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BOSTITCH

Duplex Box Stitchers

equipped with Wrap Spring Electric Clutch

and

BHD Series Wire Stitcher Head

Model HGU-AW ..... with motor - 115V and 60HZ service
Model HGU-CW ..... without motor - 115V and 60HZ service
Model HGU-EW ..... without motor - 240V and 50HZ service

⚠WARNING:

STITCHER OPERATORS AND OTHERS IN THE WORK AREA SHOULD ALWAYS WEAR SAFETY GLASSES TO PREVENT SERIOUS EYE INJURY FROM WIRE AND FLYING DEBRIS WHEN LOADING, OPERATING, OR UNLOADING THIS STITCHER.

DO NOT OPERATE THIS STITCHER UNTIL ALL GUARDS ARE IN PLACE.

ALWAYS TURN OFF THE POWER SUPPLY BEFORE MAKING ADJUSTMENTS OR SERVICING THIS STITCHER.

NEVER OPERATE THIS STITCHER WITH WIRE FEEDING AND NO STOCK ABOVE THE CLINCHERS.

WHEN OPERATING THIS STITCHER DO NOT DRIVE ONE STITCH ON TOP OF ANOTHER.

OPERATION and MAINTENANCE MANUAL

⚠WARNING:

BEFORE OPERATING THIS STITCHER, STUDY THE MANUAL AND UNDERSTAND THE SAFETY WARNINGS AND INSTRUCTIONS. IF YOU HAVE ANY QUESTIONS, CONTACT YOUR STANLEY-BOSTITCH REPRESENTATIVE OR DISTRIBUTOR. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

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INTRODUCTION

The Stanley-Bostitch Duplex Box Stitchers are precision built machines designed for high speed, high volume carton closing. These stitchers will deliver efficient, dependable service when used correctly and with care. As with any fine machine, for best performance the manufacturer's instructions must be followed. Please study this manual before operating the stitcher and understand the safety warnings and cautions. The instructions on installation, operation and maintenance should be read carefully and the manual kept for reference. **NOTE:** Additional safety measures may be required because of your particular application. Contact your Stanley-Bostitch representative or distributor with any questions concerning the stitcher and its use.

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INSTALLATION

The machine may be seriously damaged during installation if not properly set up; therefore, comply with the following procedure.

After uncrating machine, examine for any breakage in transit. If any, do not attempt to run machine but report at once to the carrier and selling agent.

Examine name plate on motor and see that specifications are the same as those of the power supply. IF NOT, DO NOT ATTEMPT TO OPERATE THE MACHINE.

Place machine on a level floor. Shim under base to prevent any movement or rocking.

Lower clincher to at least 2" (50.8mm) below the stitcher head by means of adjusting sleeve.

Be sure that the machine is oiled thoroughly before operating *(refer to Lubrication Instructions)*.

Connect motor cord to power outlet and start motor. See that it runs freely, without undue noise, and that the large pulley rotates counter-clockwise as viewed from the rear of the machine. If it rotates clockwise, motor wiring should be re-connected by an electrician in order to reverse direction of rotation.

BELT GUARD REMOVAL AND ASSEMBLY

⚠WARNING: Always turn off the power supply before making adjustments or servicing these stitchers.

To remove the plastic belt guard, press in on one side tab while prying out locking face. This will release the first tab. Next, pull down slightly on top of guard to release bottom tab. Guard will now be free to lift off remaining tabs on mounting plate.

To reassemble, interlock the top tab and one side tab. Pull down slightly on top of guard to interlock bottom tab, then squeeze mounting plate and guard together to lock remaining tab, completing assembly.

OPERATION

⚠WARNING: Always turn off the power supply before making adjustments or servicing these stitchers.

Press foot treadle to start machine operation. Start and stop several times.

Stop motor and turn pulley by hand *(see Turning Machine Manually, page 6)* until driver is at lowest point.

With driver in lowest position and work to be stitched under it, raise clincher post until work is held firmly. Then lock post, or arm, in position.

Place a spool of proper size wire on spoolholder, the wire leading to the left from top of spool, then tighten spoolholder spindle jam nut enough to give a slight drag to the rotation of spool to prevent wire uncoiling.

If too tight, the wire will bind and catch between coils thus causing uneven staple legs. If too loose, the spool may unwind, causing snags.

Cut binding wires on wire coil and bend back over edge of spool, holding free end of wire to prevent unwinding and tangling. Cut off bent and twisted end of wire, then straighten out about 6". The end of the wire to be inserted in machine must be as straight as possible.

Open wire feed gears by raising idler feed gear throwout handle and insert end of wire through eye on upper end of the spring wire guide. Enter the end of the wire into the upper wire tube, push down between the wire feed gears, then through the lower wire tube and between wire straightener rolls. Push it into hole in the stationary cutter, raising the end of the wire slightly if necessary for proper entrance, then turn down the idler feed gear throwout handle to engage the feed gears.

⚠WARNING: Never operate this stitcher with wire feeding and no stock above the clinchers.

Start motor and drive a few stitches into material and, if necessary, adjust clincher height to get desired tightness of clinching. See instructions for adjusting clincher.

Adjust for proper length of wire by loosening lock screw and moving wire feed guard casting to right or left along gauge marks on upper part of head casting. Moving to left reduces wire draw while moving to right increases it. When proper length of wire is drawn, tighten lock screw.

Drive several rows of stitches into material to be used, examine crown and legs. If not satisfactory adjust machine in accordance with directions given hereafter.

ADJUSTMENTS

⚠WARNING: Always turn off the power supply before making adjustments or servicing this stitcher.

NOTE: The letters enclosed in brackets refer to the staple imperfections found in the Troubleshooting section of this manual.

Wire spool tension:

This should be adjusted by means of adjusting nut (94H3) so that the spool just drags on the support. If too tight, the wire will bind and catch between coils to cause uneven staple legs. If too loose, the spool may unwind, causing snags in the wire.

ADJUSTMENTS *(con't.)*

Wire draw:

Regulation of the amount of wire drawn for each stitch is accomplished by loosening hand screws 52H and moving feed mechanism ·iard casting 51H4-51HR to the right or left, then locking. When the mark is set on gauge at "0", one inch of wire will be drawn per .itch, and for each additional mark an additional 1/8" (3.2mm) will be drawn; a setting on Point "3" (7.6mm) will give a wire drawn of 1 3/8" (34.9mm).

It is essential that the proper length of wire be used. If too short, the result will be as shown in (T) and the work will not be properly held; if too long, the appearance will be as in (U). When too much wire is drawn, the stitch legs may buckle as in (I).

NOTE: When changing length of wire draw, the first stitch, and perhaps the second driven, will be of the old length. The third stitch, however, will be of the new length.

Wire feed wheels - 80H and 81H2

Tension of wire feed wheels should be adjusted by screw 59H so wire feeds without lag. If loose, wire will slip, causing uneven legs as shown in (B), (G), or (M). If tight, wire will bind and may be rolled out of shape, causing curvature and preventing proper handling in the anvil.

Surface of wheels should be smooth and not worn. If worn, wire may feed unevenly and feed wheels should be replaced.

Surfaces of wheels must be parallel. If not, wire will be rolled on one side, causing curvature, and will not pass into the anvil properly, causing legs to cut off as shown in (G) or (H) or wire may catch between anvil formers and driver.

Wire Tubes:

Upper wire tube 87H and lower wire tube 85H will wear through and require replacement. The lower tube is the more important, as when worn the wire passing through may catch in the worn slot and bind, causing uneven legs as shown in (B) and (M).

