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manual for our

MODEL

GAA-500-90 NF

AUTO UPCUT

COLD SAW

Scotchman®

Metal Fabricating Solutions

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MODEL GAA-500-90 NF AUTO UPCUT COLD SAW

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1.0 INTRODUCTION

This instruction manual has been made in compliance with the requirements of the Legislation according to the Machine directive 2006/42/CEE and its subsequent amendments.
The instruction manual represents an integral part of the machine. It must be consulted before, during and after the machine is put into service, as well as whenever it is considered necessary, thereby respecting the content in each and everyone of its parts. This is the only way in which the fundamental objectives that have been established on the basis of this manual will be achieved, such as accident prevention and making optimal use of the machine features.
Within the framework of this manual, all aspects regarding safety and accident prevention on the job while using the machine have been considered in every detail, herein highlighting the information that is of greatest interest to the user.

➲ **ATTENTION! Before installing the machine, read this manual carefully. The manual must be kept throughout the life of the machine, so that it is easy to find, if necessary. In the event that the used machine is sold, the machine shall be sold together with this manual. In the event that the machine is scrapped, the identification plate and any other document supplied with the same must be destroyed.**

1.1 LEGISLATION (Applicable to the planning and construction of the machine.)

EN-12100-1	**Machine Safety. Basic concepts, general design principles.**
EN-12100-2	**Machine Safety. Basic concepts, general design principles.**
EN-13857	**Safety distances to prevent dangerous zones from being reached by the upper extremities.**
EN-60204/1	**Electrical equipment of industrial machines.**
EN-13850	**Machine Safety; emergency stop equipment.**
98/37/CEE	**On "Machine Safety".**
93/68/CEE	**On the CE Marking (amendment).**
73/23/CEE	**On "Safety of Electrical Material".**
2004/108/CEE	**On "Electromagnetic Compatibility".**

1.2 WARRANTY

Scotchman Industries, Inc. will, within 2 years of date of purchase, replace F.O.B. the factory or refund the purchase price for any goods which are defective in materials or workmanship and, at the seller's option, returns the defective goods, freight and delivery prepaid, to the seller, which shall be the buyer's sole and exclusive remedy for defective goods.

Hydraulic and electrical components are subject to their respective manufacturer's warranties.

This warranty does not apply to machines or components which have been altered, changed or modified in any way or subjected to abusive or abnormal use, inadequate maintenance or lubrication or subjected to use beyond the seller's recommended capacities and specifications.

In no event shall seller be liable for labor costs expended on such goods or consequential damages.

Seller shall not be liable to purchaser or any other person for loss or damage directly or indirectly arising from the use of the goods or from any other cause.

No officer, employee or agent of the seller is authorized to make any oral representations or warranty of fitness or to waive any of the foregoing terms of sale and none shall be binding on the seller.

Any electrical changes made to the standard machine to comply with local electrical codes must be paid by the purchaser.

As we constantly strive to improve our products, we reserve the right to make changes without notification.

2.0 GENERAL INFORMATION

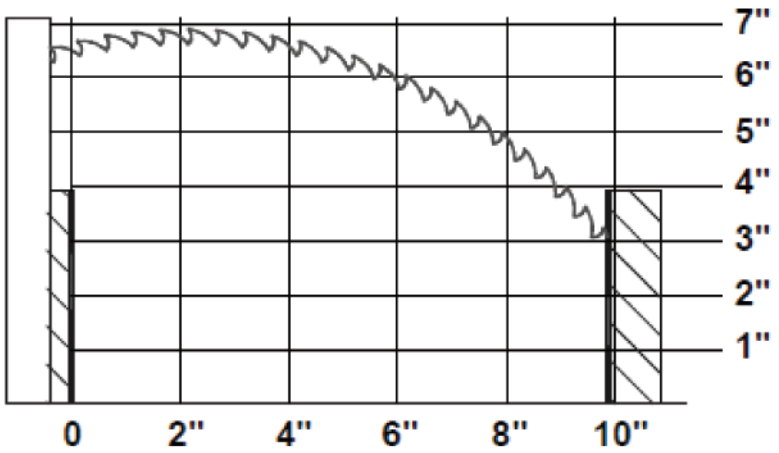
2.1 MACHINE IDENTIFICATION DATA

Model: **GAA - 500 - 90°**
Serial number:
Manufacturing year:

