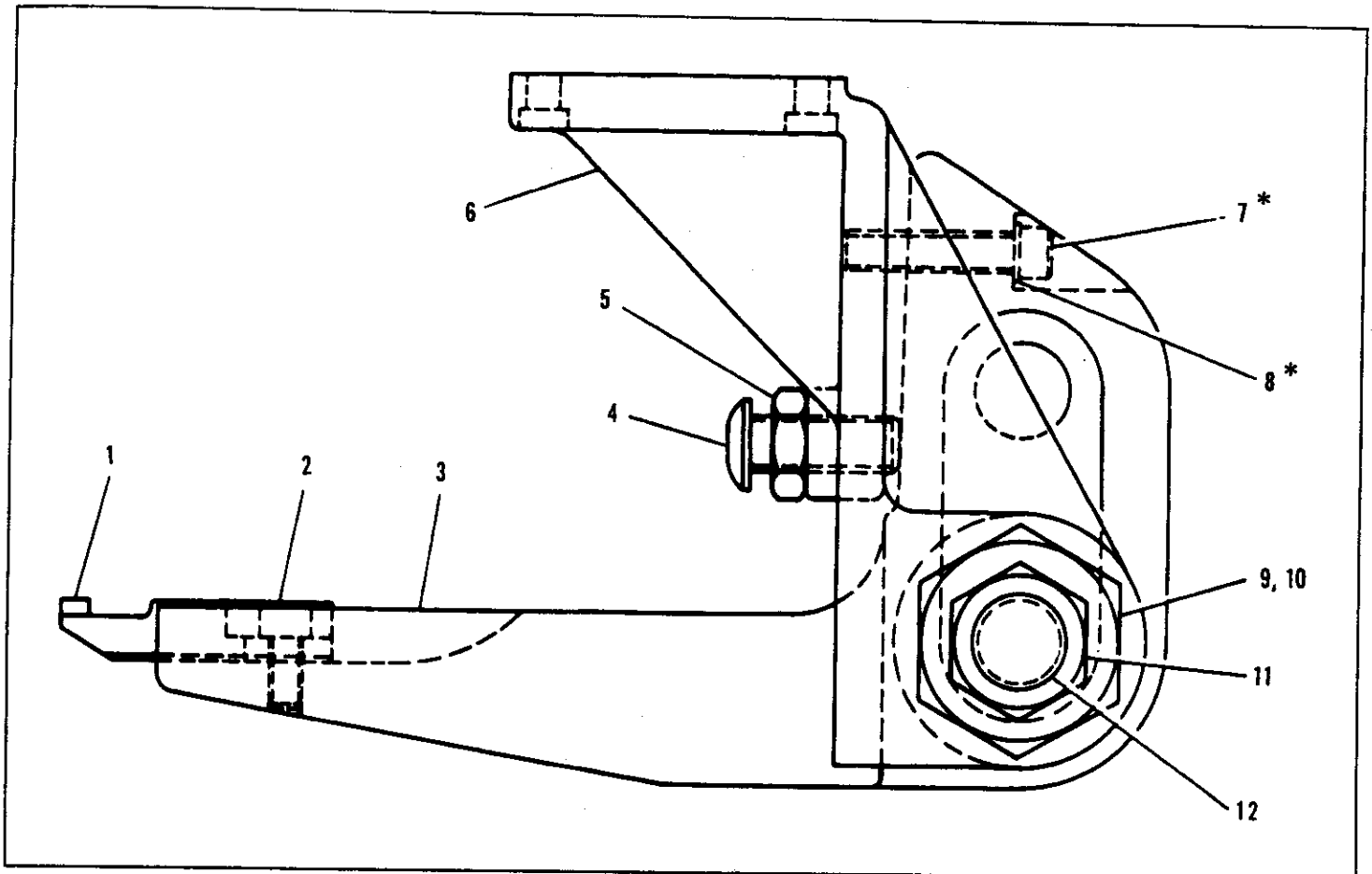


Figure 25

Index Number	Part Name	Part Number
1	Clincher	D-38008-A
	Clincher	D-44276-A
2	Screw	D-32997-F
3	Arm	A-6023-F
4	Screw	D-29752-F
5	Hex. Nut	D-36365-F
6	Bracket	A-6022-F
*7	Screw	D-33761-F
*8	Washer	D-28876-F
9	Jam Nut	D-31973-F
10	Adjusting Bushing	D-33549-F
11	Hex. Nut	D-33609-F
12	Pivot Bolt	D-43527-F

