
S e m i - a u t o s t r a p p i n g m a c h i n e
O p e r a t i n g m a n u a l a n d s p a r e p a r t s l i s t

ES-103/ES-104/

ES-104C/ES-104L

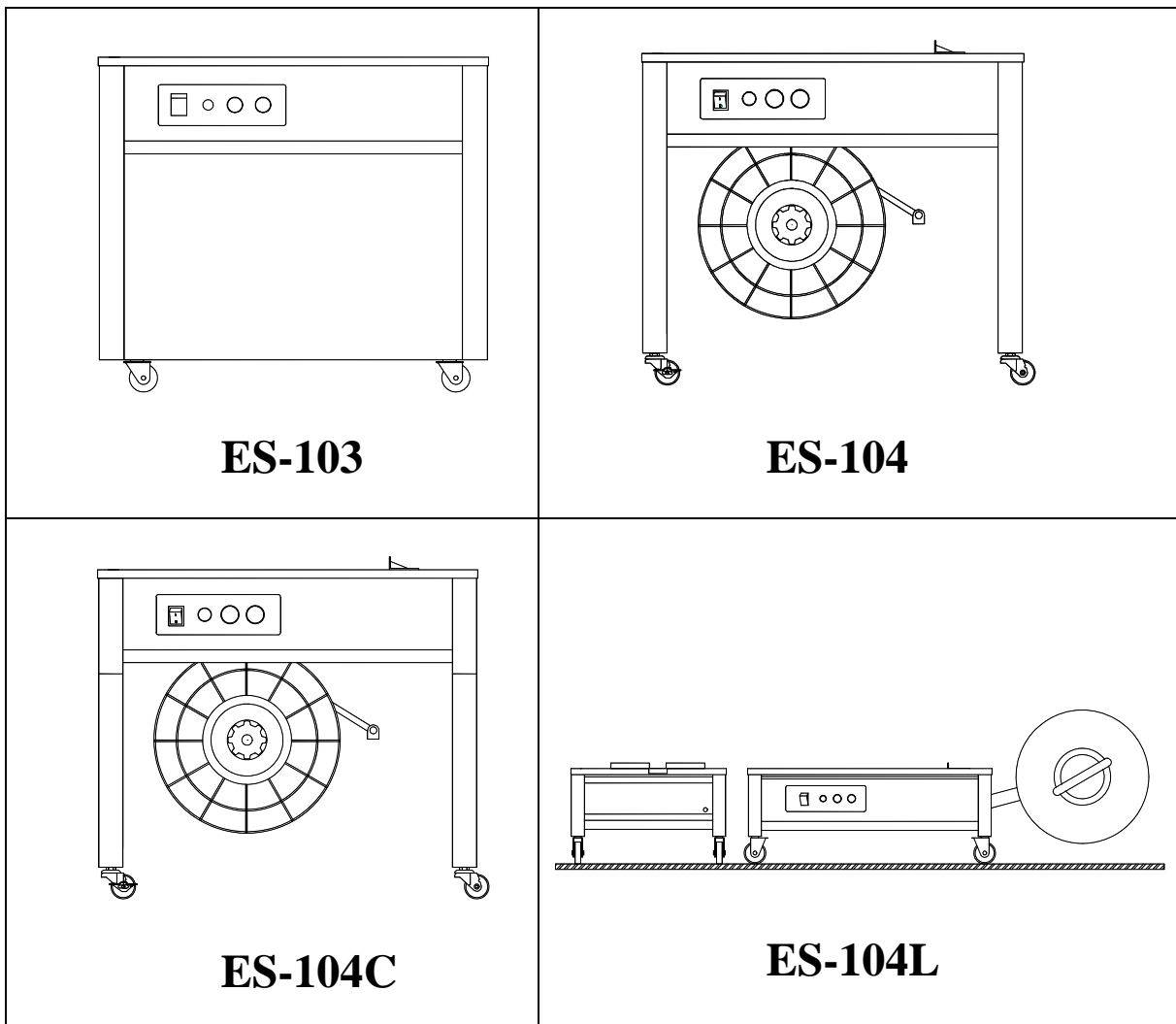


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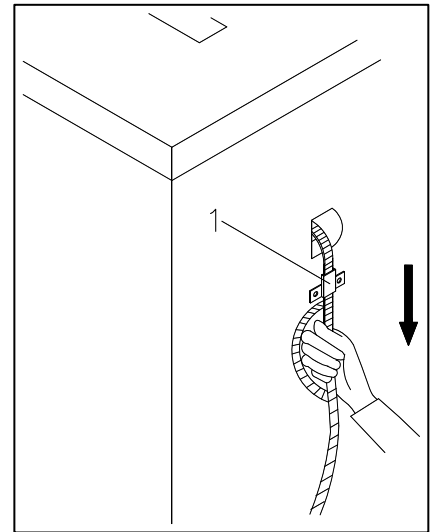
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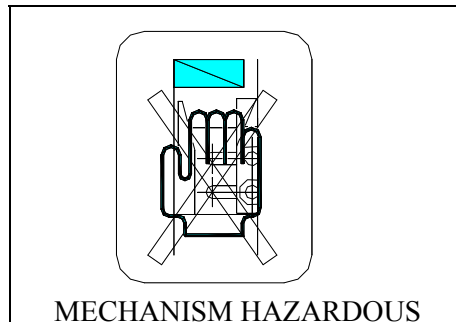
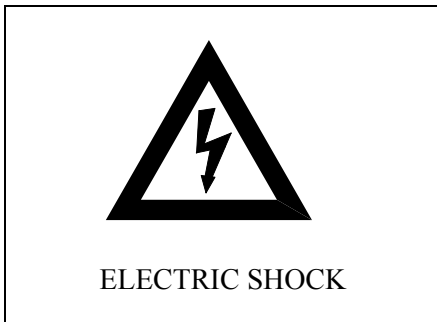
General

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 re-feeding 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

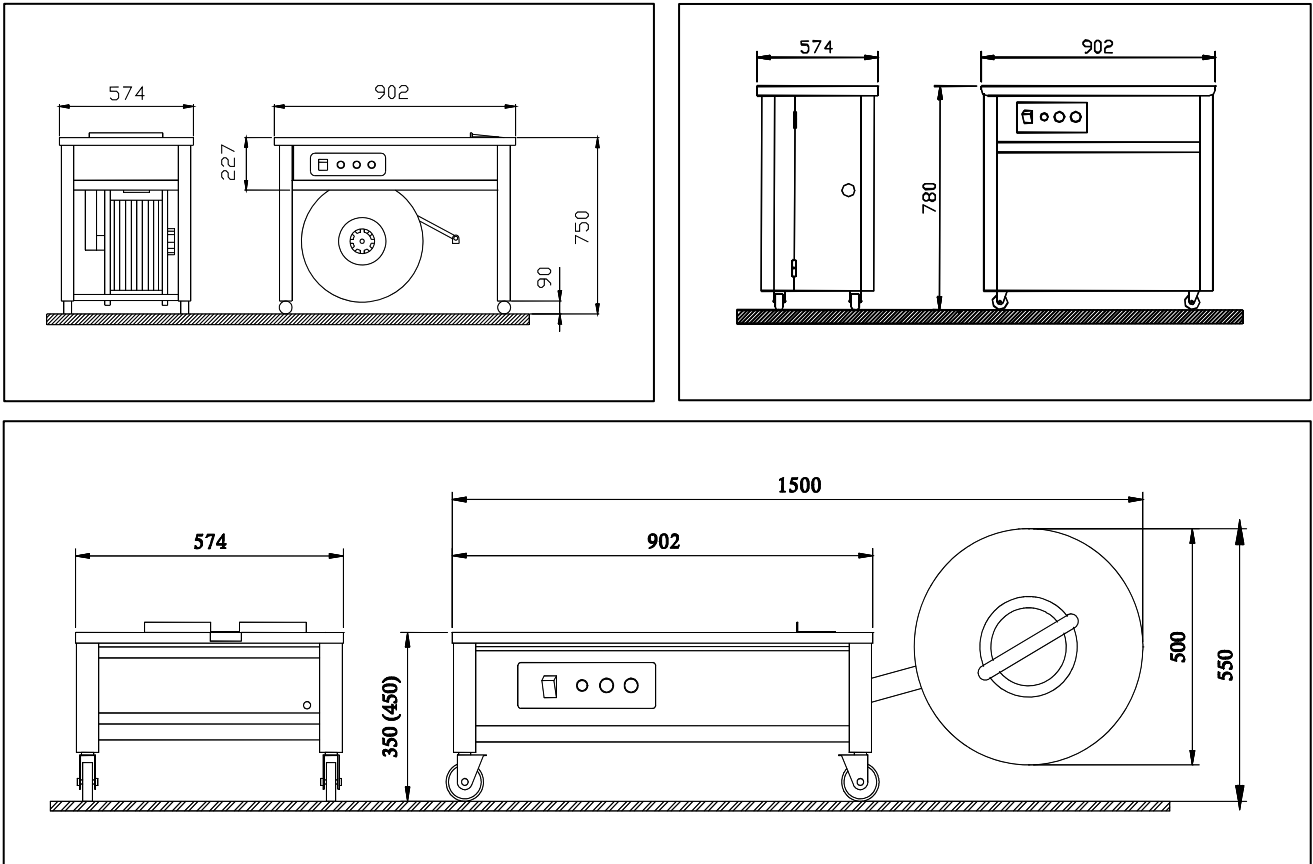


- It is prohibited for unauthorized persons to use the machine!
- Observe all safety precautions and warnings signs.
- Do not remove or override any safeguards.
- Do not clean the machine or try to affect repairs while it is in operation→main switch to off!
- Do not touch the welding element tongue if 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.

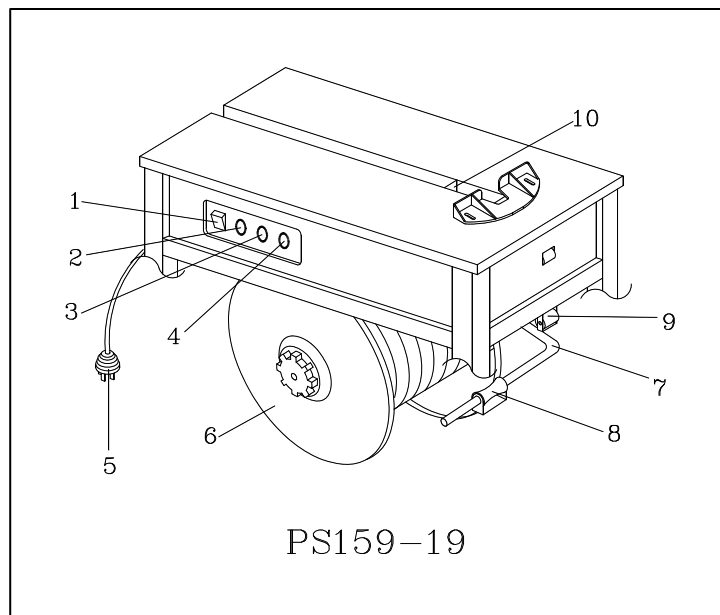
Technical data



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

Control elements



Main switch

- “1” Power ON.
- “0” Power OFF

Length knob

The length of the strap be fed out can be pre-set automatically by adjusting the knob.

Reset push button switch

Aggregate start a cycle.

Feed push button switch

To feed strap out of machine freely.

Power plug

To be connected to a power source.

1. Strap dispenser

A roll of strap is mounted here.

2. Brake arm

Prevent over-rotation of the strap reel

3. Strap guide for brake

The strap is threaded through this guide

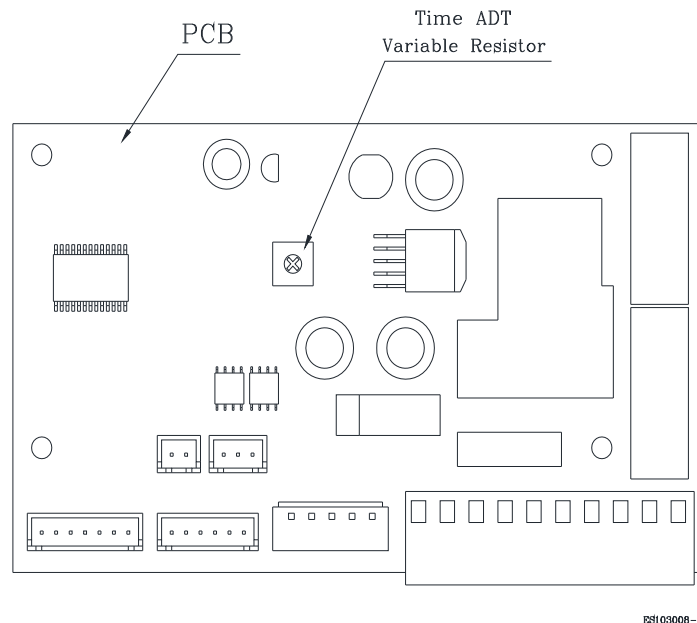
4. Idle strap guide

The strap is passed through this guide

5. Strap insertion inlet

The free end of the strap should be inserted here to initiate the tensioning and cutting cycle.