How to straighten wire on head:

To insure perfect stitching it is essential the wire enters gripper in as close a straight line as possible. To check and make necessary adjustments proceed as follows:

After wire has been threaded into head, turn over machine by hand *(see Turning Machine Manually, page 6)* until wire has been cut and is held by gripper. Observe wire length being held by gripper does not curl upward or downward; the cut wire length should be as close to a straight line as possible.

If wire curls upward or downward, turn wire straightener adjusting screw clockwise or counter-clockwise until this condition is remedied.

Cutting Block - 100H

This part will seldom wear but must be adjusted so both legs of staple are cut evenly. The stitcher head is self-adjusting for equal length with varying lengths of wire draw. If not in adjustment, staple will appear as in (B) or (M). To adjust for leg length, loosen cutting block set screw and screw A191G, adjust screw A191G in or out and then tighten set screw and screw A191G. Test for leg length by turning machine over by hand *(see Turning Machine Manually, page 6)* and measure legs of the formed stitches with a rule before they are clinched. The legs must be exactly the same length to obtain proper stitching.

Stationary Cutter

The stationary cutter should be periodically checked for any obstructions in wire passage which may interfere with free movement of wire.

Check that cutting end is sharp; dull cutter may be resharpened, but eventually must be replaced.

Loosen stationary cutter screws and withdraw cutter from cutter block.

When reinstalling cutter be sure cutting end is inserted into cutter block. Opposite (countersunk) end is the end which protrudes from the cutter block). If installing a ribbon wire cutter, face flat side of cutter toward front of head. If installing a round wire 30° or 45° sharp stitch cutter (side not flattened), face angled end cutting surface toward back of head.

With cutter positioned as directed above, slide cutter into cutter block until cutting end contacts and is parallel with flat cutting surface of movable cutter. Upon contact with stationary cutter, movable cutter cutting face will automatically align itself with cutting surface of stationary cutter.

With stationary cutter fully inserted in cutter block and aligned with movable cutter, tighten cutter holding screws. Then turn over machine by hand *(see Turning Machine Manually, page 6)* and check that movable cutter operates freely.

Movable Cutter

The cutting edge of the movable cutter should be periodically checked for sharpness. A dull cutter can be resharpened but eventually must be replaced.

To remove and reinstall movable cutter for sharpening or replacing, proceed as follows:

Unscrew and remove cutter block holding screw, and remove cutter block from its holding plate.

Manually holding plunger under spring tension, back out cutter plunger holding screw sufficiently to release plunger and cutter from cutter block.

To replace cutter into cutter block, first loosen stationary cutter holding screws and back out stationary cutter slightly. Fit top of movable cutter into groove in plunger, with flat cutting surface of cutter turned toward plunger. Slide cutter and plunger into their holes in cutter block, and compress plunger by hand until top of plunger is just below the top of cutter block body; then tighten plunger holding screw until it engages slot in side of plunger, thereby holding plunger in place. (If plunger holding screw protrudes from its hole in cutter block body, it is not correctly engaged with slot in plunger.) Slide stationary cutter back into cutter block body until cutting end surface contacts and is

parallel with cutting surface of movable cutter. (Upon contact with stationary cutter, movable cutter will automatically align itself with stationary cutter.) When cutters are correctly aligned, tighten stationary cutter holding screws. Reinstall cutter block onto its holding plate. With cutter block correctly positioned, replace and tighten cutter block holding screw.

Turn over machine by hand *(see Turning Machine Manually, page 6)* and check that movable cutter operates freely; check that cutter stroke is correct. If cutter has been resharpened, or a new cutter has been installed, cutter stroke may need resetting.

Anvil (Gripper) - 119H-119HR

This part receives the cut length of wire and holds it in position while previous stitch is being driven. As formers and driver rise after stitching, the anvil swings back in line with formers and as the latter start to descend they pick up the wire in former grooves, bending the two legs down over anvil portion of gripper, after which the gripper releases and is moved forward.

Anvil will gradually wear at edges over which wire is bent and must eventually be replaced or stitches will not form properly as in (K), and wire may bind in anvil and not release.

Anvil adjusting screw 124H rides over center formers and will in time wear. Some wear can be compensated for by loosening anvil block holding screw and moving the gripper bar adjusting screw 124H inward with a screw driver applied at its front end, then tightening the holding screw. Eventually, this part will have to be replaced with a new one.

This same adjustment is used to line up the cut wire as between jaws in anvil and the grooves in formers. If adjustment is not made properly, sharp edges on the staple crown will result, as shown in (G) or (H). This part must be adjusted so that the wire is held exactly under former grooves when anvil is in its rear position.

Anvil bar clamp piece spring 122H sometimes breaks, causing the results shown in (C) or (N). The remedy is replacement of spring.

Anvil Bar Holding Spring - 129H3L-129H3R

These springs may break or may lose tension in time and the anvil will not operate properly. The remedy is to replace the spring. If this part does not function, the results may be as shown in (G) and (H).

Anvil bar clamp piece 121H-121HR will wear at point of contact with the wire and when badly worn must be replaced. If not, the results may be as shown in (G) or (H).

To remove the anvil, remove gripper spring unit. Then remove gripper pivot screw SB516, permitting the complete gripper to be withdrawn. Always have machine in stop position when changing gripper.

Formers - 115H, 116H

These parts are screwed onto moving former slide A11OG3 and as they descend, strike the cut length of wire held by anvil and bend the legs downward, holding them in the grooves inside their inner faces. The anvil then automatically releases the wire and moves out of the way.

These parts must be tightly attached to former slide or wire may slip out between formers and driver, or may bend outward with the result shown in (Q). It is essential that wire be not oversize in width or thickness as it will stick in formers and driver. When new parts are installed, wire fed should be oiled to prevent binding until parts are worn in. Formers will wear in the grooves in time and eventually must be replaced. When badly worn, condition is as shown in (Q) and must be watched for.

Driver - 117H

This part moves up and down with driver bar A113G2 and, in the operation cycle, descends just after staple legs have been formed and anvil has released. It has projecting slides on each side which fit into the grooves in formers, which guide its motion. The driver moves at a faster rate than the former and driver end strikes top of formed stitch and drives it through the stock while stitch is being clinched. Driver end has tips on each side, slightly rounded on inside to prevent too abrupt a bend of the wire as driven, otherwise wire may break as shown in (J). If drive tips are broken, the effect is as shown in (D) and driver should be replaced. In time, driver will wear on the end and sides will require replacement (see Q). It is essential that driver be the same size (for wire) as the formers, otherwise wire will bind in the grooves.

Supporter (Shoe) - 136H

The shoe acts as a supporter for the stitch while being driven and automatically retracts out of the way as stitch is driven into work. If it moves back too fast, result will be as shown in (E) or (I), this effect being sometimes caused by the wire wearing through across the shoe where it first hits and jumping when it strikes this point. Supporter will gradually wear on the side or on the curved end and when it becomes too loose or out of shape, must be replaced. If edges wear sharp, the effect will be as shown in (J) and the part should be replaced. If supporter retracts too easily, result may be as in (F). Remedy - stiffer springs.

Supporter Spring - 141H2

These are for the purpose of holding supporter forward. If these springs break or lose tension, they should be replaced as supporter will not function properly.

Clincher - 188H3-188H24 - and Post Adjustment

The clinchers are comprised of double grooved blocks set in bottoming post. The grooves must be centered with driver, otherwise one leg of stitch may not clinch, (see (R) or (S)). To adjust, turn machine over by hand *(see Turning Machine Manually, page 6)* until driver is at lowest position, when the setting can be easily seen.