*Used on inverted S5P Stitchers ONLY

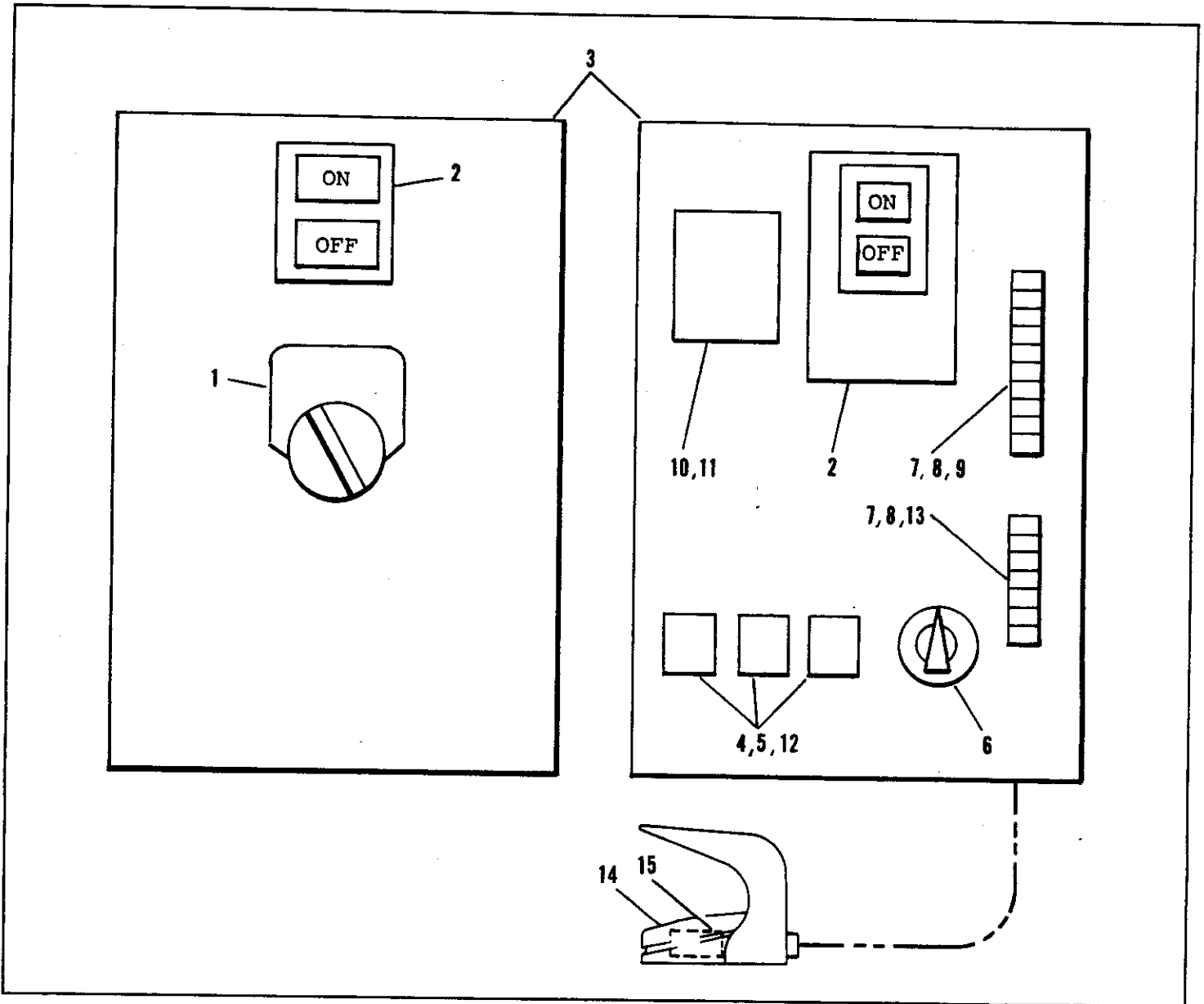