Operating



- 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.
- Weld cooling time
Weld cooling time adjustable; the cooling delay time can be adjusted from 0~1.2 sets, delay time will be longer by turning VR clockwise.
- 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 30 seconds.

Attention:

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

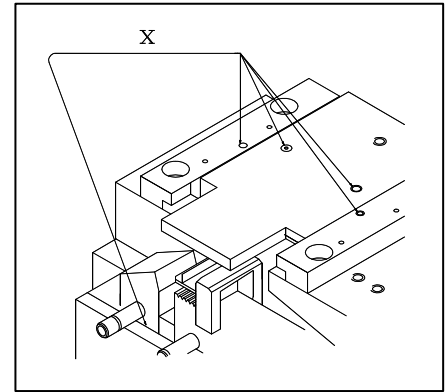
Maintenance

1. 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.



2. Lubrication

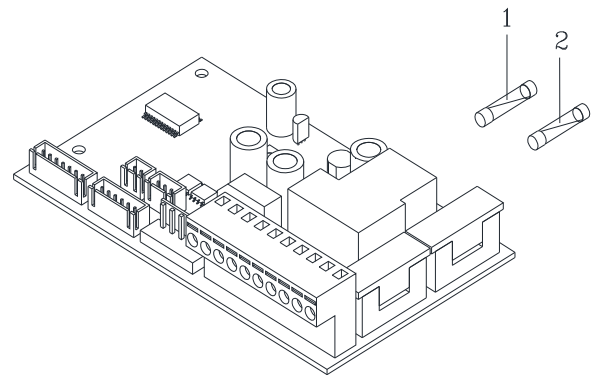
Apply a few drops of light lubricant (Daphne Mechanic oil or equivalent) to oil holes and on sliding parts (see the diagram above) once per week.

Change the oil of the gearbox once per year. 150 ml of Daphne oil or its equivalent should be used.

3. Replacing the fuse

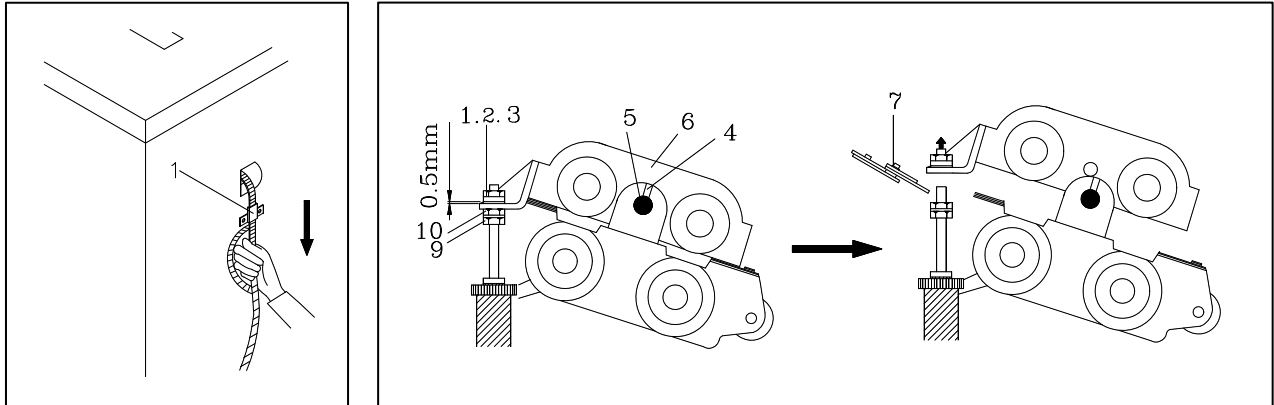
Remove the top plate of the machine and the fuse from the fuse box located near relays. Replace the faulty fuse with new one.

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



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Troubleshooting



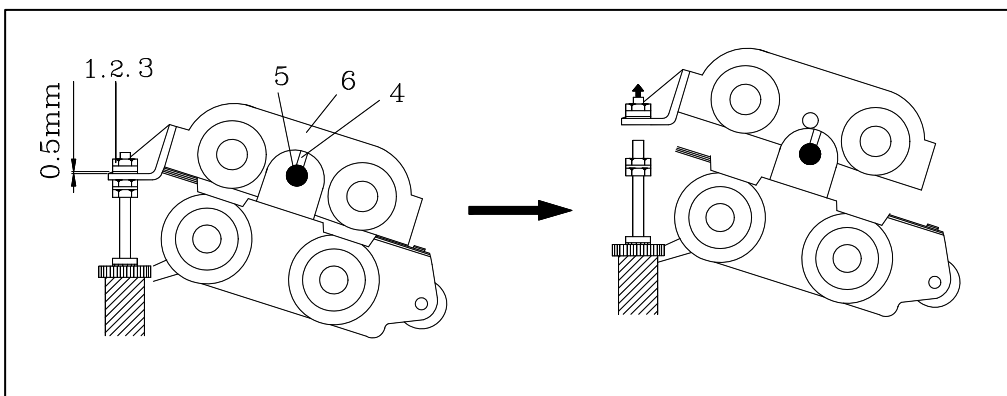
1. The strap will not feed out

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

2. 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). Remove front-end adjusts plate.
4. Lift the front of shaft holder (6) by about 24 mm.
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.



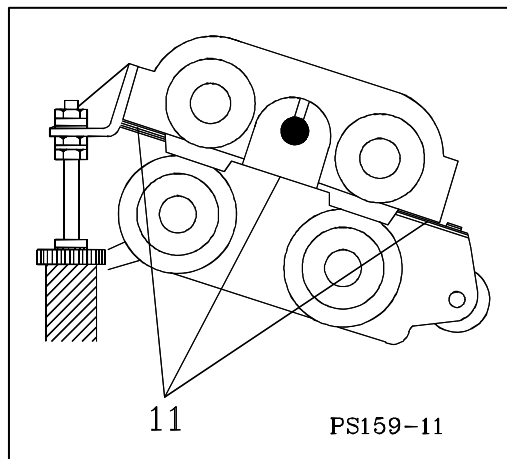
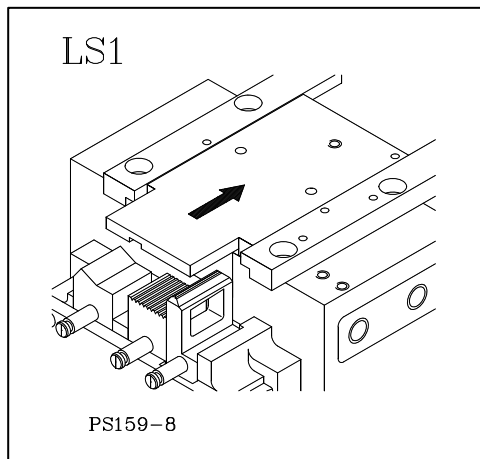
3.Strap is jammed between the roller and the guide

Remedy:

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

Attention:

1. You should never touch the hexagon nut (9) (painted in red). Re-assemble by reversing the disassembly instructions.
2. 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.



1. 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.

2. 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

3. Bad sealing

Remedy:

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

4. 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.

5. High heater temperature

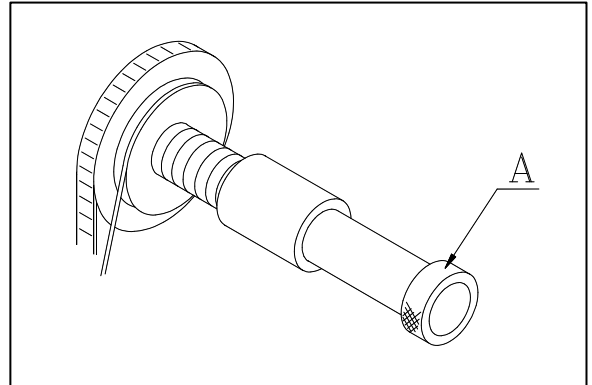
The strap is deformed, curled or poorly aligned and not sealed.

6. Strap will not reverse for tensioning

Remedy:

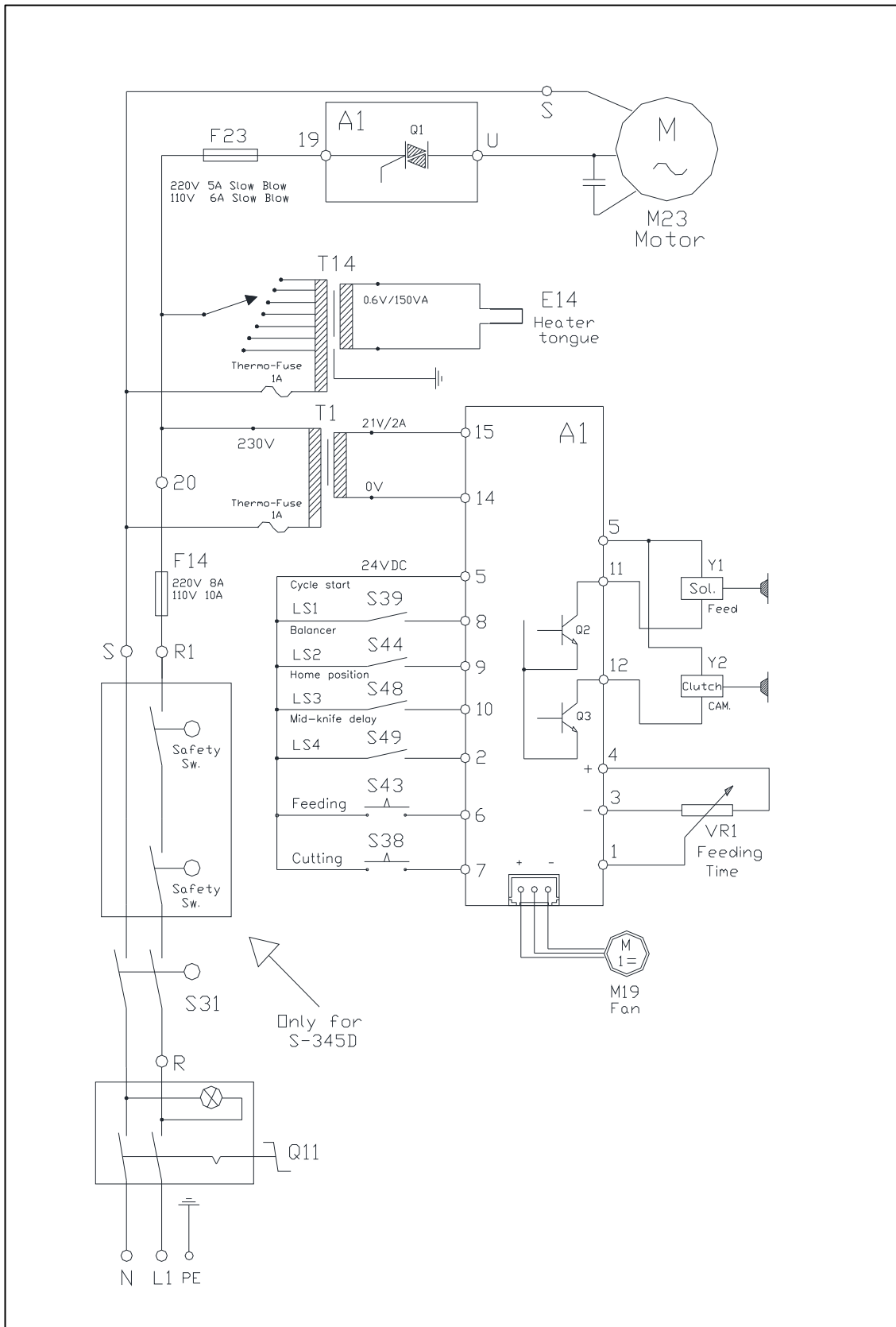
The Strap is in the correct position, but sealing does not take place, which occurs when a soft article (package) is being loosely strapped and the friction plate in the tightening adjustment section is slipping.

1. Turn off the motor switch, wait until the motor completely stops and turn the switch on again.
2. You may slightly turn the tightening adjustment nut A in the clockwise direction to increase the tension.

