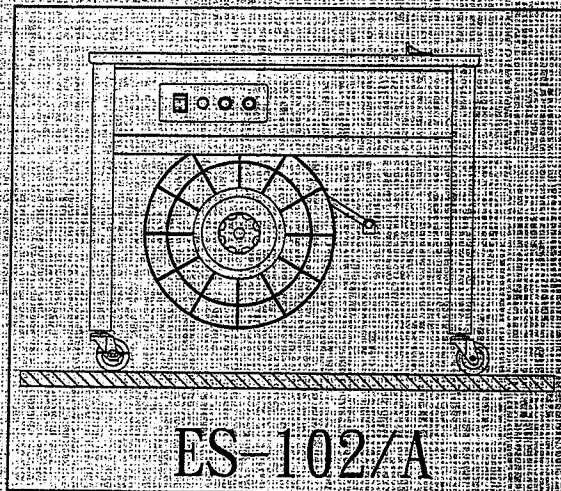
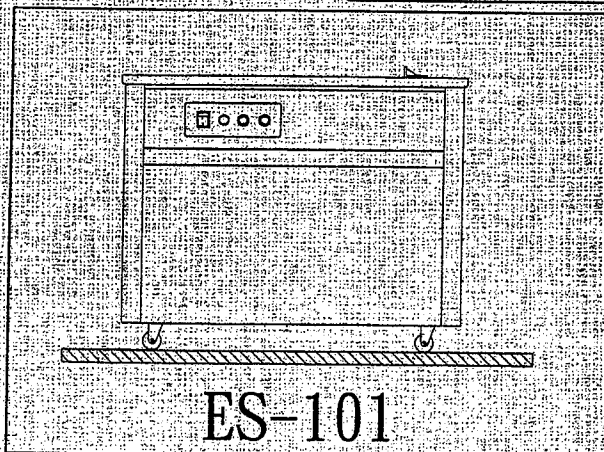


# Semi-auto strapping machine

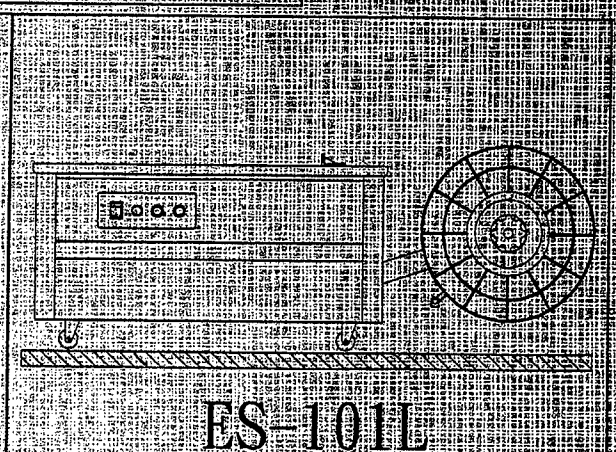
## Operating manual and spare parts list



ES-102/A



ES-101



ES-101L

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1. General.....	1.1
2. Technical data.....	1.2
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4. Operating .....	2.2
5. Maintenance .....	2.3
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**Spare parts list**

1. Control unit .....	5.0~5.3
2. Frame & reel unit (ES-101) .....	6.0~6.1
3. Frame & reel unit (ES-102/A) .....	7.0~7.1
4. Frame & reel unit (ES-101L) .....	8.0~8.1
5. Electric control unit.....	9.0~9.3

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### • Description

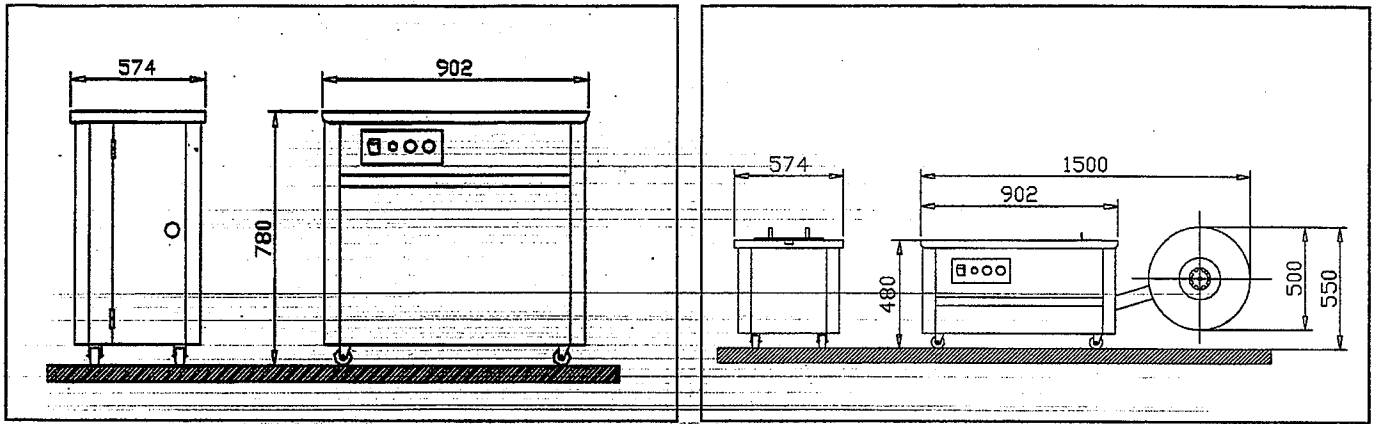
- The light and compact design allows easy transportation and operation in a very small space.
- A single motor powers these models assuring stable operation even if the voltage drops.
- Strap widths to 6-15.5 mm can be easily adjusted by loosening only two screws.
- Different strap guides are available to allow use of 6-15.5 mm strap widths.
- The cams, feeding and tensioning systems are designed to eliminate strap splitting, bending and scratching.
- The narrow sealing head allows strapping of irregular and cylindrical goods.
- Automatic refeeding of the strap. The operator needs only to place the strap around the goods and insert into the slot. No training is required.
- These models require only the most basic maintenance. Electrical and mechanical components are designed for easy replacement.

## Safety rules

### • General information and instructions

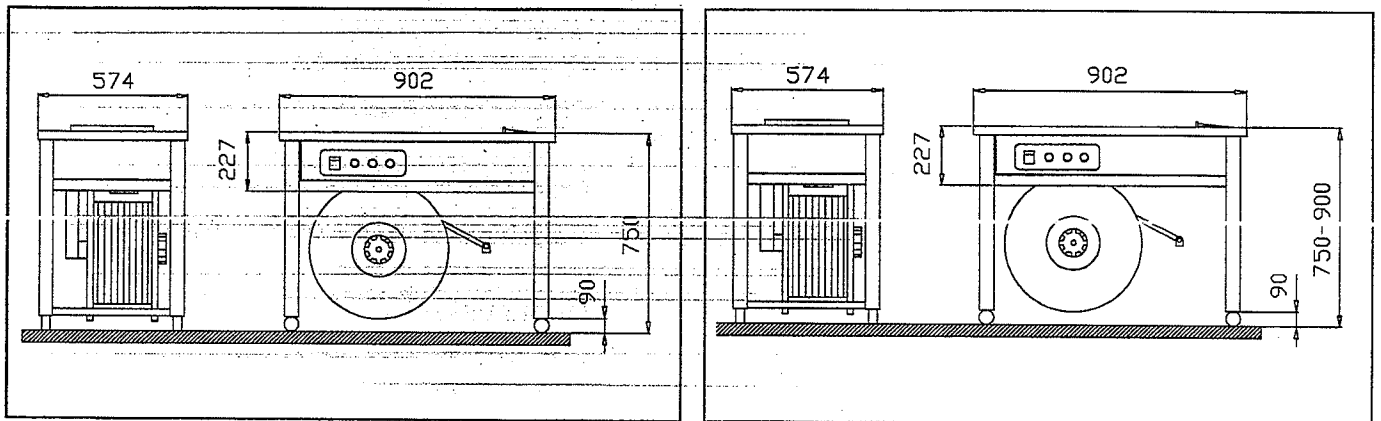
- It is prohibited for unauthorized persons to use the machine!
  - Observe all safety precautions and warnings signs.
  - Do not remove or override any safeguards.
  - Do not clean the machine or try to affect repairs while it is in operation → main switch to off!
  - Do not touch the welding element tongue if the machine has been switched on (operating temperature exceeds 280°C).
  - After performing adjustment, machine sure to reinstall the cover panels.
  - In case of fire it is strictly prohibited to use water for the extinction.
  - Never put any heavy article on power cord which could cause fire or electric shock.
  - Follow the instructions provided in this manual.
- Attention:**
- Before removing any enclosures for maintenance or service always pull out the power plug.