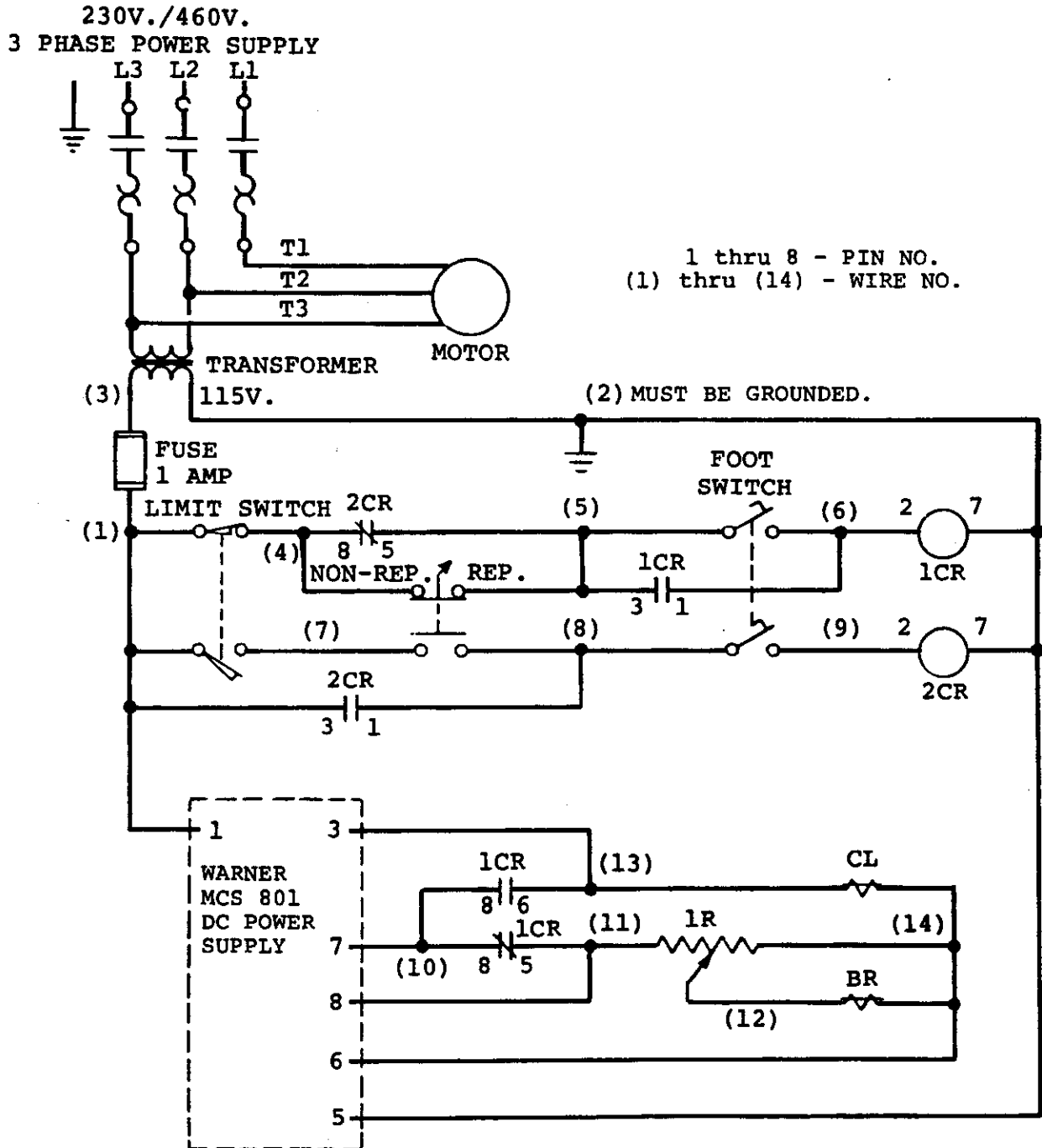