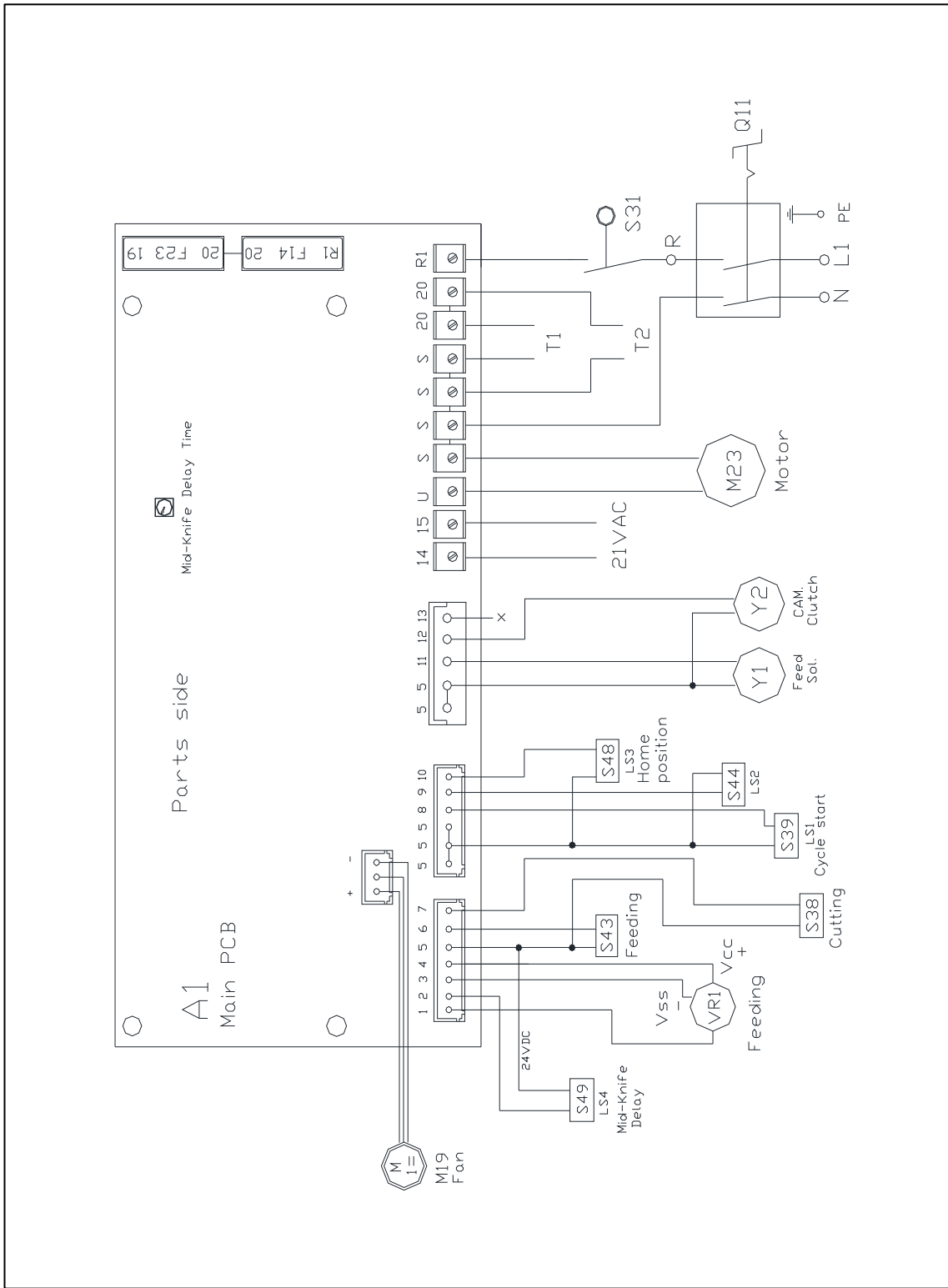


The same problem may also occur when there is oil on the tightening roller causing the strap to slip. Keep the roller clean and free of oil.

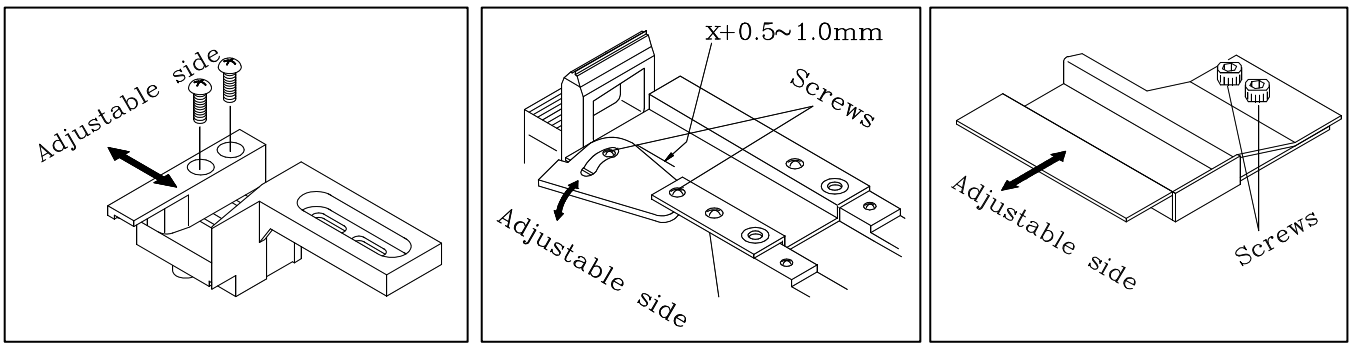
Electrical diagram—Main circuit



Electrical diagram—Connecting diagram

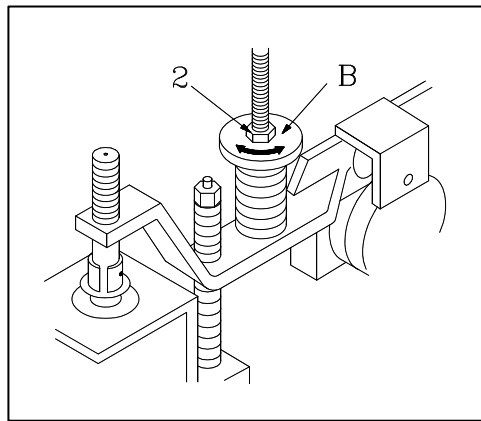
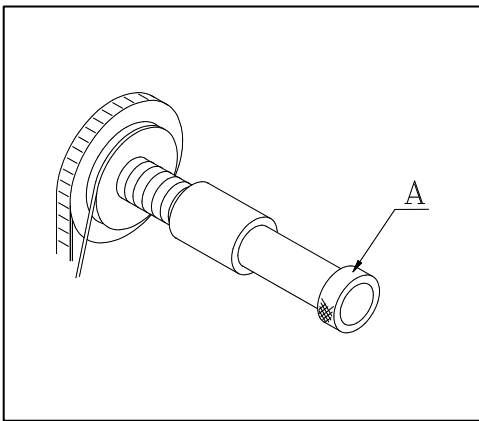


Adjustments



1. 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.



2. Strap tension

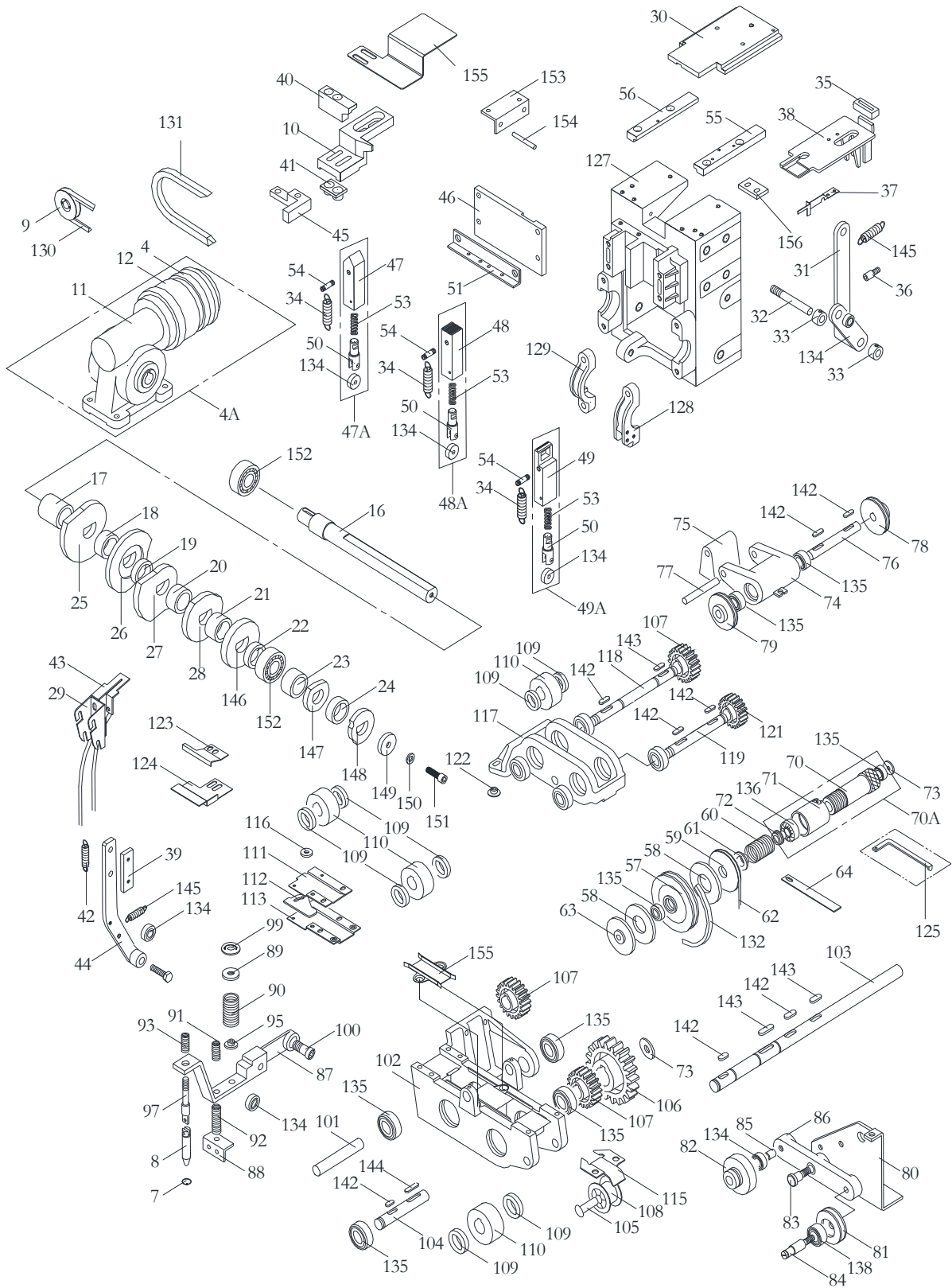
- The adjustments are made with two adjustment nuts, the tightening adjustment nut A and the strap pressing adjustment nut B.
- Adjustment nut B does not require adjustment.
- Both nuts are turned clockwise to increase the tension and counter clockwise to decrease it.

Attention:

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

Spare parts list ES-103/ES-104/
ES-104C/ES-104L

Control unit



ES103006-0

Control unit

No	Part No	Description	Qty
4	S23-191002	Pulley	1
4A	S23-191000I	Reducer Box Assembly	1
7	S13-110008	O-Ring	1
8	S13-110009	Solenoid Shaft	1
9	S23-190011	Motor Pulley	1
10	S35-125011	Rear End Guide	1
11	S23-191001	Reduction Gear Box	1
12	E21-020004	Clutch	1
16	S23-190003-1	Cam Shaft	1
17	S23-180011	Collar	1
18	S23-180012	Collar	1
19	S23-180013	Collar	1
20	S23-180014	Collar	1
21	S23-180015	Collar	1
22	S23-180016	Collar	1
23	S23-180017	Collar	1
24	S23-180018	Collar	1
25	S13-121201-1	Rear Grip Cam	1
26	S13-121202	Heater Cam	1
27	S23-190016	Press Grip Cam	1
28	S13-121204-1	Front Grip Cam	1
29	S23-190006	Heater Holder	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	3
35	S13-122007	Gum	1
36	S13-122008	Spring Hook	1
37	S35-122012-CSP	Switch Lever	1
38	S35-122150-1	Separator	1
39	S23-190004-1	Plate	1
40	S35-125008	Strap Guide Adjustment Plate	1
41	S35-125009	Strap Guide Fixed Plate	1
42	S23-190019-0	Spring	1
43	S23-190005-2	Heater Plate	1
44	S23-190150	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
47A	S13-130004A	Rear Clamp Bar Set	1
48	S13-123201	Press Bar	1
48A	S13-123200N	Press Bar Set	1
49	S13-123101-1	Front Clamp Bar	1
49A	S13-123100N	Front Clamp Bar Set	1
50	S13-123103	Plunger	3
51	S13-123008	Spring Hook	1