At the bottom of post there are adjustments for moving the post forward or back and sidewise to line up clincher with driver. For sidewise adjustment, it is usually better to loosen screws holding body to the base and adjust at that point rather than to attempt to move post from post setting. Do not shim up post pivot head base for the purpose of adjusting the position of clincher.

The post 260G45 has a hand adjusting sleeve 269G at the top for moving clincher up or down to proper height. The clincher height must be adjusted to give proper compression on stock. If too loose, result is as shown in (O), while if too tight, result is as shown in (P) or machine may jam. If the latter happens, shut off power at once (or the motor may burn out), then turn over by hand to release *(see Turning Machine Manually, page 6)*.

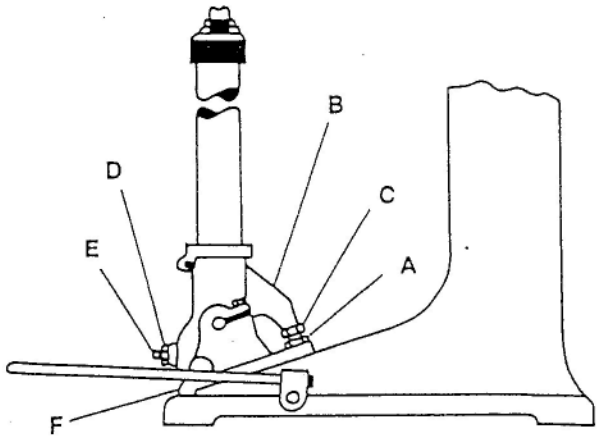
For best results in stitching, the compression should be such that the former ends very slightly indent the top of work.

The clincher should be replaced when grooves have been worn into the surface, otherwise a tight clinch cannot be obtained without due compression.

It is essential that clinchers of proper width be used, this being referred to by inside crown size such as 7/16" (11.1mm), and must be the same size as on formers and drivers.

Clinchers must be level and parallel with the bottom ends of formers or result will be as shown in (V). To remedy, loosen clincher holding screw, shim up clincher on one side to the proper point and then re-tighten screw.

To set the post correctly refer to following diagram. Loosen nut (A) and push post by hand in direction shown until post lug (B) touches screw (C). Keeping post in contact with screw, turn screw (C) until clincher in post is central with wire. Lock screw with nut (A). Then loosen nut (D) and turn screw (E) with foot pedal depressed until post is rigid. Then tighten nut (D). Setting the post in this manner will allow post to be rigid while stitching and prevent breakage of post parts due to abnormal strain on mechanism as might occur if the setting were wrong. When the right setting has been made and auxiliary post locking lever (F) has locked post in vertical position, it will be noted that there is a slight motion at the top of the post. However, when foot pedal is depressed and just before clutch is actually tripped, the post will be rigid.



TURNING MACHINE MANUALLY

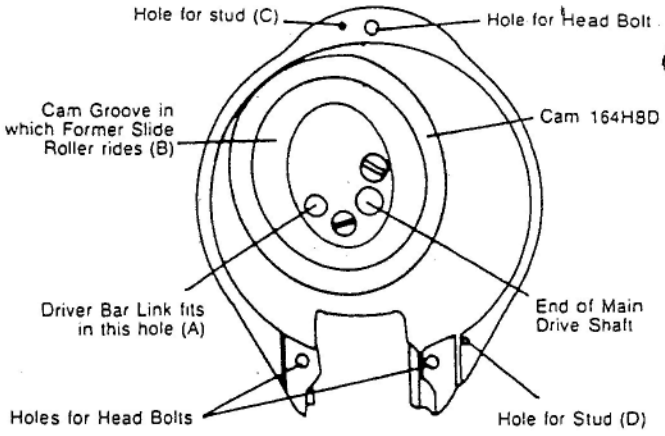
⚠WARNING: **Always turn off the power supply before making adjustments or servicing these stitchers.**

To turn the machine manually, it is necessary to remove the belt guard *(see Belt Guard Removal, page 3)*. Locate the actuator assembly on the wrap spring clutch and push the actuator to pivot it away from the control collar cam, releasing the brake. The machine will now rotate one revolution when the drive pulley is turned manually in the direction of the arrow on the pulley.

HEAD REMOVAL AND REPLACEMENT

⚠WARNING: **Always turn off the power supply before making adjustments or servicing these stitchers.**

Loosen and remove the three hex head screws that retain the head to the body and remove the head. To replace the head, insert the pin on the drive bar link into the (A) hole in the cam. Move the drive cam to the left so that the former slide roller engages the cam groove at (B). Rotate the head as required until the dowels in the head engage the holes (C) and (D) in the body. Replace and tighten the three hex head screws.



STITCHING WIRE

It is essential that suitable stitching wire be employed for the work. If wire is too light, it will buckle and not penetrate stock. Wire must be of good quality and proper hardness or it will bend or buckle. Wire must not be over-size or it will stick in the formers and driver. Wire must be clean and smooth. Rough wire will wear the wire tubes and former grooves. Some coated wire flakes and clogs wire tubes, in which case it should be removed and cleaned with a piece of round wire *(refer to instructions in Operation and Maintenance Manual for stitcher head)*.

LUBRICATION

The stitcher should be oiled daily, and if in constant use, twice daily. The oil holes and cups are found on stitcher head and body. A heavier type of oil should be used for the former and drive bar. A light machine oil should be used for remainder of head.

REFER TO HEAD INSTRUCTION MANUAL FOR COMPLETE HEAD LUBRICATING INSTRUCTIONS.

Cam lubricating instructions:

Turn machine manually *(instructions above)* and rotate drive pulley manually in direction indicated by arrow on pulley until grease fitting on cam is aligned with hole in lubricating cover unit located in body or head casing.

When fitting is visible through hole in lubricating cover unit, lubricant can be applied with a grease gun to fit alemite hydraulic fitting 'raight type).

It is recommended that the cam be greased once monthly with Harris Moly-Lube #2 (high temperature) lubricant or equivalent.

⚠WARNING: EXCESSIVE AMOUNT OF LUBRICANT MAY BLEED CAUSING DAMAGE TO WORK BEING STITCHED.

CLUTCH - BRAKE UNIT MAINTENANCE

⚠WARNING: Always turn off the power supply before making adjustments or servicing these stitchers.

This stitcher is equipped with a solenoid actuated wrap spring clutch-brake unit. It is a dependable device that seldom needs service, but should a malfunction occur, the following information will serve as a service and troubleshooting guide for maintenance of this unit.

1. Clutch and brake springs

With the brake engaged (full limit of output), the input hub should be free to rotate by hand. With the clutch engaged, the input and output should rotate together. If the unit does not rotate in either of these modes, the clearance between the hubs of the unit on the shaft may have been disturbed by dropping or hammering the unit on the shaft and assembly.

See Assembly and Disassembly instructions for readjusting.

Listed below are additional checks to be made if the clutch does not function correctly.

Problem	Cause and Remedy
1. Clutch brake does not drive but input turns	A. Drive spring may be broken at cross-point from an overload caused by a jam. Replace spring and check hubs for damage. B. Collar may not snap forward because of foreign matter restricting movement. Clean unit. C. Actuator does not pull in. (See "Actuator").
2. Clutch-brake jams and stalls input motor.	A. Spring tang broken off drive spring, not allowing clutch to disengage while brake is engaged. Replace drive spring. B. Clutch output bound up. Check clearance between output hub and brake hub. C. Completely out of adjustment caused by losing an internal spring tang. Replace spring.
3. Output does not repeat stopping point.	A. Not enough inertia to actuate brake. B. Tang broken off brake spring. Replace spring.