Figure 27

Index Number	Part Name	Part Number	Index Number	Part Name	Part Number
1	Control Cabinet Assembly	A-7852-A	6	Rheostat	D-52814-F
	Selector Switch	CB-285-Y	7	Terminal Block	CD-2705
	Contact Block	CB-285-B2	8	Mounting Kit	CD-2716
	Legend Plate	D-52829-F	9	Mounting Track	CD-2714
2	Manual Starter	CD-2702	10	Transformer	CD-2718
	Heater Coil - 220 V	CD-2701	11	Fuse, 1 Amp	CD-2342
	Heater Coil - 440 V	CD-2701-D	12	Control Unit	D-41083-F
3	Control Panel Box	D-52846-F	13	Mounting Track	CD-2715
4	Plug-In Relay	CD-2703	14	Foot Switch	D-56860-F
5	Relay Socket	CD-2704	15	Limit Switch	D-41096-F
	Retaining Spring	CD-2717			

Electrical Wiring Diagram



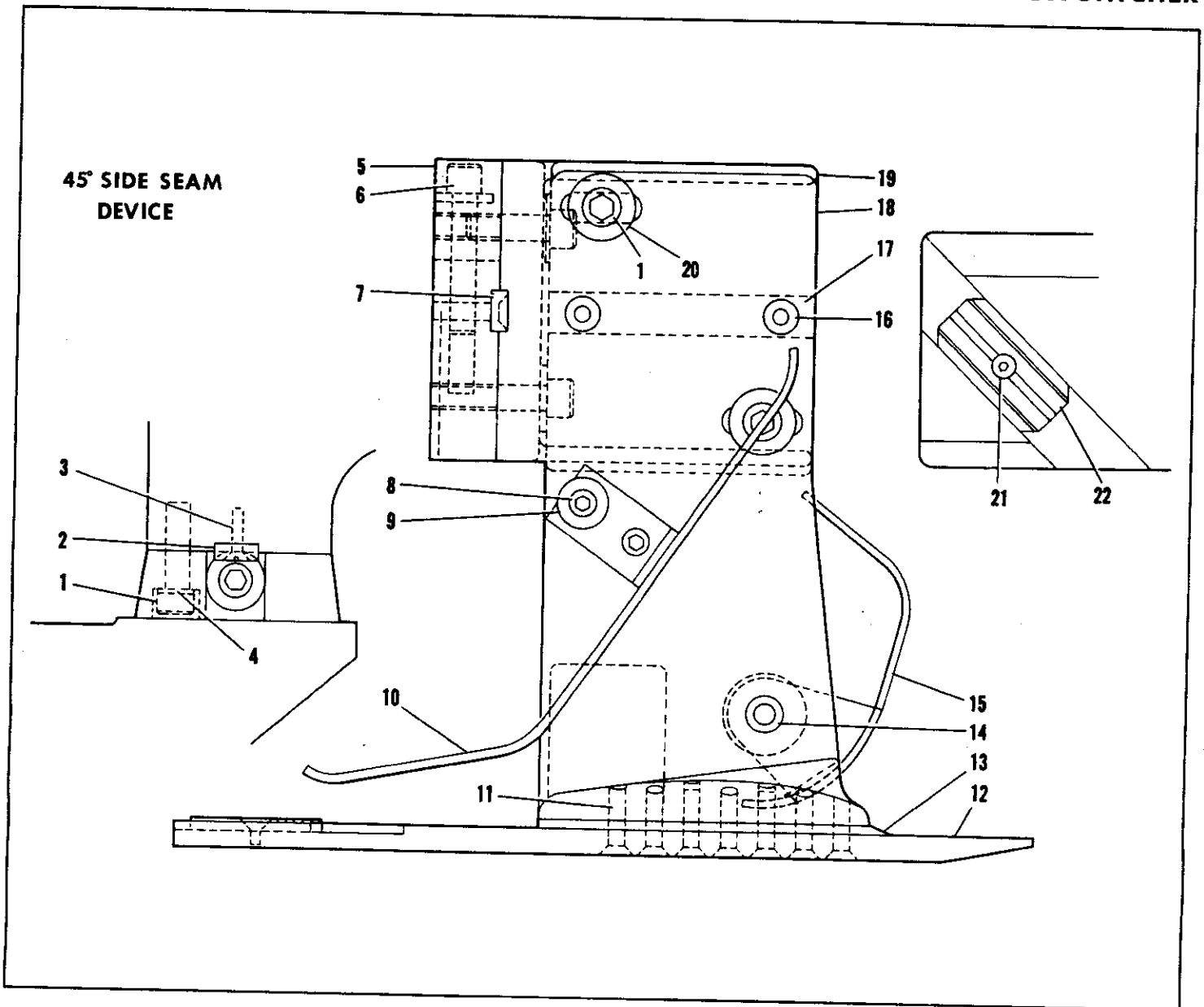


Figure 31

Index Number	Part Name	Part Number	Index Number	Part Name	Part Number
1	3/8-16 x 1-1/4" Soc. Hd. Cap Screw	D-33879-F	12	Open Head Clincher Blade	B-6163-F
2	Key-Bracket - Open Head	D-31643-F	13	Spacer	D-45601-F
3	8-32 x 3/4" Flat Hd. Mach. Screw	D-33764-F	14	3/8-16x1/2" Soc. Hd. Cap Screw	D-34125-F
4	Washer	CB-888-A	15	Pressure Plate Assembly	D-32341-F
5	Open Head Adjusting Bracket	C-8040-F	16	1/4-20x1/2" Flat Hd. Mach Screw	D-8520-F
6	Open Hd. Vert. Adjusting Screw	D-32083-F	17	Key-Horizontal Adjust	D-32228-F
7	Horz. Adjusting Key	D-31641-F	18	Open Head Bracket	B-6165-F
8	1/4-20 x 1/2" Soc. Hd. Cap Screw	D-3051-F	19	Open Head Mounting Bracket	B-6015-F
9	1/4" Flat Washer	D-5335-F	20	3/8" Flat Washer	D-5343-F
10	Pressure Blade	C-8247-F	21	6-32 x 3/8" Flat Hd. Soc. Cap Screw	D-38423-F
11	1/4-20x1" Flat Hd. Mach. Screw	D-37452-F	22	Clincher	D-38764-F