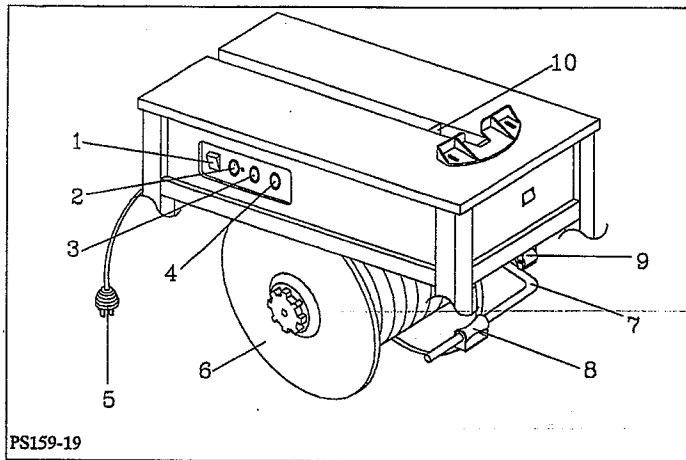
## Technical data



### Semi-automatic strapping machine

- Capacity: approx. 12 strapping/minute
- Min. package size: 60 x 30 mm
- Max. package size: any size
- Strap-tension: 150 - 450 N
- Strap width: (6, 9), 12 and 15.5 mm
- Strap dispenser: Inside diameter of coil 200, 230 and 280 mm
- Perceived noise level: approx. 70dBA
- Power consumption: approx. 0,77kW
- Power connection: 110V/60Hz/1Ph  
230V/50Hz/1Ph
- Dimensions: see drawing





- |                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>1. Main switch</b><br/>“1” Power ON.<br/>“0” Power OFF</p> <p><b>2. Length knob</b><br/>The length of the strap be fed out can be pre-set automatically by adjusting the knob.</p> <p><b>3. Reset push button switch</b><br/>Aggregate start a cycle.</p> <p><b>4. Feed push button switch</b><br/>To feed strap out of machine freely.</p> | <p><b>5. Power plug</b><br/>To be connected to a power source.</p> <p><b>6. Strap dispenser</b><br/>A roll of strap is mounted here.</p> <p><b>7. Brake arm</b><br/>Prevent over-ration of the strap reel</p> <p><b>8. Strap guide for brake</b><br/>The strap is threaded through this guide</p> | <p><b>9. Idle strap guide</b><br/>The strap is passed through this guide</p> <p><b>10. Strap insertion inlet</b><br/>The free end of the strap should be inserted here to initiate the tensioning and cutting cycle.</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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— Turn the timer knob to determine the length of strapping supplied for next cycle. Timer graduations are provided from 0 to 5 seconds. The length of strap fed out in one second is approx. 1 meter.

— Place a package on the top of the machine, and pass the free end around the package; insert the leading end of the strapping into the strapping inlet until the leading end is detected.

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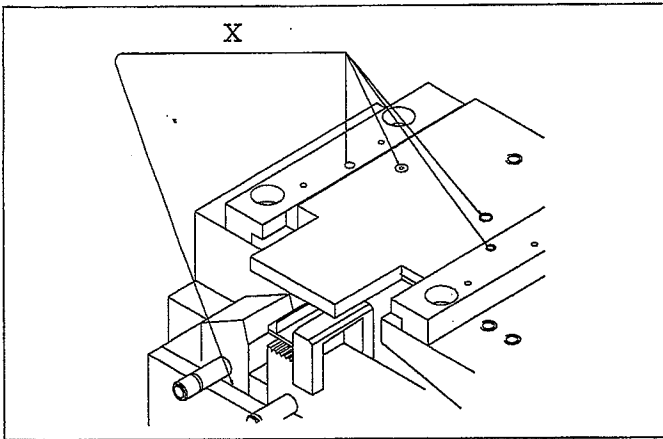
— Tightening of strapping starts as soon as the strap is detected and the heat sealing process automatically takes place after completion of tightening. After these processes have been completed, a preset length of the strapping is dispensed automatically. This is one complete cycle.

— After cycle is completed, motor will turn off automatically if strapping cycle is not initiated within a given time. This time duration can be adjusted from 0 to 6 seconds by adjusting "Motor time" control located under top cover, let front cover.

Be sure to turn off the main power switch after operation is completed for the day.

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## Maintenance



### • General

- Keep the machine clean and neat at all times
- The sealer housing assembly should be blown out weekly.

#### **Attention:**

Pullout the plug before removing any enclosures for maintenance or service.

### • Lubrication

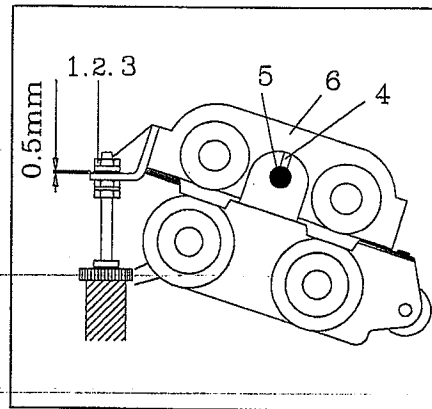
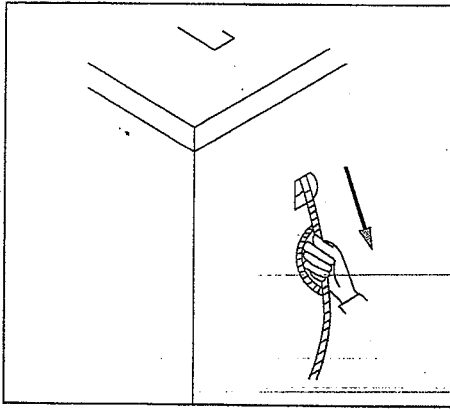
- Apply a few drops of light lubricant (Daphne Mechanic oil or equivalent) to oil holes and on sliding parts (see the diagram above) once per week.
- Change the oil of the gearbox once per year. 150 ml of Daphne oil or its equivalent should be used.

### • Replacing the fuse

Remove the top plate of the machine and the fuse from the fuse box located near relays. Replace the faulty fuse with new one.

**Be sure that the machine is disconnected from the power source when checking and replacing fuses.**

## Troubleshooting



### • The strap will not feed out

Remedy:

1. Turn the motor switch OFF.
2. Strongly pull the strap out in the tightening direction.

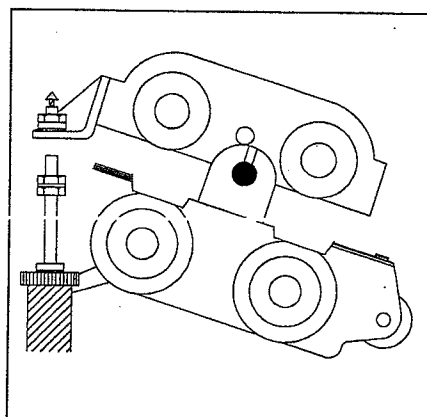
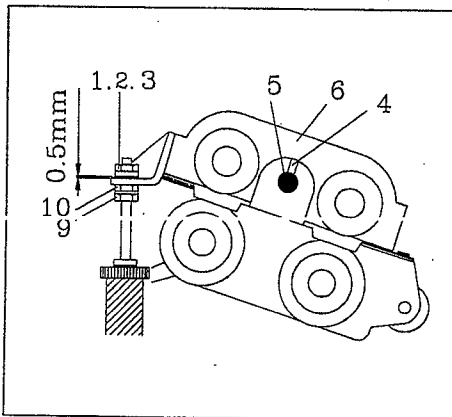
### • Strap is buckled and jammed

Remedy:

1. Remove hexagon nut (1), spring washer (2) and flat washer (3).
2. Remove set screw M4 (4).
3. Remove feed roller shaft (5).
4. Remove front-end adjust plate.

5. Lift the front of shaft holder (6) by about 24 mm.
6. Pull out the jammed strap and cut it off below the buckled section. Clean the whole section.

Re-assemble in the following order 2,1,3.



### • Strap is jammed between the roller and the guide

Remedy:

1. Remove hexagon nut (1), spring washer (2) and flat washer (3).
2. Remove set screw M4 (4).
3. Remove shaft holder.

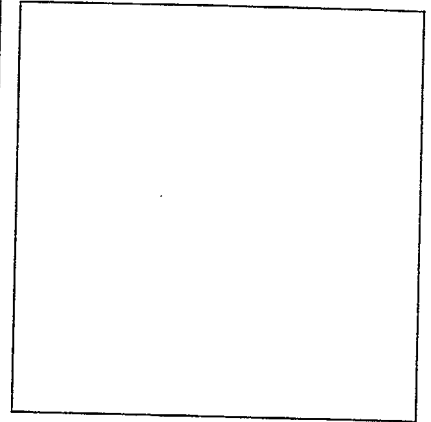
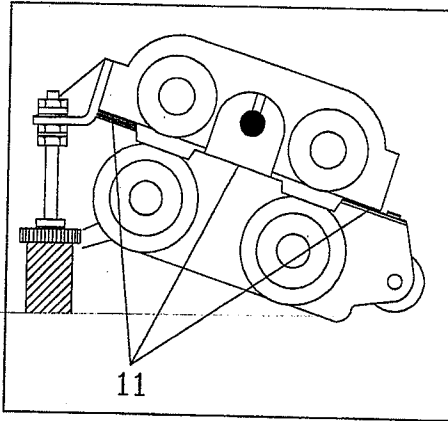
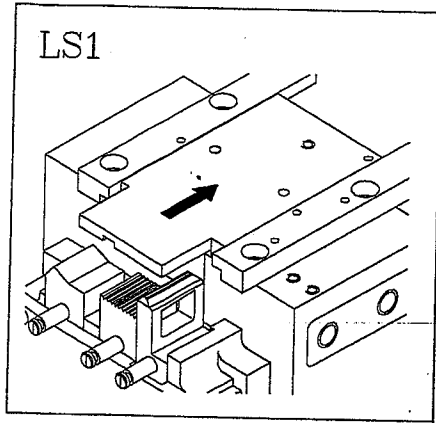
#### Attention:

You should never touch the hexagon nut (9) (painted in red). Re-assemble by reversing the disassembly instructions.

Do not over tighten the hexagon nut which should allow the holder arm (10) move up and down smoothly. The clearance

between flat washer (3) and hexagon nut (1) should be about 0.5mm.