✉ **NOTE: In order to request spare parts, whether covered by the warranty or not, always indicate the model and serial number of the machine; as well as the name of the part and the code that appears in the last chapter of the parts exploded views.**

2.2 TECHNICAL DATA

Characteristics	Dimension
Three phase motor	7-1/2 HP, 220/460 V
Motor speed	3,000 RPM
Interior ∅ of blade	50mm (2")
Maximum ∅ of saw blade	500mm (20")
Maximum cutting height	170mm (6-5/8")
Feeder travel	500mm (20") 1000mm (40") DOUBLE ADVANCE
Air consumption	100 litres (26 gallons)/minute
Pneumatic hold-down clamps	6 (3 horizontal & 3 vertical)
Lubrication system	Pneumatic, by sprayer
Dimensions	78" x 41' X 38" (height of working surface)



2.3 ELECTRICAL DATA

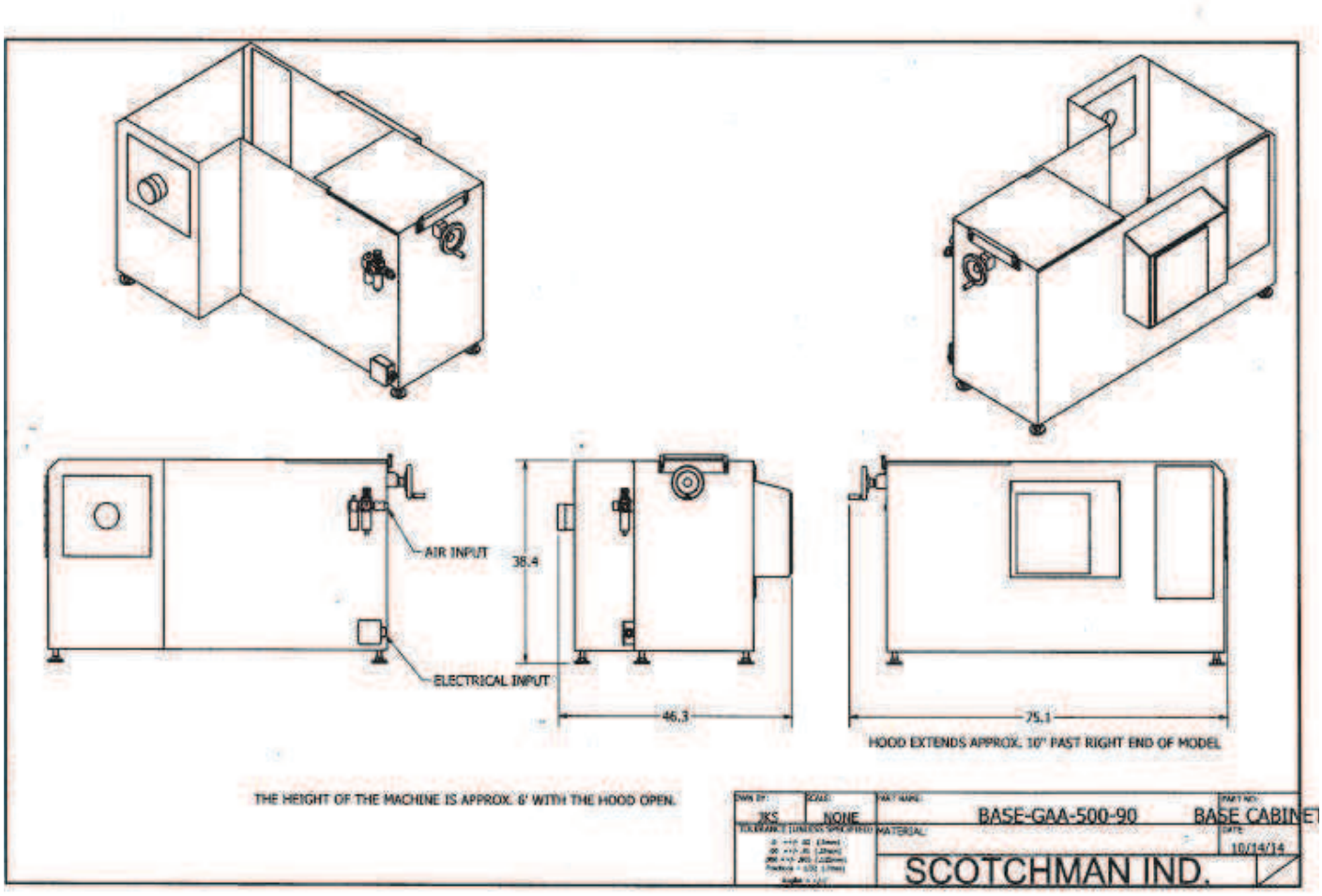
Power supply	Motor power	Total consumption
220 V Three phase	3 kW/7-1/2 HP	24 A
460 V Three phase	3 kW/7-1/2 HP	12 A