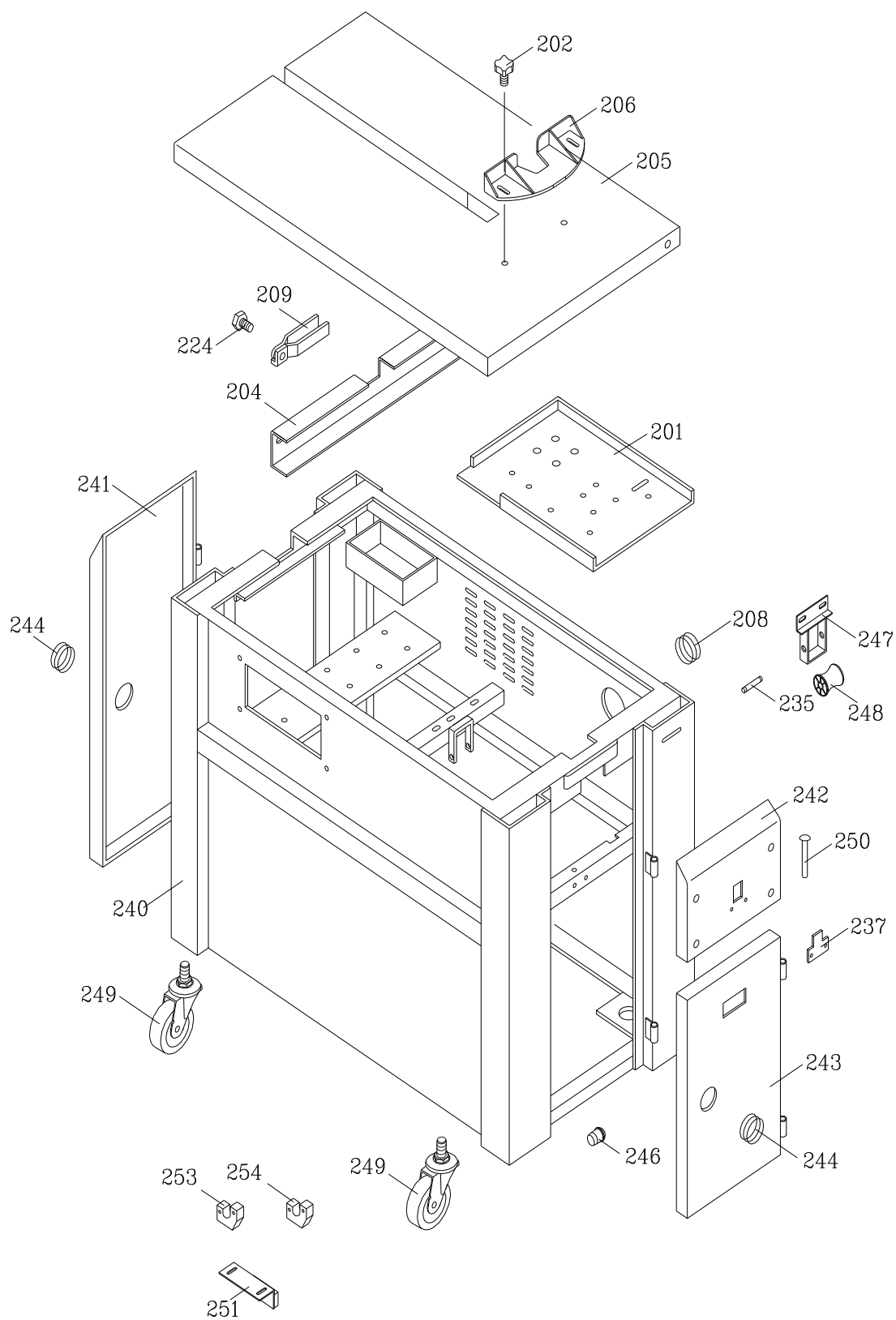
Control unit

No	Part No	Description	Qty
53	S13-123102	Plunger Spring	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	S23-160012-3	Fixed Arm for Open Type	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	S13-162003-1	Counter Shaft #137	1
77	S13-162004	Hinge Pin	1
78	S23-190012	Pulley	2
79	S23-190010	Pulley	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
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	S13-171001-01	Roller Bracket	1
103	S13-171003N-01	Feed Roller Shaft	1
104	S13-171004N	Roller Shaft	1
105	S13-171007-2	Pin #209	1

Control unit

No	Part No	Description	Qty
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	S13-171019-02	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
127	S35-125001	Cam Bracket	1
128	S35-125005	Bearing Cover	1
129	S35-125006	Bearing Cover	1
130	G16-010027	V-Belt, M-27	1
131	G16-070019	V-Belt, K-19	1
132	G16-070021	V-Belt, K-21	1
134	G04-210635	Bearing, 635ZZ	7
135	G04-216002	Bearing, 6002ZZ	12
136	G04-216005	Bearing, 6005ZZ	1
138	G04-210608	Bearing, 608ZZ	1
142	W35-050515	Parallel Key (5*5*15)	8
143	W35-050520	Parallel Key (5*5*20)	3
144	W35-050538	Parallel Key (5*5*38)	1
145	S13-122009	Slide Table Spring	2
146	S13-121205	Separator Cam	1
147	S13-121206	Feed Back Cam	1
148	S23-190017	LS3/LS4 Cam	1
149	S23-180019	Fixed Collar	1
150	W19-010106	Pain Washer PW M6	1
151	W01-510620	Soc.hd Cap Screw HBS M6×20	1
152	G04-216003	Bearing 6003ZZ	1
153	S35-125010	Limit Switch Bracket	1
154	S35-125004	Switch Pin	1
155	S35-215001-1	Heater Cover	1

Frame unit—ES-103

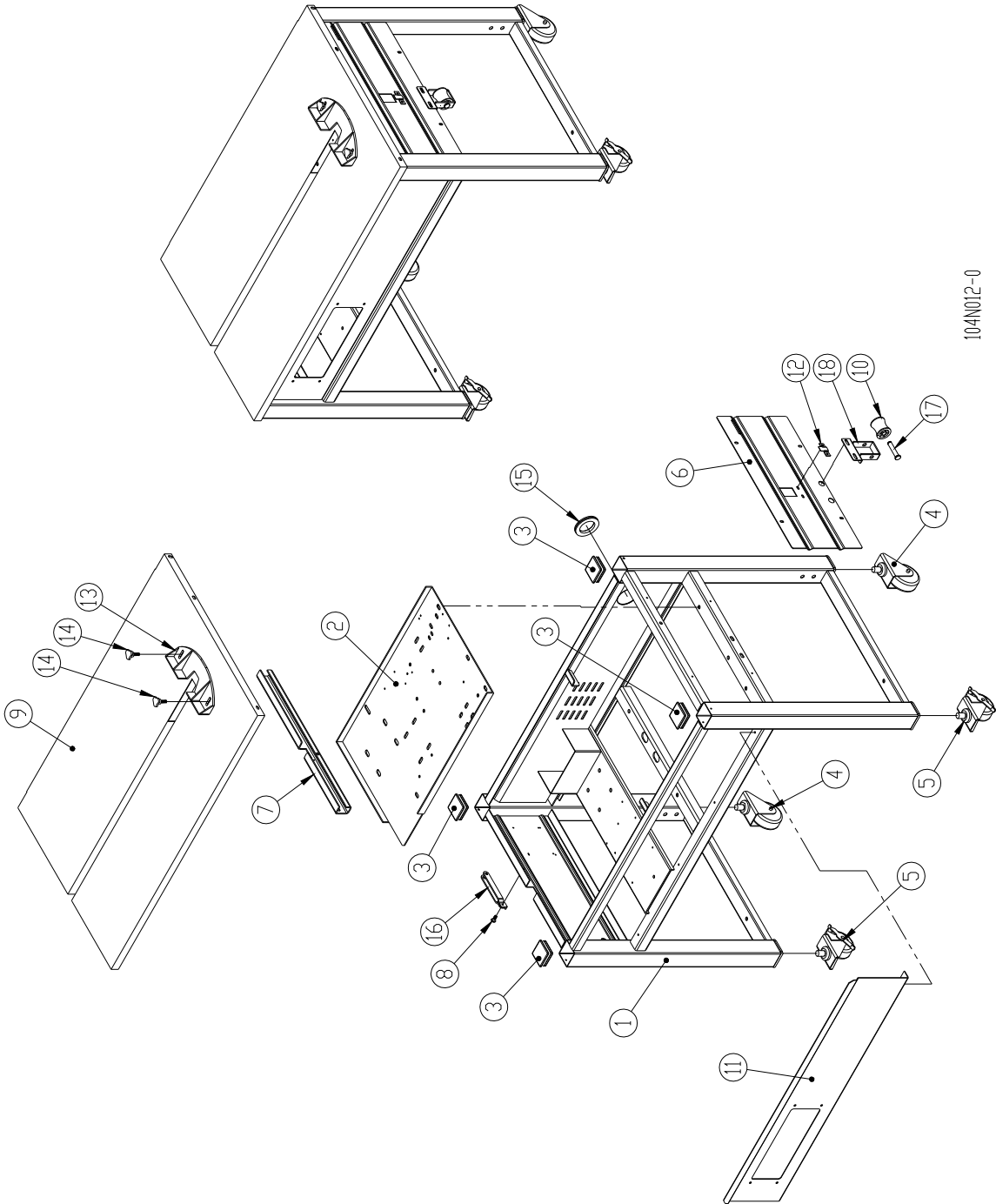


ES103004-0

Frame unit—ES-103

No	Part No	Description	Qty
201	S23-190009-1	Bracket	1
202	S13-300009	Knob	2
204	S13-350002-0	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	S23-330001-2	Screw	1
235	S13-423001	Shaft	1
237	S13-171026-3	Inlet Cover (15mm)	1
240	S13-370050-2	Frame	1
	S13-370650-0	Frame(CE)	1
241	S13-330050R1	Side Door (L)	1
242	S14-300001R1-4	Protection Cover	1
243	S13-340050R1	Side Door (R)	1
244	S13-300010	Plastic Lid	2
246	S13-330053	Bead	1
247	S13-423150	Band Guide Bracket	1
248	S23-424001	Roller	1
249	S23-300011	Caster	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

Frame unit—ES-104

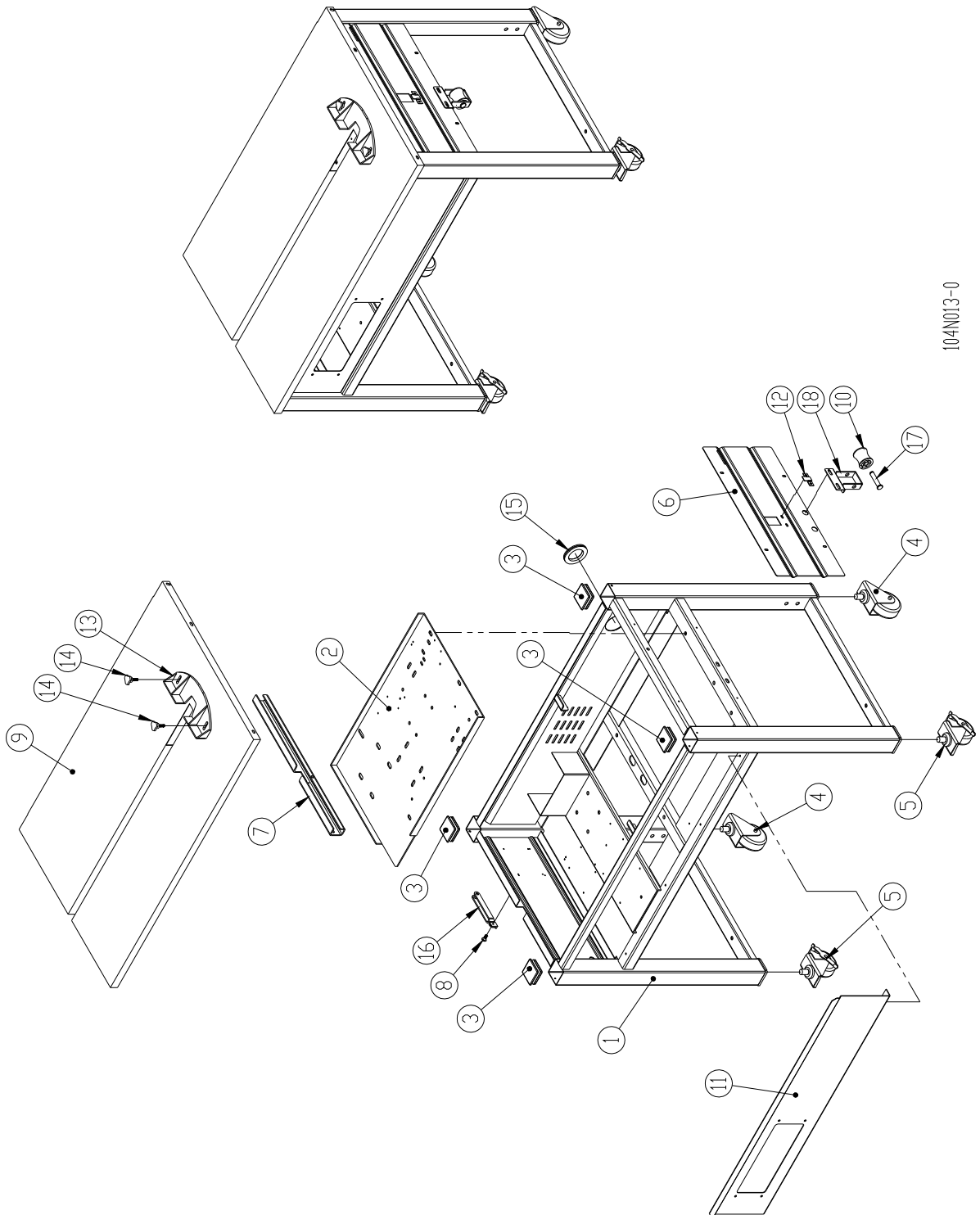


104N012-0

Frame unit—ES-104

No	Part No	Description	Qty
1	S23-380050-1	Frame	1
2	S23-190009-1	Bracket	1
3	S23-300005-1	Lid	4
4	S23-300011	Caster W/O Brake	2
5	S23-300012	Caster with Brake	2
6	S23-300013-1	Protection Cover	1
7	S23-320050R2	Support	1
8	S23-330001	Screw	1
9	S23-330050R2	Top Plate (Hinge Type)	1
10	S23-424001	Roller	1
11	S34-311051	Front Panel	1
12	S13-171026-2	Inlet Cover	1
13	S13-300008R2	Package Guide	1
14	S13-300009	Knob	2
15	S13-300016	Plastic Lid	1
16	S13-390050R1	Support Rod	1
17	S13-423001-3	Shaft	1
18	S13-423150	Roller Bracket	1