- **The gripper is locked in the raised position**

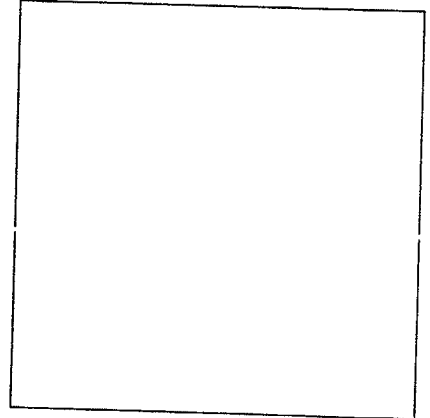
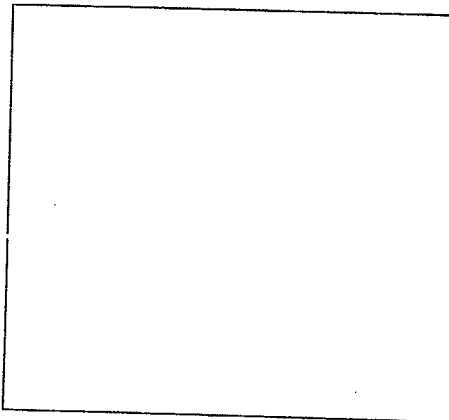
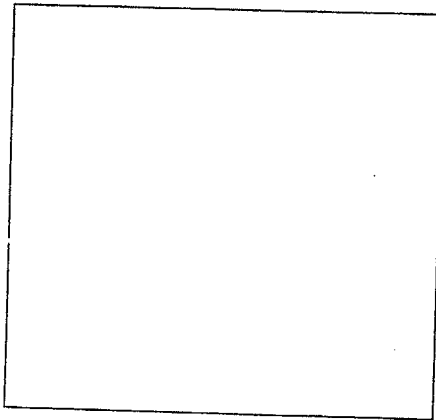
- **Remedy:**

1. Turn the motor switch OFF, then turn it on again
2. If this does not work, adjust the switch level below the slide for LS1, so that activation and disactivation of LS1 is correct.

- **The roller is wedged against the guide**

- **Remedy:**

- Remove shaft holder, loosen and set screw for fixing the guide (11), and then refix the guide with a clearance of 0.1- 0.2 mm



- **Bad sealing**

- **Remedy:**

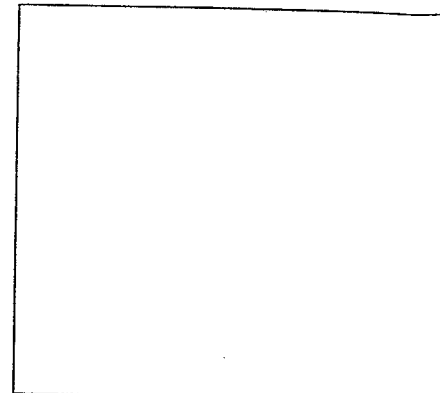
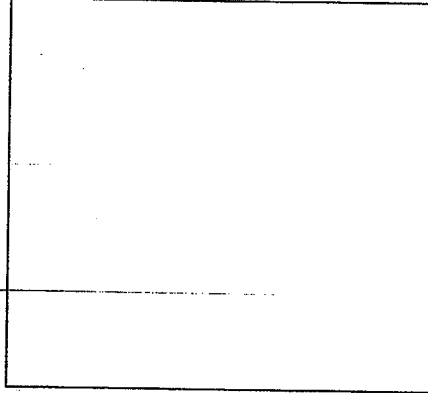
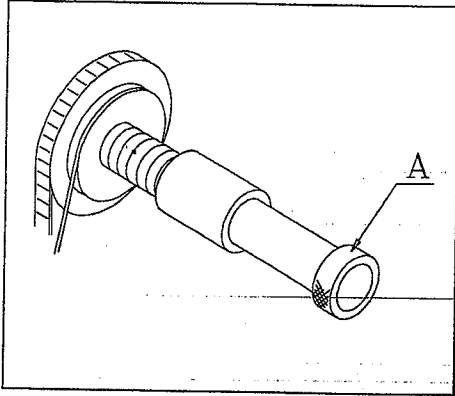
1. In most cases of poor heat-sealing, the heater temperature is either too low or too high. Make the appropriate adjustment.

- **Low heater temperature**

The strap shows no trace of having been melted and is easily peeled off. Lower the heater temperature by adjusting the control knob on the heater transformer.

- **High heater temperature**

The strap is deformed, curled or poorly aligned and not sealed.