2.4 NOISE LEVEL

At a distance of 60cm	**RUNNING OFF-LOAD**	**68 Db (A) Leq**
	MACHINING A 70 X 50 PROFILE	**108 Db (A) Leq**

➲ **ATTENTION: When working with the machine, use individual hearing protection equipment.**

2.5 BASE CABINET



3.0 INDICATIONS REGARDING TRANSPORT/STORAGE

The machine is delivered on a pallet in order to be transported by forklift.

Store in the vertical position.

Do not stack.

If the machine remains stored for a long period of time, periodically lubricate it.

Do not expose to the elements.

The packaging is made of properly designed and sized wood and it is also supplied wrapped in plastic.

⌦ **CAUTION: Do not improperly dispose of the packaging. Send this material to be recycled or disposed of in accordance with all legislation in force.**

4.0 INSTRUCTIONS FOR ANCHORING & SERVICE START-UP

4.1 ANCHORING INSTRUCTIONS

Ensure that the machine has not suffered any damage during transport by making an initial visual inspection. If damage is observed, advise the manufacturer immediately.

The machine must be installed on a firm and level surface in order to thus reduce vibrations during operation and so that the machine operates within the parameters established by the manufacturer.

4.2 POWER SUPPLY CONNECTION

Verify that the power supply voltage indicated on the specifications plate of the machine. Connect the cable to the power supply, using a plug that is appropriate for the characteristics of the same, thereby respecting the color codes.

Once the machine is connected, verify that the motor rotation agrees with the direction of the saw blade teeth (rotation to the right). If the motor rotation was not correct, change the two phases of the motor. Then, check the rotation again. The blade teeth should rotate to the back of the machine as it comes up through the base.

The pneumatic connection must be made to the supply system, using a tube that is appropriate for the spigot of the machine. Adjust the pressure at the filtering group.

➲ **ATTENTION! The pneumatic working pressure must be between 90 to 105 psi.**

4.3 BLADE INSTALLATION

This machine uses a 500mm blade with a 50mm arbor.

1. **Set the saw to ninety degrees and disconnect the power. Open the cabinet door and remove the existing blade.**

✉ **NOTE: The blade nut is right hand threaded.**

2. **Insert the rod provided with the machine into the blade flange (5) and loosen the blade nut (6) with the wrench provided. The teeth on carbide blades are very sharp and we recommend using gloves while changing blades. Remove the blade.**

3. **Check the blade flange and the blade seat for any chips or nicks before installing the new blade.**

4. **Install the new blade and the blade flange and blade nut. Before locking the blade in place, rotate the blade up against the pin (2) and lock the blade in place. The teeth of the blade rotate away from the operator when the operator is standing in front of the machine.**

⌦ **CAUTION: Make sure that the blade is installed with the teeth in the right direction for the rotation and that the saw is wired for the correct rotation. If the saw is not wired for the correct rotation, the blade will come loose when the saw is powered. If the blade is not installed in the proper orientation, the teeth will be dulled almost immediately.**

5. **Close the access panel and reset the safety switch.**

4.4 CUTTING COOLANT

In order to fill the machine with cutting coolant, open the reservoir and fill with Econolube or, equivalent.

