INTRODUCTION

The A.R.C. Binder is a versatile machine made for tying various products in different areas :

INDUSTRY

HORTICULTURE

VEGETABLE FARMING

NURSERY

- The machine can either use flexible tying materials or less pliable materials such as synthetic raffia or string.
- We highly recommend that you carefully read the following pages concerning the use and maintenance of the machine in order to get maximum use and to lengthen the life span of the machine.
- The average continuous noise level equivalent to an A while working, is below or equal to 70 dB (A).
- As the machine weighs approximately 75 Kgs. It's necessary that two persons handle it when moving it (Just in case the machine is used without stand)
- This manual is applicable to the following types of machines: MA – MB – MC – MAI – MBI and MCI.
- These types of binders are in compliance with the technical descriptions listed in article R 4312-1 of the work code (Decree 2008-1156 dated on 07th November 2008).
  The decree 2008-1156 is the transcription from the French laws in accordance with the European directive for the machine 2006/42/CE of May 17, 2006.

N° 2026B – 03/12

CE Has been verified and approved by french organization
APAVE N° 1 H 3935 – LS / CL

USE

CONTROL PANEL (See diagram)

1 . The "ON" button

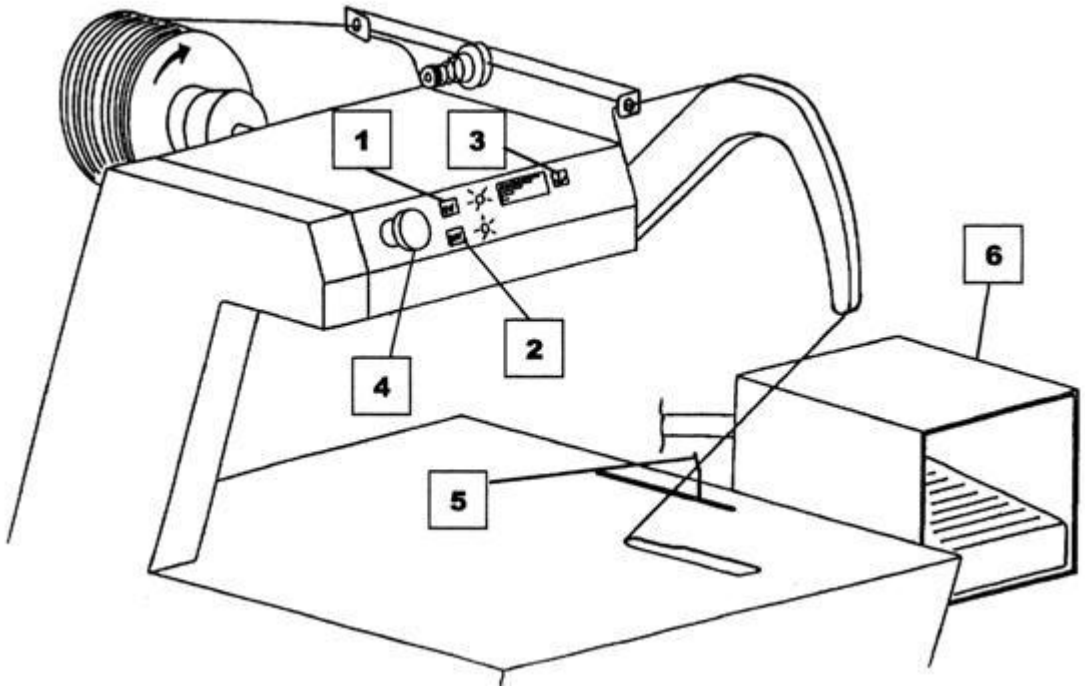
2 . The "OFF" button

3 . Step by step

4 . Emergency stop

5 . Automatic release

6 . Pedal release



OPERATING THE MACHINE

PLUGGING IN THE MACHINE

The machine is designed to be connected to a wall outlet that conforms to regulatory requirements. The cables are designed for o voltage of 500 volts.

- Plug in the machine after making sure that the voltage of the machine corresponds to the wall outlet.

CAREFUL

If using 380 volts, check the direction of the rotation of the motor.

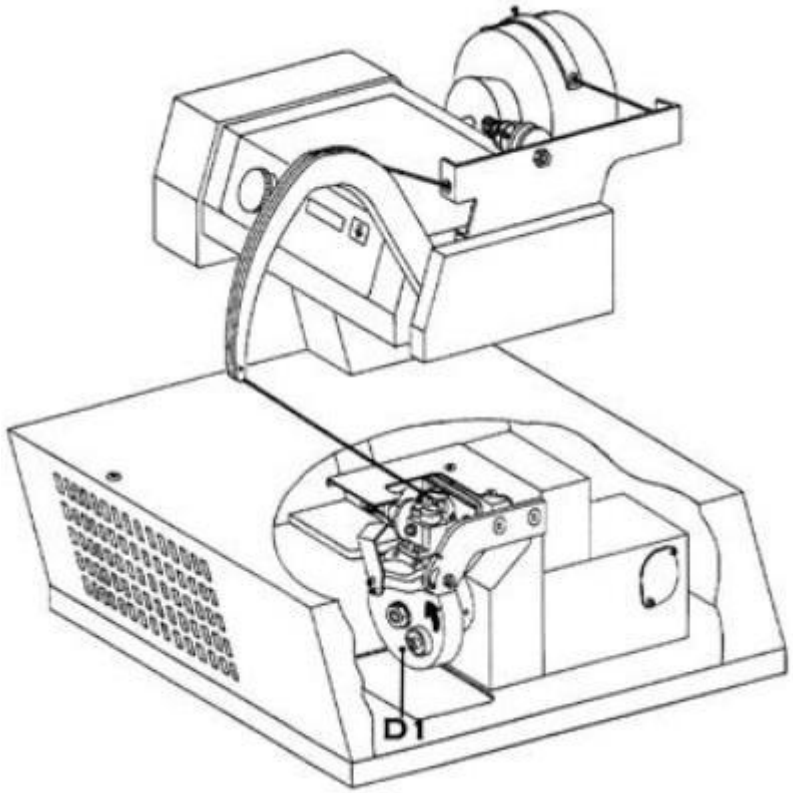
- After removing the table touch lightly the button Rep.3 (diagram page 2) and make sure the arrow that is painted the tray D1 goes in the correct direction (opposite direction of the clock). If this situation occurs, modify the direction of the rotation by inversing 2 phases to the plug.

- Never let the machine run counter clock in the wrong direction.

- Put the table back

- Start the machine by using either the start switch on the table or using the pedal.

- The arm does a complete cycle (down and up), now feed the tying material.



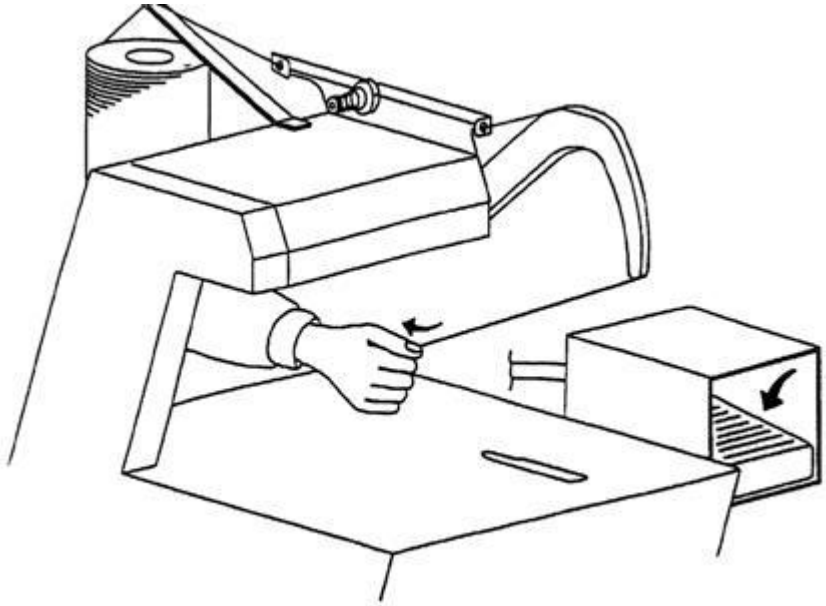
THREADING OF THE TYING MACHINE (see diagram)

- Follow the diagram (using either an elastic or raffia) for the installation of the spool and threading of the tying material into the arm
- Take the end of the tying material at the extremity of the arm by holding it firmly towards the back of the machine.
- Pulls toward the back and during the whole cycle of the machine in order to get hold the end of the threading material after feeding it into the machine.
- The lower threading occurs automatically
- Activate the start switch, the machine is now ready to go.

ELASTIC



RAFFIA



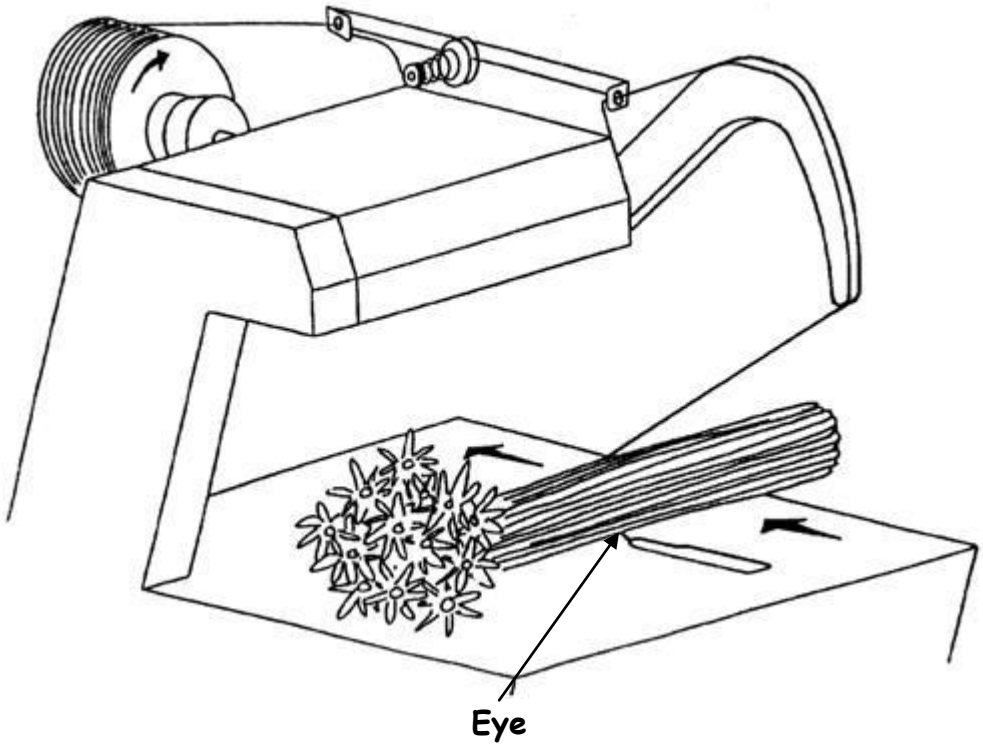
POSITIONNING OF THE BUNCH (see diagram)

Towards the back of the table, push the bunch to be tied along with the tying material until the eye of the table appears.

At the moment the machine starts:

- Automatically if the release is on the table. Regulate the position of the release if necessary
- With your foot push on the pedal.

The bunch is now tied and comes out at the back of the table.