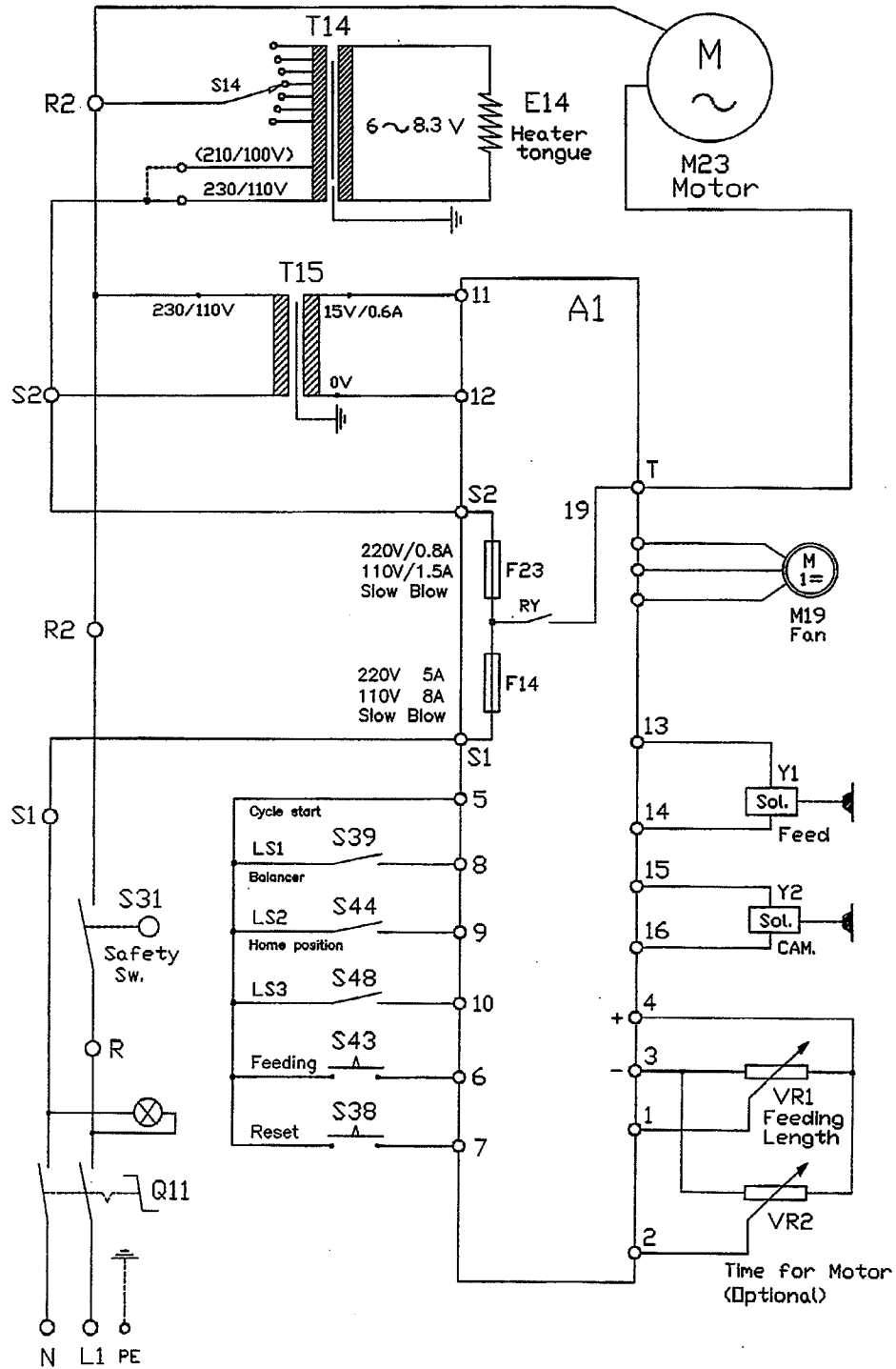


- **Strap will not reverse for tensioning**

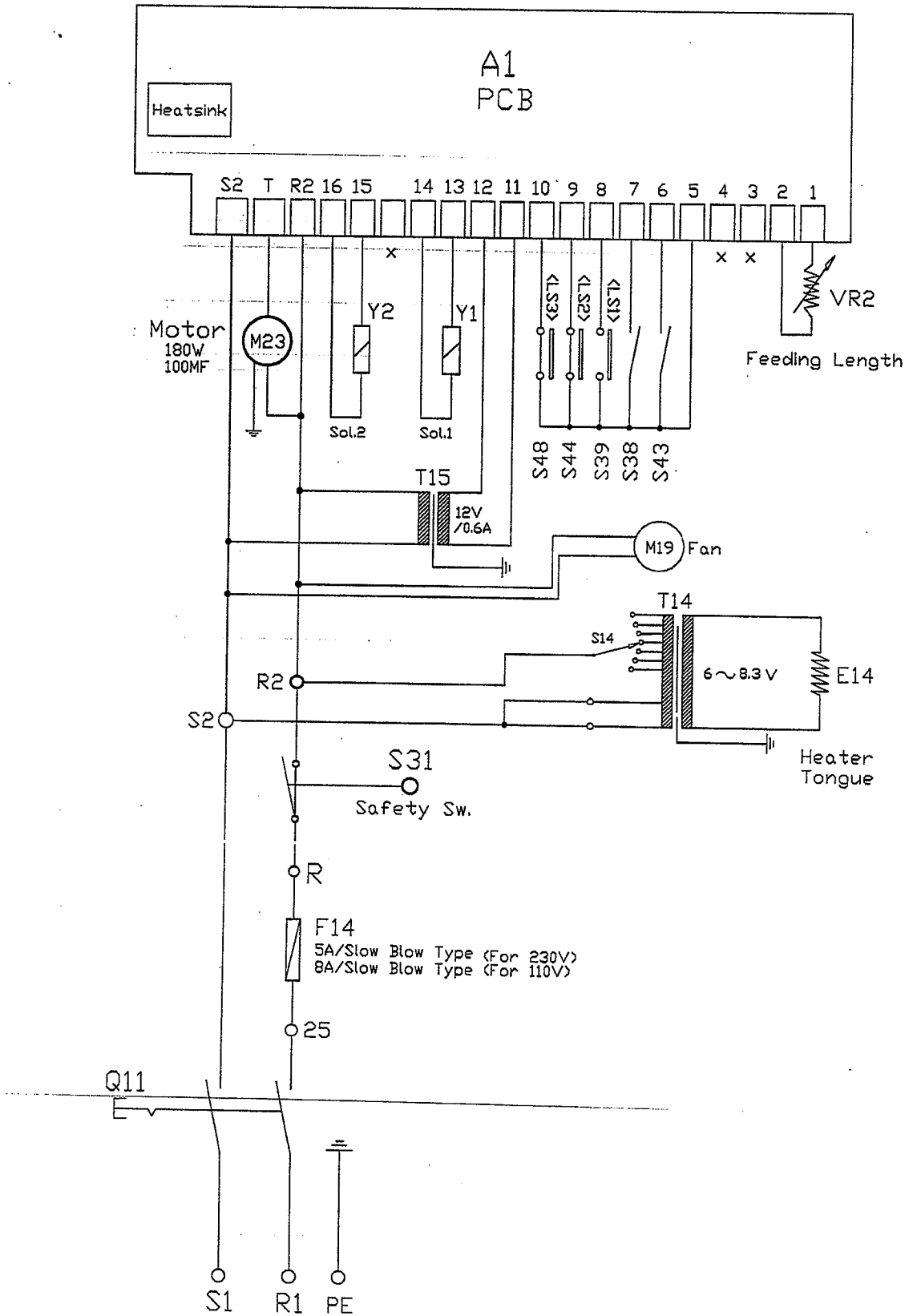
- **Remedy:**

1. The Strap is in the correct position, but sealing does not take place, which occurs when a soft article (package) is being loosely strapped and the friction plate in the tightening adjustment section is slipping.
2. Turn off the motor switch, wait until the motor completely stops and turn the switch on again.
3. You may slightly turn the tightening adjustment nut A in the clockwise direction to increase the tension.
4. The same problem may also occur when there is oil on the tightening roller causing the strap to slip. Keep the roller clean and free of oil.

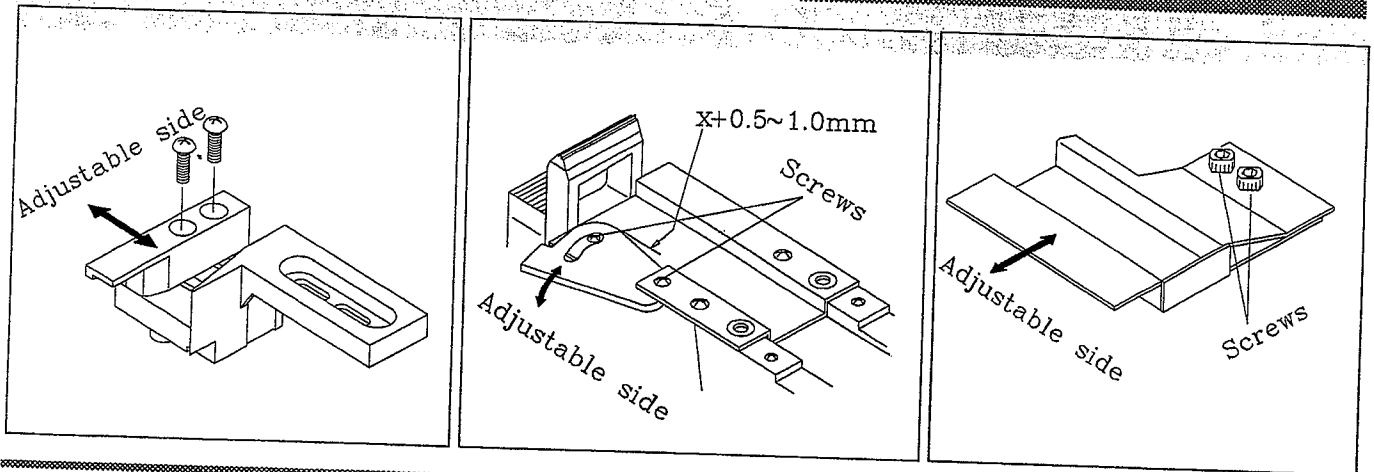
# Electrical diagram



# Electrical diagram



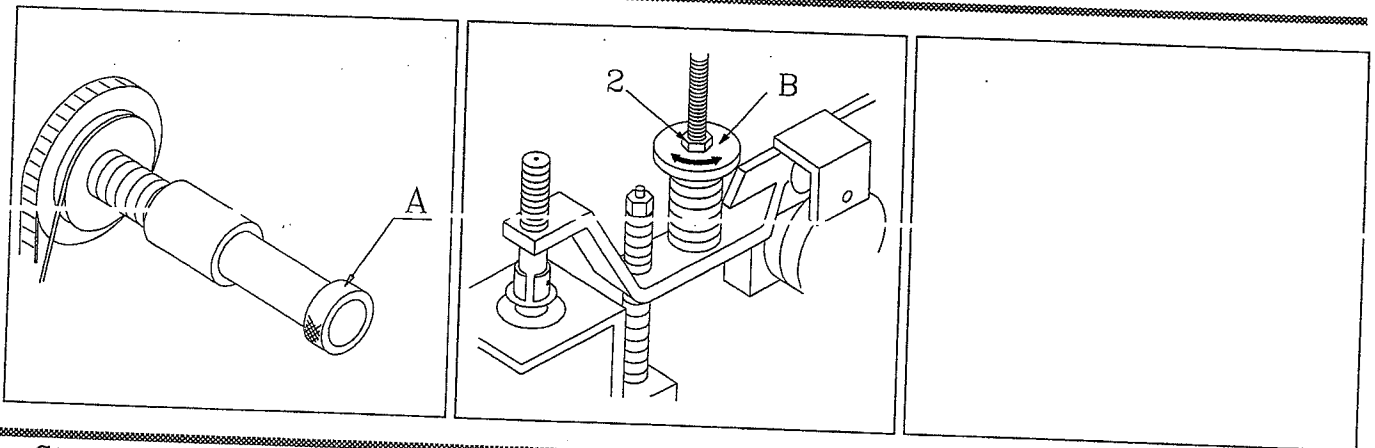
## Adjustments



### • Strap width

Adjustment for straps of different width (x) can be done with a Philips screwdriver. The two strap guides have to be adjusted so there is a clearance between strap and guide of 0.5 mm to 1.0 mm.

Make both adjustments by loosening two screws and moving the guide to fit the strap, which is to be used.



### • Strap tension

The adjustments are made with two adjustment nuts, the tightening adjustment nut A and the strap pressing adjustment nut B.

Adjustment nut B does not require adjustment.

Both nuts are turned clockwise to increase the tension and counter clockwise to decrease it.

#### **Attention:**

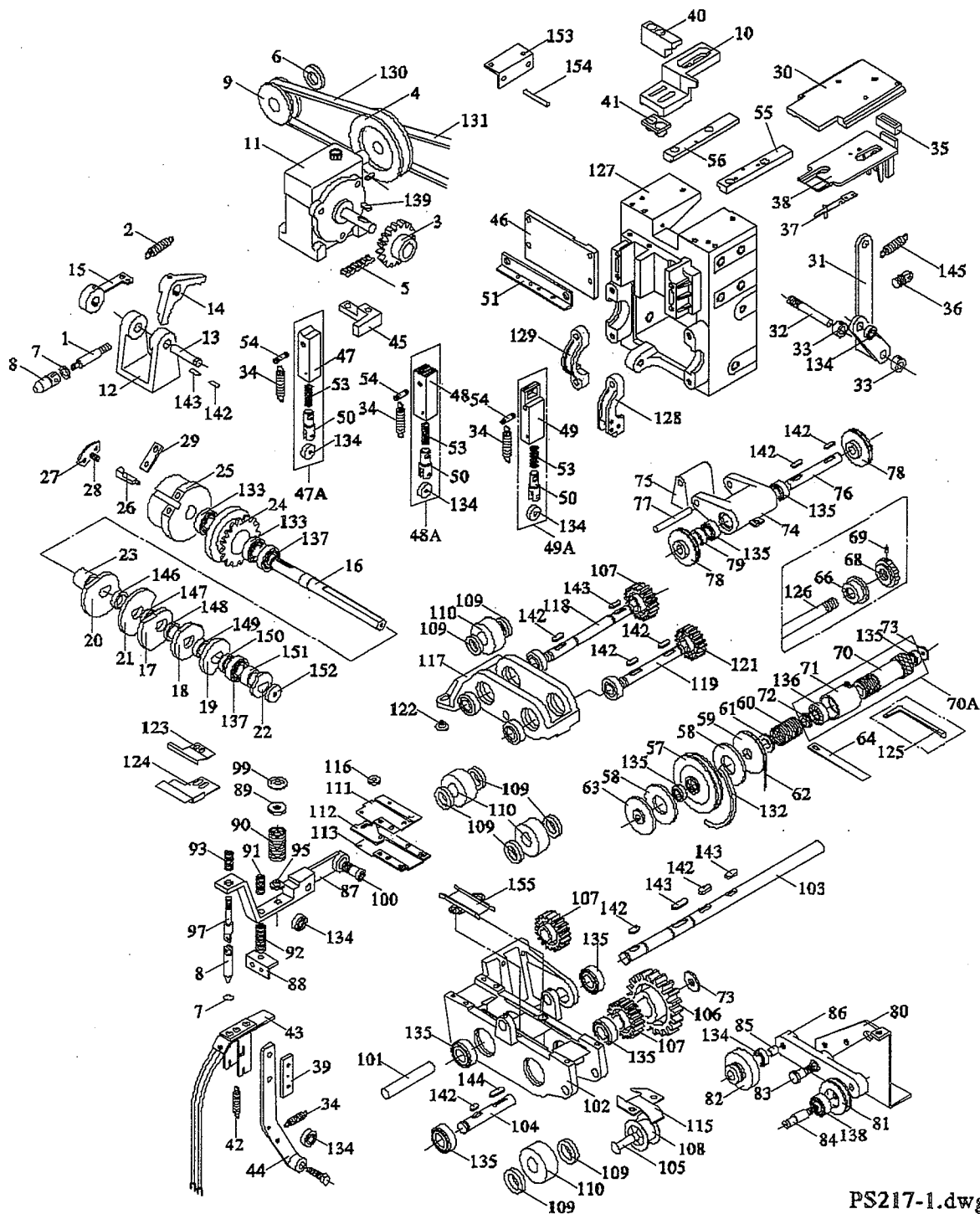
Adjustment nut B is fixed by a lock nut (2).