4.5 PNEUMATIC OIL

Both the oil-pneumatic converters and the filter group lubricator must be filled with ISO VG 16 VISCOSITY PNEUMATIC OIL. If none is available, use hydraulic oil 16.

5.0 INSTRUCTIONS FOR USE

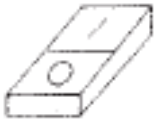
5.1 PROPER AND IMPROPER USE

This is an automatic cut-off machine, especially designed for cutting aluminum profiles. The use of the machine for cutting other materials is hereby prohibited. Such use may cause damage to the machine and put the health and safety of the worker at risk.

⌦ **DANGER! We are not responsible for any possible accident caused by the failure to comply with the aforementioned.**

5.2 FUNCTION OF THE OPERATING MECHANISMS

Indicator lights:	**Green:**	**Power supplied to the machine**
	Red:	**Emergency**
	Yellow:	**Protective shield lifted**



Saw blade, on-off: On, green colored symbol I. Off, red O.

Emergency button with interlock. It stops the machine completely, thereby keeping the material tight in the hold-down clamps.

Lift protective shield: Only in manual mode.

2 green push buttons, for raising the saw blade; only in MANUAL MODE.
1 black push button, hold-down clamp operation; only in MANUAL MODE.
1 black push button, feeder gripper; only in MANUAL MODE.

Advance, blade raise and feeder speed regulator.

Operating mode selector:
O - MANUAL MODE
I - SINGLE ADVANCE SPEED
II - DOUBLE ADVANCE FEED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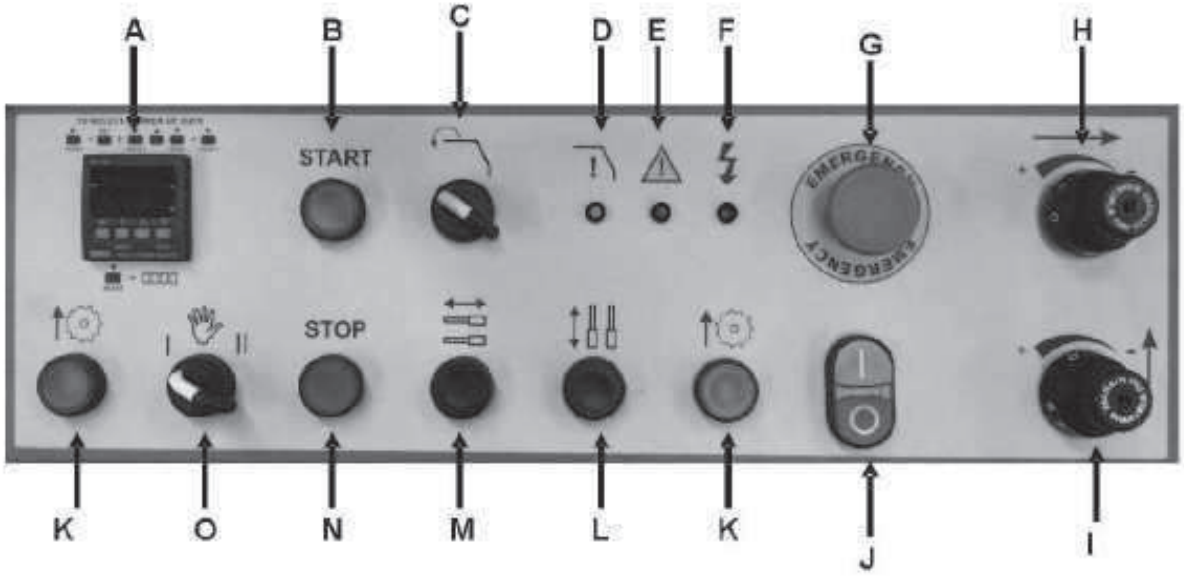