2. Actuator

The actuator is a simple straightforward mechanical linkage. When the actuator does not trip the following checks should be made.

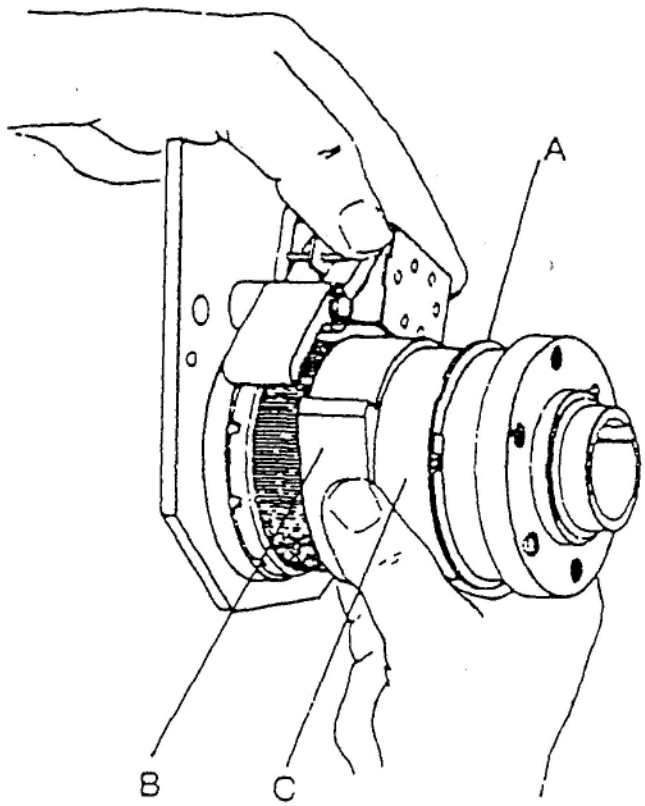
Problem	Cause and Remedy
1. No power to the coil.	A. If no power to the coil, check all wiring and switching in the system that actuates the clutch.
2. Lack of continuity of the coil windings.	A. If no continuity, replace the coil.
3. Mechanical binding of the plunger.	A. Plunger binding may be caused by the shifting of the coil or mushrooming of plunger end due to striking the back stop. In the latter case the plunger may be turned or filed to its true diameter. Readjust to provide .010 to .030 clearance between the actuator and the cam high point.
4. Insufficient clearance of the actuator over the stop collar.	A. No clearance over the stop collar detent would be caused by lack of continuity of the linkage or misadjustment of the coil. Repair or adjust as needed.
5. Actuator loaded by the stop collar, in which case the collar pushes so hard on the actuator that it cannot be pulled by the coil.	A. Actuator loading can be caused by the braking force exceeding the limits of the brake or the differential setting of the unit being too close, ie., CLUTCH ON, BRAKE ON. (See Instructions of setting on Assembly and Disassembly instructions.)

3. Control Collar Adjustment

The stopping position of the head can be changed if necessary by adjusting the position of the stop cam on the control collar sleeve. Turn power off, trip clutch by hand *(see Turning Machine Manually, page 4)* and rotate drive pulley until driver is in desired stopping position then proceed as follows:

(a) Work retaining ring "A" out of groove and slide forward on sleeve "C" (see illustration below).
(b) Slide cam "B" off splines, rotate to desired relationship of stop to shaft keyway, and slide back on splines. The actuator pawl will have to be held clear during this operation.
(c) Slide retaining ring back into groove.

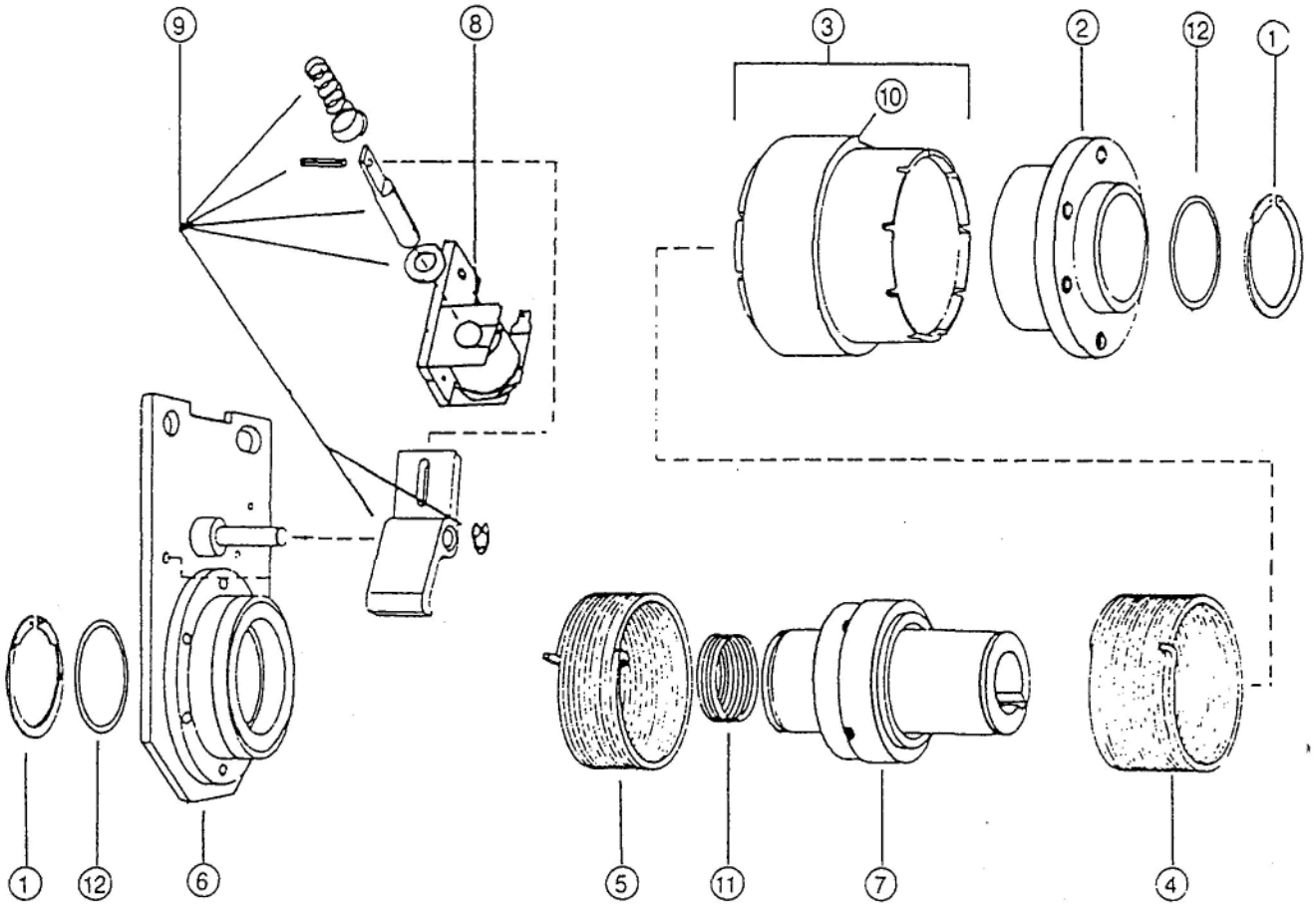
NOTE: Make sure brake is locked up before proceeding to insure getting proper stop point.