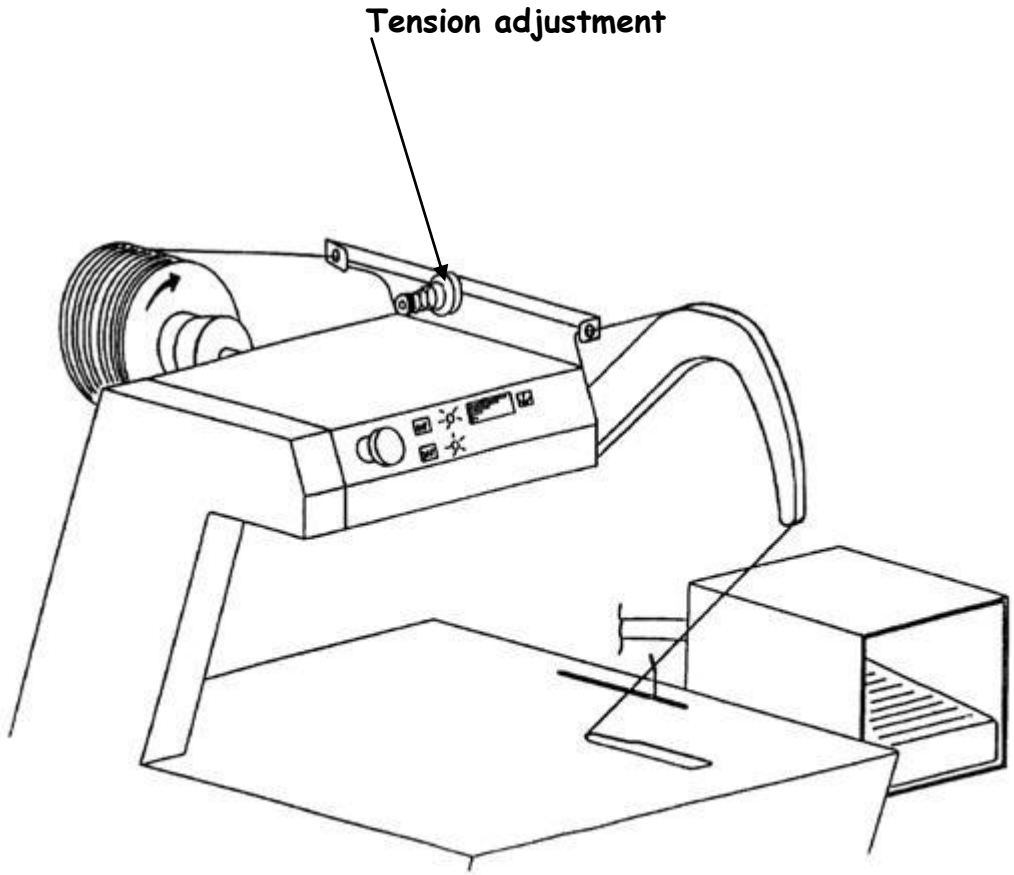
BASIC ADJUSTEMENTS

TENSION ADJUSTEMENT

- If can be done using the black streaked nut on the clamping block (see diagram).
  This adjustment is very delicate and is done a quarter of a turn at a time until the proper tension is obtained.

- The size of the bunch has an effect on the tightening.
  With an identical tension, a large bunch will be bound tighter than a small one.

- Too much tension will cause the tying material to break, and a loose tension will prevent the tying material to free itself the knotter.



CUTTING KNIFE REPLACEMENT

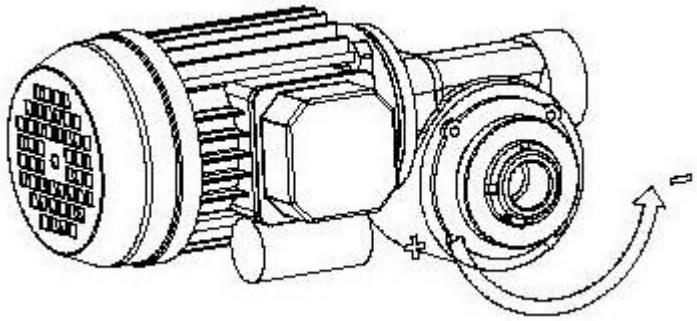
- Undo the table F24 (diagram page 26) and slightly unscrew the 2 screws E5 (diagram page 22)
- The blade with open holes E25 is then easily replaced.
  Only the position (Pull the blade towards the top).
- Screw the 2 screws E5
- Put the table F24
- Make sure the blade is always in good condition.

ADJUSTMENT OF THE KNOTTER TIGHTENER

- If the knots have a tendency to slide, tighten up slightly the bolt of the knotter tightener.

TORQUE LIMITER (Security device)

- The gearbox is equipped with a torque limiter with a sliding plate that can be adjusted. This adjustment is obtained by varying the pressure exercised by the spring washers with the help of a nut.
- The adjustment on the machine must be done under normal operating conditions.
- It is recommended that the adjustment of the torque limiter be checked annually.
- The tension created by the dipping arm must be less than 15daN.



MAINTENANCE

In order to have the machine in good working order it is very important to regularly clean and service the machine.

1. **Unplug** the machine
2. **Remove** the screw which holds the table in position and lift the table which is held in place by 3 clips.
3. **Clean** inside of the machine using compressed air. It is important that the machine be thoroughly cleaned before greasing and lubrication.
4. **Greasing and lubrication** (see diagram that follows)

WEEKLY

OIL:

- String holder axle **A**
- Tension plate **B**
- Knotter roller **C**
- Linear bushing **D**

MONTHLY

GREASE:

- Knotter housing **E**
- Bevel **F**
- Gears and cams **G**
- Conic gear **H**

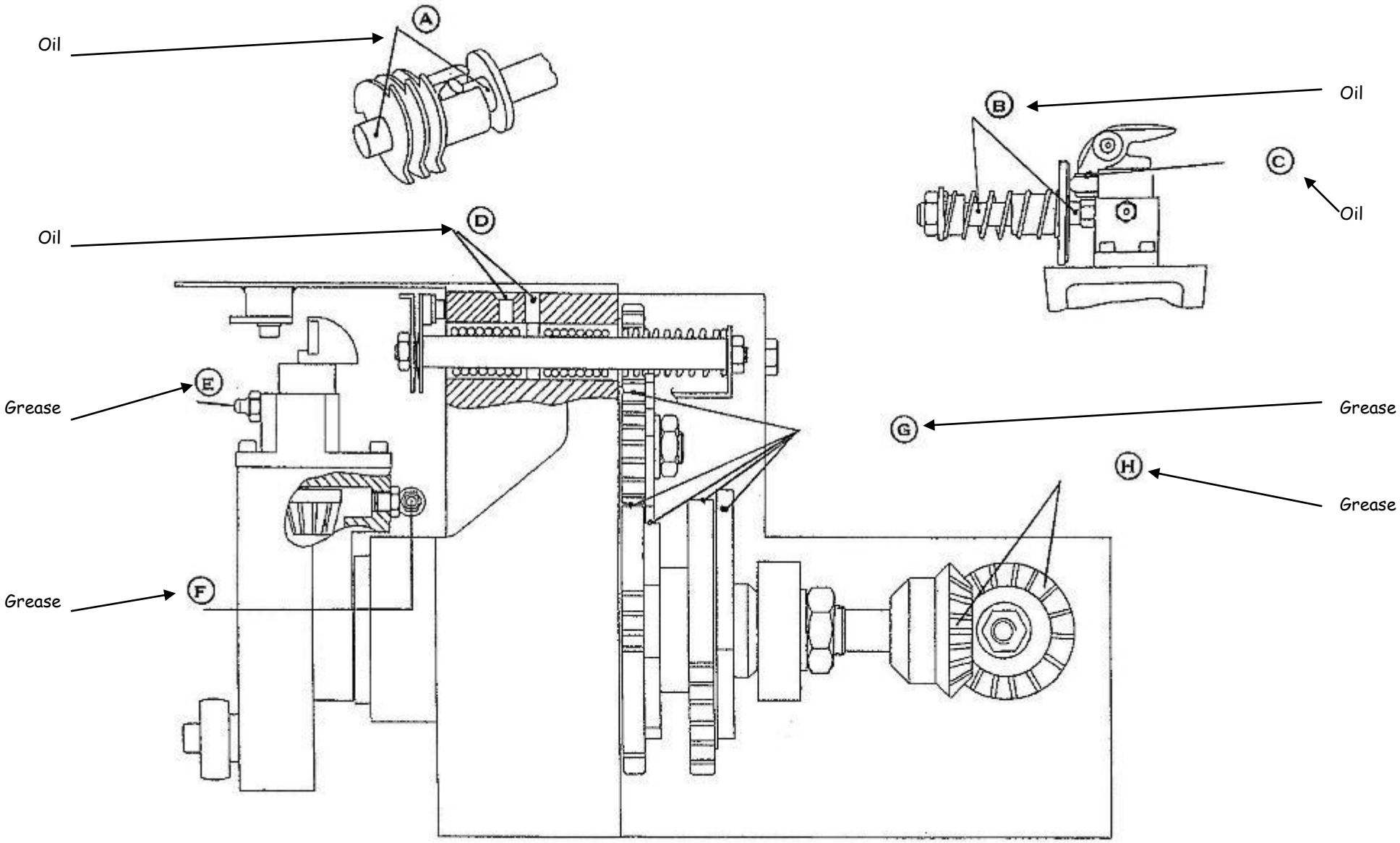
If the machine is use intensively or is used in a dirty environment the maintenance of the machine should take place dally.

5. **Place** the table on the clips and use the screw
6. **Plug** again the machine

RECOMMENDED LUBRICANTS

Oil type HL with a viscosity of 10<ISO VG<22
Grease: LMX GREASE High Performance

MAINTENANCE



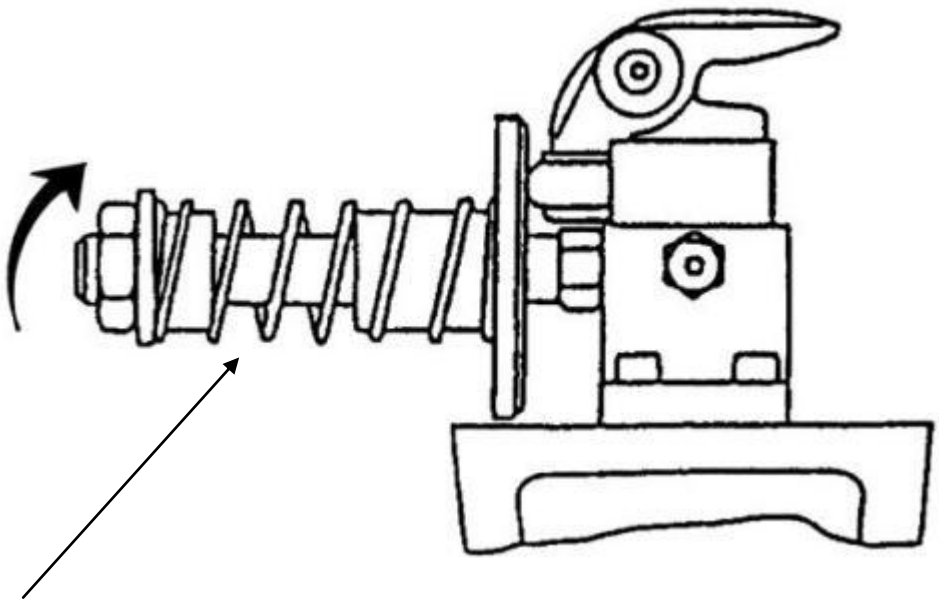
TROUBLE SHOOTING

THE MACHINE DOES NOT WORK

1. Check the electrical plug and the wall outled
2. Check the fuses
3. Check the emergency button making sure it has not been activated