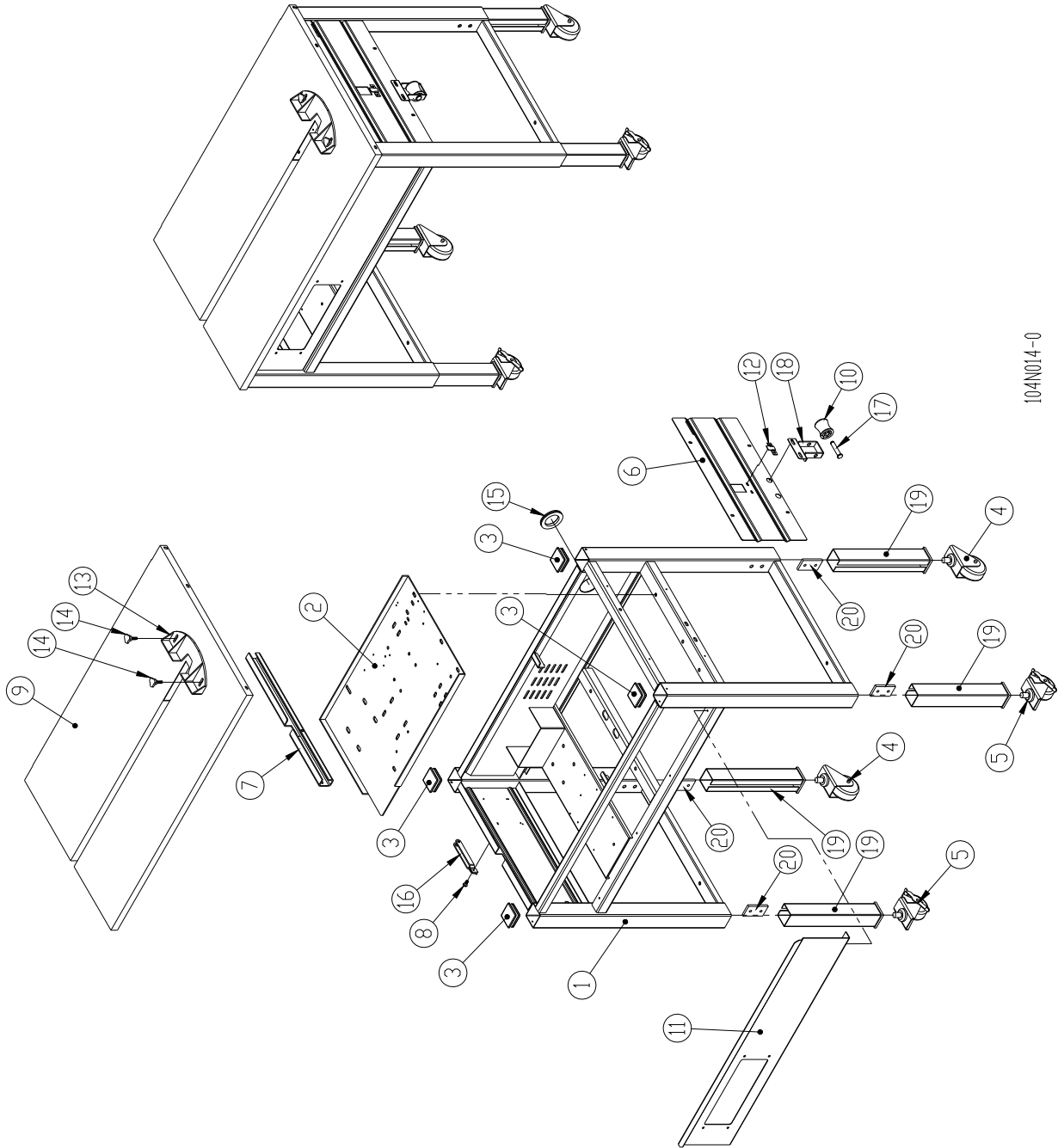
Frame unit—ES-104(CE)



104N013-0

Frame unit—ES-104(CE)

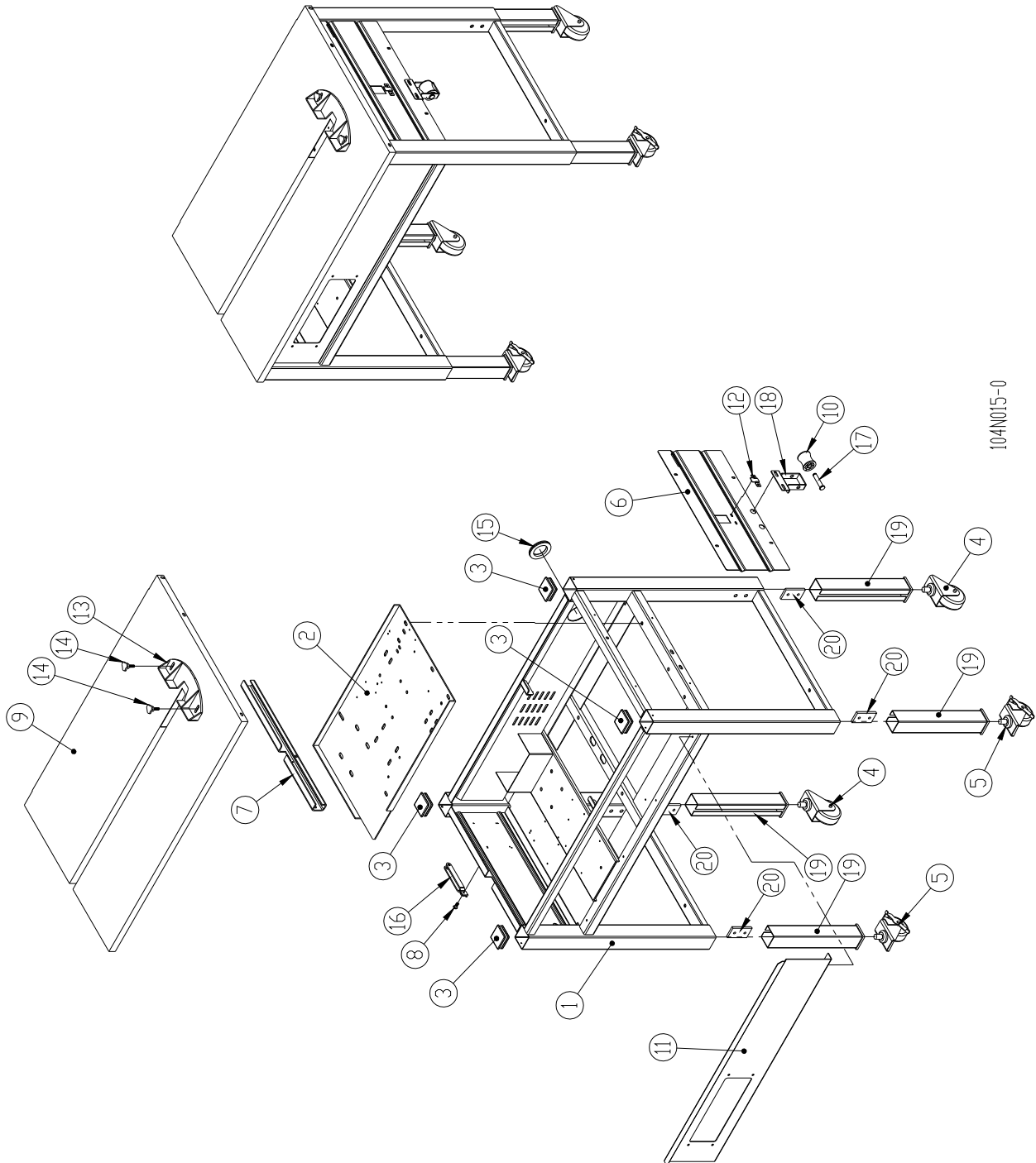
No	Part No	Description	Qty
1	S23-380050A-1	Frame	1
2	S23-190009-1	Bracket	1
3	S23-300005-1	Lid	4
4	S23-300011	Caster W/O Brake	2
5	S23-300012	Caster with Brake	2
6	S23-300013-1	Protection Cover	1
7	S23-320050R2	Support	1
8	S23-330001-2	Screw	1
9	S23-330050R2	Top Plate (Hinge Type)	1
10	S23-424001	Roller	1
11	S34-311051	Front Panel	1
12	S13-171026-2	Inlet Cover	1
13	S13-300008R2	Package Guide	1
14	S13-300009-0	Knob	2
15	S13-300016	Plastic Lid	1
16	S13-390050R1	Support Rod	1
17	S13-423001-3	Shaft	1
18	S13-423150	Roller Bracket	1



104N014-0

Adjustment**Frame unit—ES-104**

No	Part No	Description	Qty
1	S23-380150-0	Frame	1
2	S23-190009-1	Bracket	1
3	S23-300005-1	Lid	4
4	S23-300011	Caster W/O Brake	2
5	S23-300012	Caster with Brake	2
6	S23-300013-1	Protection Cover	1
7	S23-320050R2	Support	1
8	S23-330001-2	Screw	1
9	S23-330050R2	Top Plate (Hinge Type)	1
10	S23-424001	Roller	1
11	S34-311051	Front Panel	1
12	S13-171026-2	Inlet Cover	1
13	S13-300008R2	Package Guide	1
14	S13-300009-0	Knob	2
15	S13-300016	Plastic Lid	1
16	S13-390050R1	Support Rod	1
17	S13-423001-3	Shaft	1
18	S13-423150	Roller Bracket	1
19	S25-313151	Adjustable Feet	4
20	S25-313152-1	Fix Block	4