4. Lubrication

The clutch-brake unit is designed with the bearing parts made from sintered metal that has been impregnated with oil and normally does not need to be relubricated. In cases where there is severe duty or the environment is such that it may wick out oil, wash off oil, or fill the clutch with foreign matter, the unit may be re-oiled or flushed out with minimal or no disassembly by using a light bearing oil as is used in manufacture (psi Part 608-1-0001.) If disassembly of the unit for cleaning and oiling is necessary, follow the detailed disassembly instructions to the point needed, flush and wipe parts in the oil to be used for relubrication. DO NOT USE SOLVENT TO CLEAN THE PARTS. To get more cleaning action from the oil, it may be heated while cleaning the components, but bring the parts back to ambient temperature by submerging in cool oil.

CLUTCH AND BRAKE UNIT



ITEM	DESCRIPTION	PART NO.
1	Retaining Ring	850801
2	Input Hub	850802
3	Control Collar - CW	850803
4	Spring - Drive - CW (Clutch)	850804
5	Spring - Brake - CW	850805
6	Plate Assembly - CW	851854
7	Output Assembly	850965

ITEM	DESCRIPTION	PART NO.
8	Coil Assembly (For 115V Service)	851855
	Coil Assembly (For 240V Service)	851793
9	Actuator Assembly	851856
10	Control Collar Cam	851767
11	Anti Back Up Spring	850964
12	Shim Washers	851127

5. Disassembly

When disassembling the clutch-brake unit, always mark the spring tang locations with reference to which slots they go in if the same springs are to be used in reassembly.

⚠WARNING: **Always disconnect stitcher machine power cord from power outlet before any disassembly work.**

To disassemble the clutch-brake unit it will first be necessary to remove the V-belt, pulley washer and anchor bracket. Disconnect wires from solenoid, swing anchor bracket up out of the way and carefully slide pulley and clutch off as a unit. Remove drive pulley from input hub, then:

(a) Release actuator lever so that clutch is engaged and brake released.
(b) Remove retaining ring and shim washer, if any, from the mounting plate end.
(c) Remove input hub by rotating opposite to the drive direction.
(d) Remove retaining ring and shim washer, if any, from the mounting plate end.
(e) Remove output shaft, spring and control collar assembly by rotating output shaft in the drive direction. (DO NOT DISASSEMBLE BRAKE HUB FROM MOUNTING PLATE.)
(f) Remove control collar from the output shaft and spring assembly by extracting towards the brake spring end.

6. Assembly

(a) Replace clutch, brake and anti-backup springs as required (assemble springs concentric and square to the output shaft).
(b) Assemble control collar over the output shaft and spring assembly by inserting from the brake spring end (it will be necessary to extend brake spring using long-nose pliers).
(c) Place the brake spring tang in any one of the nine (9) control collar slots at random.
(d) Assemble output shaft, springs and control collar assembly to the mounting plate assembly by rotating output shaft in the drive direction.
(e) Assemble retaining ring to output shaft at the mounting plate end (smooth surface facing brake hub). Check end play between hub and retaining ring with feeler gauge. There should be .004" to .011" end play. Use shim washers to adjust.
(f) Rotate output shaft in the drive direction until it reaches a full brake position.
(g) With the clutch spring not in slot, insert the input hub by rotating opposite to the drive direction.
(h) Select the one of ten (10) control collar slots for the clutch spring tang that will provide a .50" to .75" circumferential overtravel of the control collar when released.

NOTE: At this point it may be necessary to reselect one (1) of the nine (9) control collar slots for the brake spring tang (release actuator level, remove clutch spring tang from slot, then move control collar axially toward the input hub end and rotate it opposite to the drive direction to pick up next slot).

(i) Repeat step (h) until the .50" to .75" specification is achieved.
(j) Assemble retaining ring to output shaft at the input hub end (smooth surface facing input hub). Check end play between input hub and retaining ring with feeler gauge. There should be only .002" to .006" end play on input hub.
(k) Reassemble unit to machine.

IMPORTANT: When reassembling clutch to machine, after anchor bracket is secure, there should be no binding between the pin of anchor bracket and hole of clutch plate. Plate must be free to float on pin to prevent any binding or thrust load on rear clutch bearing. If this occurs, loosen anchor bracket screw and adjust bracket until pin is free in hole. Pin is only to prevent plate rotation.

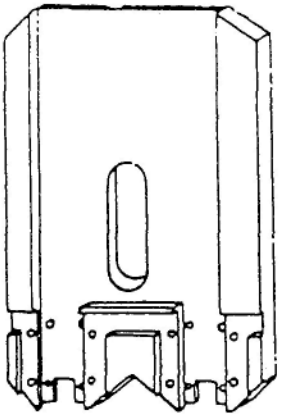
7. Instructions for Coil Replacement

⚠WARNING: **Always turn off the power supply before making adjustments or servicing these stitchers.**

1. Place the spring onto the plunger with the narrow end towards the actuator then slide the nylon washer onto the plunger. Slide the solenoid and spacer plate onto the actuator/plunger assembly. Secure the solenoid with the cap screws and washers. Do NOT tighten more than finger tight.
2. Energize the coil and adjust the gap between the actuator and the top of the collar stop to .010" to .040" by sliding the solenoid assembly. (Note: push the collar towards the actuator to allow for collar movement). Tighten the cap screws.

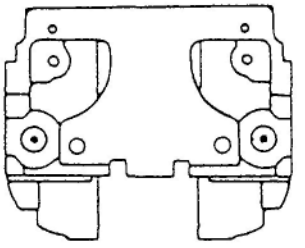
IMPORTANT: Order parts by name and number and also give WIRE SIZE, WIDTH OF STAPLE and SERIAL NUMBER of stitcher they are used on.