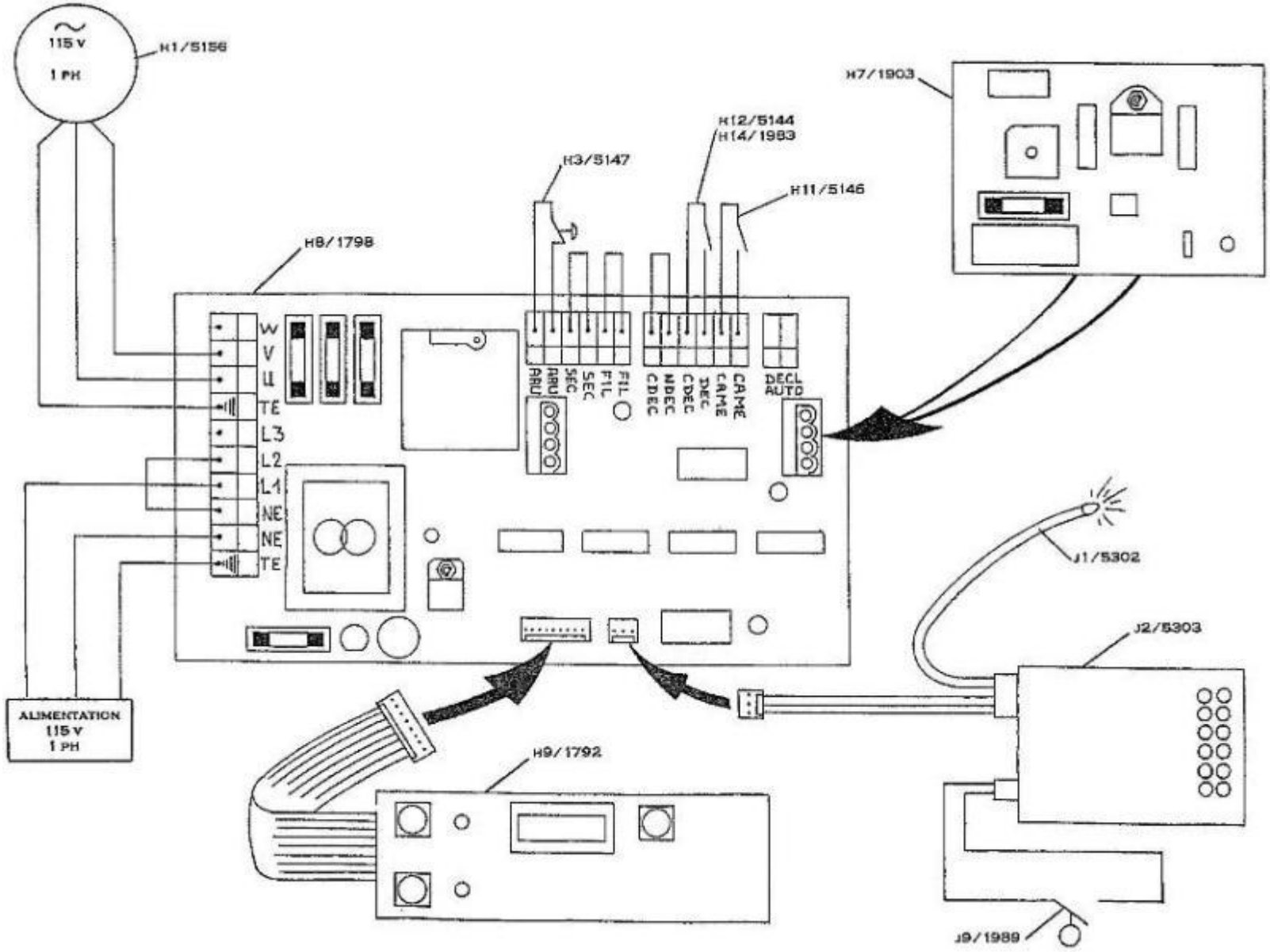
IF THE TYING PROCESS DOES NOT OCCUR

1. Check the threading of the tying material is correct
2. Check the good wording order of the knotter (the tightening of the knotter jaw)
3. Make sure that the knotter jaw is what is required for the knotting material.
4. Check the pressure of the knotter tightener (see diagram)
5. Check the condition of the cutting knife
6. Check the cleanliness of the jaw. No elastic pieces must be in the jaw.
7. Check the tension of the thread

