

SEMI-AUTOMATIC POLYPROPYLENE STRAPPING MACHINE

OPERATION & MAINTENANCE MANUAL

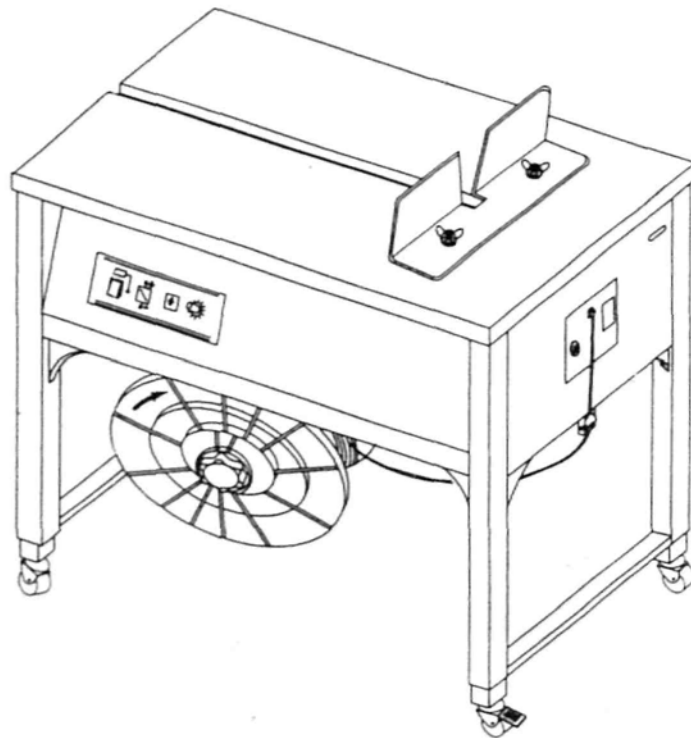


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MAJOR COMPONENTS

In Fig 1. thru 4 the major components of the machine and the strapping head are shown in detail.

A detailed description of additional systems and specific components follows:

STRAP DISPENSER:

The dispenser supplies strapping material to the strapping head. It is located inside the cabinet on the lower left-hand side. A friction brake is provided to limit over-run of strap.

1. GRIP- The grip holds the lead end of the strap beneath the anvil while the remainder of the strap is being tension around the package.
2. STRAP FEED AND TENSION- Both feed and tension are achieved by two sets of gear rollers powered by an electric motor by means of a drive-belt and slip-clutch system.

An operator controlled adjustable timer controls the duration of strap feed. When the set time for feeding is up, the timer stops feeding strap. If additional feed is required beyond that determined by the timer setting, jog feed will be facilitated by pushing the "Jog" feed button on the operator's control panel.

3. WELDING AND CUT-OFF- Welding of the strap ends and cutting of the strap supply are facilitated in this process.
4. PACKAGE RELEASE- After a short weld-cool period (necessary to avoid welded ends from popping open) the package is released.

(Note:) The above mentioned functions: 1,3 and 4 are driven by a cam shaft coupled to the drive system by means of an electromagnetic clutch which turns one full revolution per cycle.

HOT KNIFE. The "Hot Knife" is centrally located at the front of the strapping head. Movement of the knife is controlled by a cam.

ELECTRICAL SYSTEM. An all new electrical system using solid state technology supplies continual power supply to the electrical components within the machine. Using simple to insert circuit boards provides for safe and fast maintenance free operation.

OPERATOR CONTROLS. The Electrical Control Panel consists of the "Main Power ON-OFF Switch" "Feed Length Timer," "Reset Switch" and "Feed Length Switch" (Jog Feed).

INTRODUCTION

This manual contains safety, operating, and maintenance instructions for the Semiautomatic Power Strapping Machine. This model is designed to strap packages with plastic strap 1/4 "to 5/8 " (6mm to 15mm) wide. The strap ends are joined by means of "hot-knife " welding process.

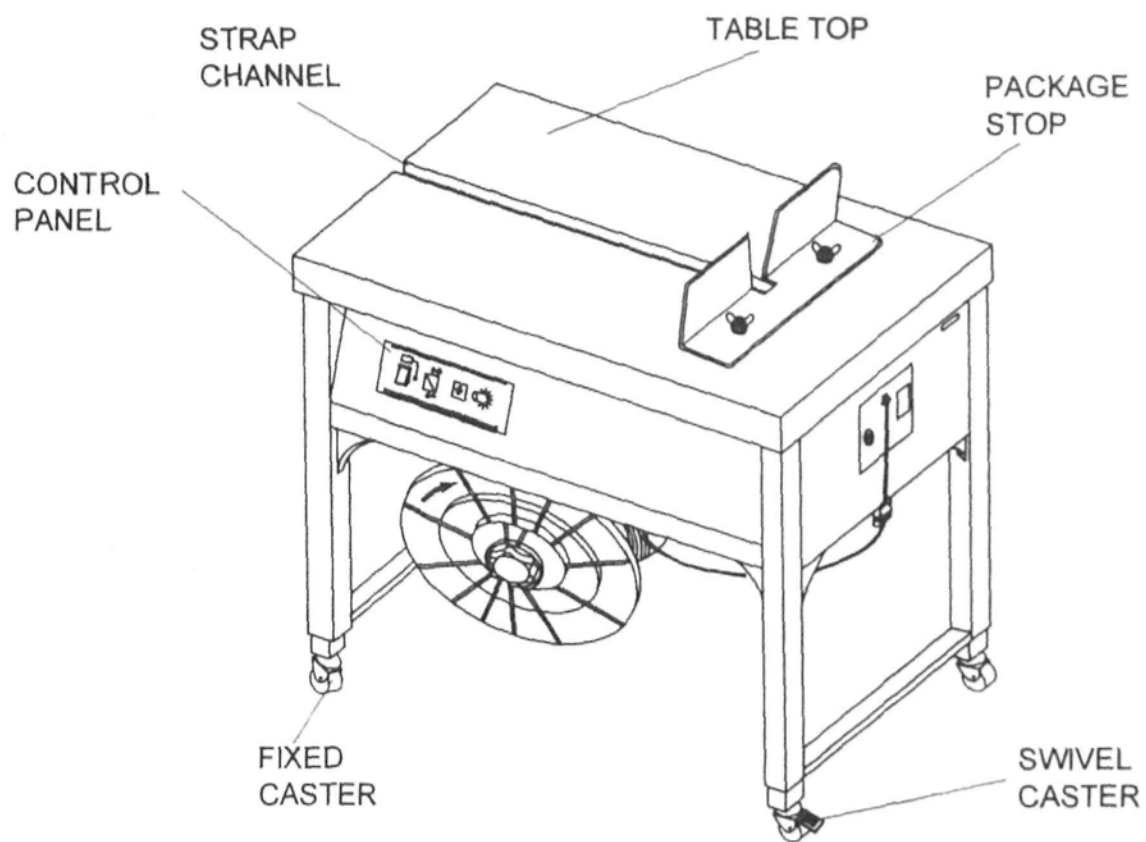


FIGURE1. MAJOR COMPONENTS. EXTERIOR

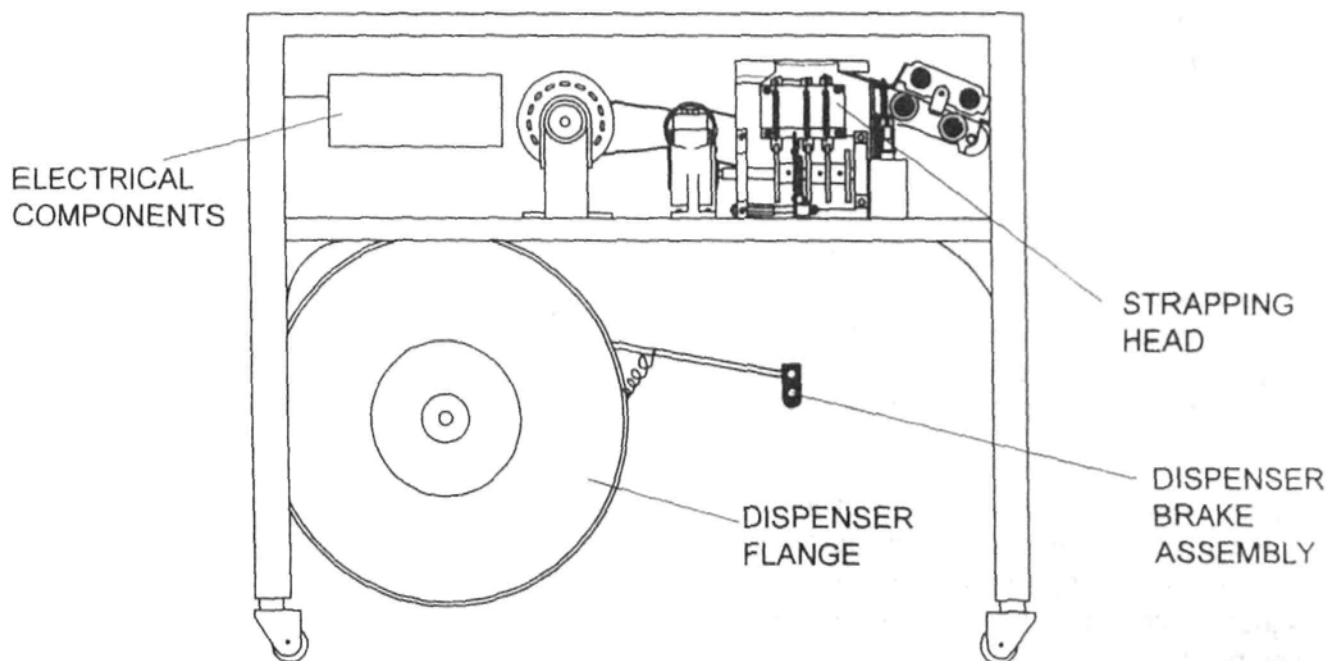


FIGURE 2. MAJOR COMPONENTS, FRONT VIEW

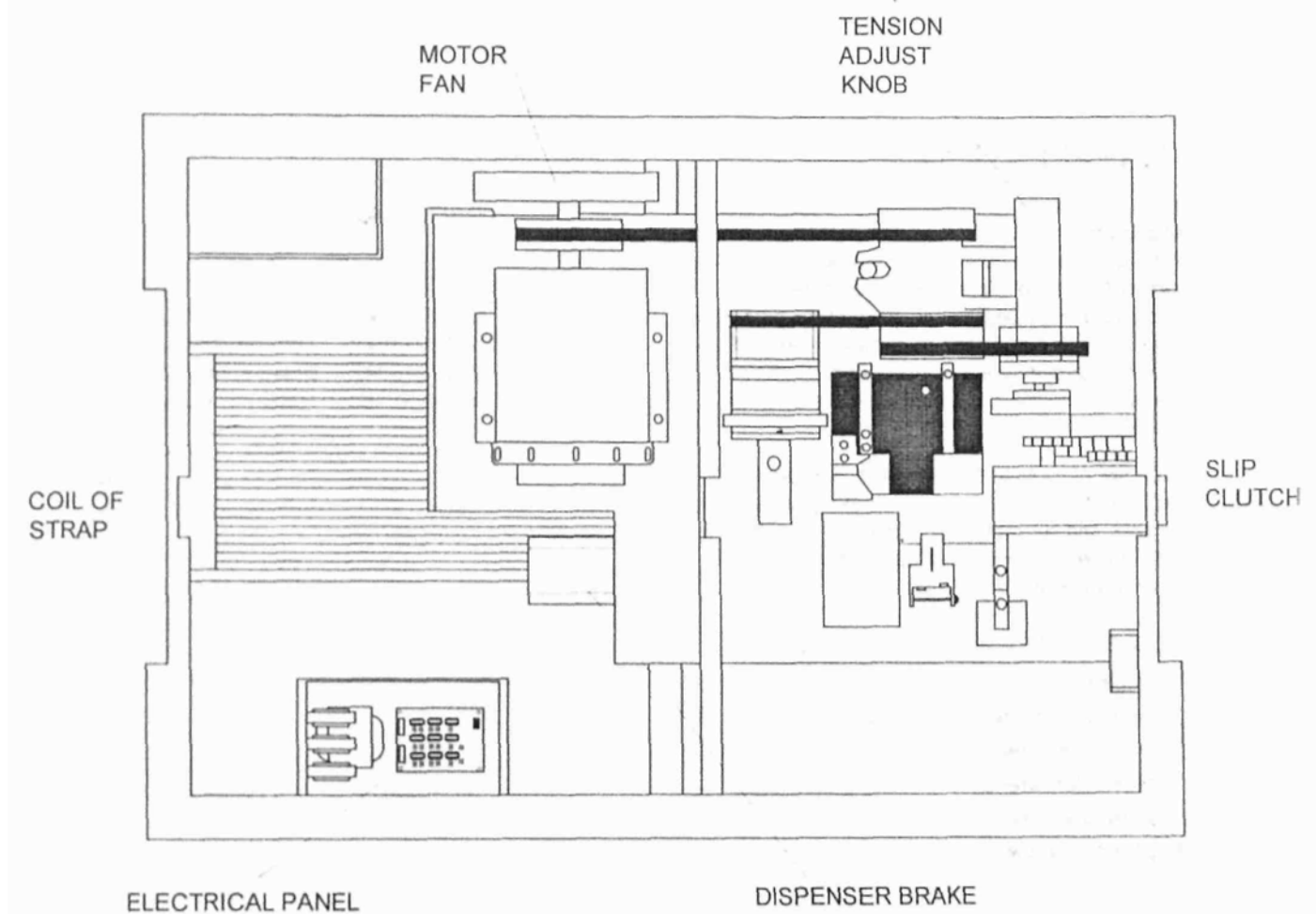


FIGURE 3. MAJOR COMPONENTS, TOP VIEW

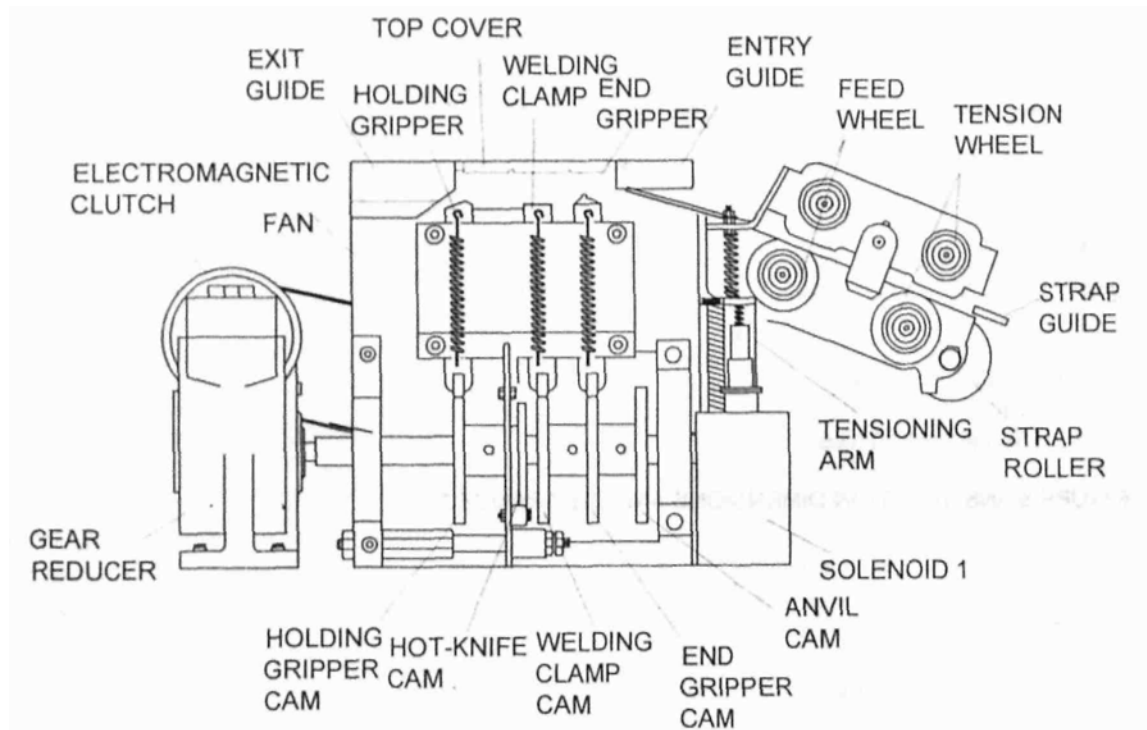


FIGURE 4. MAJOR COMPONENTS, STRAPPING HEAD

INSTALLATION

Installation of the machine, requires that the machine be un-crated, placed in it's proper position and secured in place with the caster locks . Operation may begin once strap of the proper size is loaded and the power cord is plugged into the appropriate electrical outlet. Remove the screw on the top cap of speed reducer for ventilation.