PW10	Finger Guard Screw Washer
A50G3	Head Plate
51H4	Wire Feed Mechanism Guard - L.H.
1HR	Wire Feed Mechanism Guard - R.H.
52H	Wire Feed Mechanism Lock Screw
53H	Wire Feed Sector - L.H.
53HR	Wire Feed Sector - R.H.
54H	Idler Feed Gear Arm - L.H.
54HR	Idler Feed Gear Arm - R.H.
55H	Idler Feed Gear Throwout Handle - L.H.
55HR	Idler Feed Gear Throwout Handle - R.H.
56H	Idler Gear Pivot Stud
57H	Idler Gear Arm Pivot Stud
58H	Idler Gear Arm Holding Plate - L.H.
58HR	Idler Gear Arm Holding Plate - R.H.
59H	Idler Gear Tension Adjusting Screw
60H	Idler Gear Tension Spring
66H	Wire Feed Operating Link
67H	Wire Feed Operating Lever
68H	Operating Lever Sliding Head - L.H.
68HR	Operating Lever Sliding Head - R.H.
71H	Wire Feed Clutch Ring Gear
72H	Wire Feed Clutch Roller Spider - L.H.
72HR	Wire Feed Clutch Roller Spider - R.H.
73H	Wire Feed Clutch Roller
74H	Wire Feed Clutch Roller Spring
75H	Wire Feed Clutch, Complete Assembly - L.H.
75HR	Wire Feed Clutch, Complete Assembly - R.H.
76H	Wire Feed Clutch Front Plate
77H	Wire Feed Clutch Retaining Washer
78H	Wire Feed Gear Stud
JH	Wire Feed Driving Gear
81H2	Wire Feed Idler Gear
82H	Idler Gear Retaining Washer
83H	Wire Guide Extension - R.H.
84H	Wire Guide Extension - L.H.
85H8	Lower Wire Tube - Ribbon Wire
87H	Upper Wire Tube - Ribbon Wire
88H	Spring Wire Guide
95H	Former Slide Plate - R.H.
96H	Former Slide Plate - L.H.
A97G	Cutting Block Trip Crank
SB601	Cutting Block Adjusting Screw
931H3	Wire Straightener Plate - L.H.
931H3R	Wire Straightener Plate - R.H.
935H3	Wire Straightener Roll-Upper-Stationary
936H3	Wire Straightener Roll-Lower-Adjustable
938H2	Wire Straightener Upper Roll Stud
946H2	Lower Wire Tube Clamp - L.H.
946H2R	Lower Wire Tube Clamp - R.H.
947H	Wire Straightener Slide Block - L.H.
947HR	Wire Straightener Slide Block - R.H.
1015H	Drive Bar Link Bushing
2166	Oiler Felt Retainer
2167	Oiler Felt
UA2210.1	Lower Wire Tube Clamp Screw
UA3306.1	Finger Guard Screw
UA3314.1	Gripper Spring Screw
.3808.9	Flat Hd. Cap Screw
UA4016.2	Wire Straightener Adjusting Screw
UA4812.2	Wire Straightener Plate Screw
9069	Wire Str. Adjusting Screw Friction Spring
184-291	Wire Feed Guard Stop Pin
88293	Grease Fitting
A97G2	Cutting Block Trip Crank Pin - R.H.
98H2	Cutting Block Operating Plunger
100H44	Cutting Block Assembly - L.H. - Ribbon Wire
100H44R	Cutting Block Assembly - R.H. - Ribbon Wire
101H25	Cutting Block Body - L.H.
101H25R	Cutting Block Body - R.H.
102H25	Cutting Plunger
103H2	Cutting Plunger Spring
104H25	Movable Cutter
105H44	Stationary Cutter - Ribbon Wire
A106GL	Cutting Block Holding Plate - L.H.
A106GR	Cutting Block Holding Plate - R.H.
107H3	Cutting Block Control Slide - L.H.
107H3R	Cutting Block Control Slide - R.H.
108H32	Stationary Cutter Plate - L.H.
108H32R	Stationary Cutter Plate - R.H.
A110G3	Former Slide
A113G2	Driver Bar
A114G	Drive Bar Link
115H34	Outside Staple Former - R.H.
115HS5	Inside Staple Former - L.H.
116H34	Outside Staple Former - L.H.
116HS5	Inside Staple Former - R.H.
117H150	Staple Driver
119H	Gripper Assembled - L.H. *(7/16 Crown)*
119HR	Gripper Assembled - R.H. *(7/16 Crown)*
120H	Staple Gripper Bar - L.H. *(7/16 Crown)*
120HR	Staple Gripper Bar - R.H. *(7/16 Crown)*
121H	Staple Gripper Bar Clamp Piece - L.H. *(7/16 Crown)*
121HR	Staple Gripper Bar Clamp Piece - R.H. *(7/16 Crown)*
122H	Gripper Bar Clamp Piece Spring
124H	Gripper Bar Adjusting Screw
125H	Gripper Bar Adjusting Screw Block - L.H.
125HR	Gripper Bar Adjusting Screw Block - R.H.
126H2	Clamp Piece Control Slide - L.H. *(Specify Head No.)*
126H2R	Clamp Piece Control Slide - R.H. *(Specify Head No.)*
127H	Control Slide Friction Bolt
A128G	Control Slide Friction Bolt Spring
129H3L	Gripper Spring - L.H.
129H3R	Gripper Spring - R.H.
129H4	Gripper Spring Bracket
129H5	Gripper Spring Pivot
129H6	Gripper Spring Roll
135H	Shoe Box or Housing
136H	Shoe or Supporter *(7/16 Crown)*
137H	Shoe Pin
A138G2	Shoe Pin Cross Bar
139H	Shoe Spring Lever - R.H.
140H	Shoe Spring Lever - L.H.
141H2	Shoe Spring
164H8D	Drive Cam
A190G4	Finger Guard
A191G	Cutter Block Holding Screw
SB403	Stationary Cutter Set Screw
A450G2	Cutting Block Trip Lever
A451G	Knife Crank Arm Assembly
A453G2	Knife Crank Link
A454G2	Gripper Pivot Block - R.H.
A455G2	Gripper Pivot Block - L.H.
A456G	Cover Plate
SB516	Gripper Pivot Screw



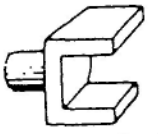
A110G3

*87H



A50G3

53H-18 Teeth (L.H.)
53HR (R.H.)

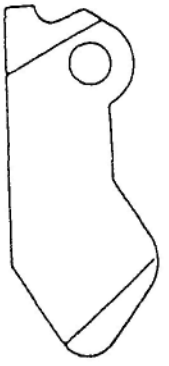


68H (L.H.)
68HR (R.H.)

A114(

96H

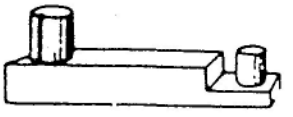
95H



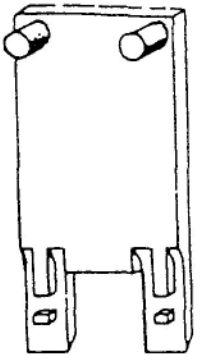
A450G2

66H

*117H



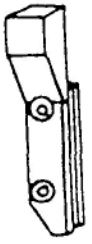
67H



A113G2

*116H

*115HS

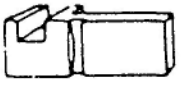


*116HS

*115H

A455G2
A454G2

Gripper Assembled
*119H (L.H.) - 119HR (R.H.)



107H3 (L.H.)
107H3R (R.H.)

136H - 7/16''

98H2

126H2 (L.H.)
126H2R (R.H.)

124H

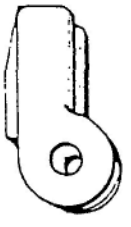
127H

*120H (L.H.)
120HR (R.H.)

*121H (L.H
121HR (R.H

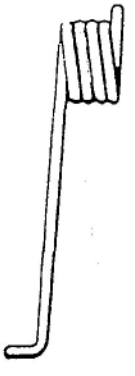
A138G2

A190G4



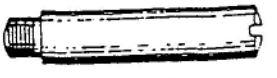
129H4

129H3L
(LEFT)



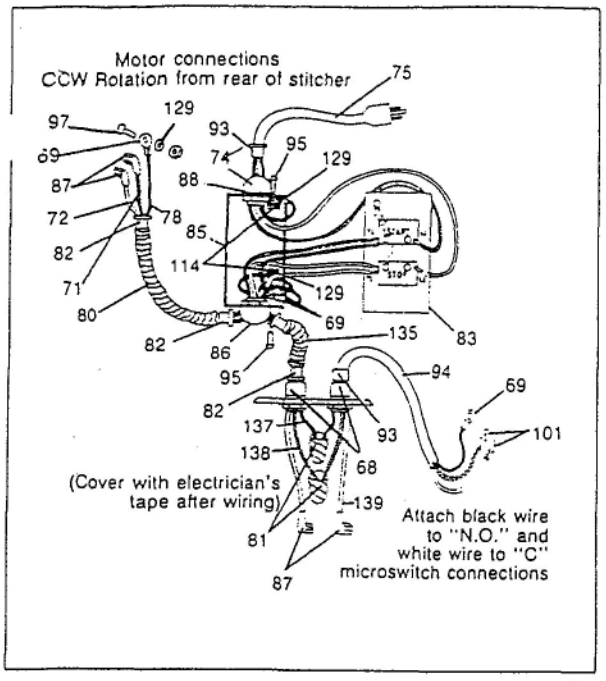
129H3R
(RIGHT)