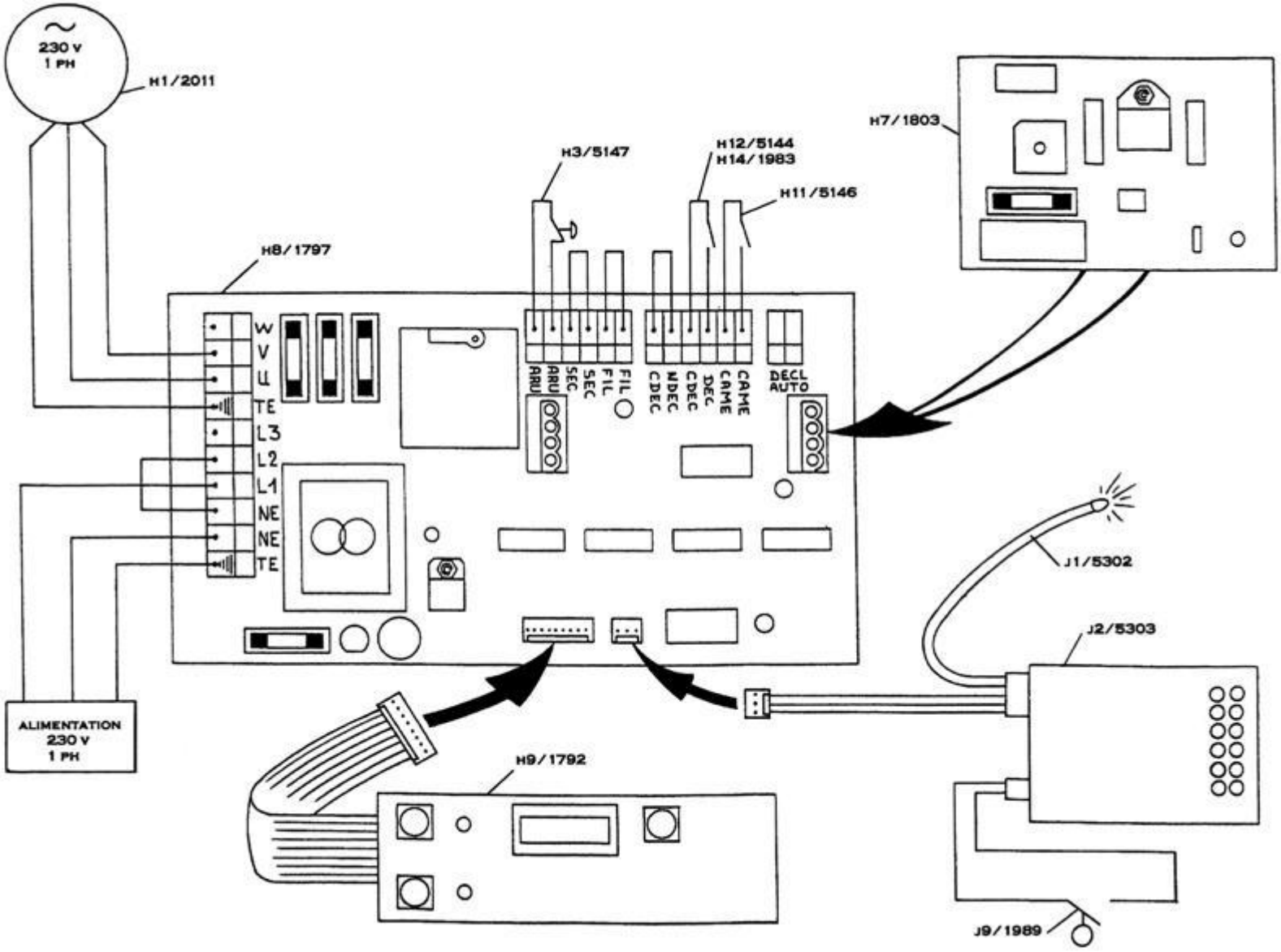


KNOTTER TIGHTENER

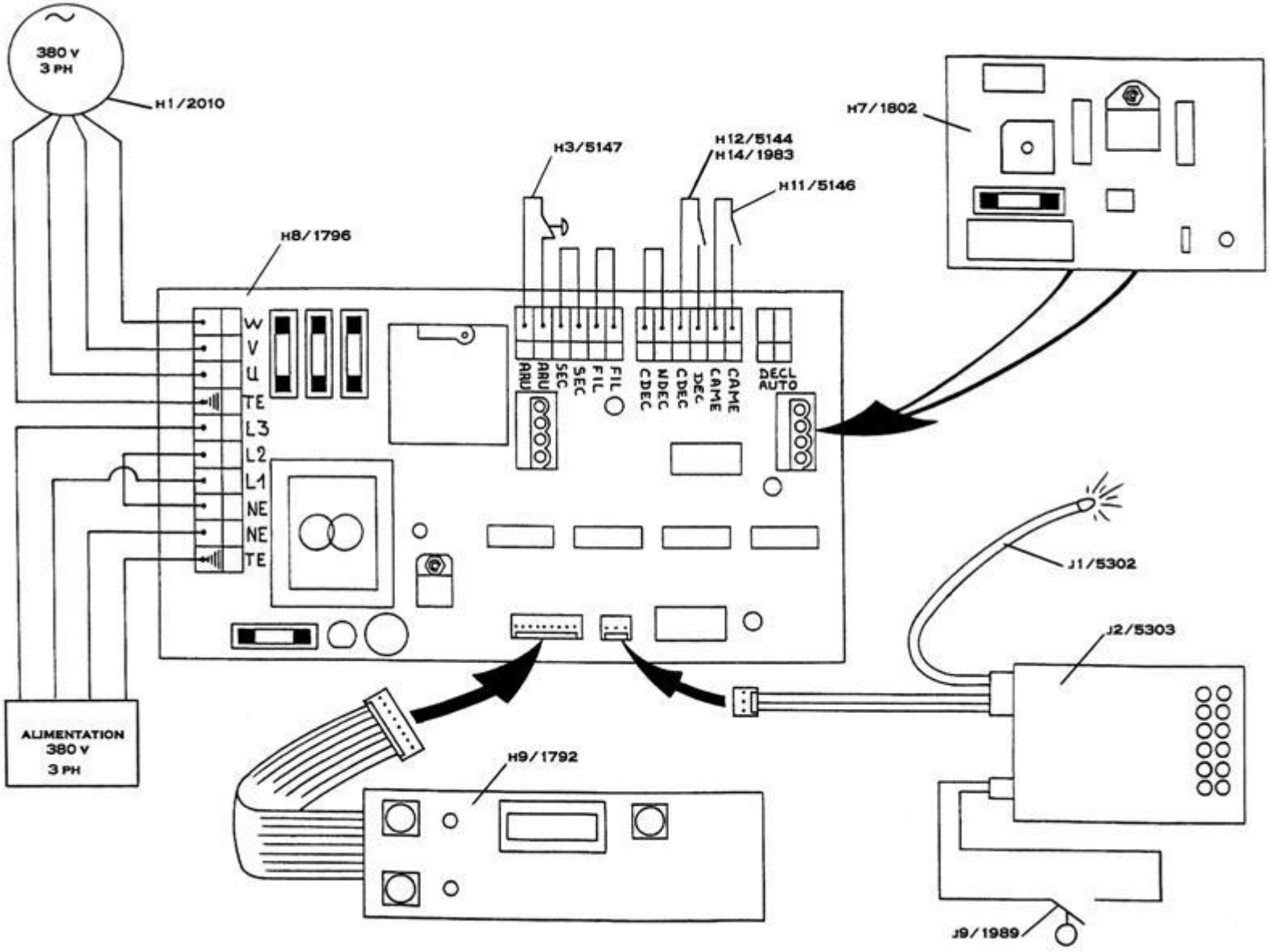
WIRING DIAGRAM 115 V – 1 Ph

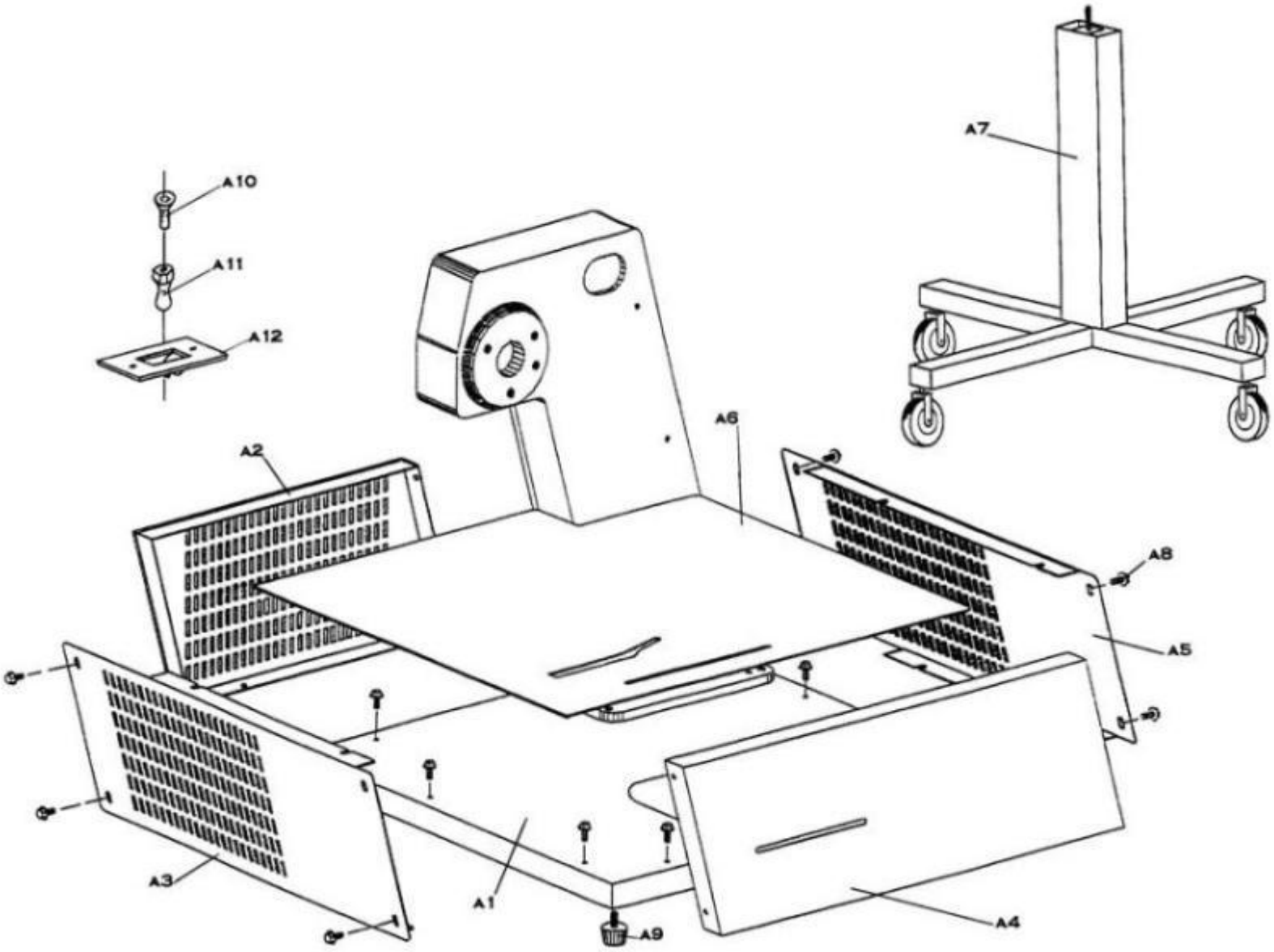


WIRING DIAGRAM 230 V – 1 Ph



WIRING DIAGRAM 380 V – 3 Ph

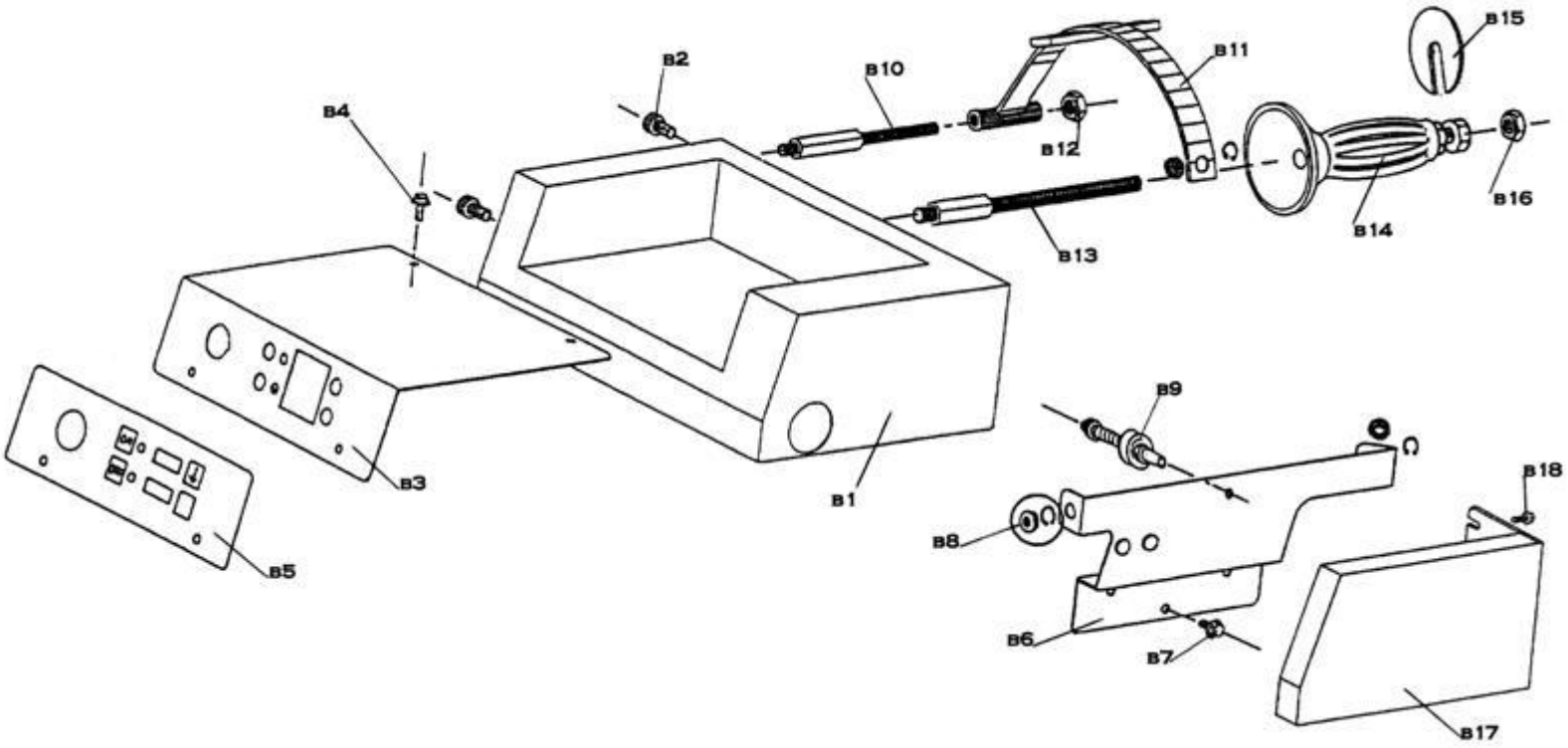



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A

Item Number	Description
A1/5307	Mounting plate (RHM)
A1/5319	Mounting plate (LHM)
A2/5055	Back panel (rHM)
A2/5077	Back panel (LHM)
A3/5054	Side panel (RHM)
A3/5078	Side panel (LHM)
A4/5053	Front panel (RHM)
A4/5076	Front panel (LHM)
A5/5054	Side panel (RHM)
A5/5078	Side panel (LHM)
A6/5108B	Table 90 for industry (RHM)
A6/5056A	Table 175 for industry (RHM)
A6/5262A	Table 175 for horticulture (RHM)
A6/5109	Table 250 for horticulture (RHM)
A6/5249A	Table 175 for industry (LHM)
A6/2396	Table 175 for line (RHM)
A6/2372	Table 175 for line (LHM)
A7/5163	Stand with wheels LSI/LSA
A8/5223	Screw
A9/5162	Rubber feet
A10/5176	Screw FHc 3x6 (Stainless)
A11/5224	Male clip
A12/5225	Shaft "elastic string"

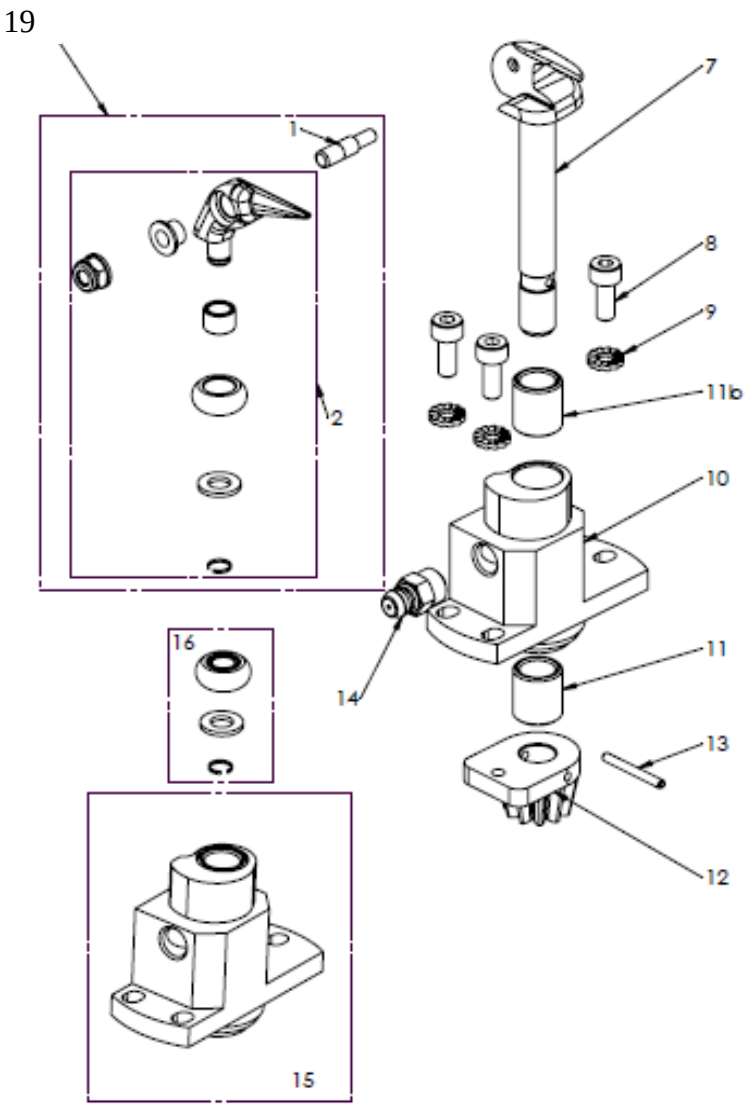
RHM : Right hand Machine
LHM : Left Hand Machine