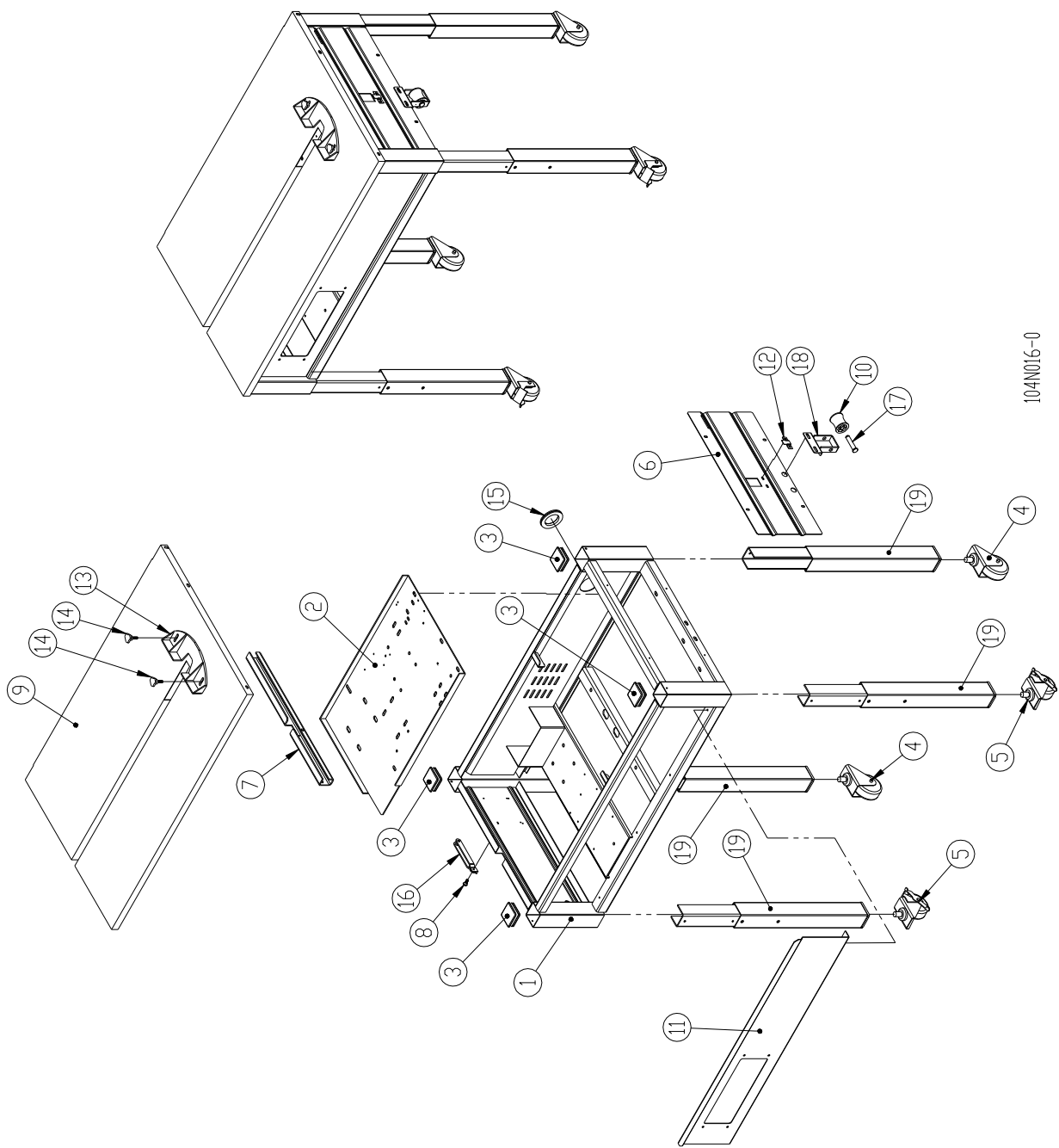


104N015-0

Adjustment**Frame unit—ES-104(CE)**

No	Part No	Description	Qty
1	S23-380150A-0	Frame	1
2	S23-190009-1	Bracket	1
3	S23-300005-1	Lid	4
4	S23-300011	Caster W/O Brake	2
5	S23-300012	Caster with Brake	2
6	S23-300013-1	Protection Cover	1
7	S23-320050R2	Support	1
8	S23-330001-2	Screw	1
9	S23-330050R2	Top Plate (Hinge Type)	1
10	S23-424001	Roller	1
11	S34-311051	Front Panel	1
12	S13-171026-2	Inlet Cover	1
13	S13-300008R2	Package Guide	1
14	S13-300009-0	Knob	2
15	S13-300016	Plastic Lid	1
16	S13-390050R1	Support Rod	1
17	S13-423001-3	Shaft	1
18	S13-423150	Roller Bracket	1
19	S25-313151	Adjustable Feet	4
20	S25-313152-1	Fix Block	4

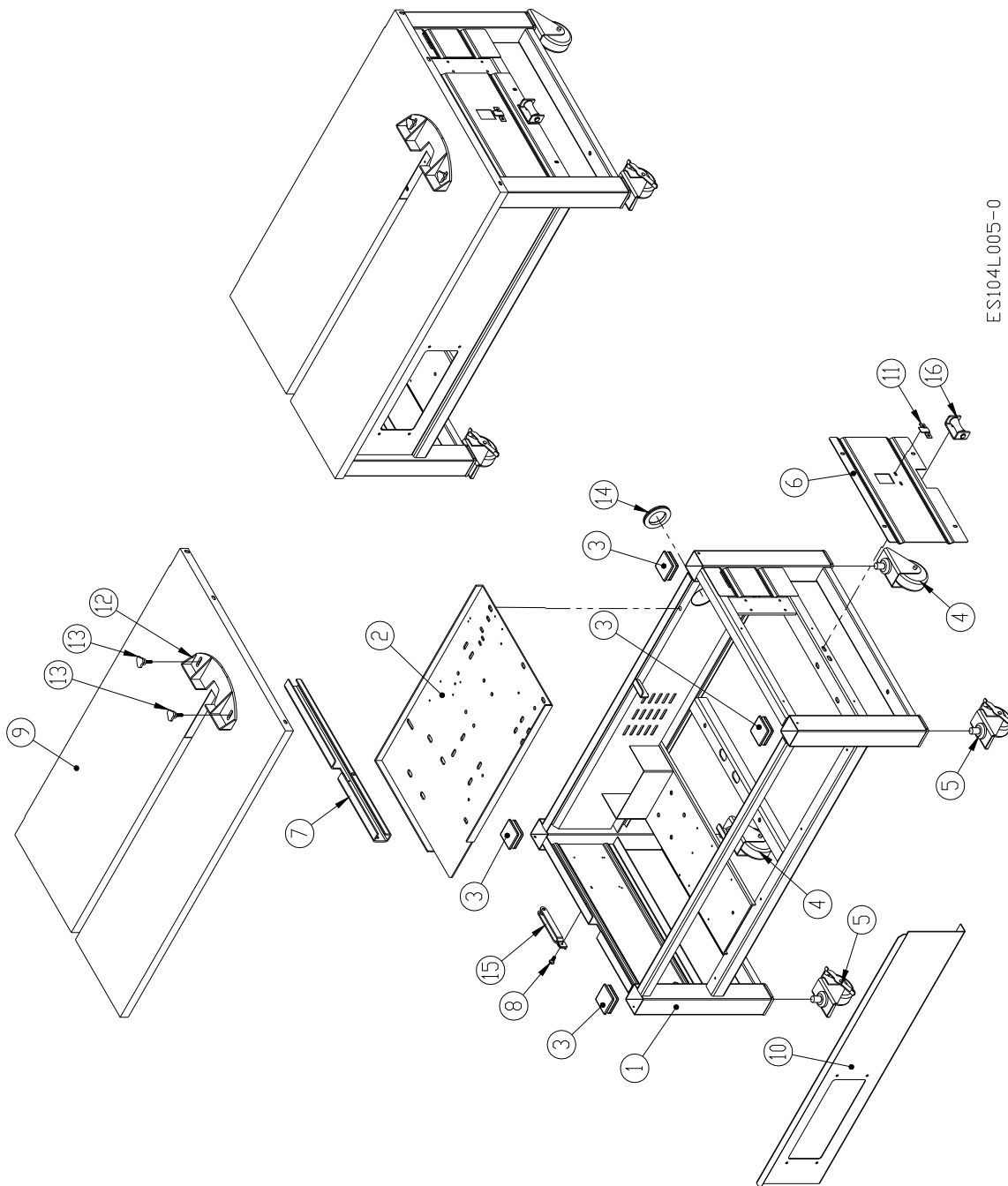
Frame unit—ES-104C



Frame unit—ES-104C

No	Part No	Description	Qty
1	S23-310050R2-2	Frame	1
2	S23-190009-1	Bracket	1
3	S23-300005-1	Lid	4
4	S23-300011	Caster W/O Brake	2
5	S23-300012	Caster with Brake	2
6	S23-300013-1	Protection Cover	1
7	S23-320050R2	Support	1
8	S23-330001-2	Screw	1
9	S23-330050R2	Top Plate (Hinge Type)	1
10	S23-424001	Roller	1
11	S34-311051	Front Panel	1
12	S13-171026-2	Inlet Cover	1
13	S13-300008R2	Package Guide	1
14	S13-300009-0	Knob M6x20L	2
15	S13-300016	Plastic Lid	1
16	S13-390050R1	Support Rod	1
17	S13-423001-3	Shaft	1
18	S13-423150	Roller Bracket	1
19	S23-313250-2	Adjustable Feet	4

Frame unit—ES-104L

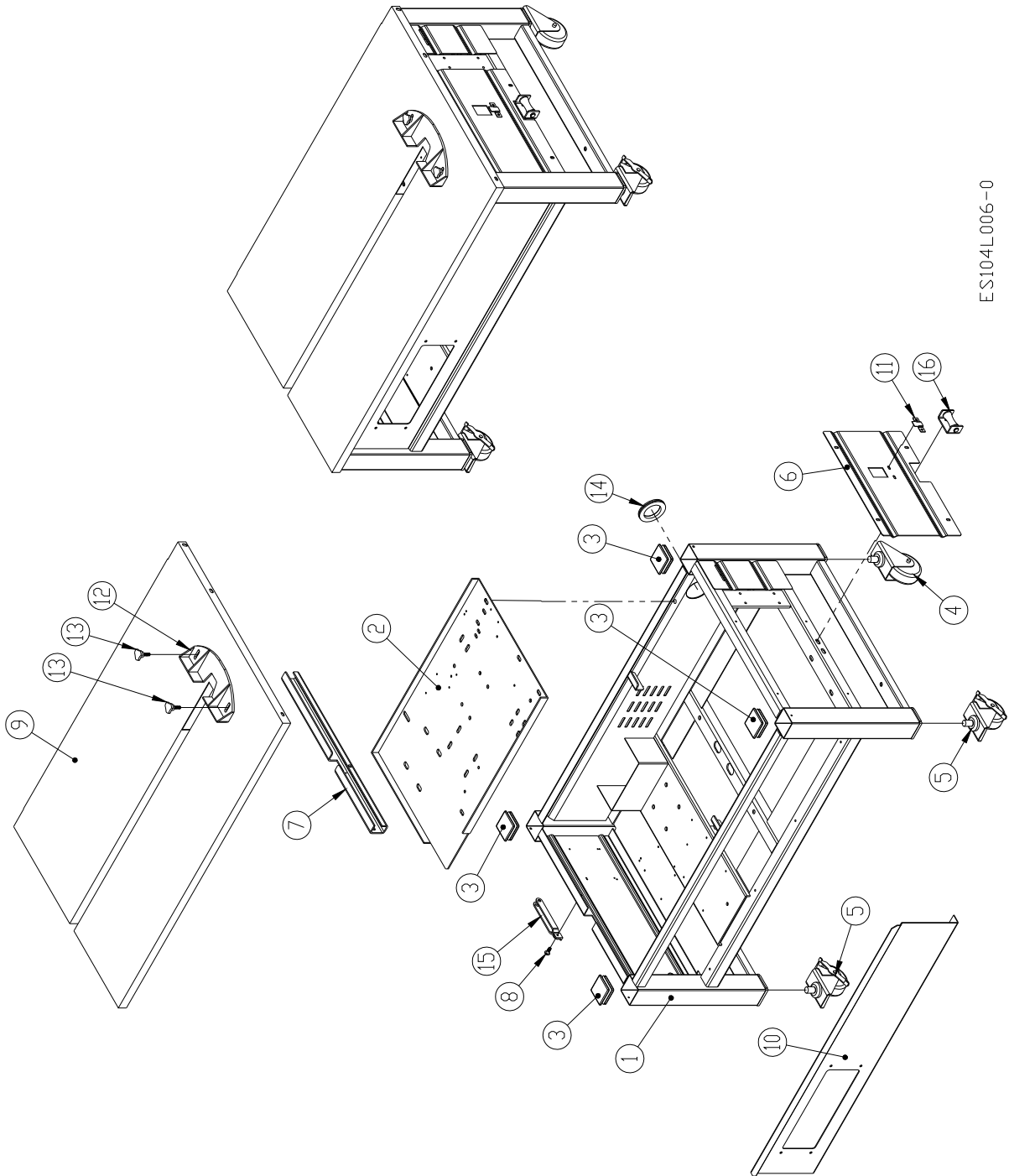


ES104L005-0

Frame unit—ES-104L

No	Part No	Description	Qty
1	S24-360050-1	Frame	1
2	S23-190009-1	Bracket	1
3	S23-300005-1	Lid	4
4	S23-300011	Caster W/O Brake	2
5	S23-300012	Caster with Brake	2
6	S24-300001A	Protection Cover(A)	1
7	S23-320050-R2	Support	1
8	S23-330001-2	Screw	1
9	S23-330050-R2	Top Plate (Hinge Type)	1
10	S34-311051	Front Panel	1
11	S13-171026-2	Inlet Cover	1
12	S13-300008-R2	Package Guide	1
13	S13-300009-0	Knob	2
14	S13-300016	Plastic Lid	1
15	S13-390050R1	Support Rod	1
16	S14-424000	Roller	1

Frame unit—ES-104L(CE)