One set of tools and spare parts is packed with each machine for use in making adjustments and for replacenet of parts as needed. Please compare your supplied tools with the following list:

TOOLS PARTS

- 1 Phillips screwdriver (4")
- 2 8mm/10mm open end wrench 1
 5mm Allen wrench
- 1 4mm
Allen wrench 1
- 3mm Allen
- wrench 1
- 2.5mm Allen
- wrench

SPARE PARTS

- | | |
|---------------|----------------------------|
| 1 104G001 | Microswitch, heavy(LS-1) |
| 2201210020 | Tension spring, short |
| 1 2201011022 | Tension spring, long Brake |
| 2201213047 | spring Retainer, top cover |
| 1 4-01000-150 | holder |

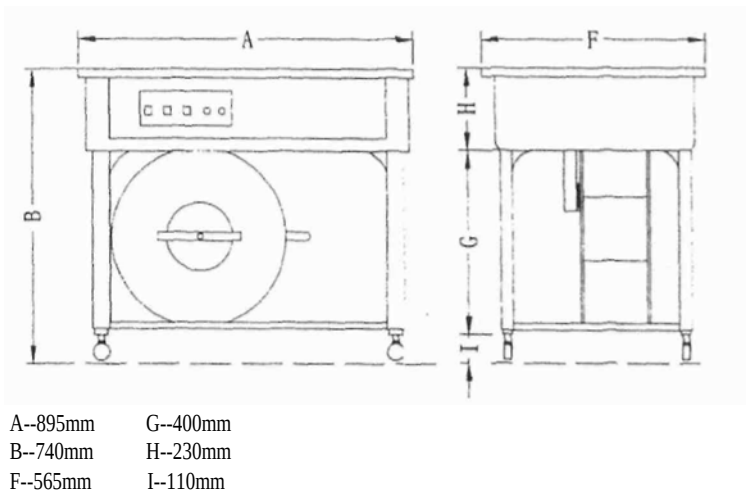


FIGURE 5. INSTALLATION DIMENSIONS AND CLEARANCES

OPERATING INSTRUCTIONS

OPERATOR'S CONTROLS

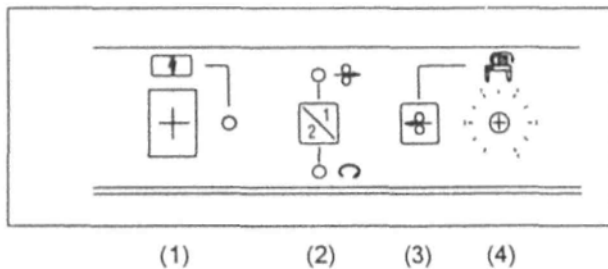
Control Panel. The control panel is located on the left-hand side of the front panel of the machine Refer to Figure 6.

- (1)  Power Switch.
Push on the button to make red light glow, which shows that all electrical circuits and the electric motor are energized. Then you can operate the machine Push down the button, power supply is cut off. If the machine is stopped incidently(not in "reset" mode), push on the button  the machine resets automatically.
- (2)  Manual Feedback/Reset switch
When the green light is lighted, press the button, you can feedback PP strap. When the yellow light is lighted, press  the button, you can reset the machine.
- (3)  Manual feed
When in "reset" mode (green light is lighted), you can press the button to feed PP strap manually.

- (4)  Length Adjustment knob.

Turn the knob clockwise, you can make machine feed PP bond longer automatically.

FIGURE 6. OPERATOR'S CONTROL PANEL



COOLING TIME ADJUSTMENT

The cooling time adjustment on your machine allows the user to adjust the cooling time to meet his strapping requirement. Please refer to page 34, turn the knob clockwise, the cooling time is longer.

MOTOR STOP TIME DIP-SWITCH ADJUSTMENT

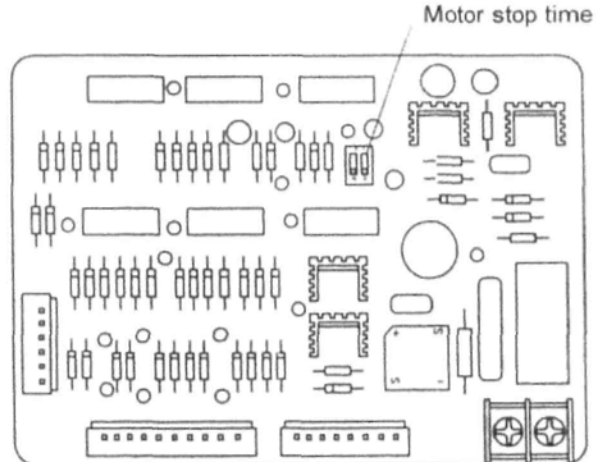
The motor stop time adjustment on your machine allows the user to adjust the motor stop time. Please follow the steps below to adjust the stop time of the motor.

Attention: Before making any dip-switch changes Power must be OFF

LOADING STRAP IN MACHINE

Motor stop time is about 10'	
Motor stop time is about 20'	 OR 
Motor stop time is about 30'	

Refer to Figure 7. and proceed as follow:



1. Withdraw the dispenser assembly. Place the assembly as shown. (Fig.7,P.6)
2. Turn the reel nut handwheel to disengage from the roll pin that protrudes from the shaft.
3. Lift the plastic flange B from the dispenser shaft.
4. Place a coil of strap on the plastic flange A allowing the shaft to poke through the plastic wrap. Pay-off must be from the top of the coil if the friction brake is to operate properly, as shown in Figure11.

5. Replace the Plastic flange B and reinstall the Reel nut handwheel.
6. At this time the securing straps can be removed from the coil of strap.
7. Place the dispenser assembly back into the rear - end of the machine. Make sure the assembly is placed in properly The Reel nut handwheel should be positioned to the right. This can be verified by noting that the drag arm of the friction brake contacts the Plastic flange A.
8. When installed, close the rear panel door.

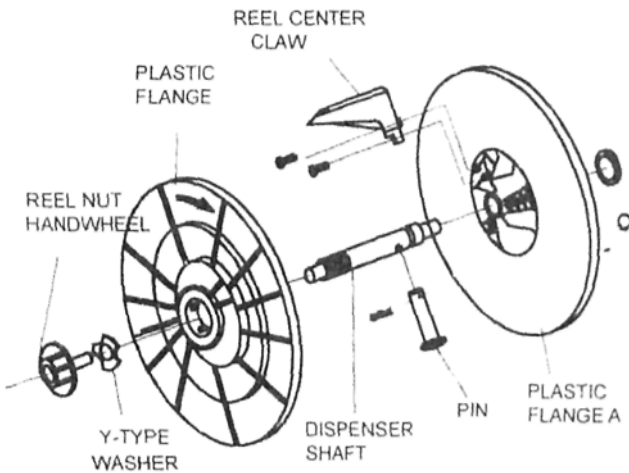


FIGURE 7 DISPENSER ASSEMBLY

Please follow instructions below to adjust the Reel center claw (part NO. #4-07000-130) for various inner coils. Refer to Fig.8

1. For 200mm inner coil diameter, position 2 holes on the Reel center claw (Item 6) to #1 and #3 holes of the Plastic Flange A (Item 7).
2. For 230mm inner coil diameter, position 2 holes on the Reel center claw (Item 6) to #2 and #4 holes of the Plastic Flange A (Item 7).
3. For 280mm inner coil diameter, position 2 holes on the Reel center claw (Item 6) to #3 and #5

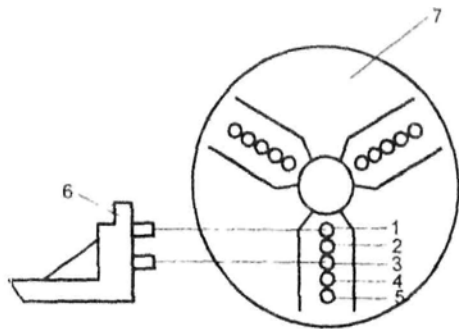


FIGURE 8. THREADING STRAP THROUGH holes of the Plastic Flange A (Item 7).

1. Open the right-hand door and pull about 3 feet (1M) of strap from the coil.
2. Thread the strap through the looper (B). pass it under roller (C) and allow it to exit the cabinet. Close the right-hand door.
3. Pull up on the strap, then insert the lead-end between the guide and roller (D).
4. Continue to push the strap through the head until it can be seen at point (E).

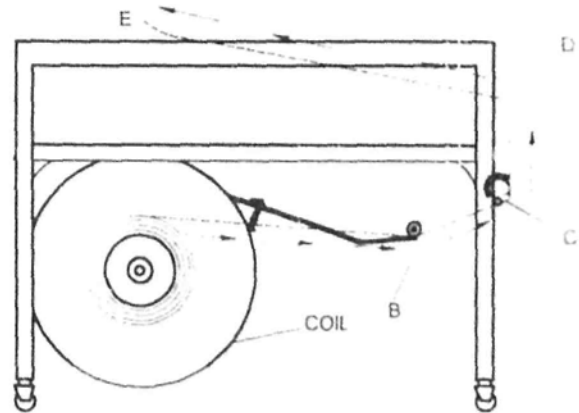


FIGURE 9. STRAP THREADING DIAGRAM

STRAPPING CYCLE

The machine is now ready for strapping a package To operate the EXS-206. proceed as follows

1. Push the power switch to the "ON" position and allow the hot knife 5 seconds to reach operating temperature.
2. Place a package on the table top. directly above the sealing head Allow the package to contact the two package stops
3. Grasp the strap on the left side on the package bring it over the package and insert the lead-end into the strap closes LS1, the strap will be tensioned, welded and then released, all automatically "CAUTION!!" Be sure to keep fingers from beneath the strap.
4. Remove the strapped package and note the length of the strap fed out for the next cycle. Adjust the timer as needed.
5. Note the condition of the weld and the tension of the tie on the package. If the condition of the weld or the level of tension is unsatisfactory, adjust the hot knife temperature or the tension level as needed.

Ref: Operating Adjustments

The threading procedure involves routing strap from the dispenser and up through the strapping head. Refer to Figure 9 and proceed as follows:

OPERATING ADJUSTMENTS

ADJUSTING TENSION

If tension adjustment is required, proceed as follows

- 1 Loosen the locking knob at the right hand end of the machine
- 2 Turn the knurled knob, located at the rear of the machine clockwise to increase tension, counterclockwise to decrease tension
- 3 When set to the desired tension level, tighten the locking knob

ADJUSTING HOT-KNIFE TEMPERATURE

If the weld appears to be only minimal, it may be that the temperature is improperly set. Make all corrections, in small increments, according to the following condition

RAISING HOT-KNIFE TEMPERATURE

If the weld appears to have insufficient heating, turn the hot-knife rheostat (item 19 on the PC board) in a clockwise direction.

LOWERING HOT-KNIFE TEMPERATURE

If the condition of the weld appears to have been over heated, turn the rheostat counter clockwise.

STRAP GUIDE ADJUSTMENT TO VARIOUS WIDTH OF P.P. STRAP

- 1 Strap Guide Adjustment
Loosen the Socket head cap screws (item #1 #2) and put the upper Strap Guide against the side of Main body block (item #8) Place p.p. strap between upper Strap Guide (item #3) and lower Strap Guide (item #4) properly. Screw those 2 Socket head cap (item #1 & #2) screws real tight.
2. Strap Guide Adjustment
Loosen the Socket head cap screws (item #1 & #2) Place p.p. strap between strap Guide (item #5) and Adjusting strap (item #9). Adjust item #9 to a proper room for the p.p. strap then tighten the Socket head cap screws (item #6 & #7).

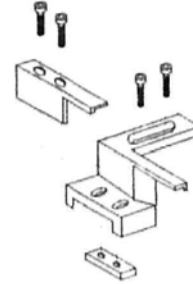


FIGURE 10.EXIT GUIDE

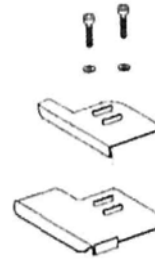
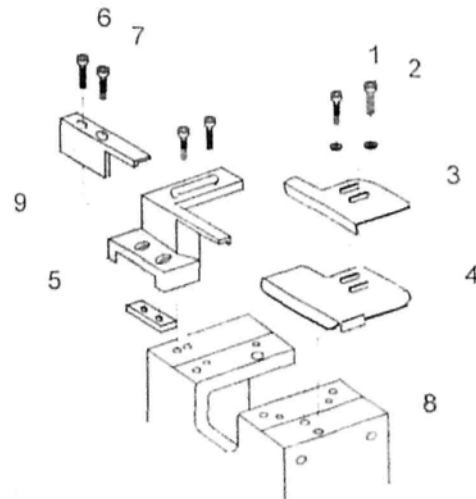


FIGURE 11.ENTRY GUIDE
FIGURE 12 GUIDE



LOCATION

PRINCIPLES OF OPERATION

GENERAL

The strapping cycle can be divided into three distinct operations:

- a. Grip and tension.
- b. Weld, cut, and release.
- c. Feed.

The following descriptions refer to Figures 13 through 18. Note that both the mechanical and the control function of the micro switches are described.

1. NEUTRAL POSITION. When the strap is initially threaded through the machine, it enters the head under the strap guide and over roller D between two sets of feed and tension rollers and on through a slot in the end gripper. It then passes beneath the anvil, over the welding clamp and holding gripper and out into the strap channel on the left-hand access to it.