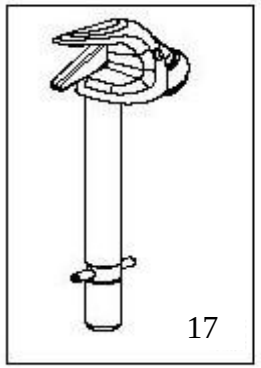

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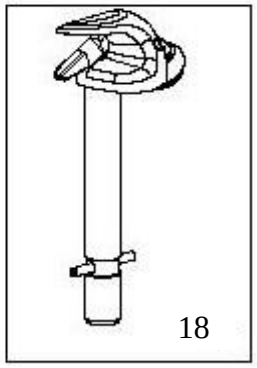
B

Item Number	Description
B1/5058A	Electrical box (RHM)
B1/5070A	Electrical box (LHM)
B2/5196	Screw CHc 6X16 Z
B3/5059	Electrical cover
B4/5223	Screw
B5/5079A	Sticker
B6/5057	Elastic tensioner frame (RHM)
B6/5071	Elastic tensioner frame (LHM)
B7/5223	Screw
B8/5169	Ceramic eyes + Circlips
B9/5171	Tensioner
B10/5088B	Anti spinning spool shaft
B11/5087	Anti spinning spool
B12/5207	Nut Nylstop M 8
B13/5089	Spool shaft
B14/5170	Spool holder + nut
B15/5166	Lock spool washer
B16/5211	Nut Nylstop M10
B17/5317	Cover (RHM) Industry
B17/5318	Cover (LHM) Industry
B18/5223	Screw

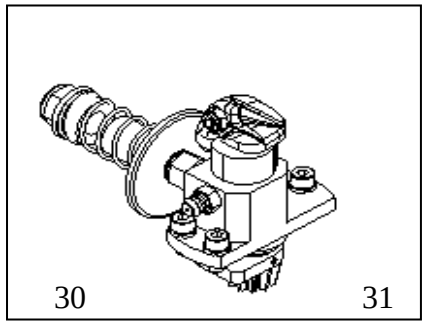
RHM : Right hand Machine
LHM : Left Hand Machine

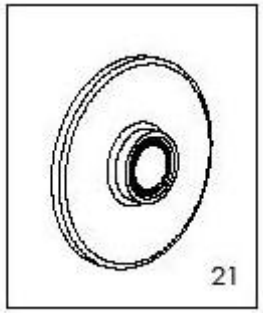


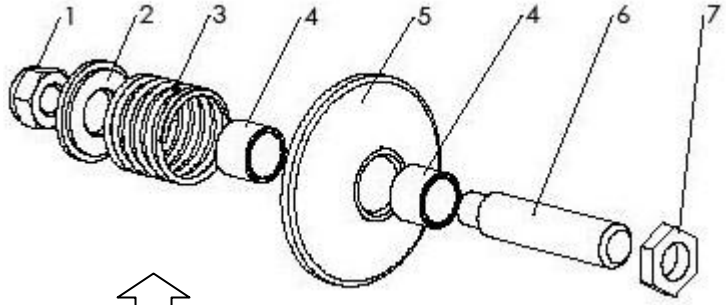




Rep	Item	Déscription
1	4032	Knotter jaw shaft
2	3407A	1 core string knotter jaw assembled without shaft
2	3408A	3 core string knotter jaw assembled without shaft
7	2316C	Knotter + pin
8	5179	Screw CHc 4X 10 Z
9	1949	Washer Ø4
10	5504	Knotter housing
11	11023	Bushing BP25 - 8x11x20
11b	5084	Bushing BP25 - 8x11x12
12	5063	Knotter gear
13	2867	Pin Ø 2x18
14	5160	Nipple M8
15	5240	Knotter housing + Bushing assembled
16	4084	Bearing
17	3400A	Single core string knotter assembled
18	3401A	Triple cores string knotter assembled
19	3398A	Single core string knotter jaw set
19	3399A	Triple core string knotter jaw set

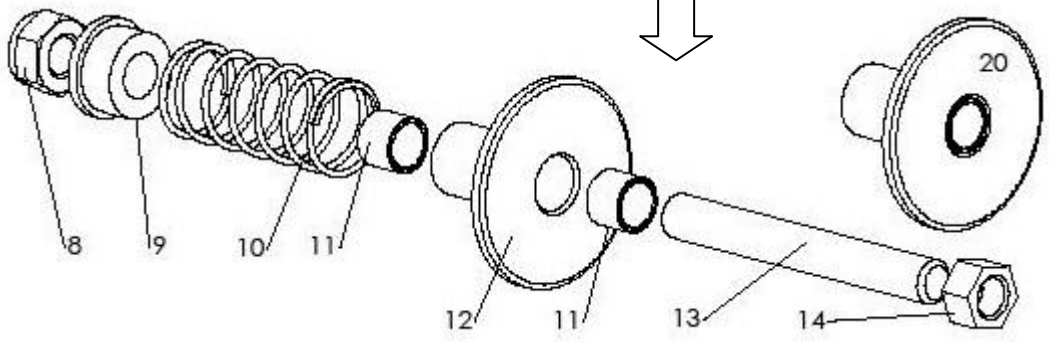


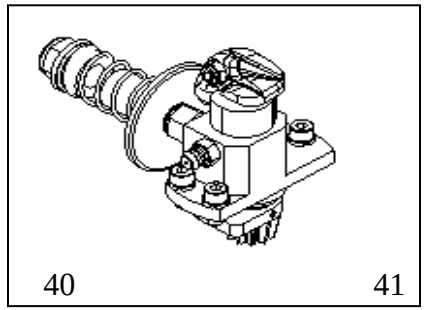


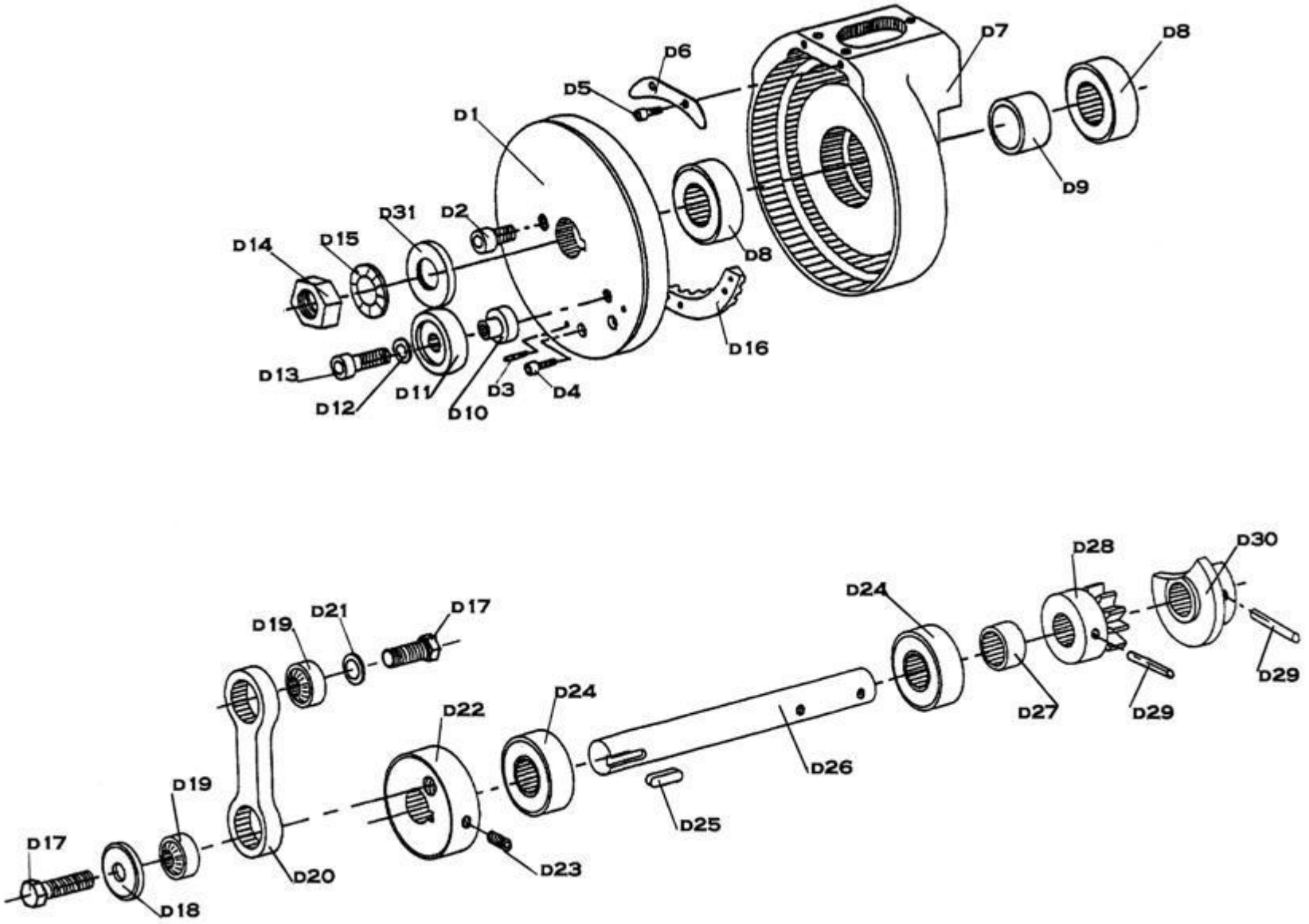


Rep	Item	Déscription	Qty
8	5207	Nut Nylstop M 8 Z	1
9	5287	Spring cup	1
10	5286	Spring	1
11	5107	Bushing MB 08 08 DU	2
12	5030	Knotter tightener	1
13	5031A	Knotter tightener shaft	1
14	5250	Knotter tightener nut	1
20	5239	Knotter tightener with bushing	1
30	3337A	Assembled knotter unit 1 core string	1
31	3397A	Assembled knotter unit 3 cores string	1
RIGHT HAND MACHINE			