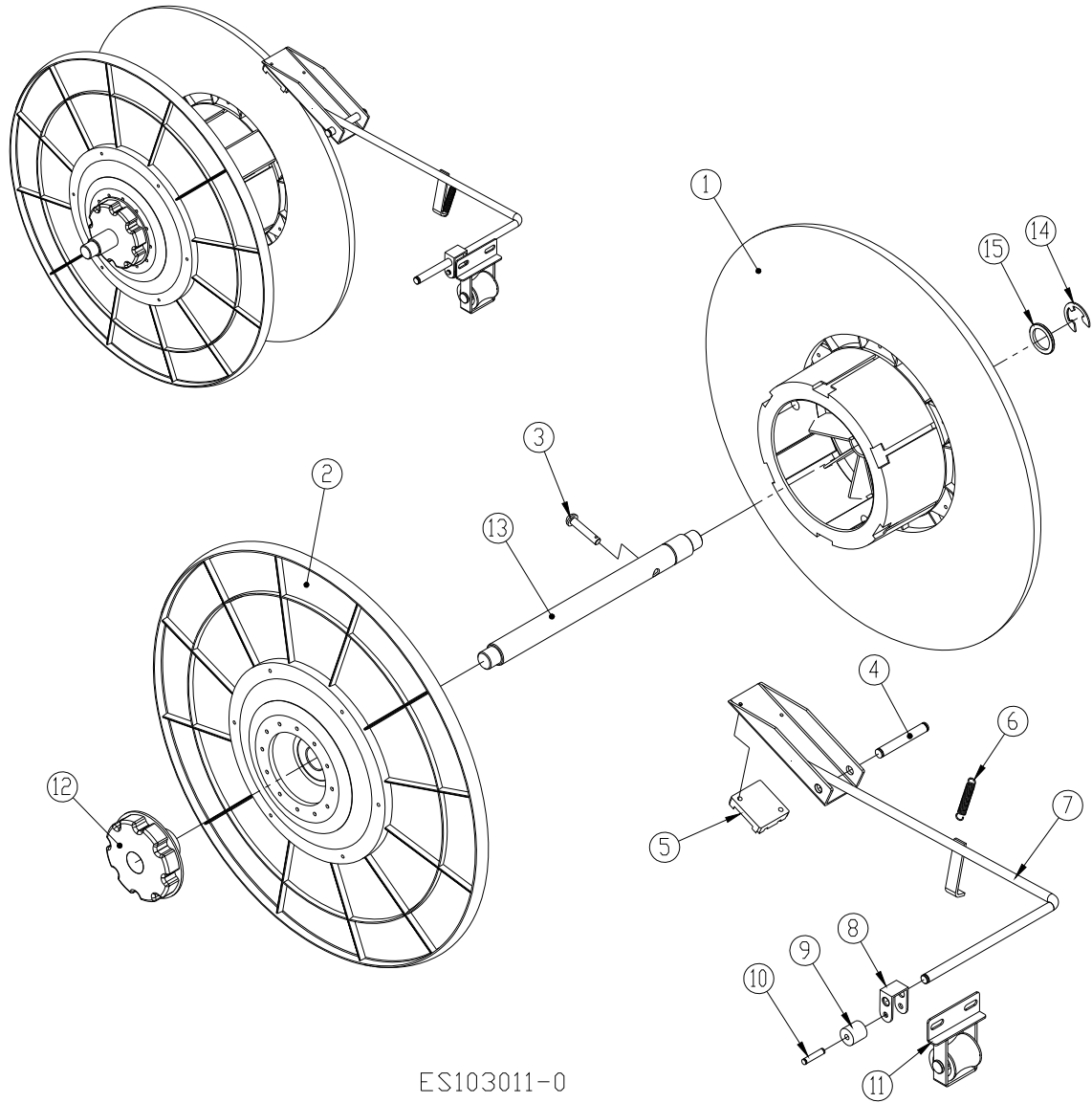


ES104L006-0

Frame unit—ES-104L(CE)

No	Part No	Description	Qty
1	S24-363050-0	Frame	1
2	S23-190009-1	Bracket	1
3	S23-300005-1	Lid	4
4	S23-300011	Caster W/O Brake	2
5	S23-300012	Caster with Brake	2
6	S24-300001A	Protection Cover(A)	1
7	S23-320050R2	Support	1
8	S23-330001-2	Screw	1
9	S23-330050R2	Top Plate (Hinge Type)	1
10	S34-311051	Front Panel	1
11	S13-171026-2	Inlet Cover	1
12	S13-300008R2	Package Guide	1
13	S13-300009-0	Knob M6x20L	2
14	S13-300016	Plastic Lid	1
15	S13-390050R1	Support Rod	1
16	S14-424001	Roller	1

Reel unit—ES-103

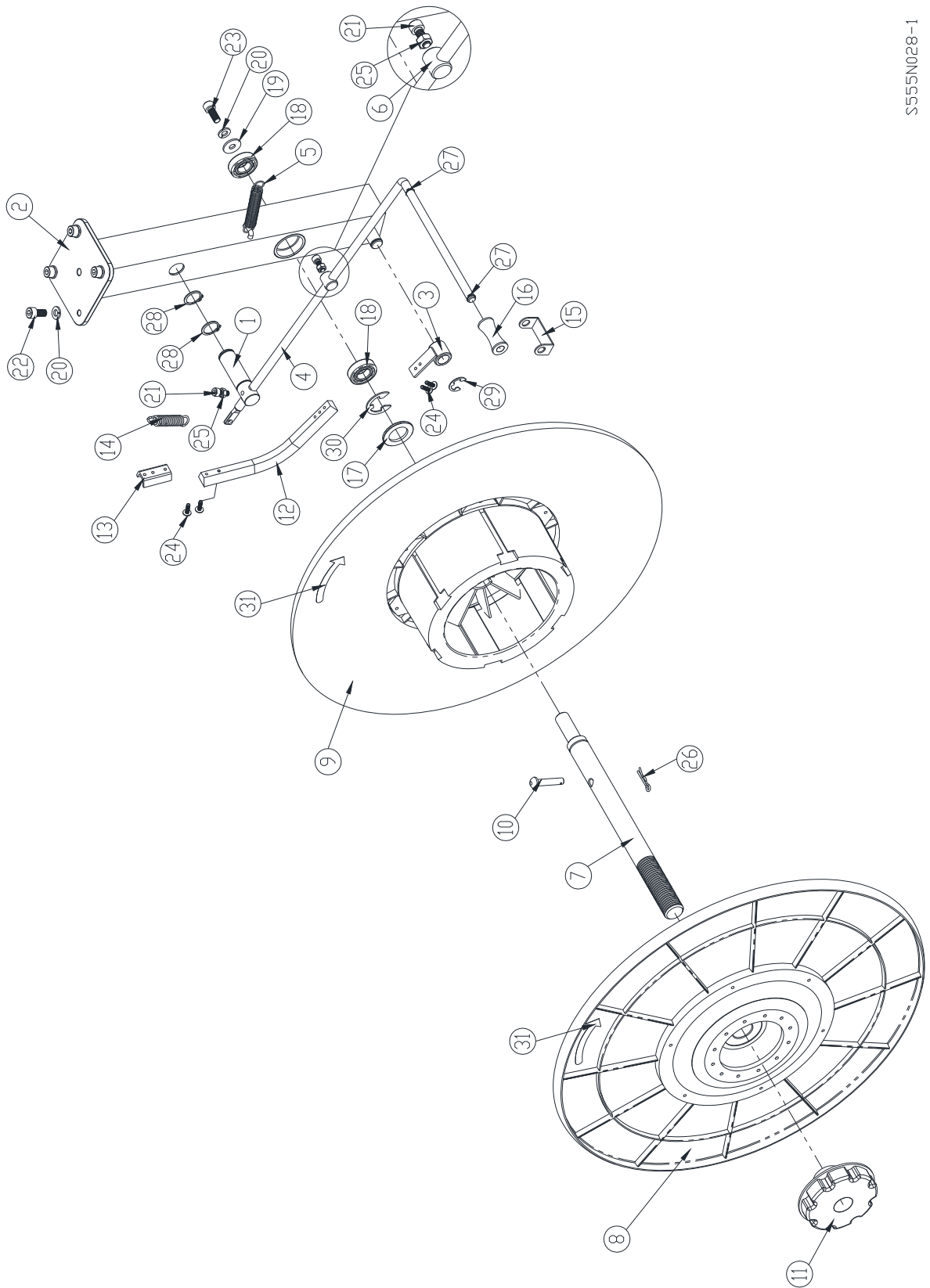


ES103011-0

Frame unit—ES-103

No	Part No	Description	Qty
1	S23-431050-120	Reel Side Plate (Inside)	1
2	S23-430003-120	Reel Side Plate (Outside)	1
3	S13-410006	Pin	1
4	S13-420001-0	Brake Holder	
5	S13-420004-1	Rubber Stop	
6	S13-420005-0	Spring	1
7	S13-421050	Brake Arm	1
8	S13-422001-0	Roller Holder	1
9	S13-422002-0	Roller	1
10	S13-422003-0	Roller Fixed Pin	1
11	S13-423000-1	313 Fixed Slide Roller Set	1
12	S13-450001	Reel Nut Handle (R)	1
13	S13-450005	Reel Shaft	1
14	W33-030190	E Type Snap Ring E19	1
15	S13-460001-0	Washer	1

Reel unit—ES-104

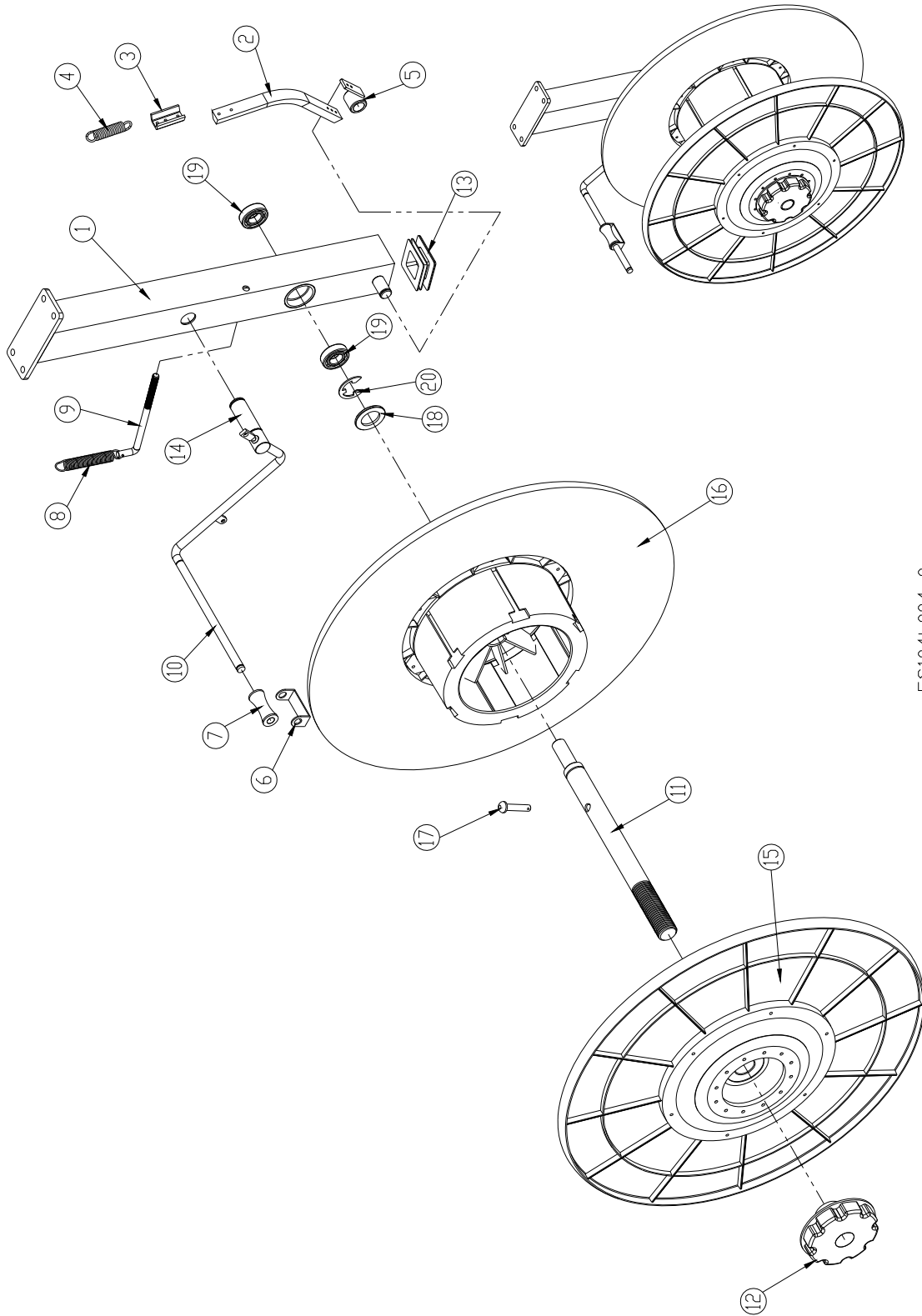


S555N028-1

Reel unit—ES-104

No	Part No	Description	Qty
1	S23-420003-0	Brake Arm Shaft	1
2	S23-421350-0	Reel Support	1
3	S23-422150-1	Brake Base	1
4	S23-423001	Brake Arm	1
5	S23-423003	Spring	1
6	S23-423005-1	Brake Spring Adjustment	1
7	S23-430002	Reel Shaft	1
8	S23-430003-120	Reel Side Plate (Outside)	1
9	S23-431050-120	Reel Side Plate (Inside)	1
10	S13-410006	Pin	1
11	S13-450001	Reel Nut Handle (R)	1
12	S14-422001	Brake Belt	1
13	S14-422002-2	Fixed Base	1
14	S14-422003	Spring	1
15	S14-423001	Roller Holder	1
16	S14-423002	Roller	1
17	A20-630007-1	Washer	1
18	G04-116003	Ball Bearing 6003ZZ	2
19	W19-010108-1	Washer M8 $\Phi 8 \times \Phi 23 \times 2t$	1
20	W19-020108	SW M8	5
21	W01-210616	HBS M6*16	2
22	W01-210816	HBS M8*16	4
23	W01-210820	HBS M8*20	1
24	W14-310415	HBS M4*15	4
25	W15-110600	HN M6	2
26	W31-208000	Pin R8	1
27	W33-020100	C Type Ring	2
28	W33-020200	C Type Ring	2
29	W33-030120	E Type Ring E12	1
30	W33-030190	E Type Snap Ring E19	1
31	P08-120005	Label	2