A
B
C
D
E
F
G
H
START
STOP
EMERGENCY
I
II
K
O
N
M
L
K
J
I

5.3 OPERATING CONTROLS

A. This is the parts counter. This must have a value on it in order for the machine to run in the automatic mode.

B. This button starts the automatic operation. Button J starts the saw motor.

C. This is the hood open switch.

D. This is the hood open indicator light. When this light is illuminated, the saw will not operate.

E. This is the emergency indicator light.

F. This is the power to the machine indicator light.

G. This is the E-Stop.

H. This is the shuttle feed rate adjustment.

I. This is the blade feed adjustment.

J. This is the motor start and stop switch.

K. There are two K buttons. These buttons are used in the manual mode to make a trim cut. Both buttons must be pushed and held to make the saw blade advance.

L. This is the switch for the vertical clamps.

M. This is the switch for the horizontal clamps.

N. This switch stops the automatic operation of the machine.

O. This switch selects either the manual mode (center position) or automatic mode. You have two choices, of a single hitch or a double hitch, for the automatic mode.

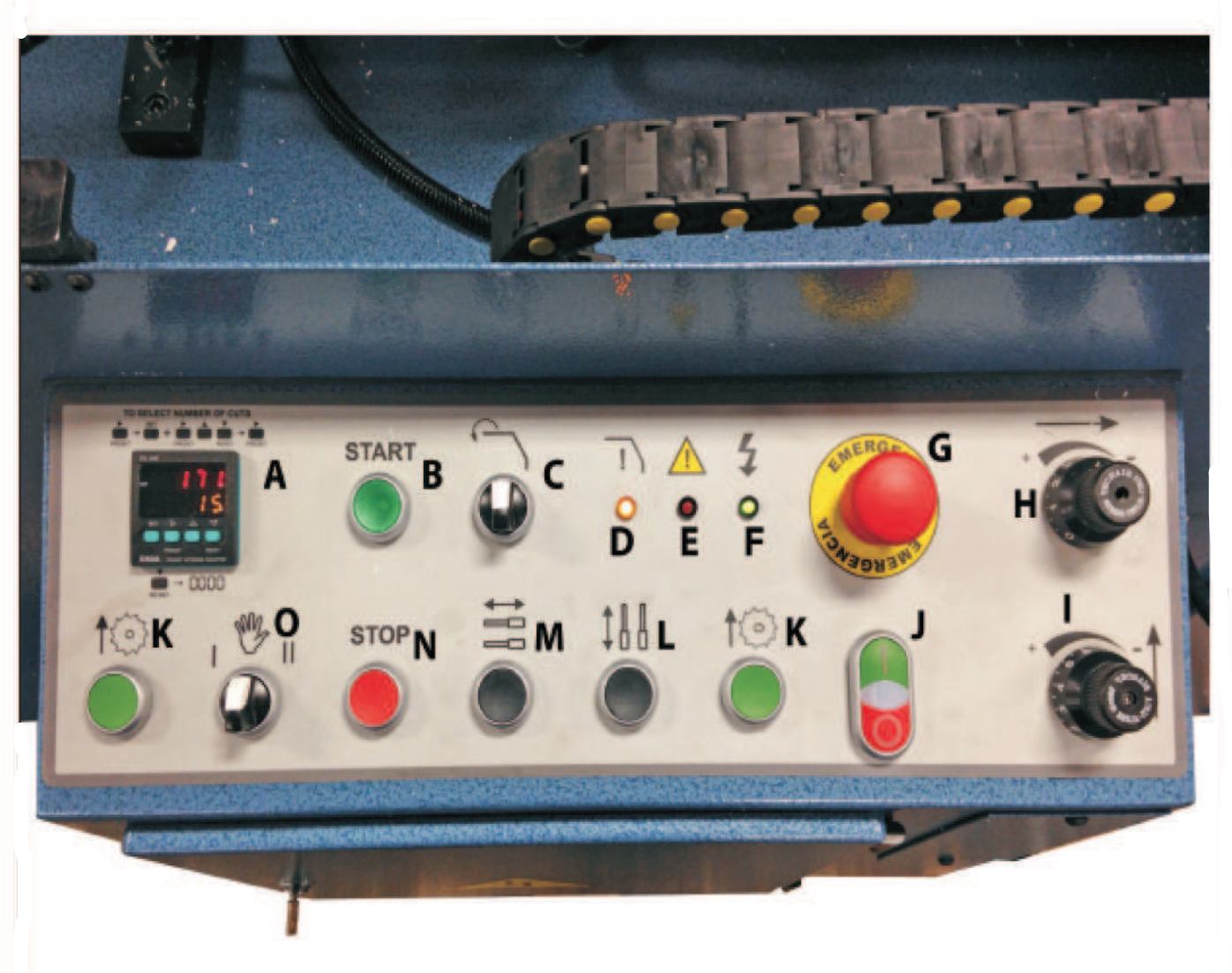
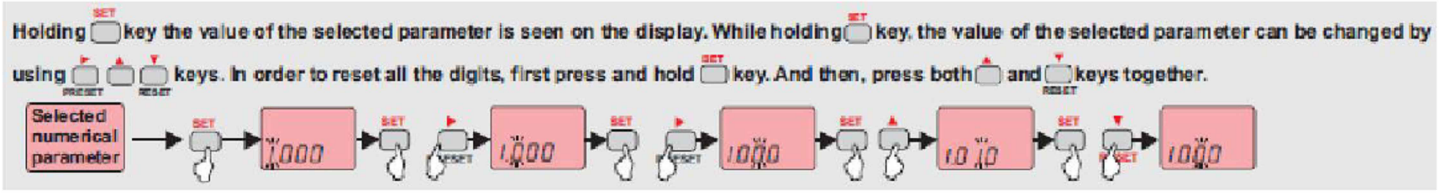