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# **Spare parts list**

## **ES-101/ES-101L/ES-102/A**

# Control unit



PS217-1.dwg

## Control unit

No	Part No	Description	Qty
1	S13-110001	Pull Shaft	1
2	S13-110002	Spring #227	1
3	S13-110003	Sprocket	1
4	S13-110004-02	Pulley (A) #18	1
5	S13-110005	Chain 35x44L	1
6	S13-210022	Washer#62-1	1
7	S13-110008	O-Ring	2
8	S13-110009	Solenoid Shaft	2
9	S13-110010-3	Pulley (B) #20	1
10	S35-125011	Rear End Guide	1
11	S13-113000	Reduction Gear Box	1
12	S13-112001	Clutch Support	1
13	S13-112003	Shaft #35	1
14	S13-112008	Stop Arm	1
15	S13-112150	Clutch Arm	1
16	S13-121003-1	Cam Shaft	1
17	S13-121203	Press Grip Cam	1
18	S13-121204-1	Front Grip Cam	1
19	S13-121205	Separator Cam	1
20	S13-121201-1	Rear Grip Cam	1
21	S13-121202	Heater Cam	1
22	S13-121206	Feed Back Cam	1
23	S13-121207	Collar	1
24	S13-121029	Drive Sprocket	1
25	S13-121101	Clutch Housing	1
26	S13-121102	Clutch Pin	1
27	S13-121103	Spring Holder	1
28	S13-121104	Spring	1
29	S13-121105	Guide	1
30	S13-122001	Slide Table	1
31	S13-122002	Separator Arm	1
32	S13-122003	Pin	1
33	S13-122005	Collar	2
34	S13-122006	Spring #71	4
35	S13-122007	Gum	1
36	S13-122008	Spring Hook	1
37	S35-122012	Switch Lever	1
38	S35-122150	Separator	1
39	S13-124001	Plate	1
40	S35-125008	Strap Guide Adjustment Plate	1
41	S35-125009	Strap Guide Fixed Plate	1
42	S13-124004	Spring	1
43	S13-124100-3	Heater Assembly	1
44	S13-124250	Heater Arm Assembly	1
45	S13-123002	Cutter Holder	1
46	S13-123003	Clamp Bar Guide Lid	1
47	S13-130004	Rear Clamp Bar	1



## Control unit

No	Part No	Description	Qty
47A	S13-13004A	Rear Clamp Bar Set	1
48	S13-123201	Press Bar	1
48A	S13-123200	Press Bar Set	1
49	S13-123101	Front Clamp Bar	1
49A	S13-123100	Front Clamp Bar Set	1
50	S13-123103	Plunger	3
51	S13-123008	Spring Hook	1
53	S13-123102	Plunger Spring	3
	S13-122013	Plunger Spring (Option)	3
54	S13-123105	Spring Hook	3
55	S13-125002	Base Guide (A)	1
56	S13-125003	Base Guide (B)	1
57	S13-160001-02	Pulley #170	1
58	S13-160002	Friction Disc.	2
59	S13-160003N	Clutch Plate ( R )	1
60	S13-160004	Spring	1
61	S13-160006	Spring Retainer	1
62	S13-160007-2	Round Belt	1
63	S13-160009N	Clutch Plate (L)	1
64	S23-160012-2	Fixed Arm for Open Type	1
66	S13-160006	Spring Retainer	1
68	S20-160012	Adjustment Nut A	1
69	S20-160013	Bush	1
70	S13-161101	Rotating Tube	1
70A	S13-161100	Adjusting Tube Assembly	1
71	S13-161102	Fixed Tube	1
72	S13-161005	Spring Retainer	1
73	S13-161006	Washer	2
74	S13-162001	Pulley Bracket	1
75	S13-162002	Hinge Bracket	1
76	S13-162003	Counter Shaft #137	1
77	S13-162004	Hinge Pin	1
78	S13-162005-02	Pulley #141	2
79	S13-162007	Collar #125	1
80	S13-163001	Bracket	1
81	S13-163003	Pulley #139	1
82	S13-163004	Pulley #210	1
83	S13-163005	Pin #152	1
84	S13-163006	Shaft #144	1
85	S13-163013	Collar #215	1
86	S13-163050	Arm #146	1
87	S13-164001	Feed Back Arm	1
88	S13-164002	Stopper Bracket	1
89	S13-164003	Adjustment Nut	1
90	S13-164004	Spring #130	1
91	S13-164005	Spring #187	1
92	S13-164006	Spring #186	1