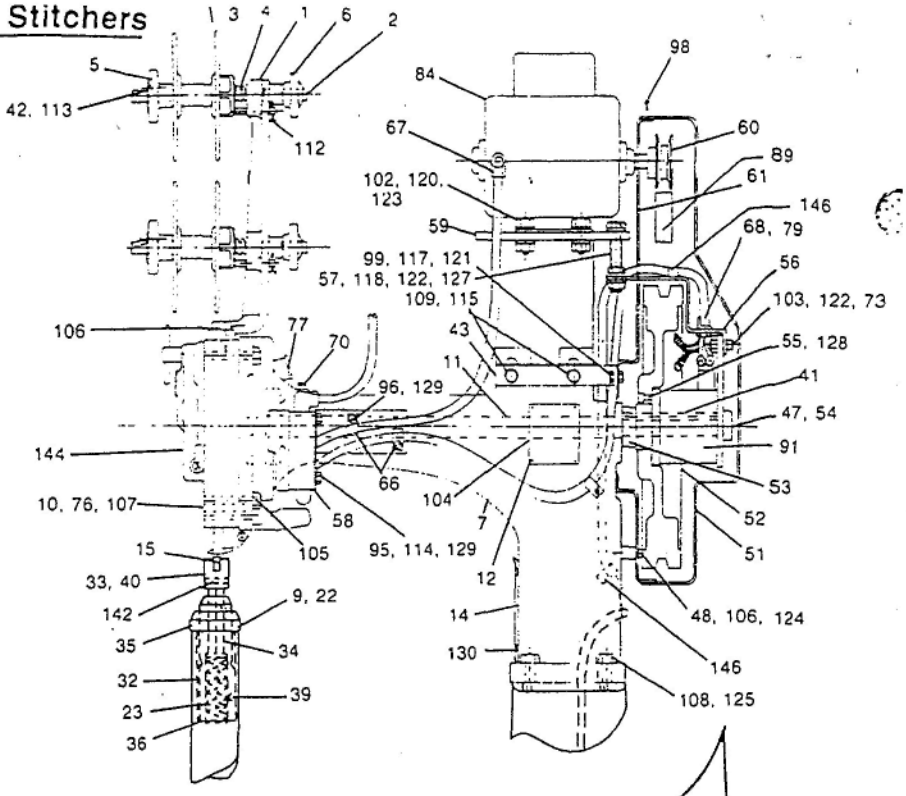
129H5

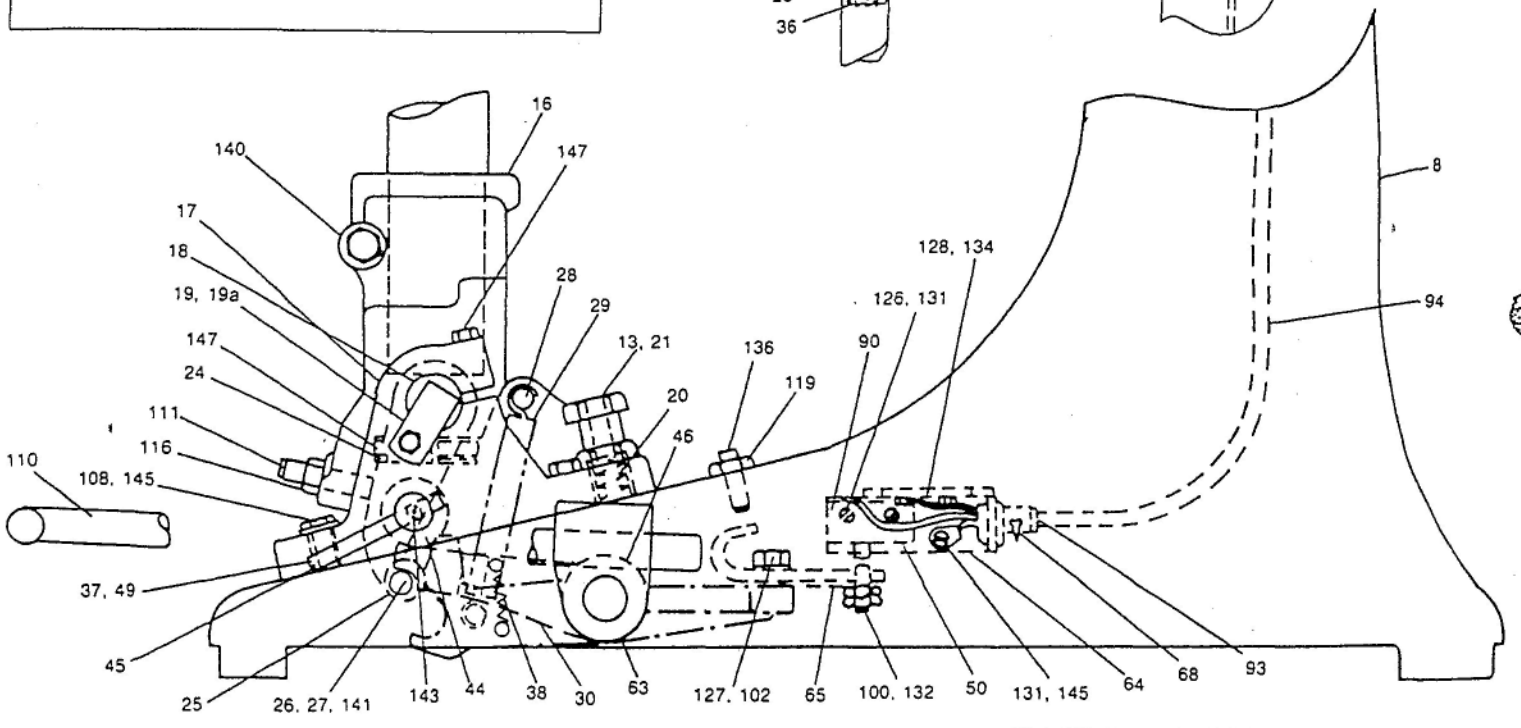


129H6

Models HGU-AW, HGU-CW, and HGU-EW Stitchers







ITEM	PART NO.	DESCRIPTION	MODELS			ITEM	PART NO.	DESCRIPTION	MODELS		
			HGU-AW	HGU-CW	HGU-EW				HGU-AW	HGU-CW	HGU-EW
1	90H4	Spoolholder bracket	x	x	x	17	202G7	Post base	x	x	x
2	91H2	Spoolholder spindle	x	x	x	18	204G2	Post pivot pin	x	x	x
3	92H	Spoolholder washer	x	x	x	19	205G2-(RH)	Post pivot pin cup	x	x	x
4	93H	Spring	x	x	x	19a	206G2-(LH)	Post pivot pin cup	x	x	x
5	94H2	Spoolholder locknut	x	x	x	20	210-206	Spring	x	x	x
6	94H3	Spindle jam nut	x	x	x	21	216G2	Post stop screw assembly	x	x	x
7	150H17	Body assembled	x	x	x	22	218G2	Fiber friction plug	x	x	x
8	151HG3	Base	x	x	x	23	219G	Clincher spring	x	x	x
9	C156	Fiber friction spring	x	x	x	24	240G2	Post cam roller arm	x	x	x
10	164H8D	Drive cam assembly	x	x	x	25	241G2	Post cam roller	x	x	x
11	165H13	Drive shaft assembly	x	x	x	26	242G2	Post cam roller pin	x	x	x
12	172	Drive screws	x	x	x	27	251G	Locking roller	x	x	x
13	194-366	Post throwout pin	x	x	x	28	252G	Pin	x	x	x
14	186H	Arm hole cover	x	x	x	29	253G	Spring	x	x	x
15	188H24	Clincher	x	x	x	30	256GA	Post locking arm	x	x	x
16	201G7	Post pivot head	x	x	x	31	260G45	Post column	x	x	x