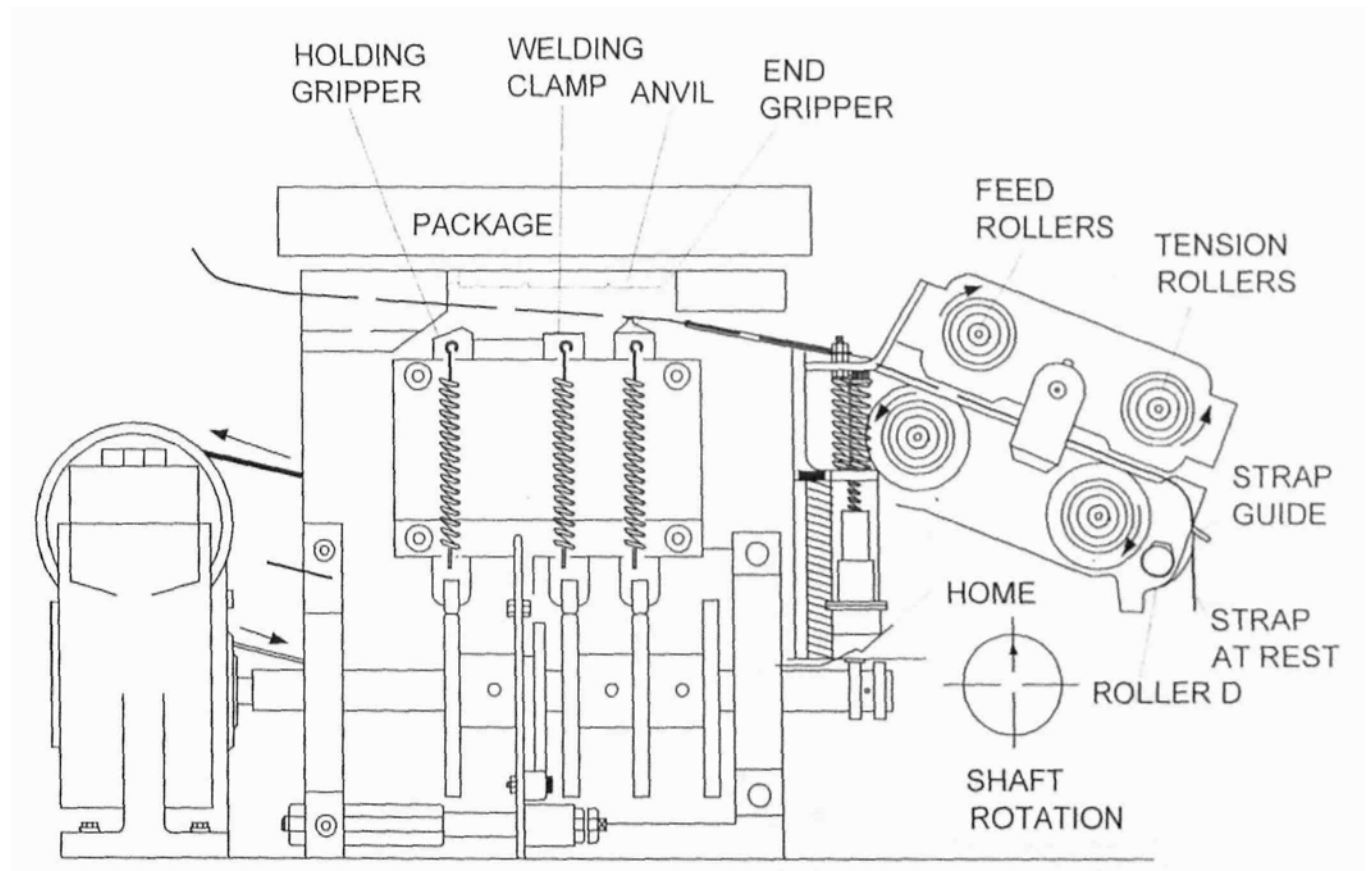


FIGURE 13. NEUTRAL POSITION

2. ENCIRCLING PACKAGE; TRIPPING LS1.

Grip and tension is initiated by the operator who encircles the package with the strap and inserts the strap end into the slot of the upper strap guide on the right-hand end of the machine.

In doing so, the strap is guided between the gripper portion of the end gripper and anvil then into a slot in the anvil where it makes contact

with the start switch detector lever. As the lever moves to the left, it trips the cycle start switch, LS1.

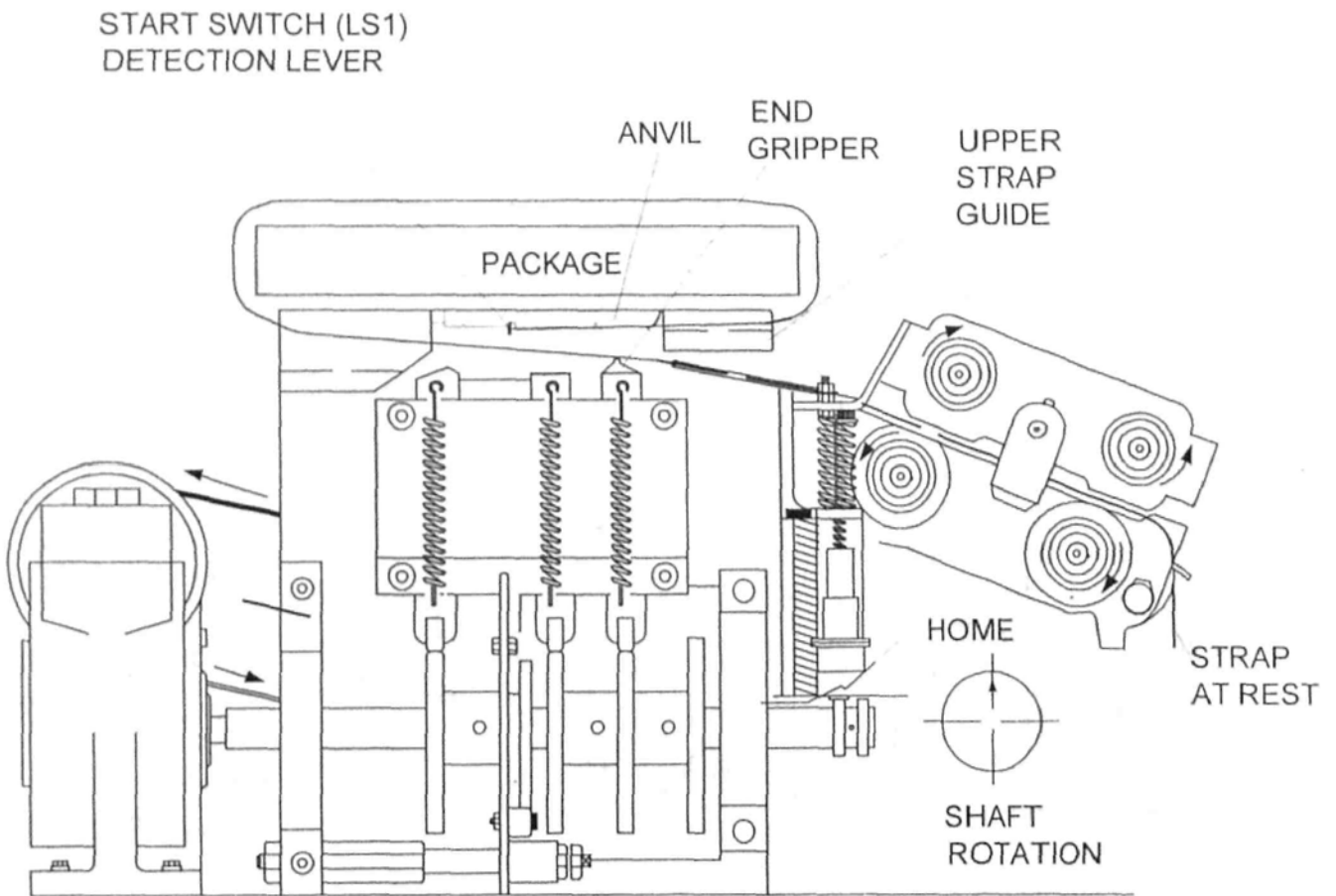


FIGURE 14. ENCIRCLING PACKAGE;

3. TENSION. When LS1 is closed, the electro-magnetic clutch energizes and the cam shaft rotates approximately 45 degrees.

This small amount of shaft rotation is controlled by LS3, mounted at the right-hand end of the cam shaft. When LS3 closes it de-energizes the electromagnetic clutch and the end gripper will have been moved upward to contain the upper strap beneath the anvil.

The tension lever pivots and closes the tension rollers. The tension rollers close against the strap, drawing it back through the head, thus tensioning it around the package. When full tension has been drawn, the electron tension detector reacts at same time, the electro-magnetic clutch energizes again.

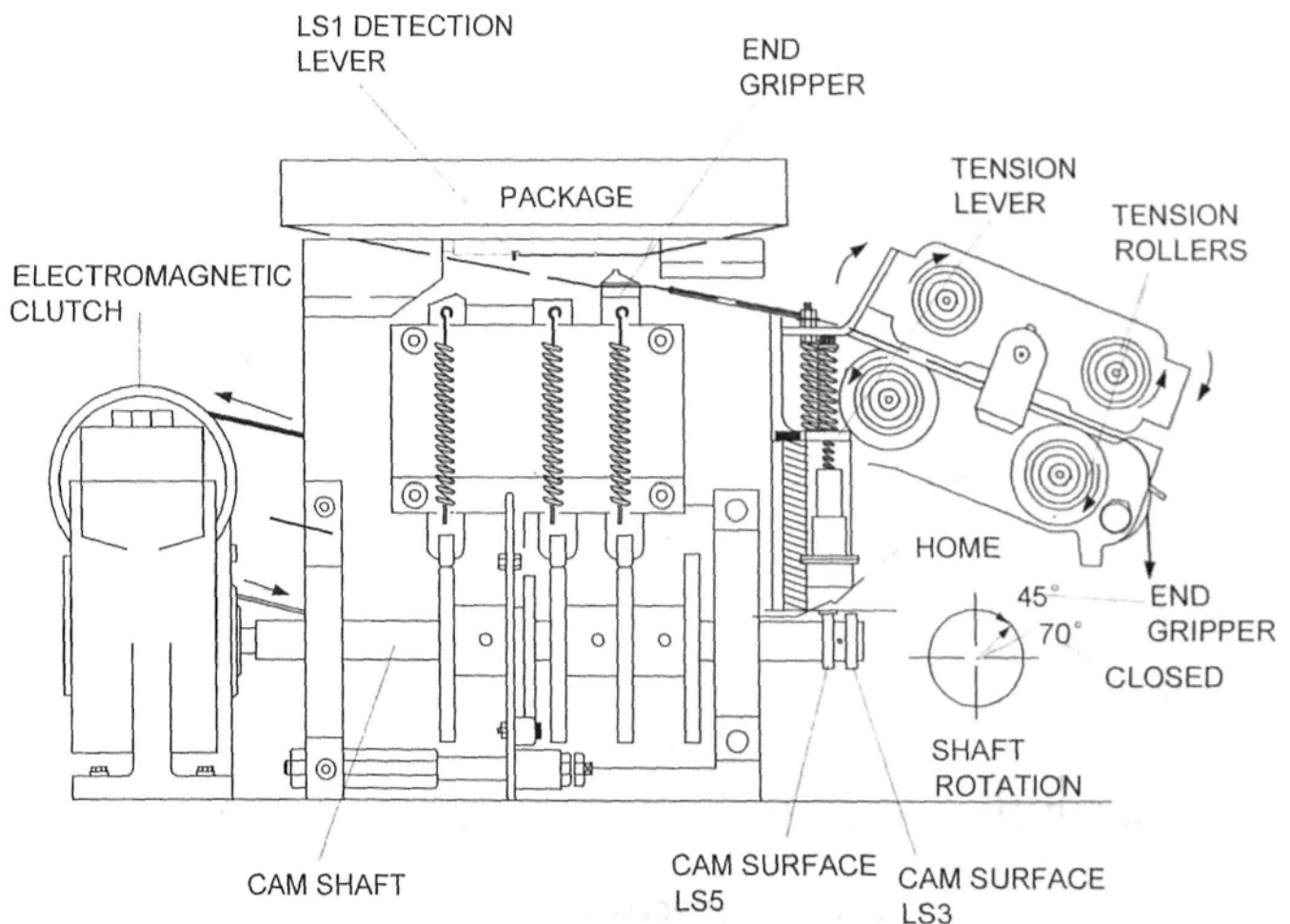


FIGURE 15. TENSION

4. HOLDING GRIPPER RISES; HOT-KNIFE MOVES INWARD. Momentarily electron tension detector energizes the control circuit to energize the electromagnetic clutch and turn the cam shaft. As the cam shaft turns, the holding gripper rises to contain the other end of the strap beneath the anvil. The tension

lever is lowered to release tension and the welding clamp begins to rise. It's important to note that all tension to the strap must be released before the strap is cut, otherwise the strap-end could be damaged and feeding reliability will be affected. The hot-knife moves in between the two layers of strap.

NOTE: TENSION ROLLERS ARE RELEASED AND STRAP IS AT REST.

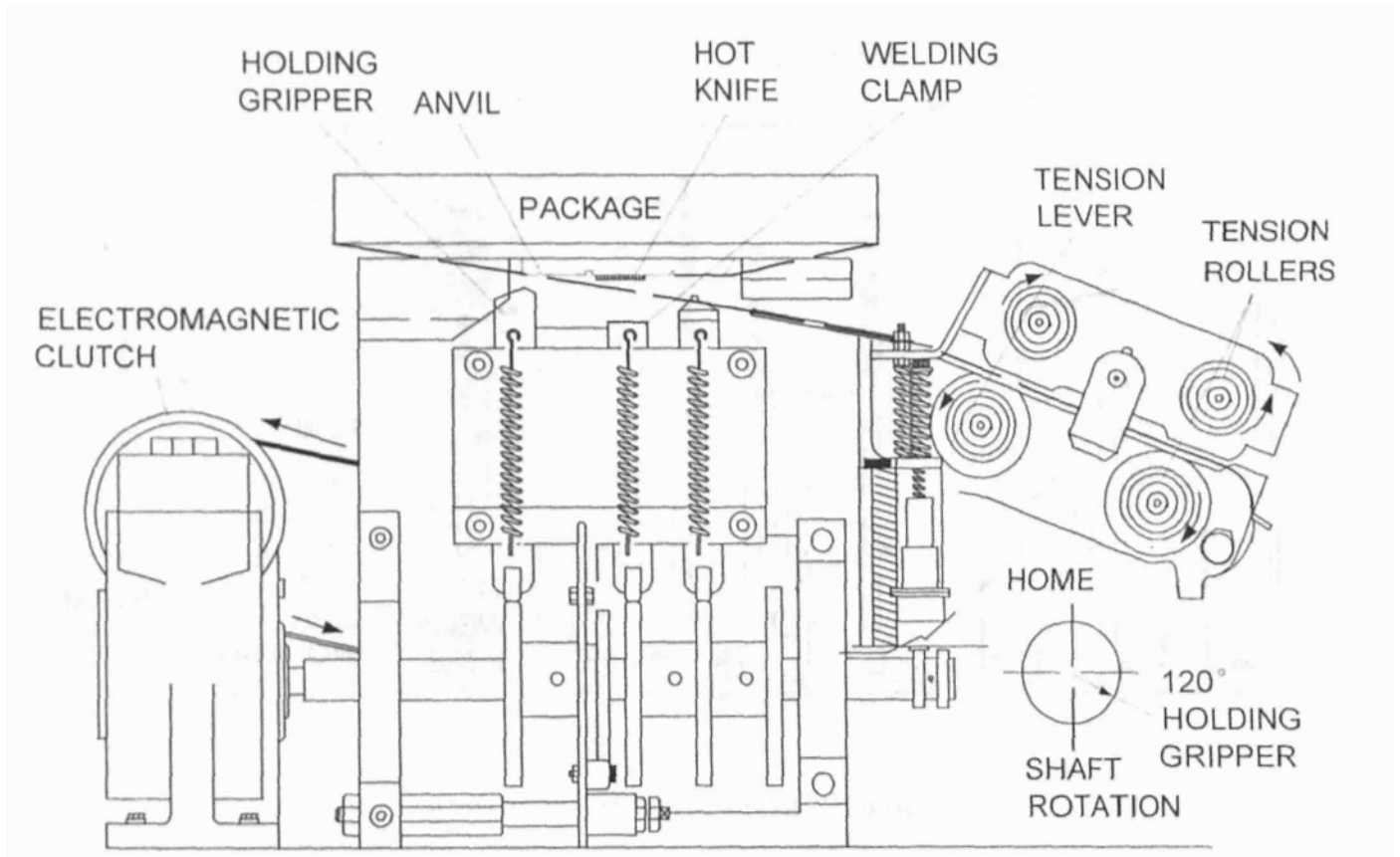


FIGURE 16. HOLDING GRIPPER AND HOT-KNIFE

5. STRAP IS CUT; WELD IS MADE. The welding clamp cuts the strap during it's upward movement then pushes the upper surface of the lower strap against the lower surface of the hot-knife, it then pushes the hot-knife against the lower surface of the upper strap.