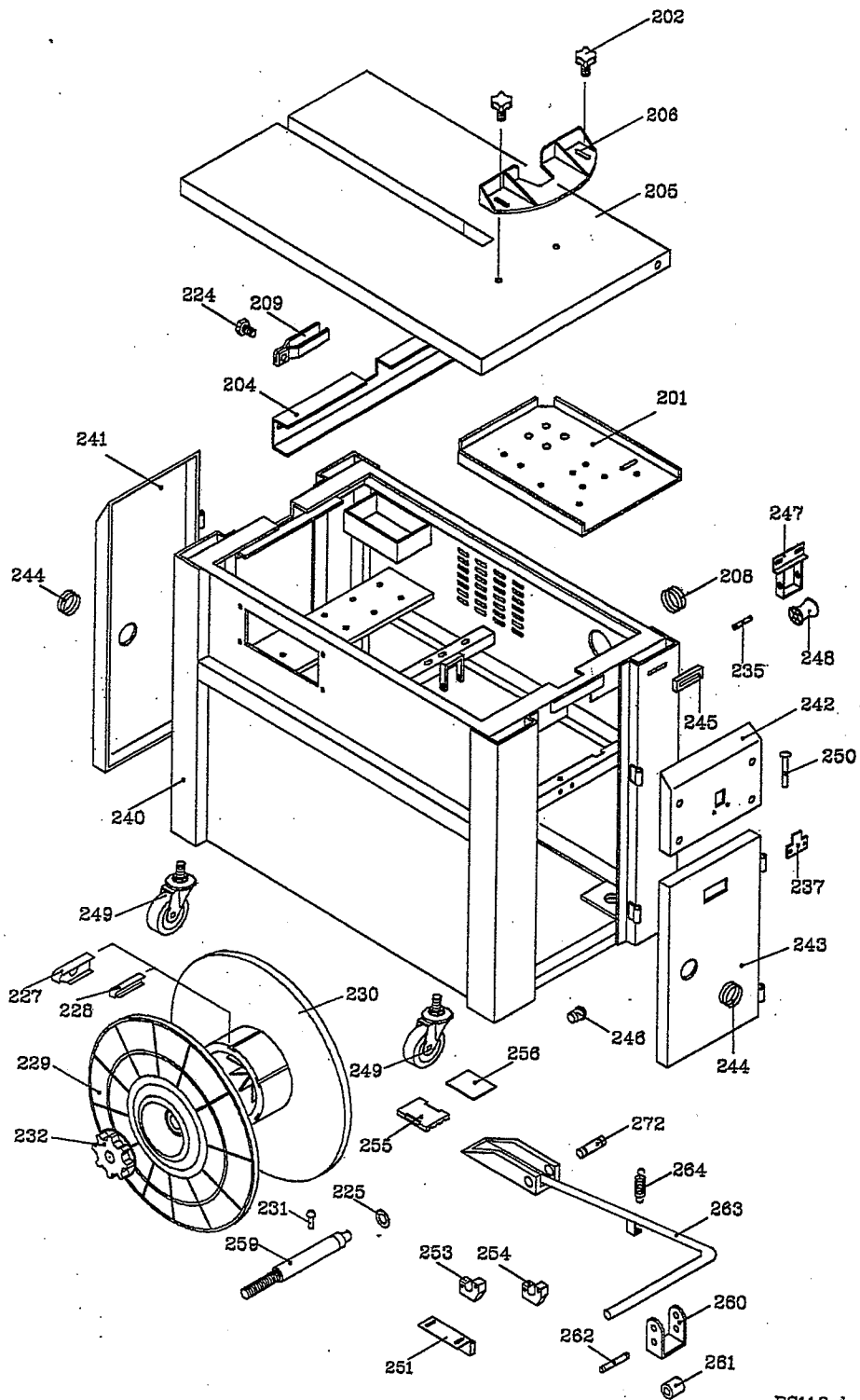
**Control unit**

No	Part No	Description	Qty
93	S13-164007	Spring #183	1
95	S13-164009	Spring Retainer #130-1	1
97	S13-164012	Pull Shaft	1
99	P08-213006	Label (Tension)	1
100	S13-164015	Feed Back Arm Pin	1
101	S13-170001-01	Pin #221	1
102	S13-171001-2	Roller Bracket	1
103	S13-171003N-01	Feed Roller Shaft	1
104	S13-171004N	Roller Shaft	1
105	S13-171007-01	Pin #209	1
106	S13-171008N	Feed Back Gear	1
107	S13-171009N	Gear	3
108	S13-171012	Roller #192	1
109	S13-171017	Collar (A)	8
110	S13-171019	Roller #116	4
111	S13-171021-01	Outlet Cover #215	1
112	S13-171022	Band Adjustment Plate	1
113	S13-171023-01	Outlet Guide #216	1
115	S13-171026-01	Inlet Cover #212	1
116	S13-171031	Washer #213	1
117	S13-172002-01	Shaft Holder	1
118	S13-172005N	Feed Roller Shaft	1
119	S13-172006N	Roller Shaft	1
121	S13-172014-01	Gear	1
122	S13-164011-01	Washer #223	1
123	S13-172029	Front End Guide	1
124	S13-172030	Front End Adjustment Plate	1
125	S13-160011-1	Fixed Arm For Close Type	1
126	S20-171003N-01	Feed Roller Shaft	1
127	S35-125001	Cam Bracket	1
128	S35-125005	Bearing Cover	1
129	S35-125006	Bearing Cover	1
130	G16-010021	V-Belt, M-21	1
	G16-010021-2	V-Belt, M-21 (Mountain)	1
131	G16-070021	V-Belt, K-21	1
132	G16-070019	V-Belt, K-19	1
133	G04-116003	Bearing, 6003Z	2
134	G04-210635	Bearing, 635ZZ	7
135	G04-216002	Bearing, 6002ZZ	12
136	G04-216005	Bearing, 6005ZZ	1
137	G04-216003	Bearing, 6003ZZ	2
138	G04-210608	Bearing, 608ZZ	1
139	W35-050525	Parallel Key (5*5*25)	2
140	W35-050530	Parallel Key (5*5*30)	1
141	W35-0505101	Parallel Key (5*5*101)	1
142	W35-050515	Parallel Key (5*5*15)	10
143	W35-050520	Parallel Key (5*5*20)	4

**Control unit**

No	Part No	Description	Qty
144	W35-050538	Parallel Key (5*5*38)	1
145	S13-122009	Slide Table Spring	1
146	S13-121208	Collar	1
147	S13-121209	Collar	1
148	S13-121210	Collar	1
149	S13-121211	Collar	1
150	S13-121212	Collar	1
151	S13-121213	Collar	1
152	S23-180019	Fixed Outside Ring	1
153	S35-125010	Limit Switch Bracket	1
154	S35-125004	Switch Pin	1
155	S13-171023R1	Inner Guide	1

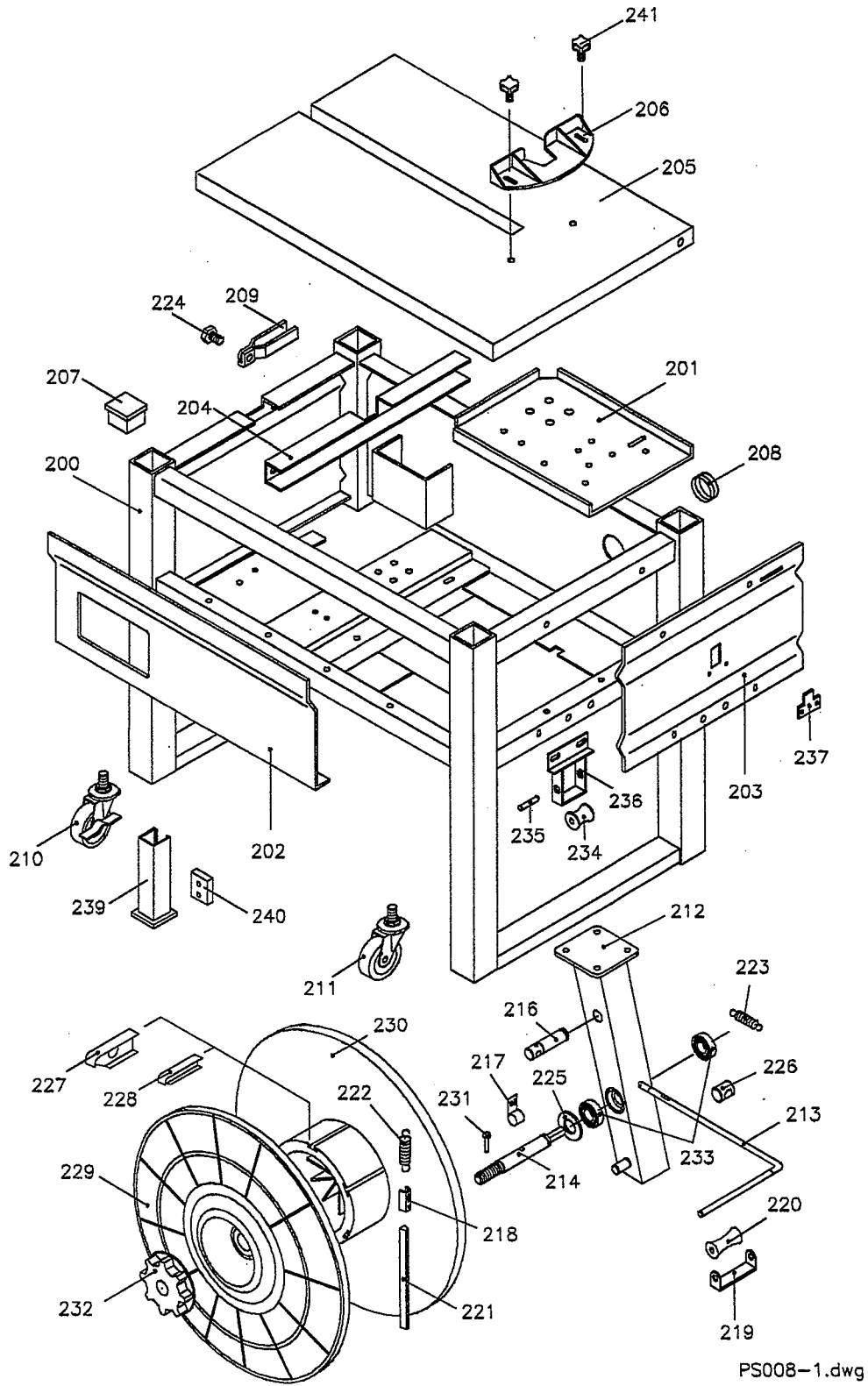
# Frame & reel unit—ES-101



**Frame & reel unit—ES-101**

No	Part No	Description	Qty
201	S13-300015-1	Bracket	1
202	S13-300009	Knob	2
204	S13-350001-0	Support	1
205	S23-330050R2	Top Plate (Hinge Type)	1
206	S13-300008R2	Package Guide	1
208	S13-300016	Plastic Lid	1
209	S13-390050R1	Support Rod	1
224	S23-330001-1	Screw	1
225	A20-630007	Washer	1
227	S13-450002	Block for Reel ø280mm	6
228	S13-450003	Block for Reel ø230mm	6
229	S23-430003	Reel Out Circular	1
230	S13-451050-120	Reel In Circular	1
231	S13-410006	Pin	1
232	S13-450001	Reel Nut Handle	1
235	S13-423001	Shaft	1
237	S13-171026-1	Inlet Cover (6mm)	1
	S13-171026-2	Inlet Cover (8-12.5mm)	1
	S13-171026-3	Inlet Cover (15mm)	1
240	S13-310050R1	Frame	1
241	S13-330050R1	Side Door (L)	1
242	S14-300001R1	Protection Cover	1
243	S13-340050R1	Side Door (R)	1
244	S13-300010	Plastic Lid	2
245	S13-314056	Plastic Lid	1
246	S13-330053	Ball Lock	4
247	S13-423150	Band Guide Bracket	1
248	S23-424001	Roller	1
249	S23-300011	Caster W/O Brake	4
250	S13-300013	Lock Pin	1
251	S13-312150	Reel Bracket (R)	1
253	S13-440002	Support Pad (R)	1
254	S13-430002	Support Pad (L)	1
255	S13-420004-1	Rubber Stop	1
256	S13-420007	Rubber Pad	1
259	S13-450005	Shaft	1
260	S13-422001	Roller Holder	1
261	S13-422002	Roller	1
262	S13-422003	Shaft	1
263	S13-421050	Brake Assembly	1
264	S13-420005	Brake Spring	1
272	S13-420001	Block Lock	1