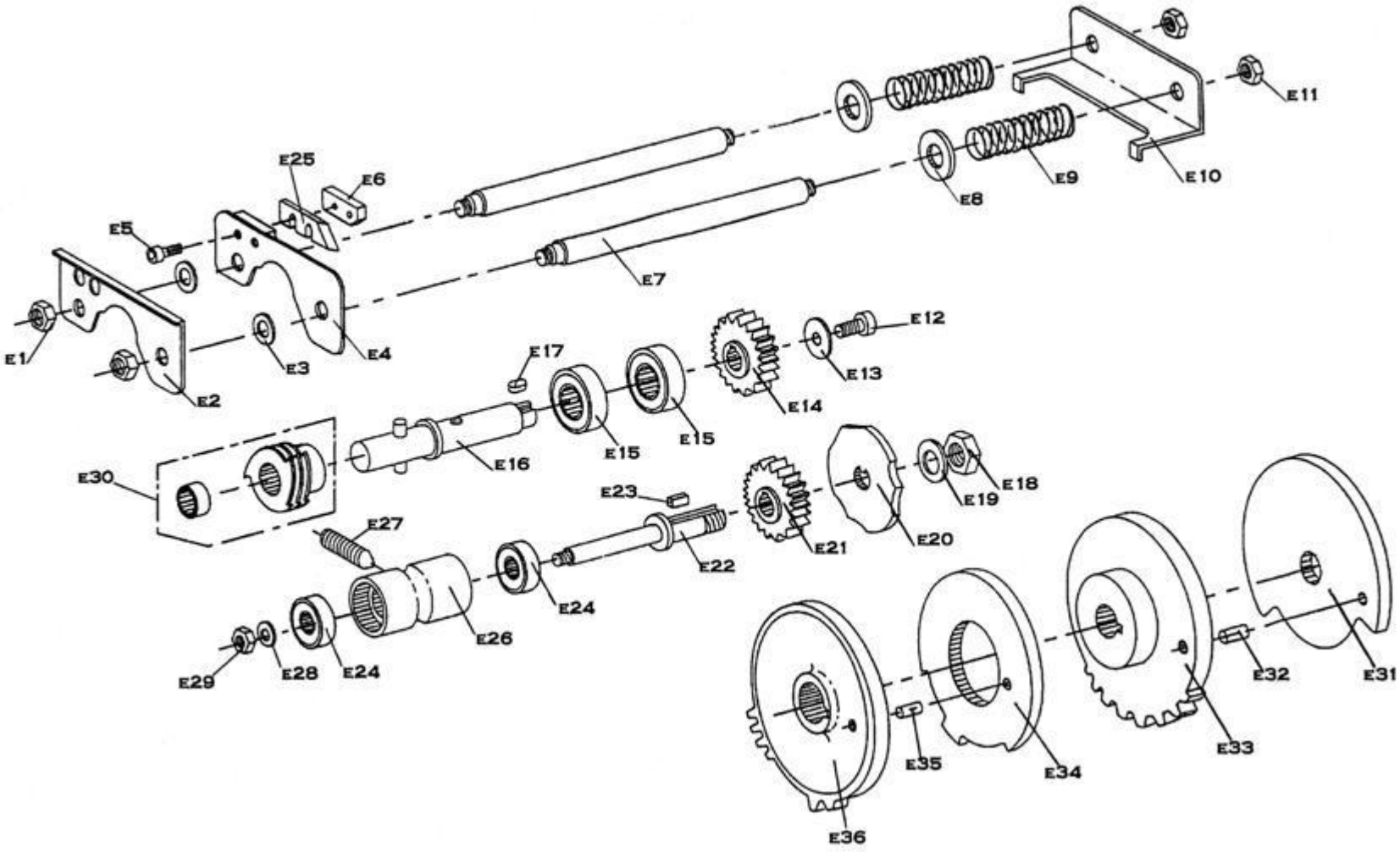
LEFT HAND MACHINE			
Rep	**Item**	**Déscription**	**Qty**
1	5202	Nut Nylstop M 6 Z	1
2	5612	Spring cup	1
3	5286A	Spring	1
4	5107	Bushing MB 08 08 DU	2
5	5611	Knotter tightener	1
6	5609	Knotter tightener shaft	1
7	5610	Knotter tightener nut	1
21	2416	Knotter tightener with bushing	1
40	3335A	Assembled knotter unit 1 core string	1
41	3336A	Assembled knotter unit 3 cores string	1



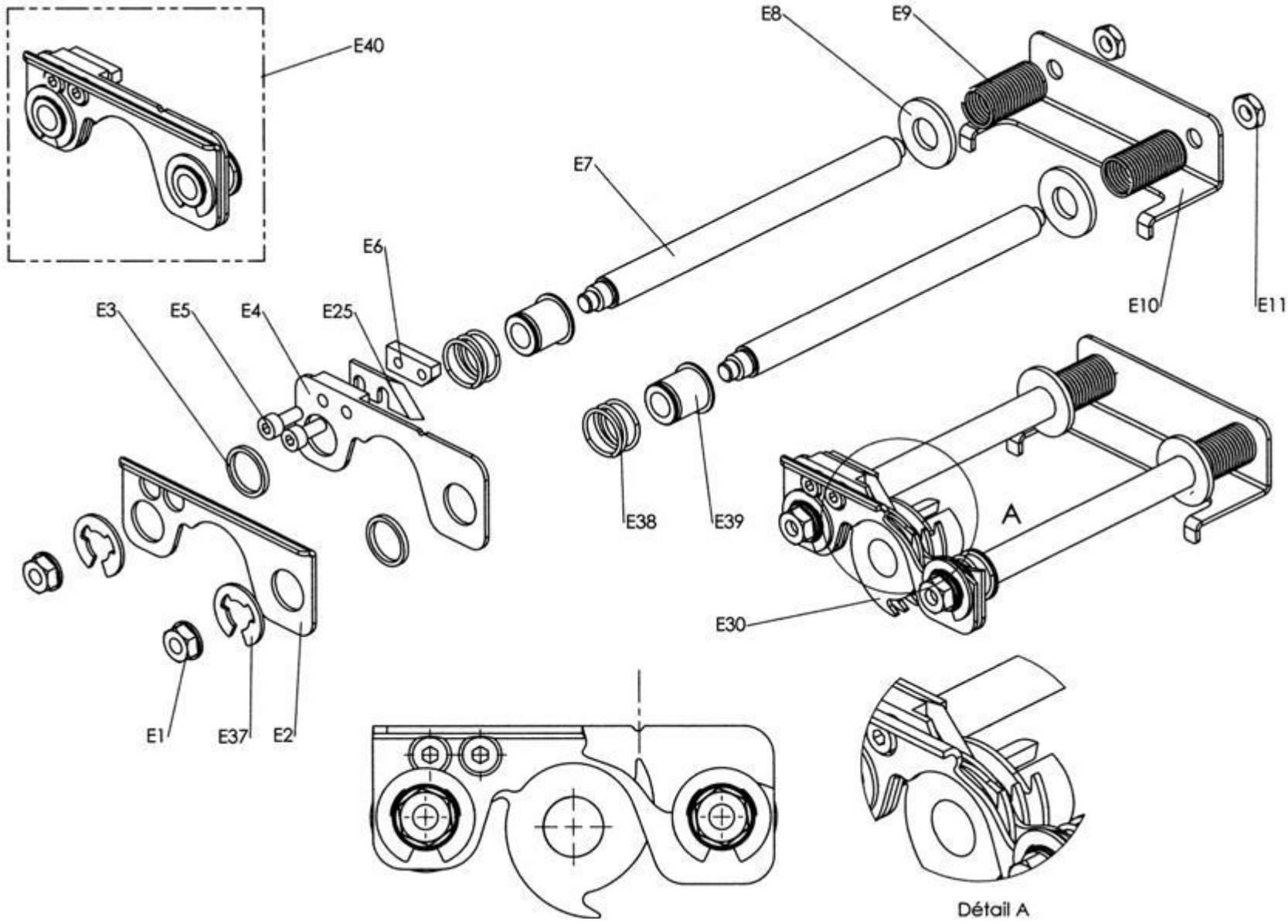



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Item Number	Description	Item Number	Description
D1/5502	Knotter driving wheel	D17/1955	Screw H 8x25Z
D2/1950	Screw CHc 6X 8 Z	D18/5558	Stopping washer
D3/5138	Cylindrical pin Ø 2x14	D19/1956	Ball and socket joint G8D
D4/5142	Screw CHc 3X 12 Z	D20/5552A	Rod
D5/5178	Screw CHc 3X 6 Z	D21/5209	Washer ZU 8
D6/5564	Closing sheet	D22/5518A	Hub rod
D7/5503	Knotter unit support	D23/1957	Screw Hc 5 x 12
D8/5020	Bearing 6003 2RS	D24/1958	Bearing 6202 2RS
D9/5009	Primary shaft spacer	D25/1959	Key way 5x5x14 BR
D10/2822	Shaft	D26/5516A	Topple shaft
D11/2838	Roller	D27/5517	Bearing spacer
D12/1951	Washer ZU 6	D28/5515	Gear
D13/1952	Screw CHc 6X 20 Z	D29/1960	Pin Ø 5x30
D14/1953	Nut Nylstop M12	D30/5514A	Topple cam
D15/1954	Washer	D31/1961	Washer LU16
D16/5013	Partial gear		


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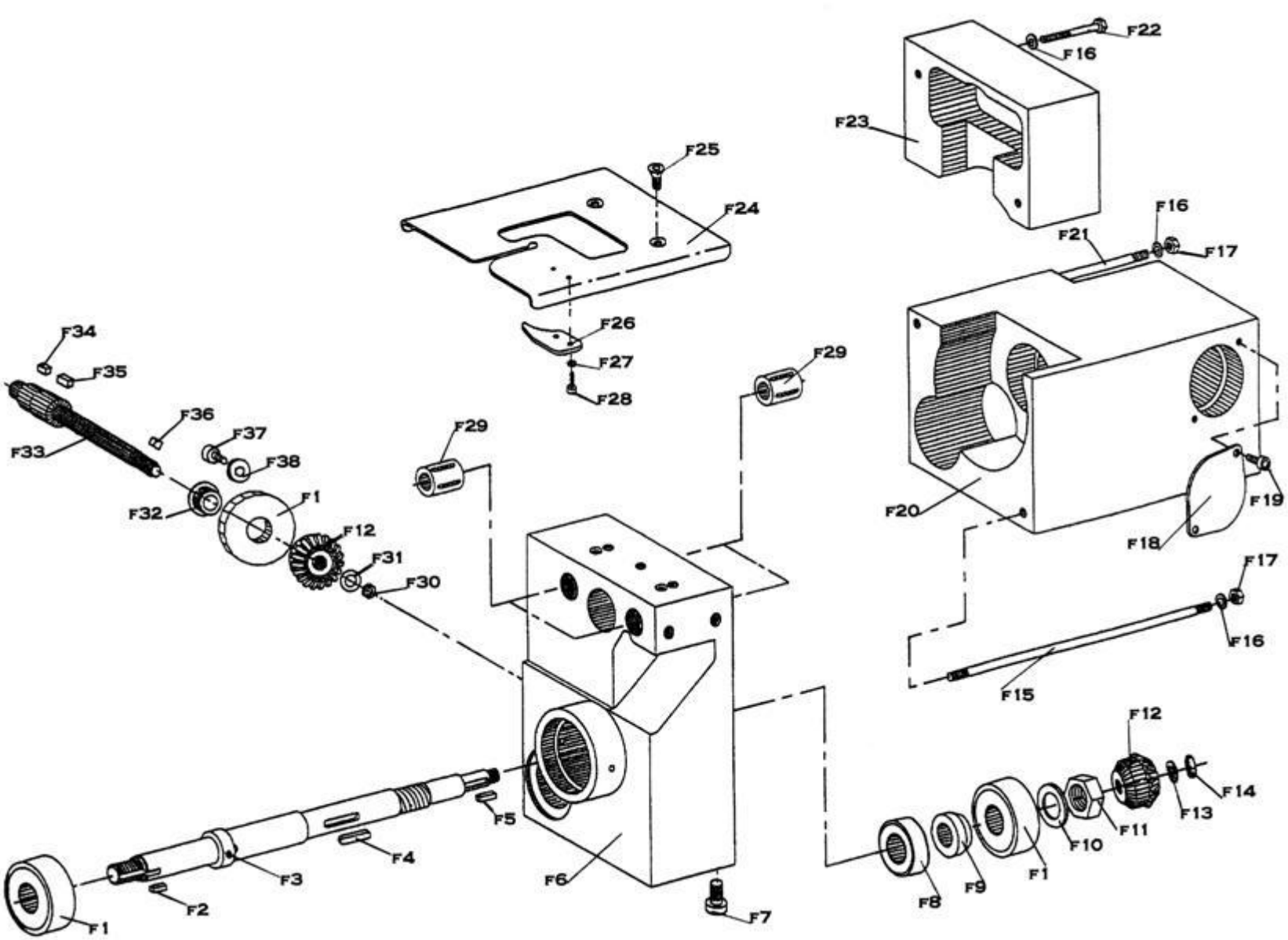
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Item Number	Description	Item Number	Description
E1/5201	Nut H M 6 Z	E19/5212	Washer ZU10
E2/5522A	Front string holder plate	E20/5510	Rotary holder anti spinning cam
E3/2047	Spacer	E21/5509	Intermediate gear
E4/5523A	Back string holder plate	E22/5519A	Intermediate gear shaft
E5/5179	Screw CHc 4X 10 Z	E23/5131	Key way 3x3x 7 BR
E6/5524	Knife plate	E24/1966	Bearing 608 2RS
E7/5525	Shaft "elastic string"	E25/5034A	Knife
E7/5618	Shaft "raffia"	E26/5520	Intermediate gear housing
E8/1963	Nylon washer	E27/1967	Screw Hc 8x 40 (Pointed)
E9/5583A	Spring	E28/1951	Washer ZU 6
E10/5526	Stopper plate	E29/5203	Nut Hm M 6 Z
E11/5203	Nut Hm M 6 Z	E30/5242	Rotating holder + bushing
E12/1964	Screw CHc 5X 12 Z	E31/5513	Cam
E13/5195	Washer LU 5	E32/1968	Cylindrical pin Ø 6x14
E14/5511	Rotary string holder gear	E33/5512	Toothed wheel
E15/5038	Bearing 6001 2RS	E34/5508	Cam
E16/5521B	Rotary string holder shaft	E35/5139	Cylindrical pin Ø 6x10
E17/5131	Key way 3x3x 7 BR	E36/5507	Rotary holder gear
E18/1965	Nut Hm M10 Z		