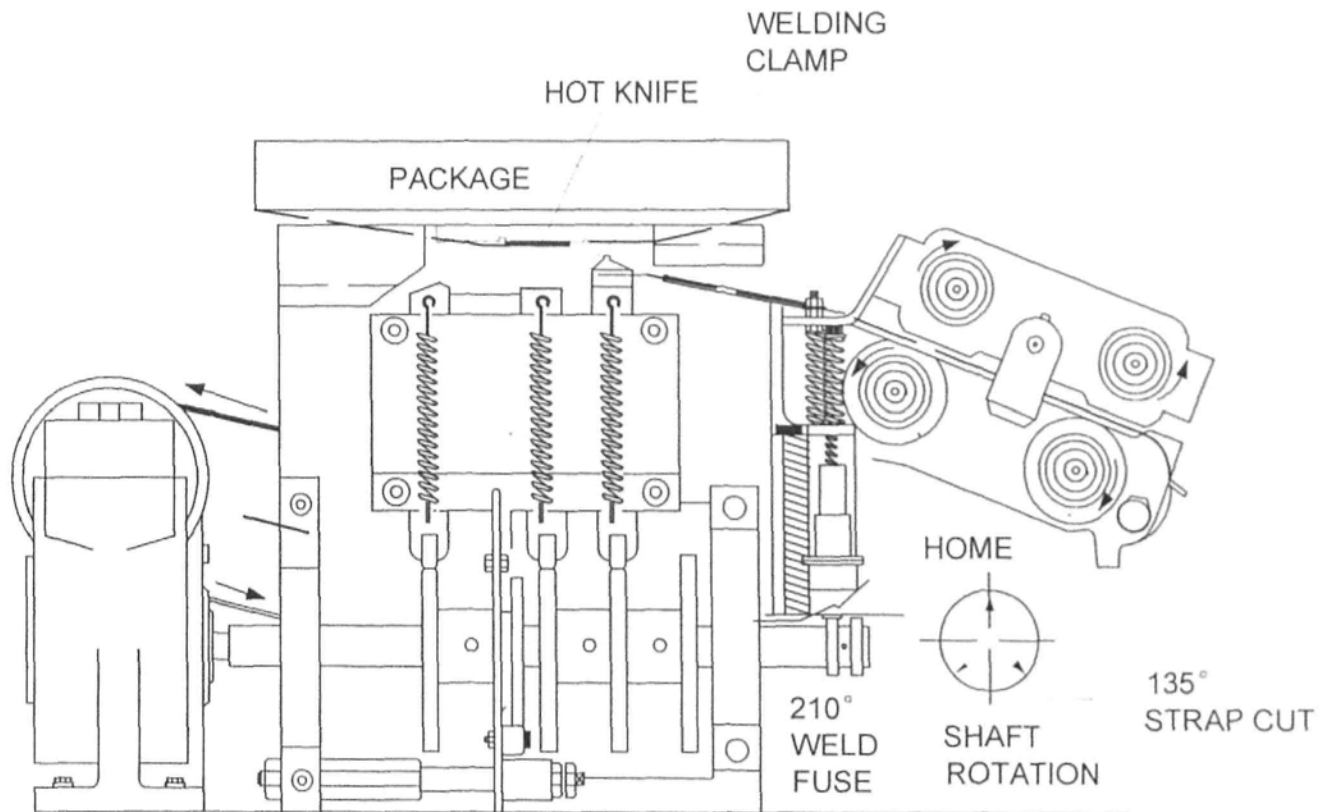


FIGURE 17. STRAP IS CUT & WELD IS MADE

6 WELD IS RELEASED; HEAD RETURNS TO HOME POSITION.

The hot-knife retracts and the welding clamp pushes the two molten surfaces together, welding the strap.

After this short delay to ensure that the strap fuses properly, the cam shaft again turns and the holding gripper, the welding clamp and the end gripper retract to the neutral position.

The anvil then retracts and the welded strap is released to the lower side of the package.

The cam shaft returns to the home position and closes LS3 and LS5. The electromagnetic clutch is de-energized by LS3 while LS5 energizes SOL1. As the solenoid pulls down on the tensioning lever, the feed rollers close against the strap, pushing it through the head and out into the strap channel. The feed timer de-energizes and SOL1 is released.

Strap feed stops and the machine is ready for the next cycle.

NOTE; SOL1 ENERGIZES TO CLOSE FEED ROLLERS AND FEED STRAP AFTER THE CAM SHAFT REACHES HOME POSITION.

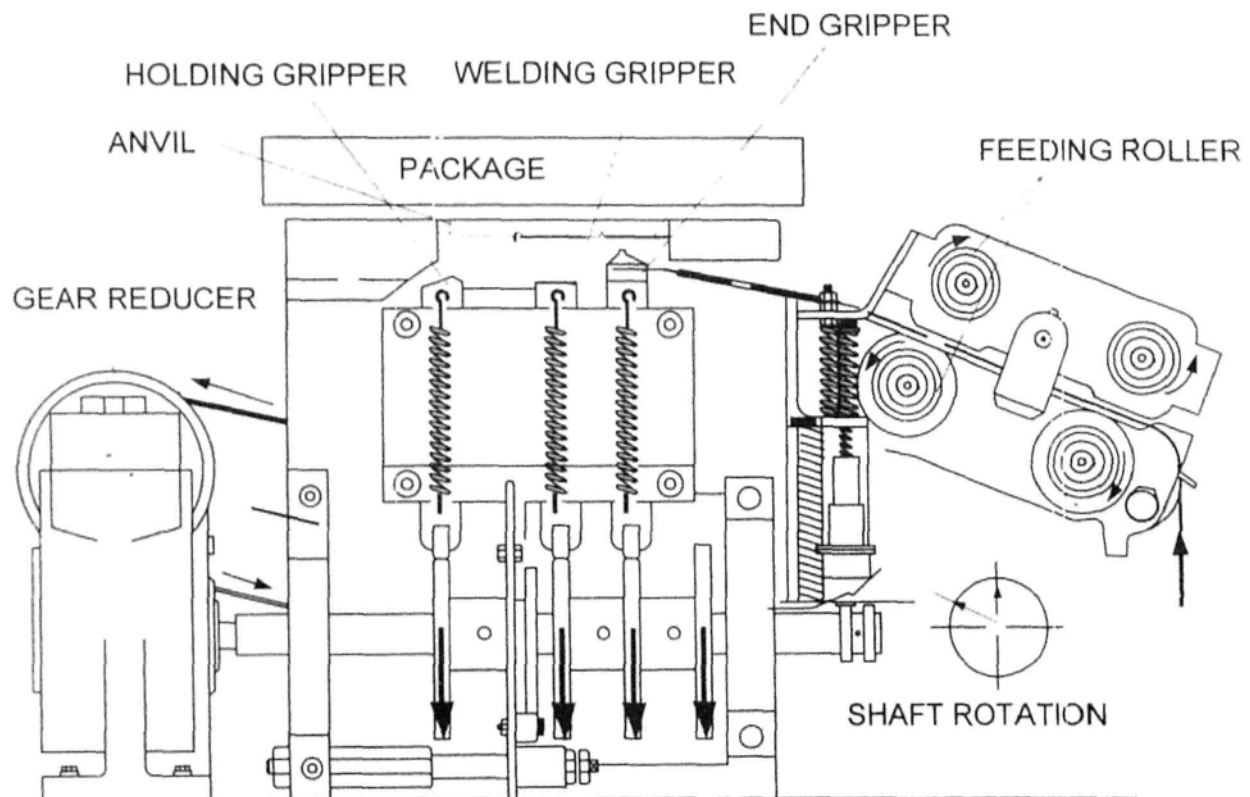


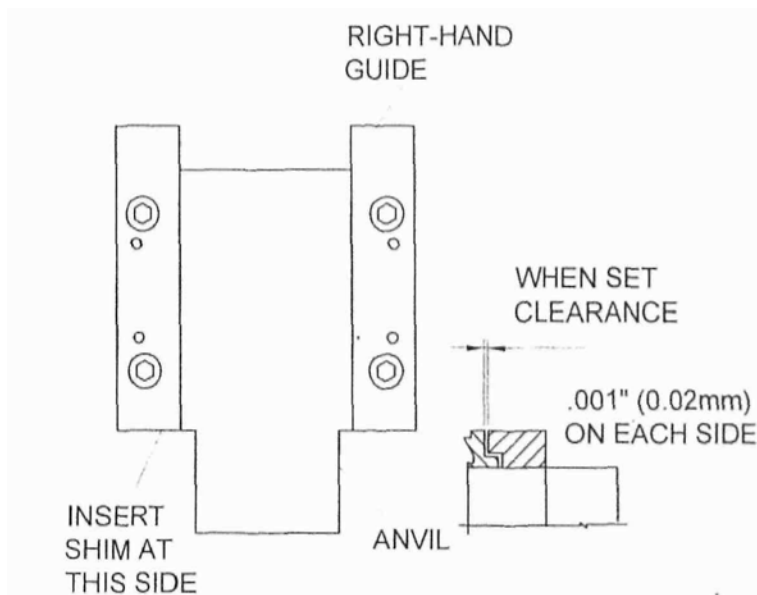
FIGURE 18. WELDED STRAP IS RELEASED;
HEAD IS IN HOME POSITION; STRAP FEEDS

ADJUSTMENTS CLEARANCES

Anvil to ensure that the anvil operates smoothly a minimum clearance between the anvil and the left and right guides must be maintained. To adjust, proceed as follows:

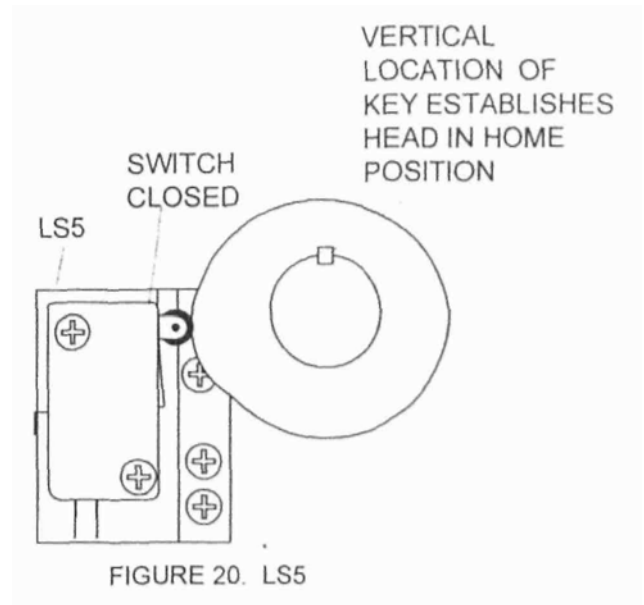
1. Make sure the right-hand guide is securely mounted.
2. Loosen the two left-hand guide mounting screws.
3. Insert a shim, .020" (0.50mm) thick .118" (3mm) wide by 5" (130mm) long between the shoulder of the anvil and the left guide.
4. Push the left guide against the anvil and tighten the left guide mounting screws.
5. Remove the shim and check to make sure the anvil moves smoothly.

FIGURE 19. ANVIL CLEARANCE

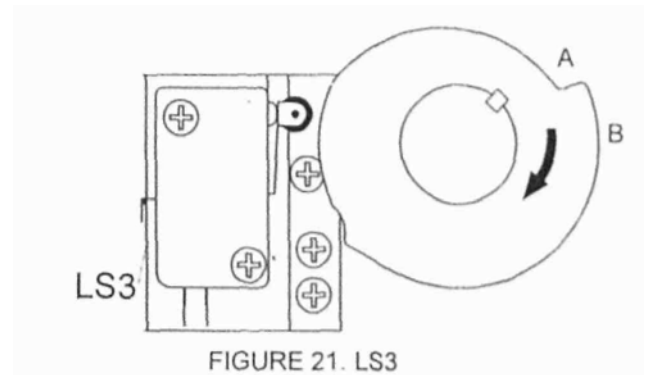


SWITCH CAM: The outer cam actuates LS3. To make sure the cams are set properly, proceed as follows:

1. Make sure the machine is in the neutral or home position.
2. If the micro-switches need adjusting, loosen the mounting screws and LS5 as seen in Figure 20. When properly set, tighten the mounting screws.

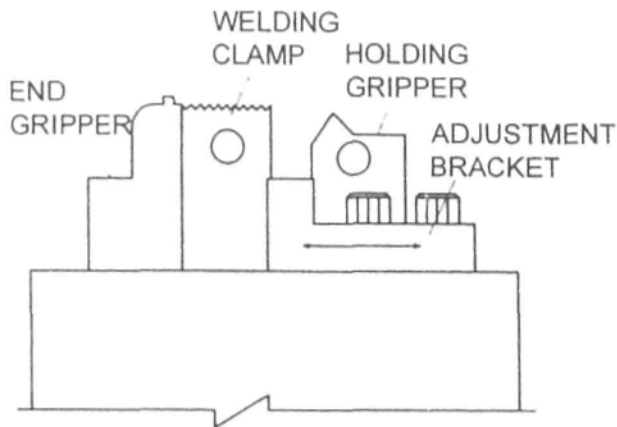


3. Position LS3 as shown in Figure 24. When set, tighten the mounting screws. As the cam rotating clockwise, the touching point of microswitch with cam changes from B to A, then the cooling time starts.



WELDING CLAMP AND END GRIPPER. To adjust the clearance between the welding clapper and the gripper, refer to Figure 22 and proceed as follows:

1. Remove the anvil.
2. Loosen the two socket head cap screws that secure the "L" shaped adjustment bracket to the casting.
3. Push the block left or right to adjust the clearance secure the "L" shaped adjustment bracket to the casting.
4. When set, securely tighten the two mounting screw.



PARTS SEEN FROM REAR SIDE HEAD
FIGURE 22. WELDING CLAMP AND END GRIPPER CLEARANCE

Note: If the cutting surface of the welding clamp has become dull, the welding clamp can be turned 180 degrees, thus doubling the life of the part.

TENSION LEVER. Before making any adjustments to the tension lever, check to see if the tension lever is in a lever condition. To check and adjust if need be proceed as follows:

1. Manually turn the rotor of the electromagnetic clutch until the key, seen at the end of the end of the cam shaft is positioned as shown in Figure 23.

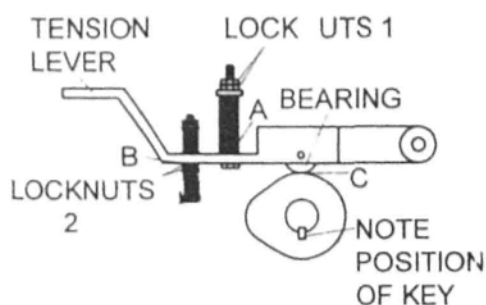


FIGURE 23. ADJUSTING TENSION LEVER

4. If there is clearance at any point, loosen locknuts (1) and (2) and adjust all clearance out at points A,B, and C.
5. When set, tighten the locknuts.