FIGURE 1

A. Piece counter with pre-selection.
B. Feeder start. (Illuminated when on.)
C. Lift protective shield.
D. Protective shield lifted.
E. Emergency.
F. Power supplied to the machine.
G. Emergency button with interlock. It stops the machine completely; thereby, keeping the material tight in the hold-down clamps.
H. Feeder speed regulator.
I. Blade raise advance.
J. Saw blade, on-off. On, green colored symbol I. Off, red O.
K. Saw blade raise. (Only in MANUAL MODE.)
L. Hold-down clamp operation. (Only in MANUAL MODE.)
M. Feeder gripper. (Only in MANUAL MODE.)
N. Feeder stop.
O. Operating mode selector:
O - MANUAL MODE
I - SINGLE ADVANCE FEED
II - DOUBLE ADVANCE FEED

- reset key.

- In order to change the selection number of cuts.



PRESET + PRESET

Entry of parameters

Configuration of parameters

Exit of parameters

5.4 MACHINE OPERATION

TO SET THE MACHINE UP FOR AN OPERATION:

1. **Open the hood and place your material in the machine, with 3/8" to 1/2" extending beyond the cut slot for the blade. Set the vise so it is within 1/4 of an inch of the material and clamp the shuttle vise. If the shuttle vise is not properly clamped, the red Material Out light on the vise will be on.**

2. **Adjust the horizontal and vertical clamping cylinders to the size of the material you are going to cut. The two horizontal clamping cylinders can be turned off if they interfere with the vertical clamps. The clamping cylinders are adjusted with a 17mm wrench. The clamping cylinders must contact the material when activated.**