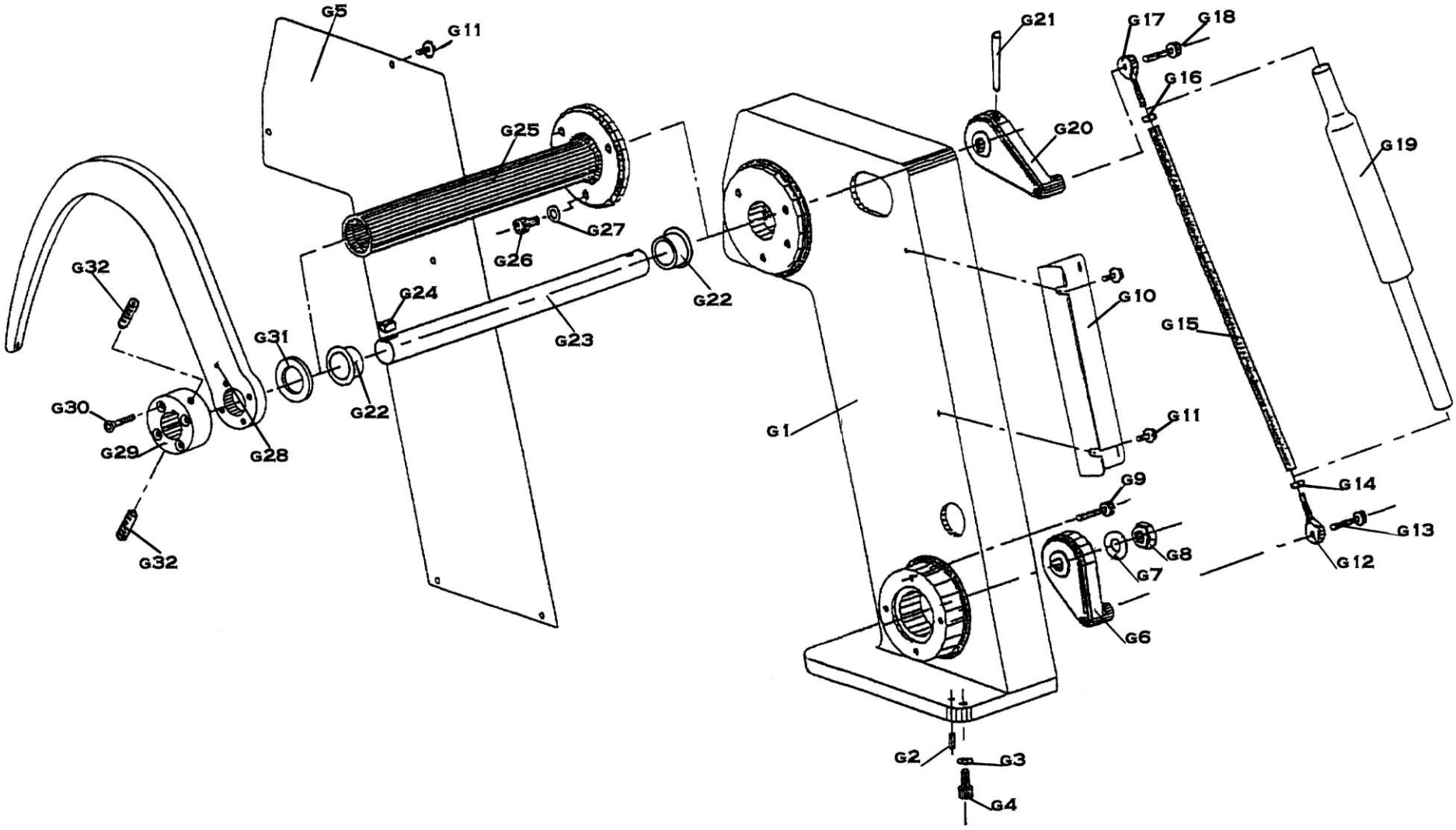
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Item Number	Description
E1/2152	Nut Serpress M 6
E2/5626	Front holder plate
E3/5628	Spacer
E4/5627	Rear holder plate
E5/5179	Screw CHc 4X 10 Z
E6/5524	Knife plate
E7/5525	Shaft "elastic string"
E8/1963	Nylon washer
E9/5583A	Spring
E10/5526	Stopper plate
E11/5203	Nut Hm M 6 Z
E25/5034A	Knife
E30/5015A	Rotary string holder 3 flange
E37/2153	Circlips (Stainless steel)
E38/5630	Spring
E39/5629	Bushing holder plate
E40/5631	Holder plates set


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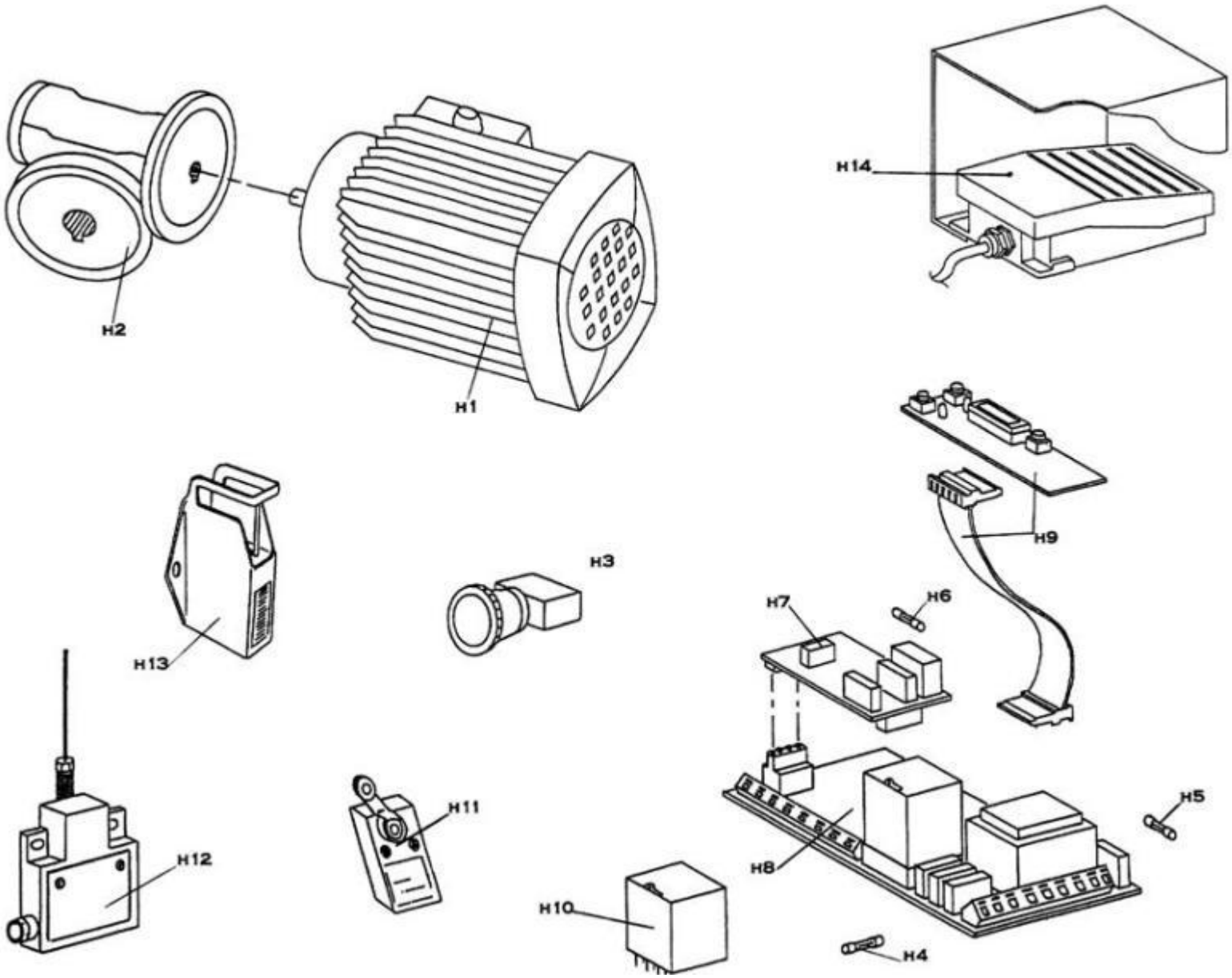
Item Number	Description	Item Number	Description
F1/5033	Bearing 6303 2RS	F21/5589	Screw thread (lenght 126)
F2/5132	Key way 5x5x10 BD	F22/1974	Screw H 6x60Z
F3/5585	Primary shaft	F23/5587	Top-back block
F4/1969	Key way 5x5x30 BR	F24/5324	Knotter table
F5/5134	Key way 3x3x15 BR	F25/5190	Screw FHc 5x 10 (Stainless)
F6/5501B	Main block	F26/5528B	String recal plate
F7/1970	Screw CHc 8X 12 Z	F27/1949	Washer
F8/5020	Bearing 6003 2RS	F28/5179	Screw CHc 4X 10 Z
F9/5591	Primary shaft spacer	F29/1973	Linear bearing KH 1026
F10/2028	Washer ZU16	F30/5208	Nut Hm M 8 Z
F11/5322	Nut H M16 Z	F31/1972	Washer
F12/5012A	Conical gear	F32/5041	Bearing cup
F13/1972	Washer	F33/5243	Secondary shaft (RHM)
F14/5208	Nut Hm M 8 Z	F33/5244	Secondary shaft (LHM)
F15/5590A	Screw thread (lenght 183)	F34/5136	Key way 4x4x10 BR
F16/1951	Washer ZU 6	F35/5135	Key way 6x6x25 BR
F17/5202	Knotter driving wheel	F36/5134	Key way 3x3x15 BR
F18/5588	Hole cover	F37/1964	Screw CHc 5X 12 Z
F19/1964	Screw CHc 5X 12 Z	F38/5195	Washer LU 5
F20/5586	Down-back block		