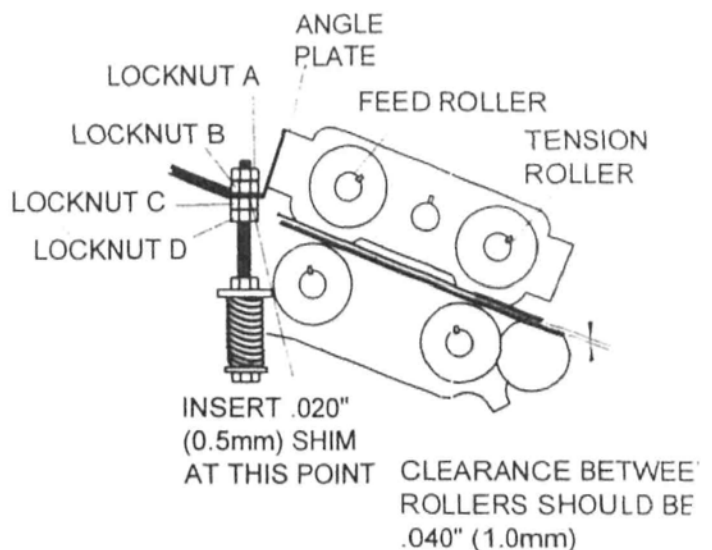
FEED AND TENSION ROLLERS. When the machine is in the neutral position, the feed and tension rollers should not come into contact with the strap. The clearance between the rollers should be .040" (1.0mm). To adjust the feed rollers away from the strap proceed as follows:

1. Loosen the locknuts and turn all 4 nuts upward.

This will raise the angle plate, pivoting the feed rollers upward. Make all adjustments in very small increments. When set insert a .020" (0.5mm) shim between the angle plate and locknut B and tighten locknut A against locknut B

2. Remove the shim and press down on the angle plate. Tighten the locknuts C and D.

To adjust the tension rollers away from the



strap reverse the above procedure.

2. Make sure the tension lever bearing is in contact with the surface of the cam.
3. If there is no clearance at points A, B, and C then the tension lever is considered lever.

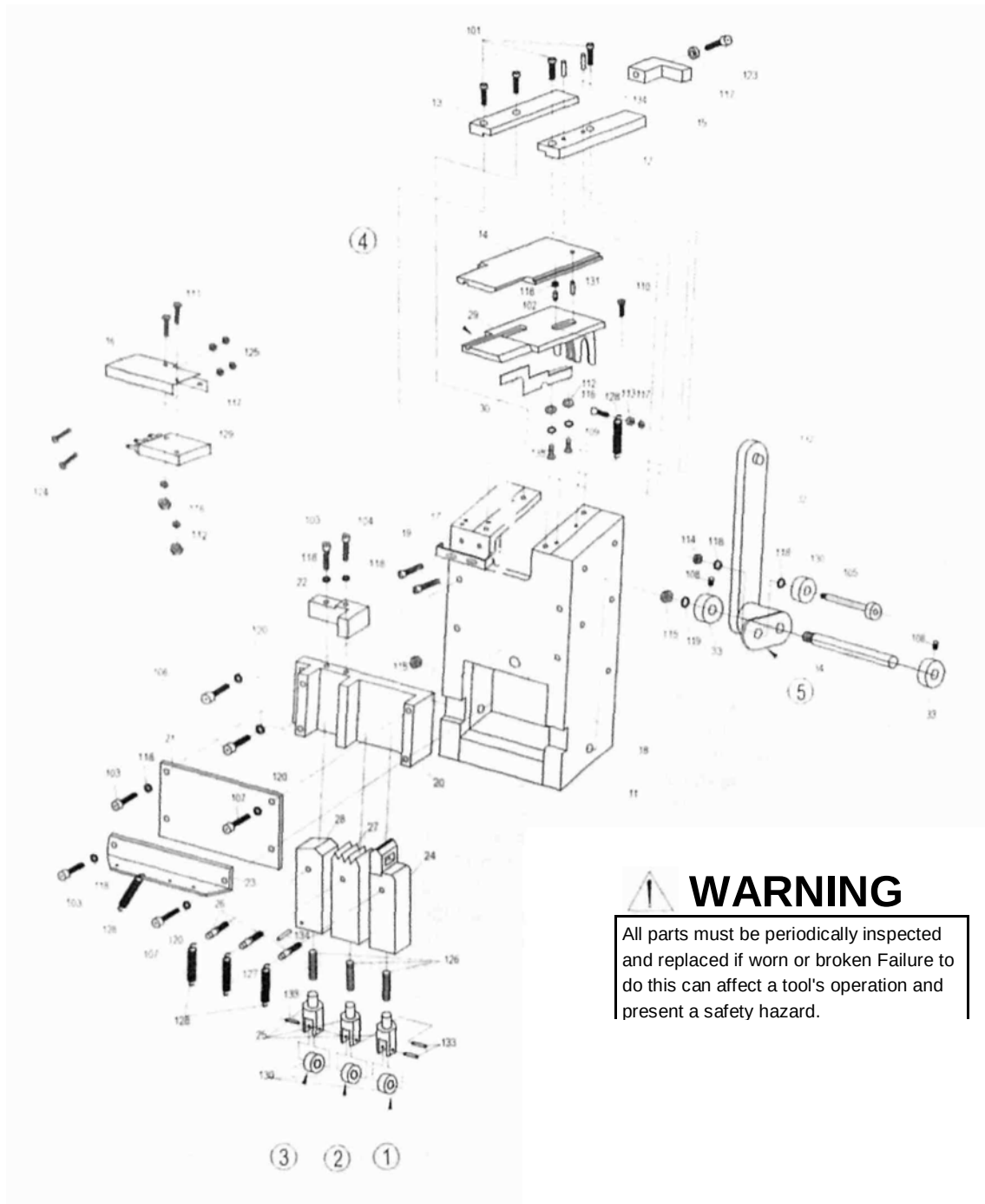
FIGURE 24. ADJUSTING FEED AND TENSION ROLLERS

PARTS LIST, FIGURE 1

WELDING COMPONENTS

KEY	QTY	PART NO.	DESCRIPTION	FPS-500-010
1	1	4-01010	END GRIPPER UNIT	
2	1	4-01020	WELDING CLAMP UNIT	
3	1	4-01030	HOLDING GRIPPER UNIT	
4	1	4-01041	SEPARATING PLATE UNIT	
5	1	4-01050	SEPARATING ARM UNIT	
11	1	4-01000-110	Main body block	
12	1	4-01000-120	Guide plate, right hand side	
13	1	4-01000-130	Guide plate, left hand side	
14	1	4-01000-140	Top cover holder	
15	1	4-01000-150	Retainer, top cover holder	
16	1	4-01000-162	Microswitch seat	
17	1	4-01000-170	Microswitch spring plate	
18	1	4-01000-180	Spring hook	
19	2	4-01000-190	Screw	
20	1	4-01000-200	Guide slot	
21	1	4-01000-210	Guide plate	
22	1	4-01000-220	L-type angle plate	
23	1	4-01000-230	Spring hook plate	
24	1	4-01010-240	End gripper	
25	3	4-01010-250	Clevis	
26	1	4-01010-260	Spring hook	
27	1	4-01020-270	Welding clamp	
28	1	4-01030-280	Holding gripper	
29	1	4-01040-290	Separating plate	
30	1	4-01040-301	Microswitch detector lever(out)	
31	1	4-01040-310	Brass bushing	
32	1	4-01050-320	Separating arm	
33	2	4-01050-330	Sleeve, separating arm pin	
34	1	4-01050-340	Separating arm pin	
101	7	200A05012	Socket head cap screw. M5*12	
102	1	200A05006	Socket head cap screw. M5*6	
103	1	200A05016	Socket head cap screw. M5*16	
104	1	200A05020	Socket head cap screw, M5*20	
105	1	200A05025	Socket head cap screw. M5*25	
106	2	200A06025	Socket head cap screw. M6*25	
107	2	200A06050	Socket head cap screw. M6*50	
108	2	200G05008	Socket head set screw. M5*8	
109	1	200E04015	Phillips head machine screw, M4*15	
110	1	200F03020	Flat head cap screw, M3*20	
111	3	200E03015	Phillips head machine screw. M3*15	
112	4	201A03	Hex nut, M3	
113	1	201A04	Hex nut, M4	
114	1	201A05	Hex nut, M5	
115	2	201A08	Hex nut, M8	
116	6	202B03	Lock washer, M3	
117	4	202B04	Lock washer, M4	
118	7	202B05	Lock washer, M5	
119	1	202B08	Lock washer, M8	
120	5	202B06	Lock washer, M6	
123	1	200A04016	Socket head cap screw, M4*16	
124	2	200E04008	Phillips head machine screw, M4*8	
125	2	202A0410	Plain washer, M4*10	
126	3	2212310042	Compression spring. 2.3*10*42	
127	1	2201210020	Tension spring, short 1.2*10*20	
128	4	2201011022	Tension spring, long 1*10 8*22	
129	1	104G001	Microswitch, heavy (LS-1) AH74505 15A 250VAC	
130	4	210A0635ZZ	Ball bearing, 635ZZ	
131	1	211A0414	Spring pin, 4 dia.*14	
132	1	211A0520	Spring pin, 5 dia.*20	
133	3	211A0514	Spring pin, 5 dia.*14	
134	5	211A0318	Spring pin, 3 dia.*18	

FIGURE 1. WELDING COMPONENTS



WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect a tool's operation and present a safety hazard.

PARTS LIST, FIGURE 2

DRIVE AND CAM ASSEMBLIES

KEY	QTY	PART NO.	DESCRIPTION	FPS-500-020
1	1	4-02010	REDUCTION GEAR UNIT	
2	1	4-02021	CAM UNIT	
3	1	4-02030	MOTOR FAN UNIT	
11	1	4-02010-110	Pulley	
12	1	4-02010-120	Reduction gear	
14	1	4-02020-140	Cam shaft, M17*192	
15	1	4-02020-150	Cam	
16	1	4-02020-160	Cam	
17	1	4-02020-170	Cam	
18	1	4-02020-180	Cam	
19	1	4-02020-190	Cam	
20	1	4-02021-200	Cam	
21	1	4-02020-211	Bearing bracket (aluminium)	
22	1	4-02020-221	Bearing bracket (aluminium)	
23	1	4-02000-230	Motor pulley	
24	1	4-02000-240	Motor fan	
25	1	4-02000-250	Microswitch seat	
27	1	4-02000-270	Plate	
101	10	200E04008	Phillips head machine screw, M4*8	
102	10	202B04	Lock washer, M4	
103	2	201A10	Hex nut, M10	
104	1	202B10	Lock washer, M10	
105	2	201A03	Hex nut, M3	
106	8	200M06025	Hex bolt with washer. M6*25	
107	8	202A0613	Plain washer. M6*13	
108	12	202B06	Lock washer, M6	
109	8	201A06	Hex nut. M6	
112	1	200G06010	Socket head set screw, M6*10	
113	2	200A05012	Socket head cap screw, M5*12	
114	3	200A06020	Socket head cap screw. M6*20	
115	1	200A06045	Socket head cap screw. M6*45	
116	2	200E03030	Phillips head machine screw, M3*30	
118	2	202B05	Lock washer, M5	
119	2	202B03	Lock washer, M3	
120	4	202A061620	Plain washer, M6*16*2	
121	2	212AS17	Ring, S-17	
122	2	210A6201ZZ	Ball bearing, 6201ZZ	
123	1	101A1160018	Motor, 1PH, 110/220V 60Hz,1/4HP	
123		101A2350018	Motor, 1PH. 220/230V 50Hz 1/4HP	
123		101A2450018	Motor, 1PH 240V 50Hz 1/4HP	
124	2	210A6003ZZ	Ball bearing, 6003ZZ	
125	1	202G121604	Spacer, M12*16*4	
126	1	202E121702	Shim, M12*17*0.2	
127	1	213A0505014	Key, 5*5*14	
128	1	213A0505080	Key, 5*5*80	
129	2	213A0505016	Key, 5*5*16	
130	2	202F172906	Plastic circllet, M17*29*6	
131	2	202F172910	Plastic circllet, M17*29*10	
132	2	202F172912	Plastic circllet, M17*29*12	
133	1	202G121608	Spacer, M12*16*8	
135	1	226K163	Oil cover	
136	1	227A02020	Rubber washer, (ø20)	
137	1	102F06	Magnetic clutch CD-F-0.6	
138	2	104G012	Microswitch with roller, heavy (LS-3,5) MQS-2, 16A 250VAC	



WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect a tool's operation and present a safety hazard.