# Frame & reel unit—ES-102/A

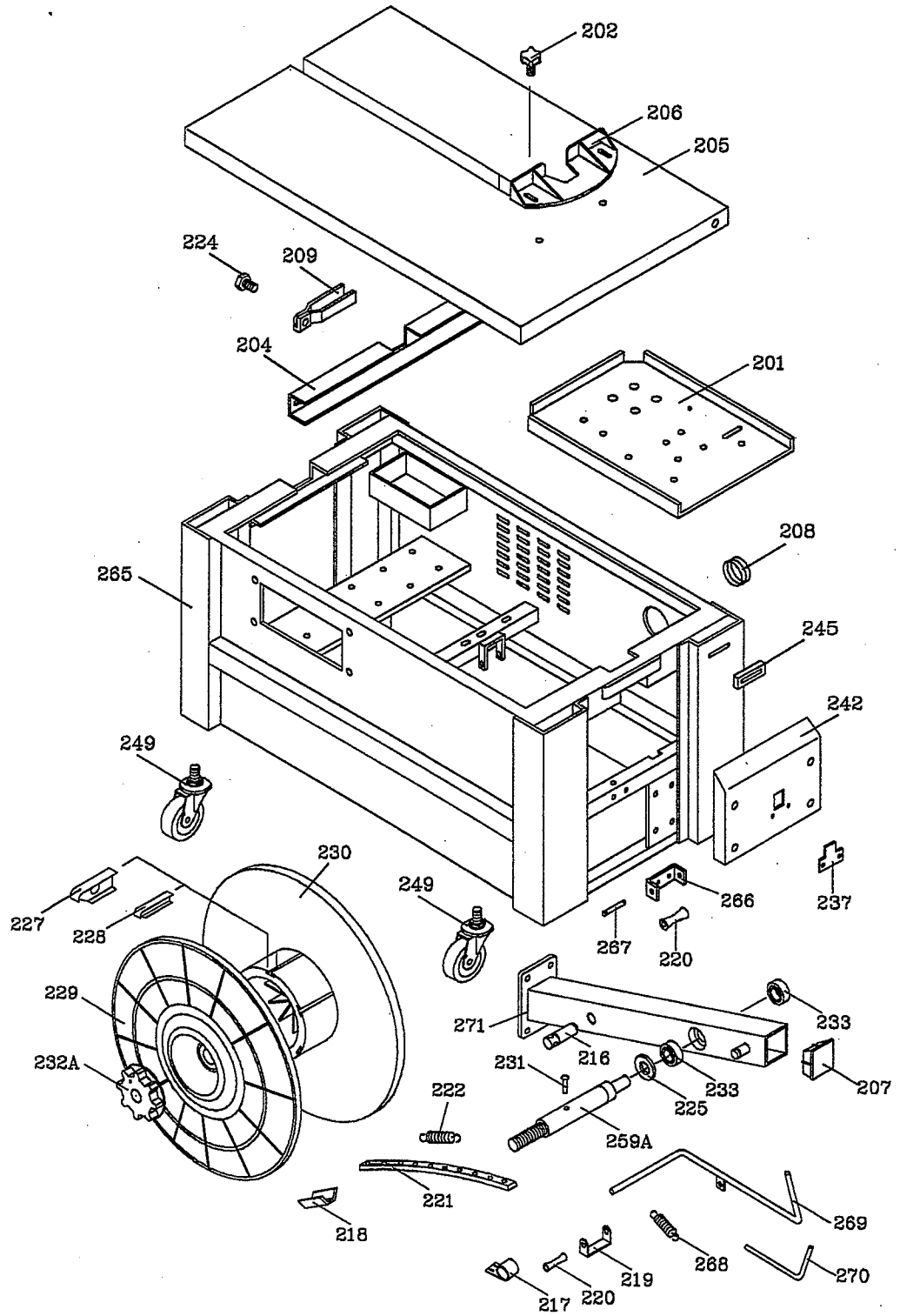


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**Frame & reel unit—ES-102/A**

No	Part No	Description	Qty
200	S23-360050R3	Frame	1
200A	S23A-310050R2	Frame (Adjustable Legs Type)	1
201	S13-300015	Bracket	1
202	S34-311051	Front Panel	1
203	S23-300013	Protection Cover	1
204	S23-320050R2	Support	1
205	S23-330050R2	Top Plate (Hinge Type)	1
206	S13-300008R2	Package Guide	1
207	S23-300005-1	Lid	5
208	S13-300016	Plastic Lid	1
209	S13-390050R1	Support Rod	1
210	S23-300012	Caster with Brake	2
211	S23-300011	Caster W/O Brake	2
212	S23-421350-0	Reel Support	1
213	S23-423001	Arm	1
214	S23-430002	Reel Shaft	1
216	S23-420003-0	Brake Shaft	1
217	S14-422150	V-Belt Holder	1
218	S14-422002	V-Belt Fixed Bracket	1
219	S14-423001	Roller Holder	1
220	S14-423002	Roller	1
221	S14-422001	Brake Lining	1
222	S14-422003	Spring	1
223	S23-423003	Spring	1
224	S23-330001-1	Screw	2
225	A20-630007	Washer	1
226	S23-423005	Brake Adjuster	1
227	S13-450002	Block for Reel $\phi$ 280mm	6
228	S13-450003	Block for Reel $\phi$ 230mm	6
229	S23-430003-120	Reel Out Circular	1
230	S13-431050-120	Reel In Circular	1
231	S13-410006	Pin	1
232	S13-450001	Reel Nut Handle	1
233	G04-116003	Ball Bearing, 6003z	2
234	S23-424001	Roller	1
235	S13-423001	Shaft	1
236	S13-423150	Roller Bracket	1
237	S13-171026-1	Inlet Cover (6mm)	1
	S13-171026-2	Inlet Cover (8-12.5mm)	1
	S13-171026-3	Inlet Cover (15mm)	1
239	S25-313151	Adjustable Legs	4
240	S25-313152	Fix Block	4
241	S13-300009	Knob	2

Frame & reel unit—ES-101L



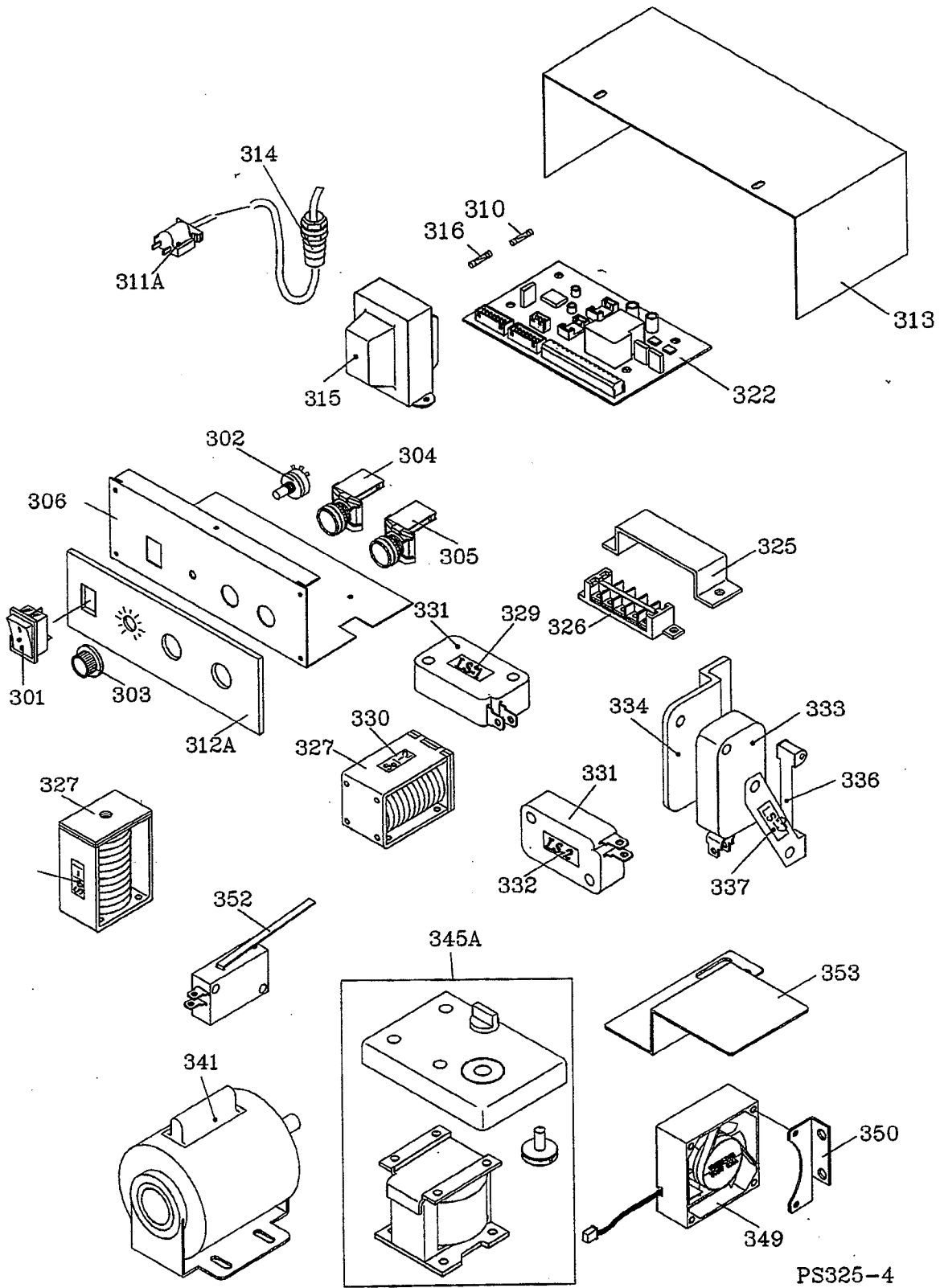
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**Frame & reel unit—ES-101L**

No	Part No	Description	Qty
201	S13-300015-1	Bracket	1
202	S13-300009	Knob	2
204	S13-350001-0	Support	1
205	S23-330050R2	Top Plate (Hinge Type)	1
206	S13-300008R2	Package Guide	1
207	S23-300005-1	Lid	1
208	S13-300016	Plastic Lid	1
209	S13-390050R1	Support Rod	1
216	S23-420003-0	Brake Shaft	1
217	S14-422150	V-Belt Holder	1
218	S14-422002	V-Belt Fixed Bracket	1
219	S14-423001	Roller Holder	1
220	S14-423002	Roller	1
221	S14-422001	Brake Lining	1
222	S14-422003	Spring	1
224	S23-330001-1	Screw	2
225	A20-630007	Washer	1
227	S13-450002	Block for Reel $\phi$ 280mm	6
228	S13-450003	Block for Reel $\phi$ 230mm	6
229	S23-430003	Reel Out Circular	1
230	S23-431050	Reel In Circular	1
231	S13-410006	Pin	1
232A	S14-450001	Reel Nut Handle (L)	1
233	G04-116003	Ball Bearing, 6003z	2
237	S13-171026-1	Inlet Cover (6mm)	1
	S13-171026-2	Inlet Cover (8-12.5mm)	1
	S13-171026-3	Inlet Cover (15mm)	1
242	S14-300001R1	Protection Cover	1
245	S13-314056	Plastic Lid	1
249	S23-300011	Caster	4
259A	S14-430002	Shaft (for L-Type)	1
265	S14-310050R1	Frame	1
266	S14-424001	Roller Holder	1
267	S14-424003	Shaft	1
268	S14-423003	Spring	1
269	S14-423150	Free Band Guide Arm	1
270	S14-423004R1	Shaft	1
271	S14-421150-0	Reel Support	1