RHM : Right hand Machine
LHM : Left Hand Machine


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G4

Item Number	Description	Item Number	Description
G1/5091	Column 90 (RHM)	G16/5201	Nut H M 6 Z
G1/5052	Column 175 (RHM)	G17/5129	Ball and socket joint KA 6D (Right)
G1/5068	Column 175 (LHM)	G18/1975	Screw H 6x25Z
G1/5092	Column 250 (RHM)	G19/5288	Assembled discharge connecting rod
G2/5139	Cylindrical pin Ø 6x10	G20/5044	Upper crank 90 and 175
G3/5209	Washer ZU 8	G20/5235	Upper crank 250
G4/1970	Screw CHc 8X 12 Z	G21/5291	Conical pin Ø 6x60
G5/5097	Cover plate 90	G22/5290	Bronze bushing BP 25 C 20-26-16
G5/5060	Cover plate 175	G23/5312	Needle shaft (RHM)
G5/5098	Cover plate 250	G23/5313	Needle shaft (LHM)
G6/5043	Lower crank	G24/1976	Key way 6x6x20 BR
G7/5214	Washer ZU12	G25/5045	Tube (RHM)
G8/5213	Nut H M12 Z	G25/5072	Tube (LHM)
G9/5197	Screw CHc 6X 40 Z FP	G26/5206	Screw CHc 8X 25 Z
G10/5065	Wire plate	G27/5209	Washer ZU 8
G11/5223	Screw	G28/5315	Needle 90
G12/5130	Ball and socket joint KAL 6D (Left)	G28/5311	Needle 175
G13/1975	Screw H 6x25Z	G28/5316	Needle 250
G14/5204	Nut H M 6 Z Left	G29/5310	Needle hub
G15/5095	Connecting rod 90	G30/1977	Screw FHC 5X 30 Z
G15/5046	Connecting rod 175	G31/1978	Washer ZU20
G15/5096	Connecting rod 250	G32/1979	Screw Hc 5x 8

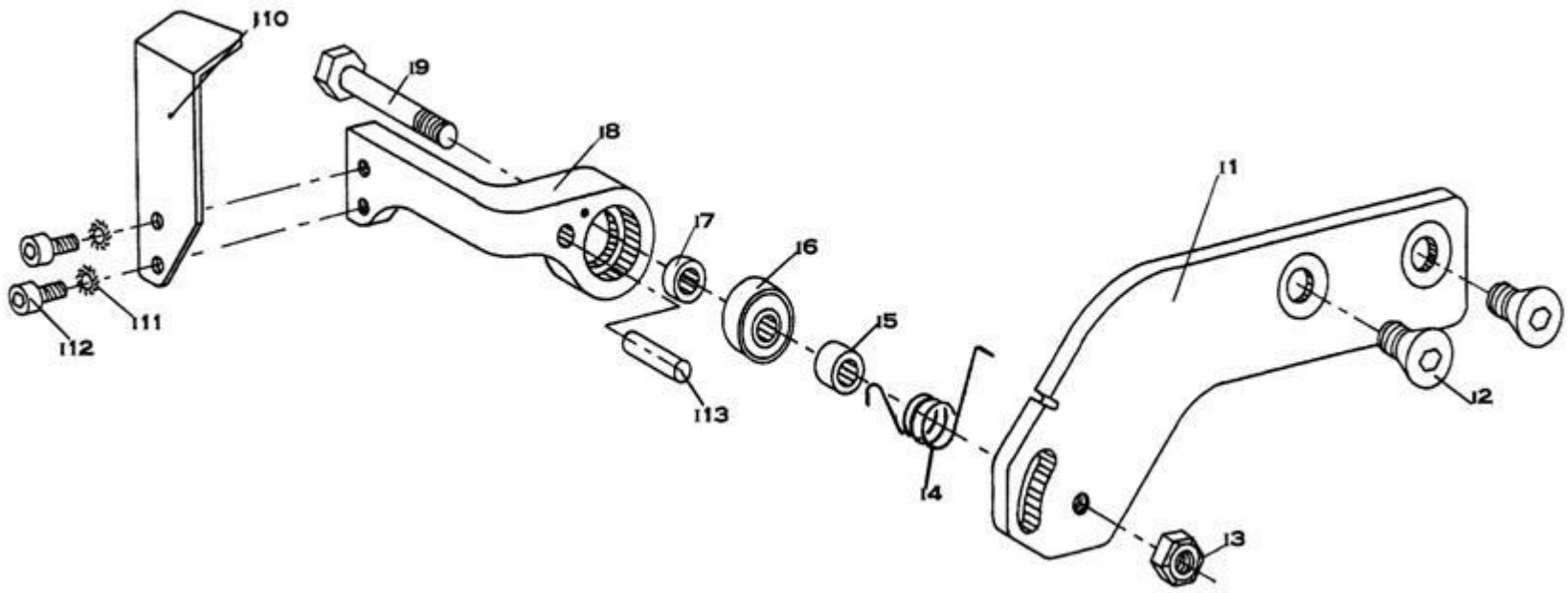
RHM : Right hand Machine
LHM : Left Hand Machine


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Item Number	Description
H1/2010	Triphases motor - 380 V without brake
H1/2011	Single phase motor 0.18 kW-230 V / 50 Hz
H1/5156	Single phase motor 115 V / 60 Hz
H2/5158	Gear box (RHM)
H2/5159	Gear box (LHM)
H3/5147	Emergency stop
H4/1981	Power fuse 230 V = 5A
H4/1980	Power fuse 115 V = 10A
H5/1982	Control fuse 150 mA
H6/1981	Power fuse 230 V = 5A
H7/1903	Brake print card 115V single phase
H7/1803	Brake print card 230V single phase
H7/1802	Brake print card 380V triphases
H8/1798	Main print card 115V single phase
H8/1797	Main print card 230V single phase
H8/1796	Main print card 380V triphases
H9/1792	Panel print card + cable
H10/5299	Relay Elesta SKR 122 - 12 VCC
H11/5146	End switch
H12/5144	Start switch
H13/5172	Missing elastic switch
H14/1983	Foot pedal + cover

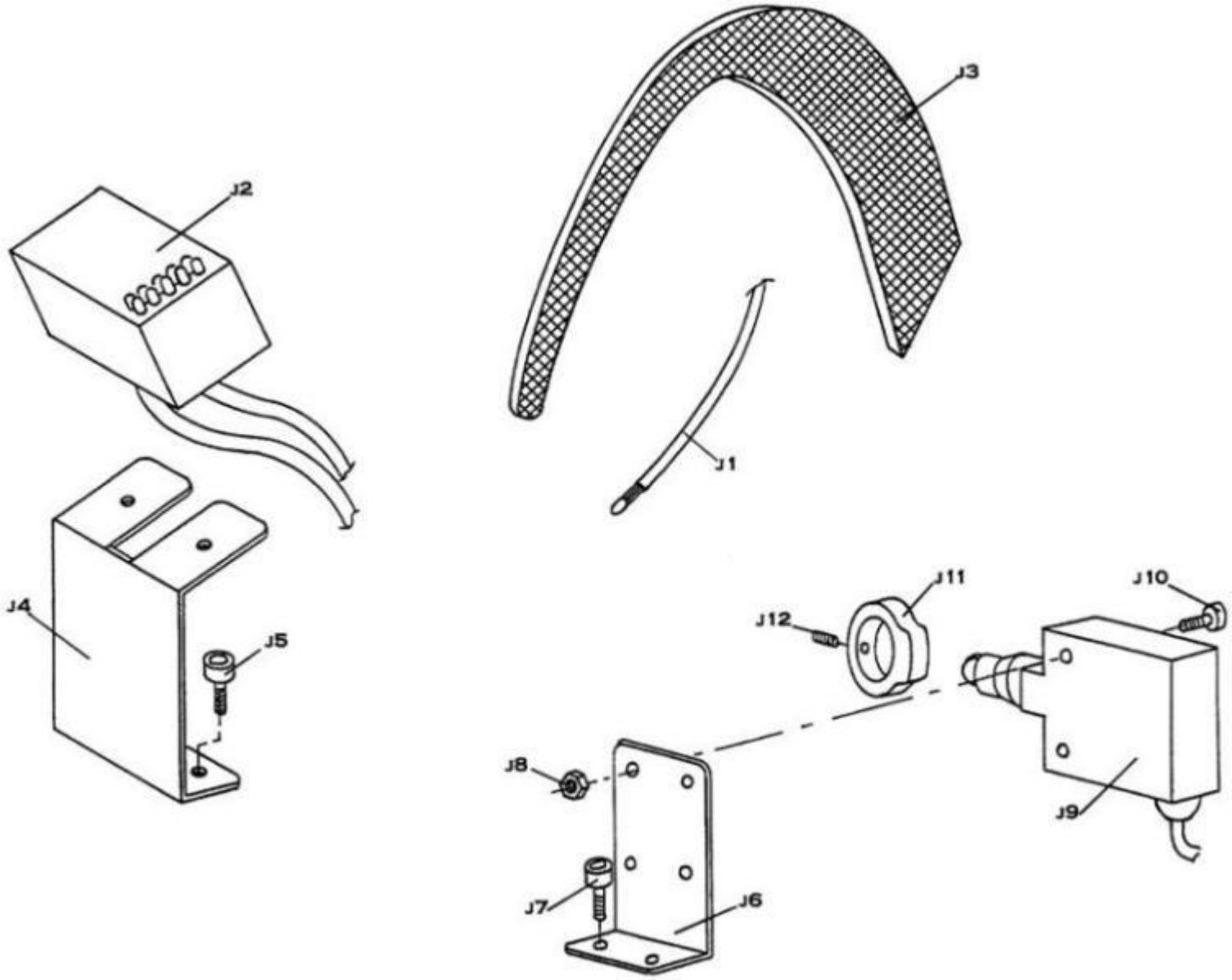
RHM : Right hand Machine
LHM : Left Hand Machine

Option : Bunching conveyor line



I

Item Number	Description
I1/5531	Bracket
I2/1984	Screw FHc 8X16 Z
I3/5202	Nut Nylstop M 6
I4/5582	Spring
I5/5581	Spring spacer
I6/1985	Bearing 626 2RS
I7/5533	Bearing spacer
I8/5530A	Feed-in support
I9/1986	Screw H 6x30Z FP
I10/5534C	Feed-in
I11/1949	Washer
I12/5179	Screw CHc 4X 10 Z
I13/1987	Cylindrical pin Ø 5x20


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J

Item Number	Description
J1/5302	Led + cable
J2/5303	Electronic safety module
J3/5110A	Needle plastic cover 90
J3/5111A	Needle plastic cover 175
J3/5112A	Needle plastic cover 250
J4/5327	Support 90
J4/5309	Support 175
J4/5328	Support 250
J5/1988	Screw CHc 5X 10 Z
J6/5115	Safety switch support
J7/1988	Screw CHc 5X 10 Z
J8/5193	Nut Nylstop M 5
J9/1989	Safety switch
J10/1964	Screw CHc 5X 12 Z
J11/5116A	Safety cam
J12/5193	Nut Nylstop M 5