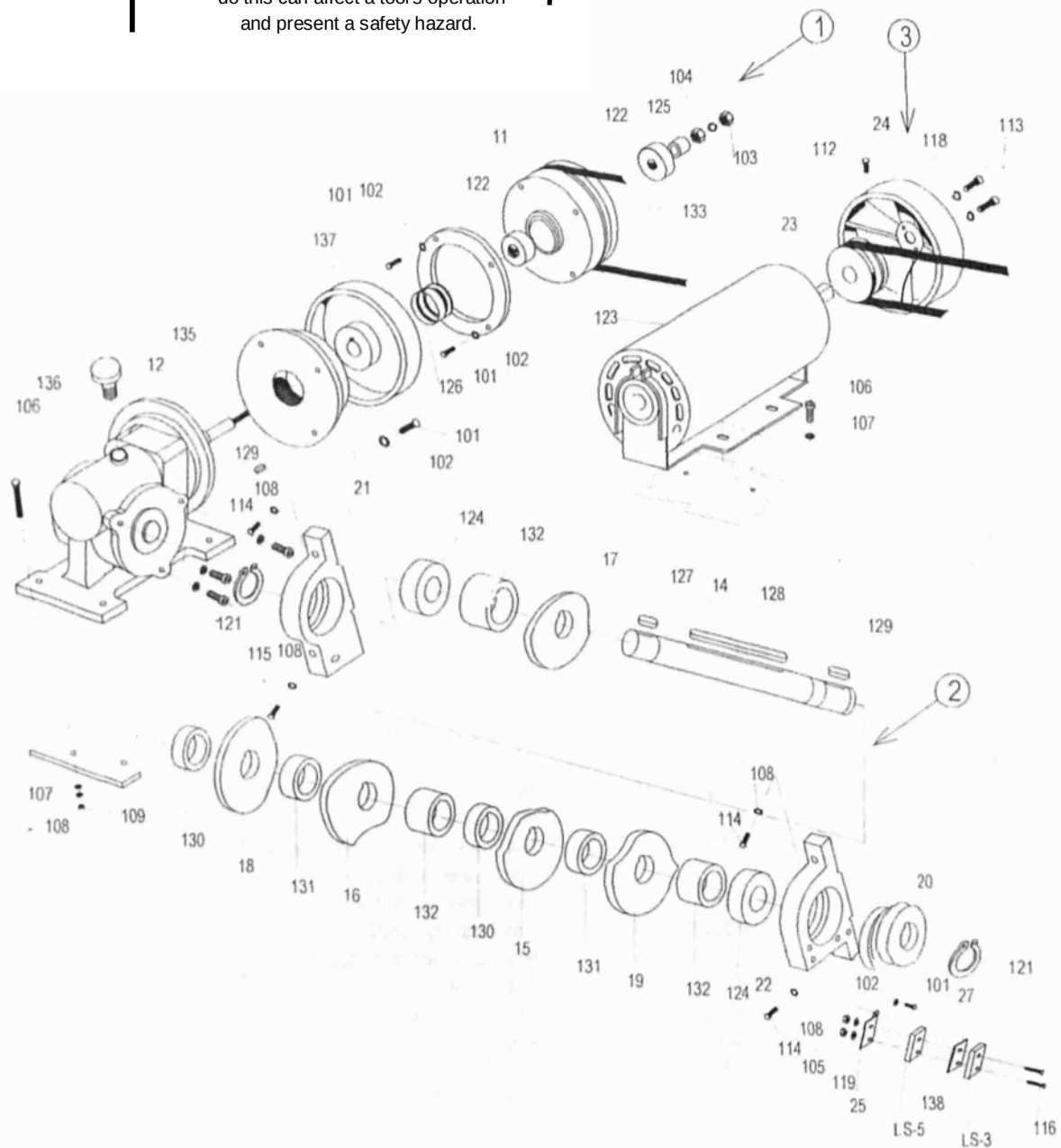


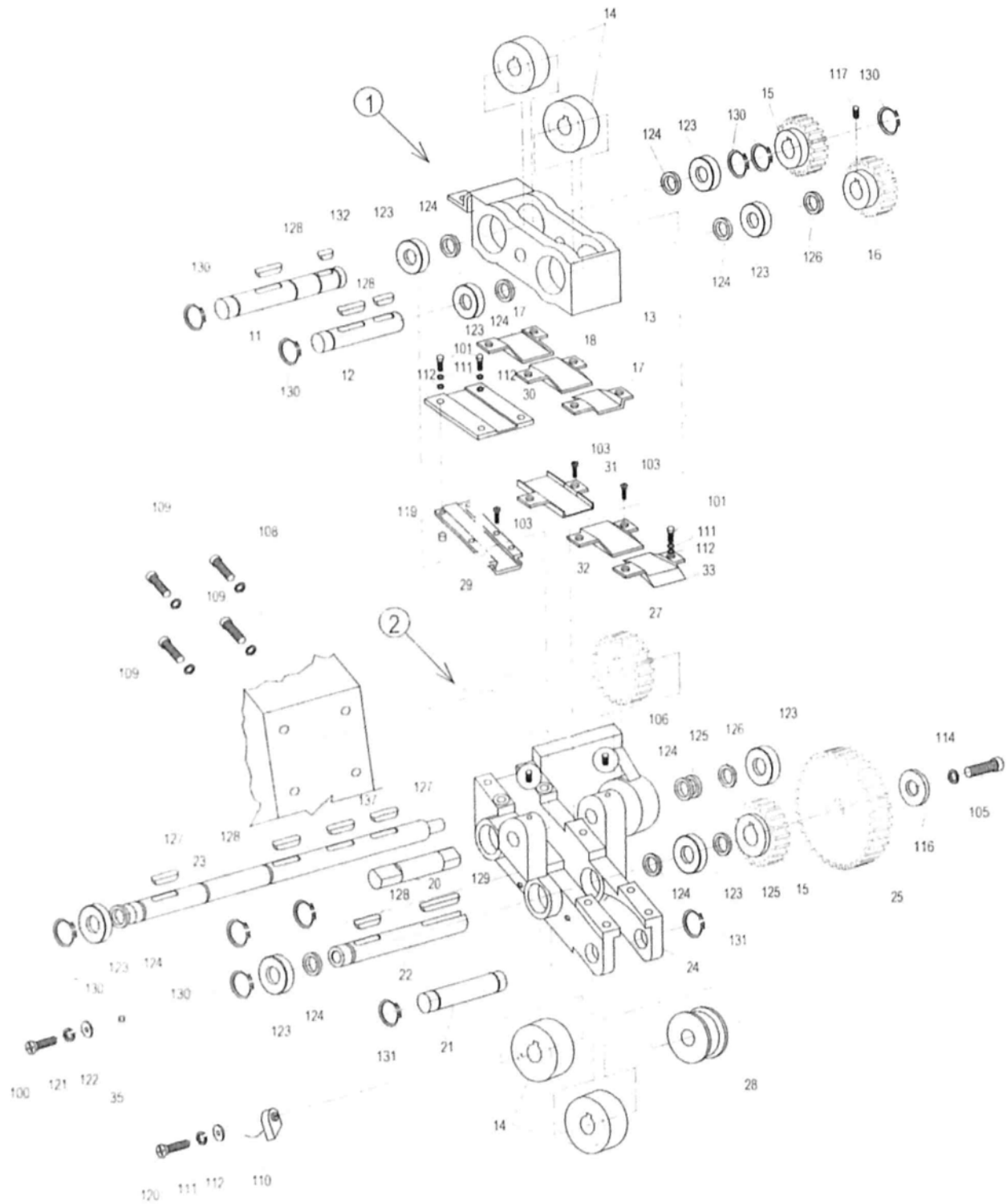
FIGURE 2.DRIVE AND CAM ASSEMBLIES

PARTS LIST, FIGURE 3

STRAP FEED/TENSION ASSEMBLY

KEY	QTY	PART NO.	DESCRIPTION	FPS-500-030
1		4-03011	BEARING HOUSING, UPPER UNIT (ALUMINIUM)	
2		4-03021	BEARING HOUSING. LOWER UNIT (ALUMINIUM)	
11		4-03010-110	Roller shaft 15*85	
12		4-03010-120	Roller shaft 15*66	
13		4-03010-130	Bearing housing, upper	
14.1	2	4-03010-140	Steel roller	
142	2	4-03010-142	Steel roller	
15	2	4-03010-150	Nylon gear, 20 teeth	
16	1	4-03010-160	Gear	
17	2	4-03010-170	Strap guide	
18		4-03010-180	Strap guide	
20		4-03020-200	Pin	
21		4-03020-210	Roller shaft 10*49	
22		4-03020-220	Roller shaft 15*85	
23		4-03020-231	Tightness adjustment shaft 15*285	
24		4-03020-240	Bearing housing, lower	
25		4-03020-250	Nylon gear, 40 teeth	
27		4-03020-270	Plastic gear	
28		4-03020-280	Plastic roller	
29		4-03020-290	Strap guide	
30		4-03020-300	Strap guide	
31		4-03020-310	Strap guide	
32		4-03020-320	Strap guide	
33		4-03020-330	Strap guide	
35		4-03020-350	Magnet	
100		200E03016	Phillips head machine screw M3*16	
101	6	200E04008	Phillips head machine screw, M4*8	
103	12	200F04008	Flat head cap screw, M4*8	
105	1	200A05012	Socket head cap screw. M5*12	
106	2	200G05008	Socket head set screw. M5*8	
108	4	202B06	Lock washer, M6	
109	4	200A06020	Socket head cap screw, M6*20	
110	1	104Y002	Inductor SK3-X	
111	7	202B04	Lock washer. M4	
112	7	202A0410	Plain washer. M4*10	
114	1	202B05	Lock washer. M5	
115	1	202A0512	Plain washer. M5*12	
116	1	202A062120	Plain washer. M6'21*2	
117	1	200G06008	Socket head set screw, M6*8	
119	2	201A04	Hex nut. M4	
120	1	200E04020	Phillips head machine screw, M4*20	
121	1	202B03	Lock washer, M3	
122	1	202A0308	Plain washer. M3*8	
123	8	210A6002ZZ	Ball bearing, 6002ZZ	
124	7	202F152205	Plastic circllet, M15*22*5	
125	6	202F172910	Plastic circllet. M17*29*10	
126	10	202F152204	Plastic circllet. M15*22*4	
127	2	213A0505012	Key. 5*5*12	
128	6	213A0505016	Key, 5*5*16	
129	1	213A0505030	Key, 5*5*30	
130	9	212AS15	Ring, S-15	
131	2	212AS10	Ring, S-10	
137	1	213A0505010	Key, 5*5*10	

FIGURE 3. STRAP FEED/TENSION ASSEMBLY

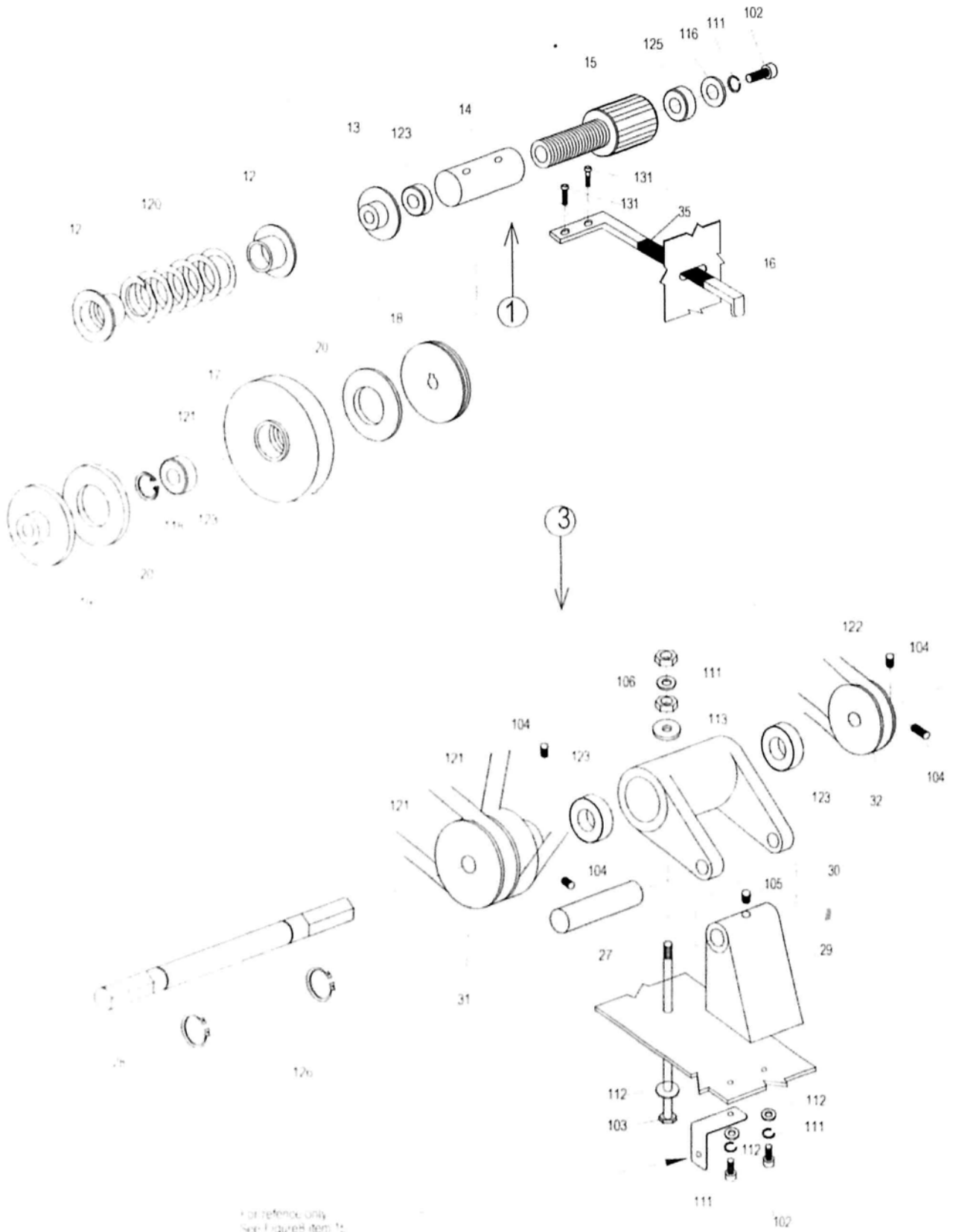


PARTS LIST, FIGURE 4

TENSION ADJUSTMENT AND SENSING ASSEMBLY

KEY	QTY	PART NO.	DESCRIPTION	FPS-500-040
1	1	4-04010	TIGHTNESS DIRECTOR UNIT	
3	1	4-04031	TRANSMISSION BRACKET UNIT	
12	2	4-04000-120	Spring guide	
13	1	4-04010-130	Tightness adjustment cover	
14	1	4-04010-140	Tightness adjustment sleeve	
15	1	4 04010-150	Tightness adjustment nut	
16	1	4-04010-160	Tightness director	
17	1	4-04000-170	Tightening pulley	
18	1	4-04000-180	Tightening pulley	
19	1	4-04000-190	Tightening pulley	
20	2	4-04000-200	Clutch disc	
27	1	4-04030-270	Transmission bracket pin	
28	1	4-04030-281	Transmission bracket shaft 15*123	
29	1	4-04030-291	Transmission bracket (aluminium)	
30	1	4-04030-301	Transmission bracket	
31	1	4-04030-311	Pulley	
32	1	4-04030-321	Pulley	
35	1	4-04000-350	Plastic sleeve	
101	2	200A06020	Socket head cap screw, M6*20	
102	3	200A06016	Socket head cap screw, M6*16	
103	1	200C06070	Hex bolt, M6*70	
104	2	200G06010	Socket head set screw, M6*10	
105	1	200G06006	Socket head set screw, M6*6	
106	5	201A06	Hex nut, M6	
111	6	202B06	Lock washer, M6	
112	7	202A061620	Plain washer. M6*16*2	
113	4	202A0613	Plain washer, M6*13	
116	1	202A062120	Plain washer, M6*21*2	
118	1	212AR32	Ring. R-32	
120	1	2214239052	Compression spring, 4.2*39*52	
121	2	214AK019	V-belt, K-19	
122	1	214AM030	V-belt, M-30	
123	4	210A6002ZZ	Ball bearing, 6002ZZ	
125	1	210A6000ZZ	Ball bearing, 6000ZZ	
126	2	212AS15	Ring, S-15	
131	2	200A05008	Socket head cap screw, M5*8	

FIGURE 4. TENSION ADJUSTMENT AND SENSING ASSEMBLIES



PARTS LIST, FIGURE 5

HOT-KNIFE AND TENSION LEVER ASSEMBLIES

KEY	QTY	PART NO.	DESCRIPTION	FPS-500-050
1		4-05010	HEATER ARM UNIT	
2		4-05020	HEATER HEAD UNIT	
3		4-05030	TENSION LEVER UNIT	
4		4-05040	STRAP GUIDE UNIT, ENTRY	
5		4-05050	STRAP GUIDE UNIT, EXIT	
11		4-05010-110	Heater arm side plate	
12		4 05010-120	Heater arm	
13		4-05010-130	Heater arm screw	
14		4-05020-140	Heater blade holder	
15		4-05020-150	Instant heating heater plate	
16		4-05030-160	Adjustable nut	
17		4 05030-170	Tension lever	
18		4 05000-180	Solenoid shaft assy	
21		4 05000-210	Spring cover	
22		4-05000-220	Bracket	
23		4-05000-230	Feed back arm screw	
26		4-05050-260	Strap guide, exit	
27		4-05050-270	Strap guide adjuster, exit	
28		4-05050-280	Guide nut, M4	
29		4 05040-290	Strap guide adjuster, entry	
30		4-05040 300	Strap guide, entry	
31		4-05030-310	Protuberant sleeve	
101		200C06090	Hex bolt, M6*90	
102		200C06100	Hex bolt, M6* 100	
103		200A06050	Socket head cap screw. M6*50	
104		200E04016	Phillips head machine screw, M4*16	
105	5	200A05012	Socket head cap screw, M5*12	
106	9	202B05	Lock washer. M5	
107	2	201A04	Hex nut, M4	
108	5	201A05	Hex nut, M5	
109	2	202B04	Lock washer, M4	
110	13	201A06	Hex nut, M6	
111	7	202B06	Lock washer. M6	
112	1	201A08	Hex nut. M8	
113	2	202B08	Lock washer, M8	
114	1	200E04015	Phillips head machine screw. M4*15	
115	2	200A04025	Socket head cap screw. M4*25	
116	8	200C05012	Hex bolt. M5* 12	
117	9	202A0512	Plain washer. M5*12	
118	2	202A0613	Plain washer, M6*13	
119	1	202A0409	Plain washer, M4*9	
120	4	202A061620	Plain washer, M6*16*2	
121	1	202A062120	Plain washer, M6*21*2	
122	1	2200505006	Heater spring, 0.5*0.5*6.5	
123	1	2201011022	Tension spring, long 1*10.8*22	
124	2	2210812051	Compression spring, 0.8*12*51	
125	2	210A0635ZZ	Ball bearing, 6352Z	
126	1	2214024039	Compression spring. 4*24*39	
127	1	212AE12	Ring, E-12	
129	1	2211610026	Compression spring. 1.6*10*26	
130	2	211A0440	Spring pin. 4 dia.*40	
131	1	211A0520	Spring pin. 5 dia *20	
132	1	103T024 1	Solenoid 24VDC	
133	1	227A02016	Rubber washer, (016)	
134	4	200C04010	Hex bolt, M4*10	
135	4	200M05012	Hex bolt with washer, M5*12	