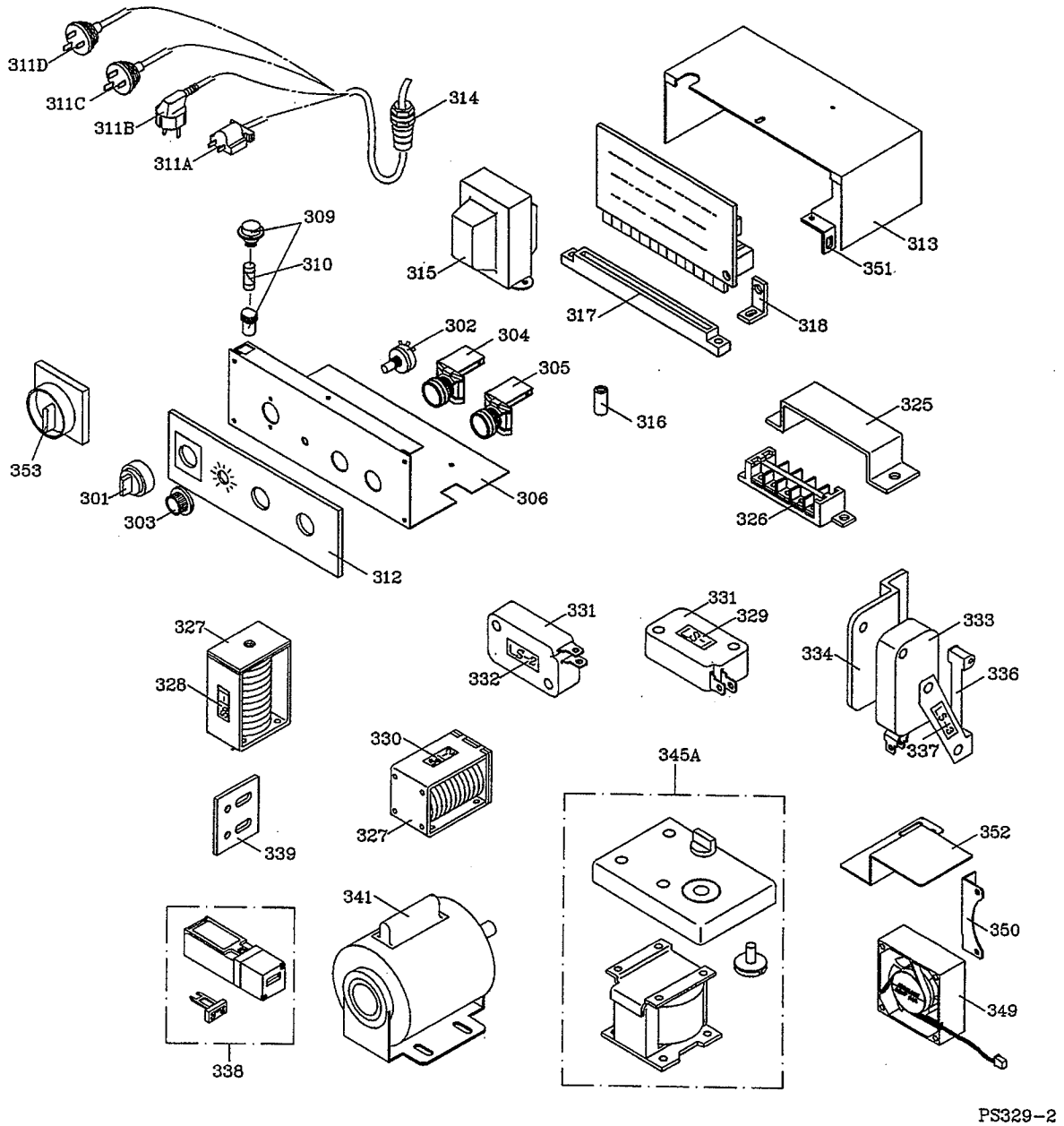
# Electric control unit



## Electric control unit

No	Part No	Description	Qty
301	E07-050027	Power Switch T120-10 (4)/250	1
302	E13-020014	Variable Resister B2K/0.25W	1
303	E07-070002	Knob RN-99D	1
304	E07-020027	Push Button Switch (R) ABFB-W	1
305	E07-020028	Push Button Switch (F) ABFB-G	1
306A	S13-222001-1	Switch Box	1
309	E23-050005	Fuse Holder R3-13	1
310	E23-010019-1	Fuse 5*20 / 0.8A Slow Blow Type (220V/F23)	1
	E23-010043	Fuse 5*20 /1.5A Slow Blow Type (110V/F23)	1
316	E23-010017	Fuse 5*20/5A Slow Blow Type (220V/F14)	1
	E23-010019	Fuse 5*20/8A Slow Blow Type (110V/F14)	2
311A	E61-125321	American Power Cord	1
B	E61-125341	European Power Cord	1
C	E61-125351	Great Britain Power Cord	1
D	E61-125361	Australian Power Cord	1
F	SP1.25x3C.4M	Japan Power Cord	1
312A	S13-221003	Control Plate	1
313A	S13-222002-1	Switch Cover	1
314	E55-030002	Grommet SR-6R1	1
315	E17-010013	Transformer (110V/230V/0.6A)	1
	E17-010014J	Transformer (100V/15V/0.6A)	1
322	E25-101095-1	P.C.Board	1
325	S13-201602	Cover	1
326	E53-112506	Terminal Bracket (6P/15A)	1
327	E21-040003	Solenoid 110V (260Ω/13W)	2
	E21-040002	Solenoid 230V (1.06KΩ/13W)	2
	E21-040004	Solenoid 100V	2
328	S13-210013	Sticker (SOL-1)	1
329	S13-210010	Sticker (LS-1)	1
330	S13-210014	Sticker (SOL-2)	1
331	E07-040005R1	Micro Switch (LS-1,LS-2) VMN-06D-00D0-B	2
332	S13-210011	Sticker (LS-2)	1
333	E07-040004R1	Micro Switch (LS-3) VK-06H-00D1	1
334	S13-210002	Micro Switch Bracket LS-3	1
336	S13-210009	Switch Trigger LS-3 AA2501	1
337	S13-210012	Sticker (LS-3)	1
341	E01-010024	Motor (230V/ 50HZ)	1
	E01-010025	Motor (115V/ 60HZ)	1
	E01-010029	Motor (100V/200V/1/4HP/50/ 60HZ)	1
345A	S13-212100	Transformer Set (110V)	1
	S13-213100	Transformer Set (230V)	1
349	E01-040018-2	Fan SD-6025-12HS;DC12V/0.15A	1
350	S13-223003-0	Fan Support	1
352	E07-040056	Micro Switch OMRON V-213-1C6 CSA	1
	E07-040036	Micro Switch V3-25S-03D	1
353	S35-215001-1	Heater Cover	1

# Electric control unit



PS329-2

## Electric control unit

No	Part No	Description	Qty
301	E07-010028	Power Switch T120-10 (4)/250	1
302	E13-020002	Variable Resister B1M ohm	1
303	E07-070002	Knob RN-99D	1
304	E07-020027	Push Button Switch (R) ABFB-W	1
305	E07-020028	Push Button Switch (F) ABFB-G	1
306	S13-222003-1	Switchboard Name Plate	1
309	E23-050005	Fuse Holder R3-13	1
310	E23-010037	Fuse (8A, 110V), Slow Blow Type 6*30mm/8A	1
	E23-010036	Fuse (5A, 230V), Slow Blow Type 6*30mm/5A	1
311A	E61-125321	American Power Cord	1
	B E61-125341	European Power Cord	1
	C E61-125351	Great Britain Power Cord	1
	D E61-125361	Australian Power Cord	1
312	S13-221005	Control Plate	1
313	S13-222002	Switch Cover	1
314	E55-030002	Grommet SR-6R1	1
315	E17-010013	Transformer (110V/230V/0.6A)	1
316	S23-230007	Collar #614	2
317	S23-230008	Receptacle	1
318	S23-190015	Bracket	1
322	S23-234050-2	P.C.Board	1
325	S13-201602	Cover	1
326	E53-112506	Terminal Bracket (6P/15A)	1
327	E21-040003	Solenoid 110V (260Ω/13W)	2
	E21-040002	Solenoid 230V (1.06KΩ/13W)	2
328	S13-210013	Sticker (SOL-1)	1
329	S13-210010	Sticker (LS-1)	1
330	S13-210014	Sticker (SOL-2)	1
331	E07-040005R1	Micro Switch (LS-1,LS-2) VMN-06D-00D0-B	2
332	S13-210011	Sticker (LS-2)	1
333	E07-040004R1	Micro Switch (LS-3) VK-06H-00D1	1
334	S13-210002	Micro Switch Bracket LS-3	1
336	S13-210009	Switch Trigger LS-3 AA2501	1
337	S13-210012	Sticker (LS-3)	1
338	E07-040014	Safety Switch	1
339	S15-330069	Micro switch Plate	1
341	E01-010024	Motor (110/230V, 50HZ)	1
	E01-010025	Motor (110/230V, 60HZ)	1
345A	S13-212100	Transformer Set (110V)	1
	S13-213100	Transformer Set (230V)	1
349	E01-040018	Fan SD-6025-12HS;DC12V/0.15A	1
350	S13-223003-0	Fan Support	1
351	S23-230009	Bracket	1
352	S35-215001-1	Cover	1
353	E07-010049	Power Switch CO160002R	1