Models HGU-AW, HGU-CW, and HGU-EW

ITEM	PART NO.	DESCRIPTION	MODELS			ITEM	PART NO.	DESCRIPTION	MODELS		
			HGU-AW	HGU-CW	HGU-EW				HGU-AW	HGU-CW	HGU-EW
32	266G3	Height adjustment unit	x	x	x	91	851750	Clutch brake, 115V	x	x	—
33	245G	Clincher head	x	x	x		851749	Clutch brake, 240V	—	—	x
34	268G2	Clincher head shaft	x	x	x	92	BSA56	#10 Spoolholder	x	x	x
35	269G	Sleeve nut	x	x	x	93	851196	Anti short bushing	x	—	x
36	270G	Clincher spring plug	x	x	x	94	850767	Rubber cord, 84"	x	x	x
37	271G	Foot pedal lock	x	x	x	95	UA3306.2	10-32 x 3/8" RHMS	x	x	x
38	273G	Post lock spring	x	x	x	96	UA3308.2	10-32 x 1/2" RHMS	x	x	x
39	BD380	Clincher alignment pin	x	x	x	97	UA3308.3	10-32 x 1/2" RHMS	x	x	x
40	SB604	Clincher screw	x	x	x	98	UA3806.21	10-32 x 3/8" Plastite screw	x	x	x
41	840H2	Drive shaft key	x	x	x	99	UA4110.1	1/4-20 x 5/8" HHCS	x	x	x
42	997H	Spoolholder lock	x	x	x	100	HN51618.2	5/16-18 Jam nut	x	x	x
43	1052H	Mounting plate bracket	x	x	x	101	87583	Wire terminal	x	x	x
44	BG1122	Spacer	x	x	x	102	UA5116.1	5/16-18 x 1" HHCS	x	x	x
45	SB1204	Post level sleeve	x	x	x	103	UA6708	3/8" x 1/2" Long shoulder screw	x	x	x
46	BG1652	Fiber spacers	x	x	x	104	2394S	Name plate	x	—	x
47	2349	Pulley washer screw	x	x	x		2363DS	Name plate	—	x	—
48	F9498	Spacer	x	x	x	105	UA7124.1	7/16-14 x 2 1/2" HHCS	x	x	x
49	14240	Foot pedal lock arm	x	x	x	106	UA7120.1	7/16-14 x 1 1/4" HHCS	x	x	x
50	36593	Microswitch shield	x	x	x	107	UA7816.1	7/16-14 x 1" HHCS	x	x	x
51	36671	Beltguard	x	x	x	108	UA8128.1	1/2-13 x 1 3/4" HHCS	x	x	x
52	36677	Drive pulley	x	x	x	109	UA8156.1	1/2-13 x 3 1/2" HHCS	x	x	x
53	36678	Spacer	x	x	x	110	156H	Foot pedal	x	x	x
54	36679A	Pulley washer	x	x	x	111	UB8828.2	1/2-13 x 1-3/4" SHSS	x	x	x
55	36680	5/16-18 x 13/16" HHCS	x	x	x	112	UB2912.3	3/32" x 3/4" Cotter pin	x	x	x
56	36774	Clutch bracket	x	x	x	113	UB3108.2	3/16" x 1/2" Str. pin	x	x	x
57	36775	Bracket post	x	x	x	114	HN1032	#10-32 Hex nut	x	x	x
58	36790	Switch bracket	x	x	x	115	HN1213	1/2-13 Hex nut	x	x	x
59	36786	Motor plate	x	x	x	116	HN1213.2	1/2-13 Hex jam nut	x	x	x
60	36787	Motor pulley	x	—	—	117	HN1420.2	1/4-20 Hex nut	x	x	x
61	36788	Belt guard mounting plate	x	x	x	118	HN3816.2	3/8-16 Hex nut	x	x	x
63	36779A	Foot pedal assembly	x	x	x	119	HN3816.5	3/8-16 Nylon locknut	x	x	x
64	36780	Microswitch bracket	x	x	x	120	HN51618	5/16-18 Hex nut	x	x	x
65	36781	Actuator bracket	x	x	x	121	PW14	1/4" Plain washer	x	x	x
66	85125	Cable clamp	x	x	x	122	PW38	3/8" Plain washer	x	x	x
67	85126	Cable connector	x	x	x	123	PW516	5/16" Plain washer	x	x	x
68	85128	Cable connector	x	x	x	124	PW716	7/16" Plain washer	x	x	x
69	85199	Wire terminal	x	x	x	125	LW12	1/2" Lock washer	x	x	x
70	85202	Gits oiler	x	x	x	126	UA1316.1	#6-32 x 1" RHMS	x	x	x
71	85417	#14 Black wire, 36"	x	x	x	127	LW38	3/8" Lock washer	x	x	x
72	85419	#14 White wire, 36"	x	x	x	128	LW516	5/16" Lock washer	x	x	x
73	HN51618.7	5/16-18 Nylon locknut	x	x	x	129	SW10	#10 Shake proof	x	x	x
74	86198	Cable connector	x	x	x	130	UA3410.1	#10-32 x 5/8" FHMS	x	x	x
75	86243	Power cord, 115V	x	—	—	131	SW6	#6 Shakeproof	x	x	x
	86244	Power cord, 230 V	—	—	—	132	UA5816.1	5/16-18 x 1" SHSS	x	x	x
76	88293	Grease fitting	x	x	x	134	UA6116.1	3/8-16 x 1" HHCS	x	x	x
77	88537	Oil hole cover	x	x	x	135	850602	Extra flex conduit, 38"	x	x	x
78	86035	#14 Green wire, 36"	x	x	x	136	UA6328.3	3/8-16 x 1 3/4" SHSS	x	x	x
80	850602	Extra flex conduit, 26"	x	x	x	137	86035	#14 Green wire, 50"	x	x	x
81	85797	Connector	x	x	x	138	85417	#14 Black wire, 50"	x	x	x
82	851277	Anti short bushing	x	x	x	139	85419	#14 White wire, 50"	x	x	x
83	851738	Motor starter	x	x	x	140	UA9332.7	5/8-18 x 2" HHCS	x	x	x
84	851739	Motor 60HZ - 1725 RPM	x	—	—	141	UB2912.2	1/8" x 3/4" Cotter pin	x	x	x
	851751	Motor 50HZ - 1425 RPM	—	—	—	142	UB-532.2	#3 x 2" Taper pin	x	x	x
85	851740	Motor starter box	x	x	x	143	UA5806.1	5/16-18 x 3/8 SHSS	x	x	x
86	851741	Duplex connector - 90°	x	x	x	144	BH103020 7/16	Stitcher head	x	x	x
87	851742	Wire terminal	x	x	x	145	PW12	1/2" Plain washer	x	x	x
88	851743	Spacer	x	x	x	146	85198	Cable clamp	x	x	x
89	851744	Drive belt	x	x	x	147	UA7132.1	7/16-14 x 2 HHCS	x	x	x
90	850631	Microswitch	x	x	x						