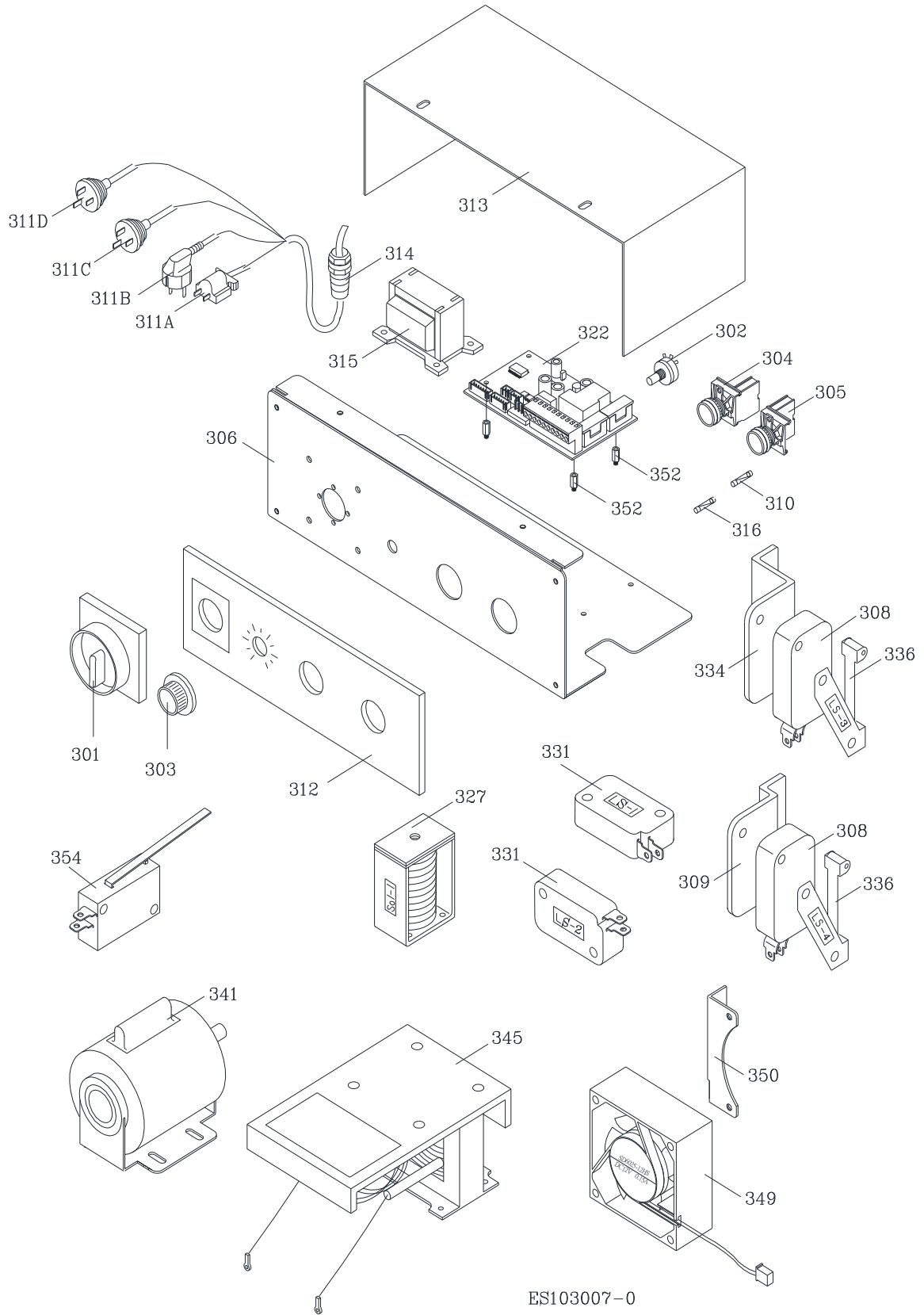
Reel unit—ES-104L



ES104L004-0

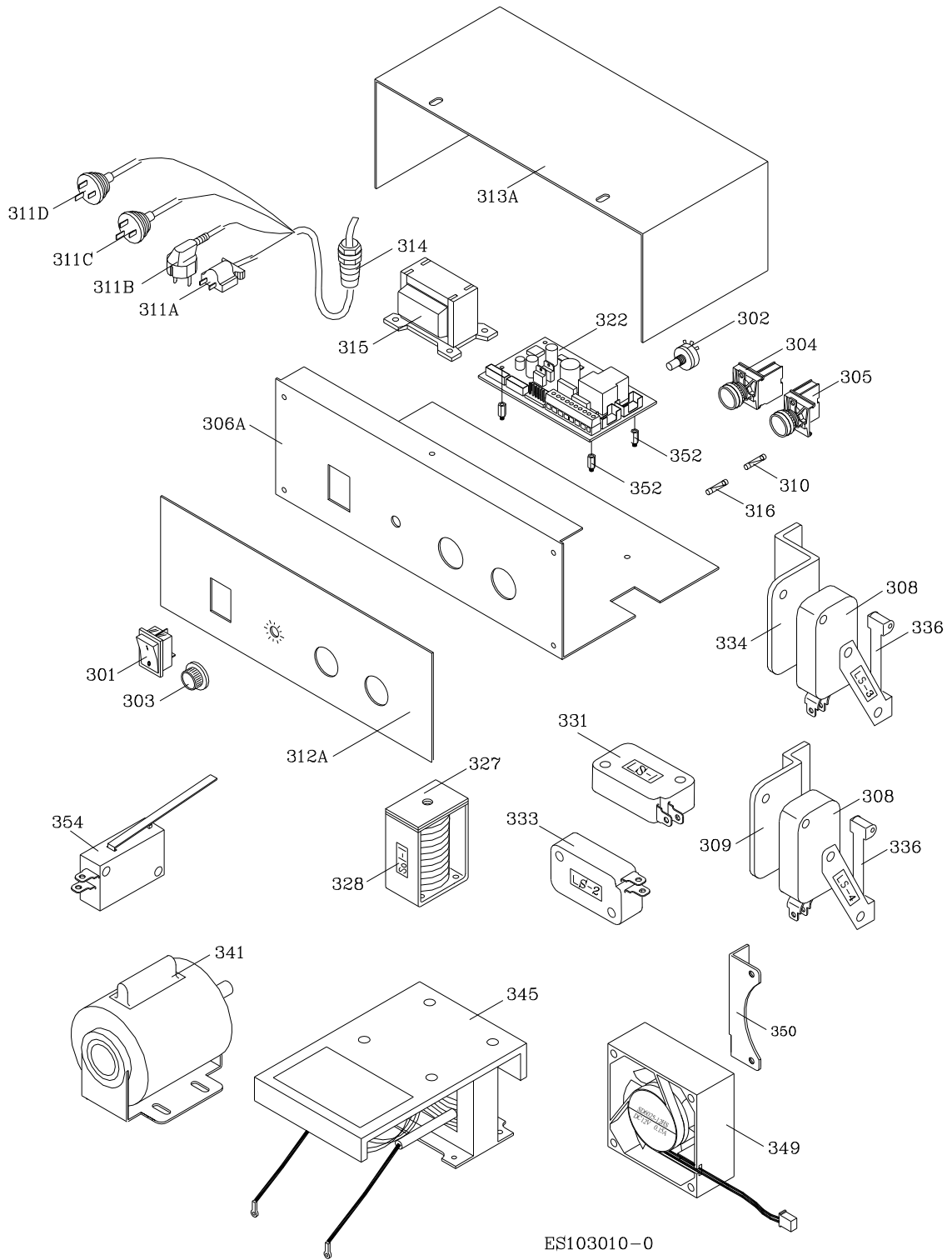
Reel unit—ES-104L

No	Part No	Description	Qty
1	S14-421150-0	Reel Support	1
2	S14-422001	V-Belt Fixed Bracket	1
3	S14-422002-2	V-Belt Fixed Bracket	1
4	S14-422003	Spring	1
5	S14-422150-1	V-Belt Holder	1
6	S14-423001	Roller Holder	1
7	S14-423002	Roller	1
8	S23-423003	Spring	1
9	S14-423004R1	Spring Bracket	1
10	S14-423150	Free Band Guide Arm	1
11	S23-430002	Reel Shaft	1
12	S14-450001	Reel Nut Handle	1
13	S23-300005-1	Lid	1
14	S23-420003-0	Brake Shaft	1
15	S23-430003-120	Reel Out Circular	1
16	S23-431050-120	Reel In Circular	1
17	S13-410006	Pin	1
18	A20-630007-1	Washer	1
19	G04-116003	Ball Bearing, 6003z	2
20	W33-030190	E Type Snap Ring E19	1



No	Part No	Description	Qty
301	E07-010049	Power Switch	1
302	E13-020015-1	Variable Resister	1
303	E07-070002	Knob	1
304	E07-020027	Push Button Switch (R) ABFB-W	1
305	E07-020028	Push Button Switch (F) ABFB-G	1
306	S13-222003-2	Switchboard Name Plate	1
308	E07-040024	Micro Switch (LS3/LS4) VMN-06S-00D0-B-Z	2
309	S23-190014-1	Microswitch Bracket LS-3	1
310	E23-010037	Fuse (8A, 110V), 6*30mm/8A	1
311A	E61-125321	American Power Cord	1
311B	E61-125341	European Power Cord	1
311C	E61-125351	Great Britain Power Cord	1
311D	E61-125361	Australian Power Cord	1
312	S33-220001-1	Control Plate	1
313	S13-222005-0	Control Box Cover	1
314	E55-030002	Grommet SR-6R1	1
315	E17-010076	Transformer (110V/230V/2A)	1
316	E23-010036	Fuse (5A, 230V), 6*30mm/5A	1
322	E25-101042-2	PCB	1
327	E21-040018	Solenoid 230V (1.06K Ω /13W)	1
331	E07-040005R1	Micro Switch (LS-2) VMN-06D-00D0-B	2
333	E07-040024	Micro Switch (LS-1, LS-3) VK-06H-00D1	2
334	S23-190008-1	Microswitch Bracket	1
336	S13-210009	Switch Trigger LS-3 AA2501	1
341	E01-010024	Motor (110/230V, 50HZ)	1
	E01-010025	Motor (110/230V, 60HZ)	1
	E01-010050	Motor (220V/110,60HZ)	1
	E01-010051	Motor (240V/50HZ)	1
345	S13-214000-1	Trasformatore (110V)	1
	S13-214000-2R1P2	Trasformatore (230V)	1
349	E01-040018-2	Fan SD-6205-12HS/DC12V/0.15A	1
350	S13-223003-0	Fan Support	1
351	E07-040036	Micro Switch V3-25S-03D3	1
352	E55-150011	PC Board Spacer LCA35-10	1
354	E07-040036	Micro Switch V3-25S-03D3	1

Electric control unit



Electric control unit

No	Part No	Description	Qty
301	E07-050027	Power Switch T120-10 (4)/250	1
302	E13-020015-1	Variable Resister BIK ohm	2
303	E07-070002	Knob	1
304	E07-020043	Push Button Switch (R) ABFB-Y	1
305	E07-020027	Push Button Switch (F) ABFB-W	1
306A	S13-223001-0	Switchboard Name Plate	1
308	E07-040024	Micro Switch (LS3/LS4) VMN-06S-00DO-B-Z	2
309	S23-190014	Micro Switch Bracket LS-4	1
310	E23-010017	Fuse , 5*20mm/15A,Slow Blow	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
312A	S13-221003	Control Plate (ES103)	1
313A	S13-223002-0	Switch Cover (ES103)	1
314	E55-030002	Grommet SR-6R1	1
315	E17-010076	Transformer (110V/230V/2A)	1
316	E23-010022	Fuse , 5*20mm/8A	1
322	E25-101042-2	P.C. Board	1
327	E21-040018	Solenoid 24VDC/14Ω	1
328	S13-210013	Sticker (SOL-1)	1
331	E07-040005R1	Micro Switch (LS-1,LS-2) VMN-06D-00D0-B	2
334	S23-190008	Micro switch Bracket LS-3	1
336	S13-210009	Switch Trigger LS-3 AA2501	1
341	E01-010024	Motor (230V/110V/50HZ)	1
	E01-010025	Motor (115V/220V/60HZ)	1
	E01-010050	Motor (220V/60HZ)	1
	E01-010051	Motor (240V/50HZ)	1
345	S13-214000-1	Heater Transformer (110V)	1
	S13-214000-2R1-P2	Heater Transformer (220V)	1
349	E01-040018-2	SD-6205-12HS/DC 12V/0.15A	1
350	S13-223003-0	Fan Support	1
352	S35-220006	Collar	4
354	E07-040036	Micro Switch V3-25S-03D3	1