Exploded view diagram of a mechanical assembly. The diagram shows various components labeled with numbers 1 through 135. Key parts include a main housing (18), a base plate (15), and several smaller brackets and fasteners. Assembly instructions are provided for specific components:

- SEE FIGURE 1, ITEM 11 (near part 4)
- SEE FIGURE 9, ITEM 16 (near part 2)

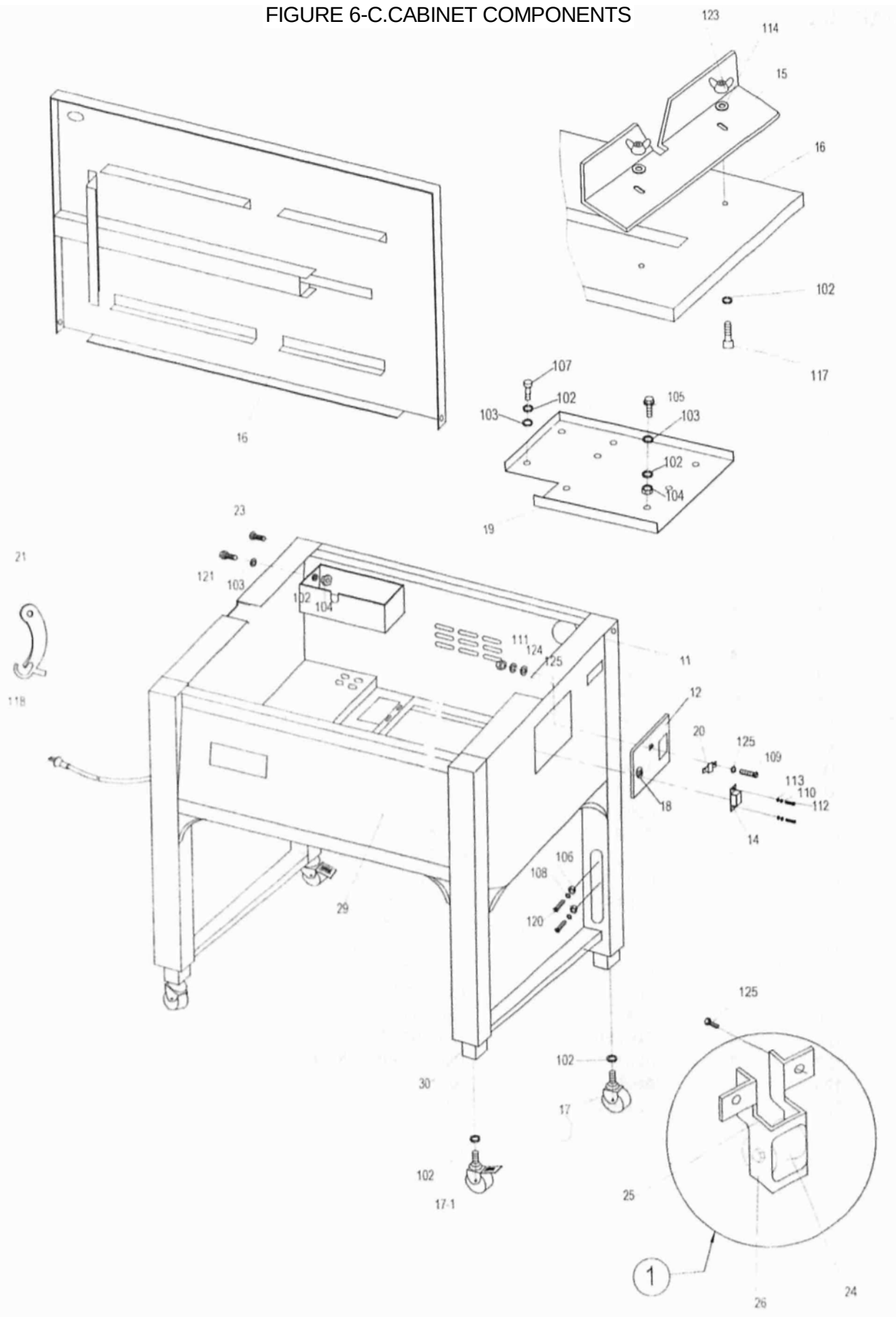
POSITION REFERENCE
UNITS SEE FIGURE 2

* POSITION REFERENCE
UNIT = SEE FIGURE 1

PARTS LIST, FIGURE 6-C CABINET COMPONENTS

KEY	QTY	PART NO.	DESCRIPTION	FPS-503-062C
1	1	4-06010	PLASTIC ROLLER BRACKET UNIT	
11	1	4-06200-112	Body	
12	1	4-06200-121	Door	
14	1	297E0010	Door magnet	
15	1	4-06000-151	Plastic package stop	
16	1	4-06201-160	Stainless steel top cover	
17	2	229D16075CH-GY	Wheel swivel 75mm	
17.1	2	229E16075CH-GY	Wheel fixed 75mm	
18	1	4-06000-180	Door holder	
19	1	4-06000-191	Sustaining plate	
20	1	4-06000-200	Guide plate	
21	1	4-06400-211	Hinge	
23	1	4-06000-230	Top cover screw	
24	1	4-06010-240	Plastic roller	
25	1	4-06010-250	Roller pin	
26	1	4-06010-260	Roller frame	
29	1	4-06200-291	Control panel	
30	4	4-06200-300	Leg	
35	1	4-06000-352	Bracket	
101	25	200C06012	Hex bolt, M6*12	
102	21	202B06	Lock washer, M6	
103	41	202A0613	Plain washer. M6*13	
104	16	201A06	Hex nut, M6	
105	4	200C06020	Hex bolt, M6*20	
106	8	201A08	Hex nut, M8	
107	2	200A06020	Socket head cap screw. M6*20	
108	8	202A0816	Plain washer, M8*16	
109	2	200E04012	Phillips head machine screw, M4*12	
110	8	202B03	Lock washer, M3	
111	2	201A04	Hex nut, M4	
112	2	200E03010	Phillips head machine screw. M3*10	
113	8	202A0308	Plain washer, M3*8	
114	2	202A061620	Plain washer, M6"16*2	
117	2	200A06012	Socket head cap screw, M6*12	
118	1	118	CABLE	
120	8	200C08020	Hex bolt, M8*20	
121	1	200F06020	Flat head cap screw. M6*20	
123	2	201K06	Wn M6	
124	2	202B04	Lock washer, M4	
125	4	202A0409	Plain washer, M4*9	

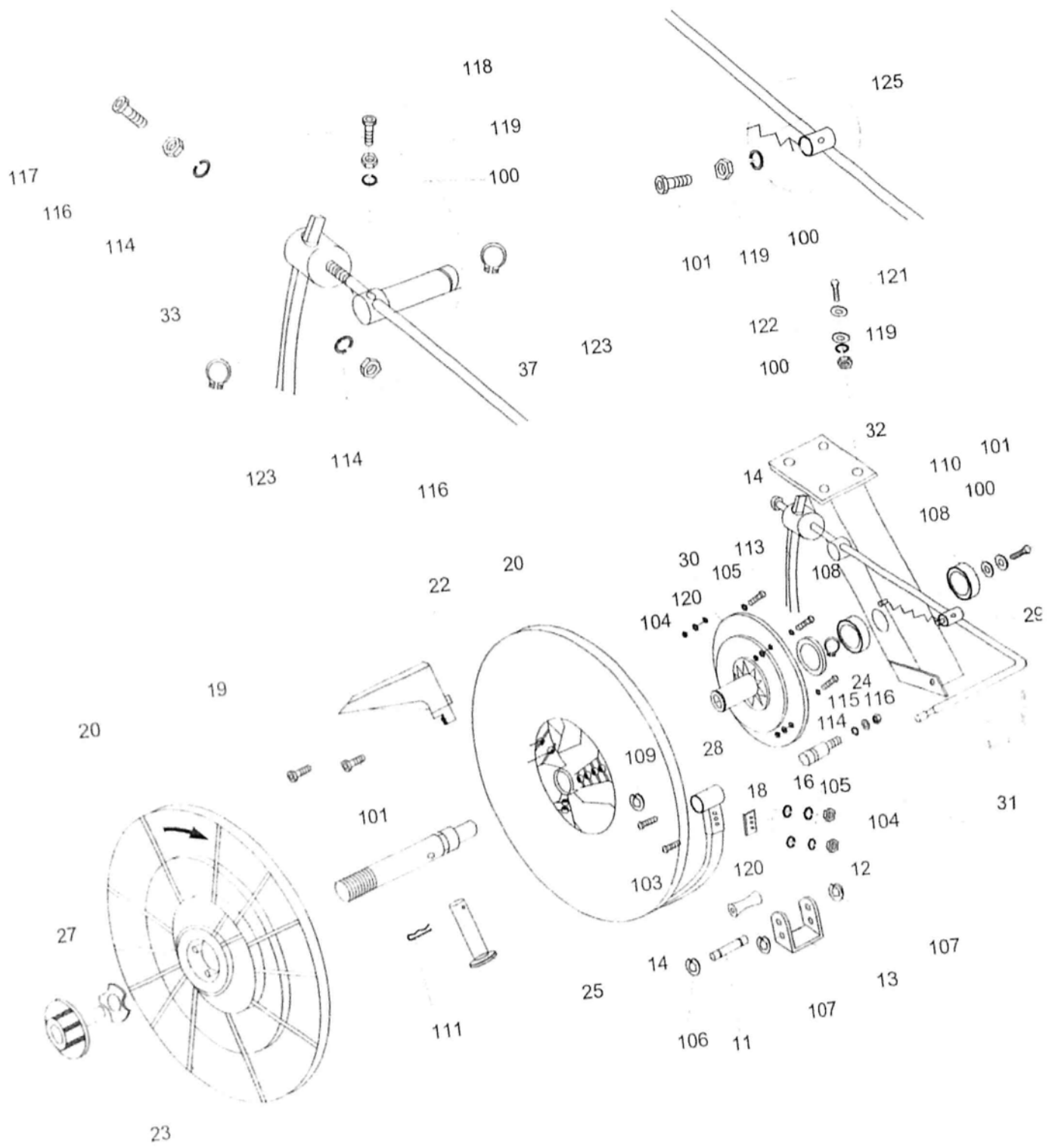
FIGURE 6-C.CABINET COMPONENTS



PARTS LIST, FIGURE 8-2 DISPENSER ASSEMBLIES

KEY	QTY	PART NO.	DESCRIPTION	FPS-503-082
1	1	4-08200	REEL BRAKE UNIT	
2	1	4-08210	PLASTIC FLANGE UNIT	
11	1	4-08000-110	Pin	
12	1	4-08000-120	Plastic roller	
13	1	4-08000-130	Roller frame	
14	1	4-08200-140	Brake belt	
16	1	4-08200-160	Belt pin	
17	1	4-08200-170	Brake arm	
18	1	4-08200-180	Belt holder plate	
19	1	4 08200-190	Reel shaft	
20	2	4-07000-110	Plastic flange	
22	1	4 07000-130	Reel center claw	
23	1	4-07000-150	Y-type washer	
24	1	4-07000-160	Plain washer M40*3	
25	1	4-07000-170	Pin	
27	1	4-07000-190	Reel nut handwheel	
28	1	4-08200-280	Brake belt tightener	
29	1	4-08200-290	Spring pillar	
30	1	4 08200-300	Reel brake pulley	
31	1	406400-330	Plastic bracket	
32	1	4 08200-320	Reel brake bracket	
33	1	4-08200-330	Brake shaft	
37	1	4-08500-370	Brake arm fixed shaft	
100	7	202B06	Lock washer, M6	
101	7	200A06020	Socket head cap screw, M6*20	
102	1	212AS25	Ring, S-25	
103	4	200E04025	Phillips head machine screw, M4*25	
104	8	201A04	Hex nut, M4	
105	14	202A0409	Plain washer, M4*9	
106	2	212AE04	Ring, E-4	
107	1	212AS10	Ring, S-10	
108	2	210A6003ZZ	Ball bearing, 6003ZZ	
109	1	212AS15	Ring, S-15	
110	3	202A0613	Plain washer, M6*13	
111	1	212CR08	Snap pin-R08	
113	6	200E04016	Phillips head machine screw, M4*16	
114	3	202B08	Lock washer, M8	
115	1	202A0816	Plain washer, M8*16	
116	3	201A08	Hex nut, M8	
117	1	200A08030	Socket head cap screw, M8*30	
118	1	200A06016	Socket head cap screw, M6*16	
119	5	201A06	Hex nut, M6	
120	8	202B04	Lock washer, M4	
121	4	200C06025	Hex bolt, M6*25	
122	8	202A061620	Plain washer, M6*16*2	
123	2	212AS20	Ring, S-20	
125	1	2201213047	Brake spring, 1 2*13*47	

FIGURE 8-2. DISPENSER ASSEMBLY



PARTS LIST, FIGURE 10-2

CONTROL BOX ASSEMBLY

KEY	QTY	PART NO.	DESCRIPTION	FPS-500-102
11	1	4-10200-110	Control box	
12	1	4-10200-120	Control box cover	
17	1	PC-FP-30B01	Control PC board assy. FP-30B01	
102	1	103B1122035	Transformer, 110V/22V 35VA	
102		103B2222035	Transformer, 220V/22V 35VA	
104		115C0802	Circuit Protector, ZE-800, 8A, 250V 50/60Hz	
104	1	115C1502	Circuit Protector, ZE-800, 15A, 250V 50/60Hz	
105		115C0202	Circuit Protector, ZE-800, 2A, 250V50/60Hz	
105	1	115C0302	Circuit Protector, ZE-800, 3A, 250V50/60Hz	
106	1	115C0202	Circuit Protector, ZE-800, 2A. 250V50/60Hz	
108	4	200E03006	Phillips head machine screw, M3*6	
109	4	153J002	Speed clamp	
110	2	200A06016	Socket head cap screw, M6*16	
111	4	202A0612	Plain washer, M6*12	
112	4	200F03012	Flat head cap screw, M3*12	
113	8	202B03	Lock washer, M3	
114	8	201A03	Hex nut, M3	
115	1	PC-FP-30S	Control PC Board Asse.FP-30S	
116	1	108BK500	Potentiometer, adjustable VR-500K(24D)	
122	1	153K0619R	Knob	

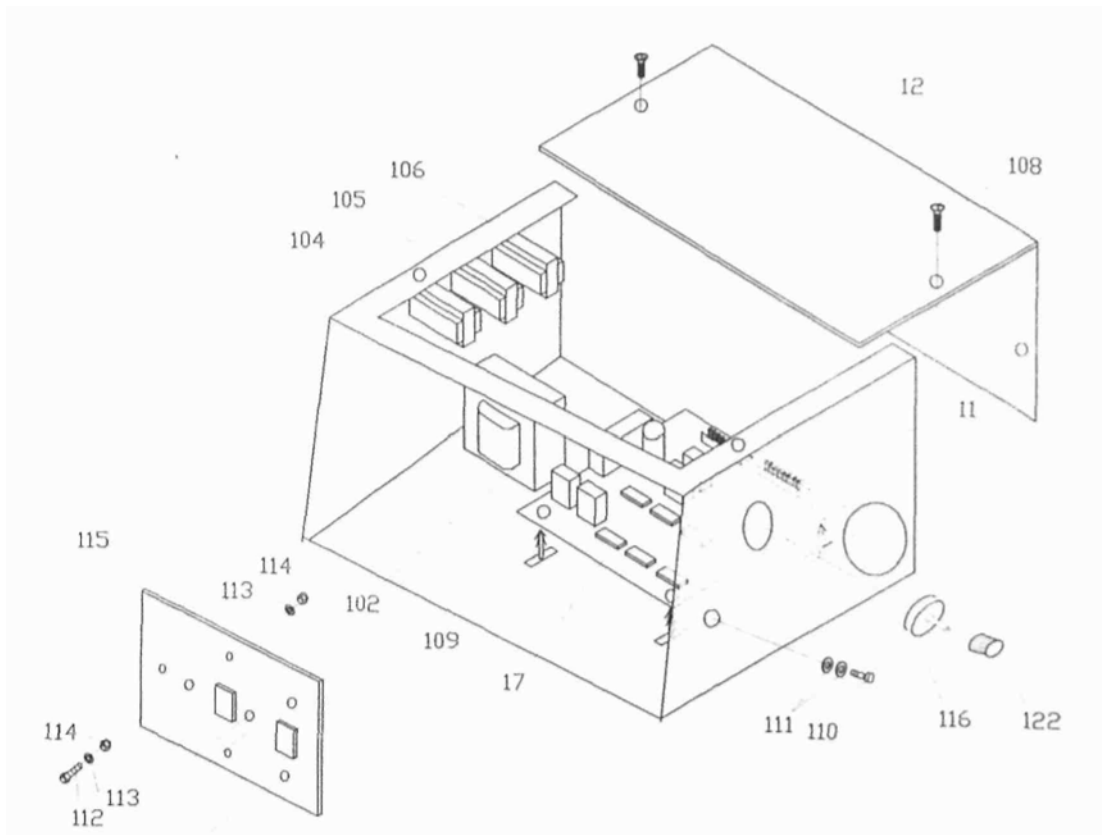
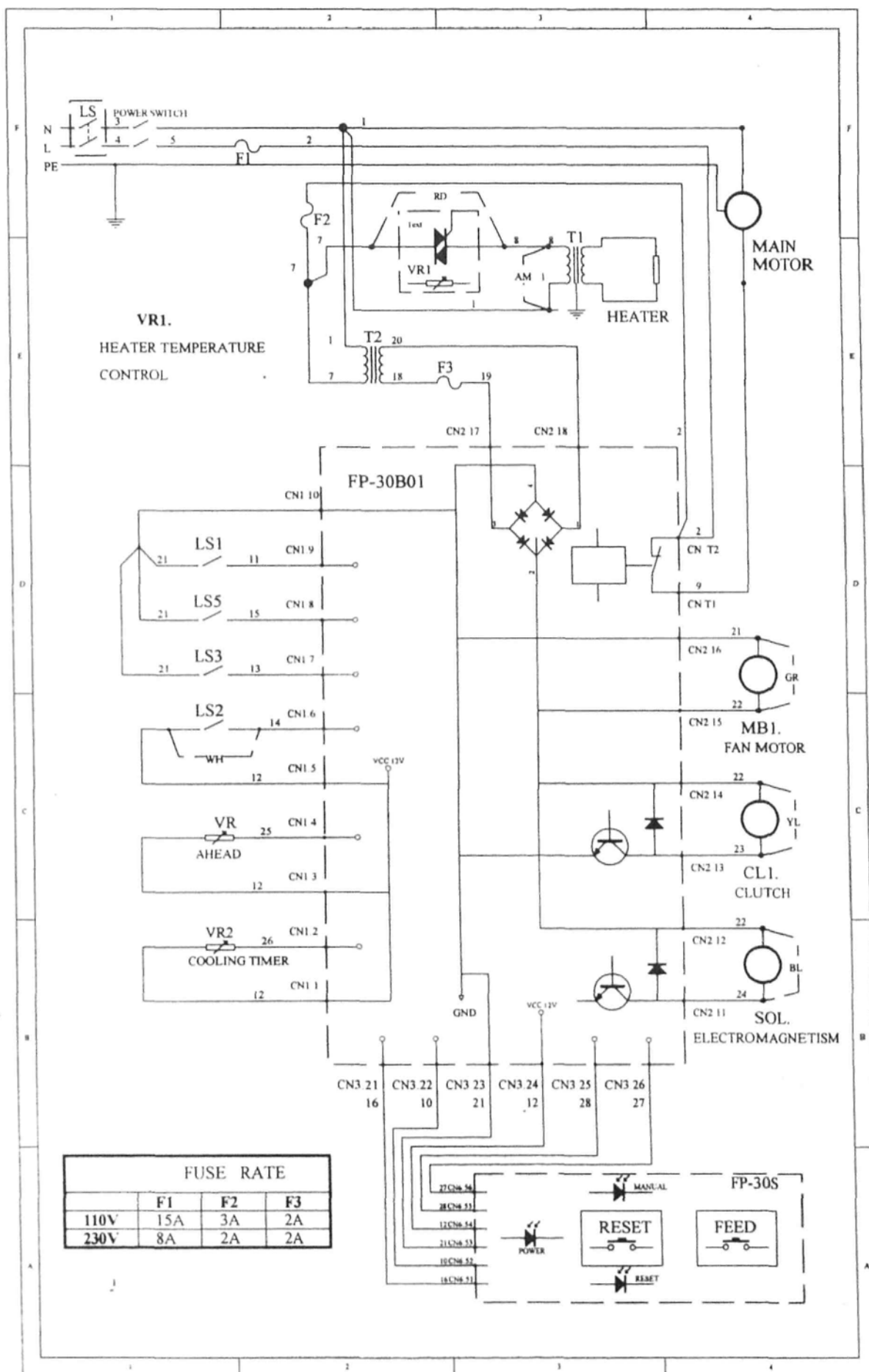


FIGURE 10-2. CONTROL BOX ASSEMBLY



	FUSE RATE		
	F1	F2	F3
110V	15A	3A	2A
230V	8A	2A	2A

PARTS LIST, FIGURE 9-5

ELECTRICAL COMPONENTS

KEY	Q'TY	PART NO	DESCRIPTION	FPS-500-095
1	1	4-09010	SMOKE FAN UNIT	
2	1	4-09020	INSTANT HEATING TRANSFORMER UNIT	
12	Option	4-09041-120	Switch holder	
13	1	4-09010-132	Fan bracket	
14	1	4-09010-143	Protect cover	
15	1	4-09010-151	Protect cover bracket	
16	2	4-09020-160	Instant heating cable	
17	2	4-09020-170	Insulating tube	
18	1	4 09020-180	Transformer foot	
19	1	4-09000-190	Heating transformer cover	
41	Option	4-09041-121	Switch Dog	
104	2	200F05030	Flat head cap screw. M5*30	
106	10	202B04	Lock washer, M4	
107	10	201A04	Hex nut, M4	
108	2	202B05	Lock washer, M5	
109	4	201A05	Hex nut, M5	
112	12	202A0410	Plain washer. M4*10	
113	6	200E04010	Phillips head machine screw, M4*10	
115	2	200E04015	Phillips head machine screw M4*15	
116	4	202B04	Lock washer, M4	
118	6	201B04	Hex nut. M4	
119	1	104A001B	Power switch	
120	1	254A0011	Label	
121	1	108BK500	Potentiometer, adjustable VR-500K(24D)	
122	1	153K0617B	Knob	
124	1	116AD024	Smoke fan, 24VDC 80*80	
125	1	103A1101	Instant heating transformer. 110V 1V	
125		103A2201	Instant heating transformer 220/230V 1V	
125		103A2401	Instant heating transformer 240V- 1V	
126	Option	104Y1638	Cut safety switch XK-1099	
127	1	153K0619R	Knob	
128	1	PC-FP-24D03-11060	Heating PC board assy. FP-24D03 110V/60HZ	
128		PC-FP-24D03-22050	Heating PC board assy. FP-24D03 220V/50HZ	
128		PC-FP-24D03-22060	Heating PC board assy. FP-24D03 220V/60HZ	
128		PC-FP-24D03-24050	Heating PC board assy FP-24D03 240V/50HZ	



WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect a tool's operation and present a safety hazard.

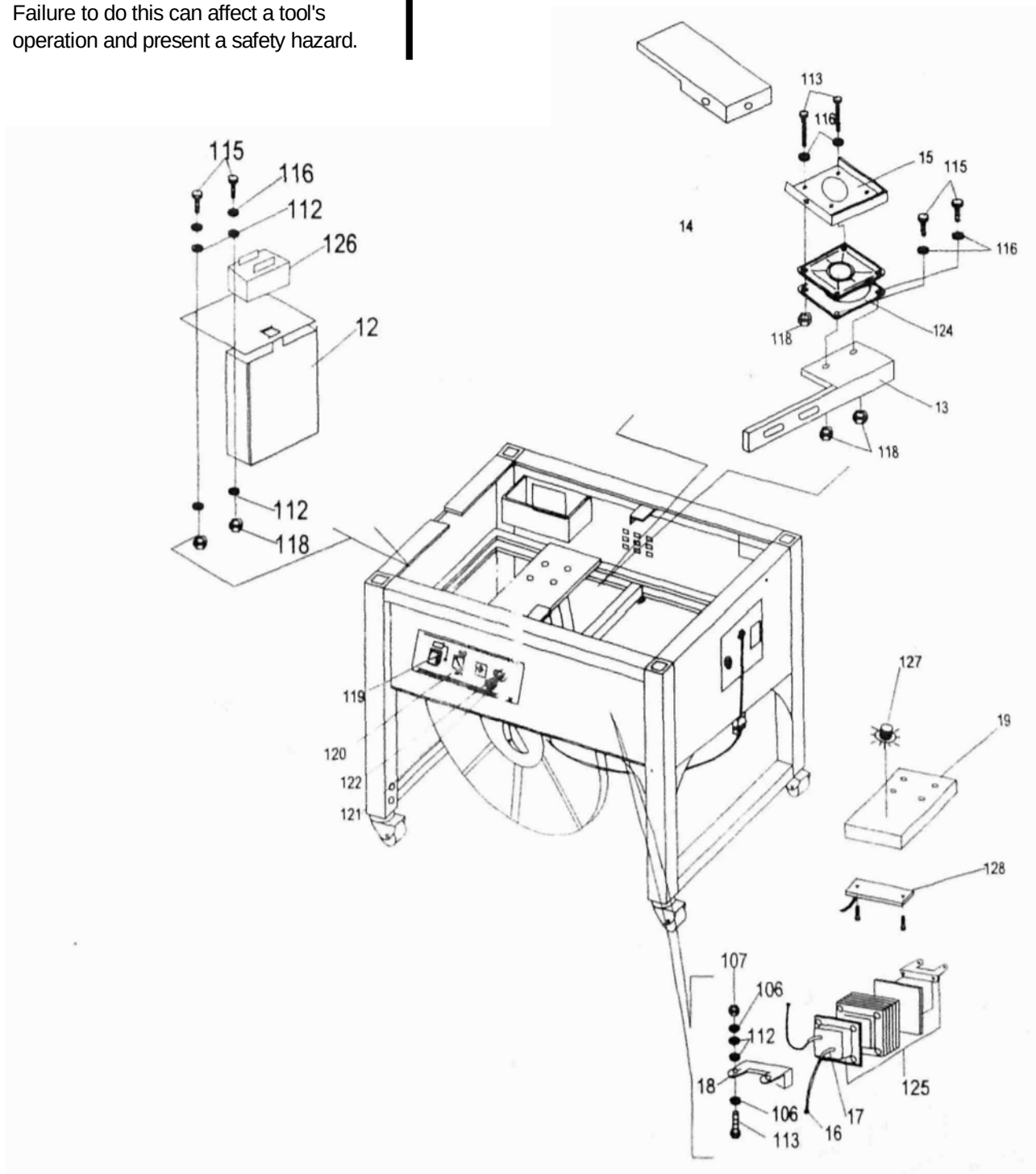
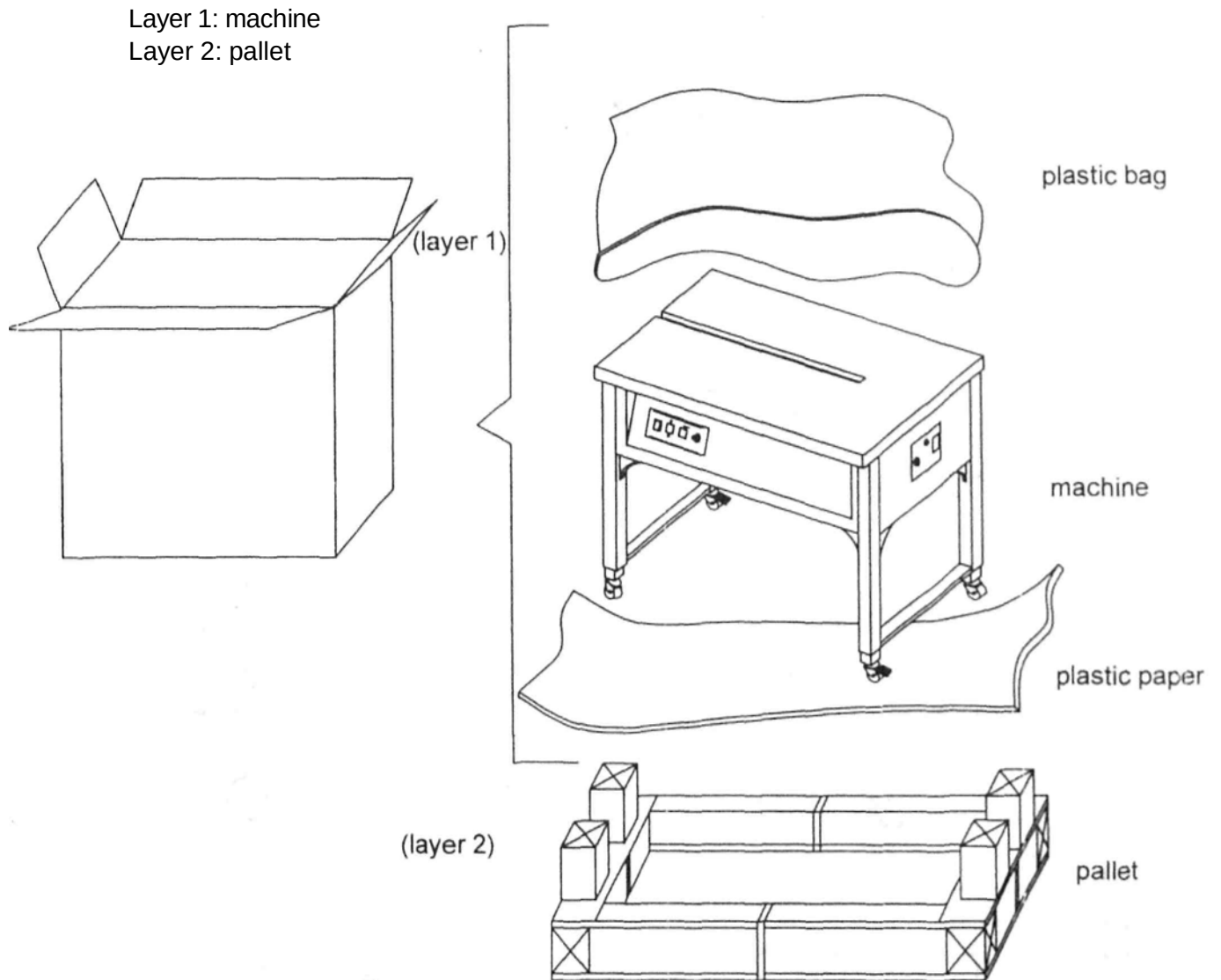


FIGURE 9-B.ELECTRICAL COMPONENTS

MACHINE PARTS LAYING SKETCH



(FIGURE 1)

The way to pack machine(206):

1. First, put the paper-board on the pallet;
2. Set the machine on the paper-board;
3. To pack machine with PE film;
4. Use plastic bag to pack machine;
5. Seal the paper box with adhesive film;
6. Use PP band to pack the machine and the pallet together.



CAUTION

Before plugging in, open the operating cover / table and take out the anti-rusty bag and the drier laid on the sealer unit.