3. **Set the Parts Counter to the value that you want to cut. To set the Parts Counter, press the PRESET button and then, press and hold the SET button. You can then use the scroll buttons to set the values. After you have set the values, press the PRESET button again. The counter is now set. Pressing the RESET button on the counter will zero out the number of parts cut, the top red numbers on the counter. The preset quantity to cut are the gold numbers on the bottom row of the counter.**

✉ **NOTE: The counter will count every stroke of the machine, including the trim cut.**

4. **Close the hood and place the machine in the Manual Mode. Set your part length with the length hand wheel on the left side of the saw (Figure 2). Place the shuttle selector switch in the 1 or 2 hitch position. Start the automatic operation and let the machine cut one or two parts; then, press the stop switch. Check the length of the parts. If the length is correct, press the Auto Start button again and continue the operation. NOTE: Every time the Auto Stop button is depressed, the saw will make one trim cut when the automatic cycle is started again. It is best to press the Stop button after the shuttle has advanced and before the part is cut. This way, when you press the Auto Start button, the trim cut will be a part.**

5. **If the part you cut is not the same as the length you have set: Go to the hand wheel adjustment on the left side of the saw. Leave the locking handle locked and loosen the small set screw in the handle. Adjust the reader to the length of the part you have cut. For example, if you set the length at 1" and your part came out at .985, set the reader back to 1". Cut another piece or two and re-check the length.**

6. **Set the length hand wheel to the desired length of part you want to cut. Place the mode switch in either the shuttle once or twice position. Press the auto cycle start button B. The machine will cut parts until the counter reaches 0, the material runs out or the stop is depressed.**

7. **To set the blade height, the adjustment is on the right hand side of the saw. See Figure 3.**

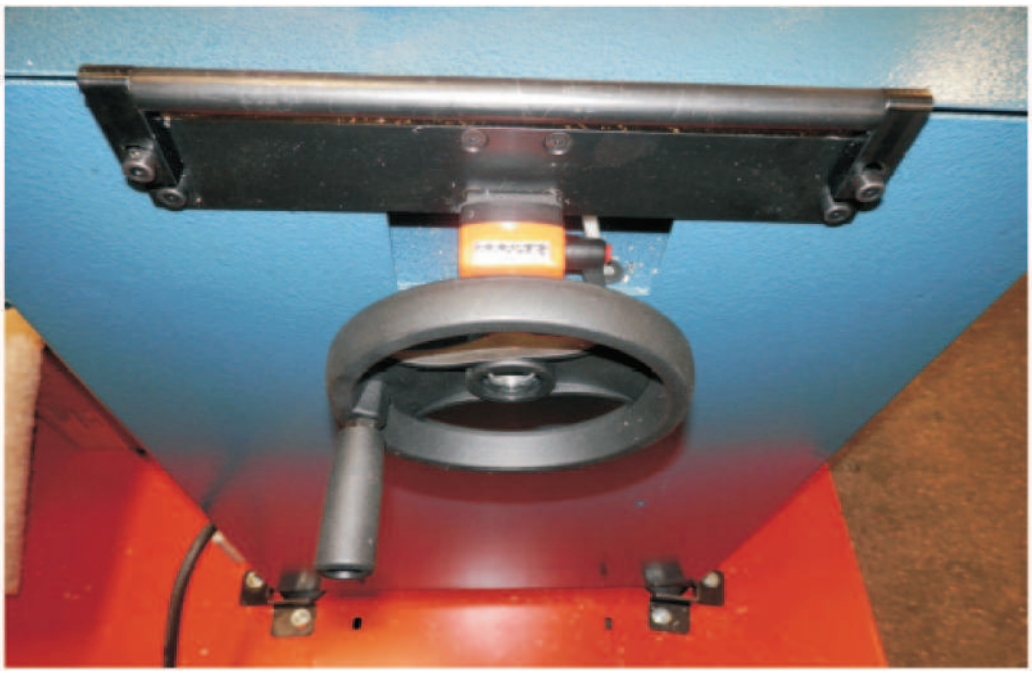


FIGURE 2

FIGURE 3

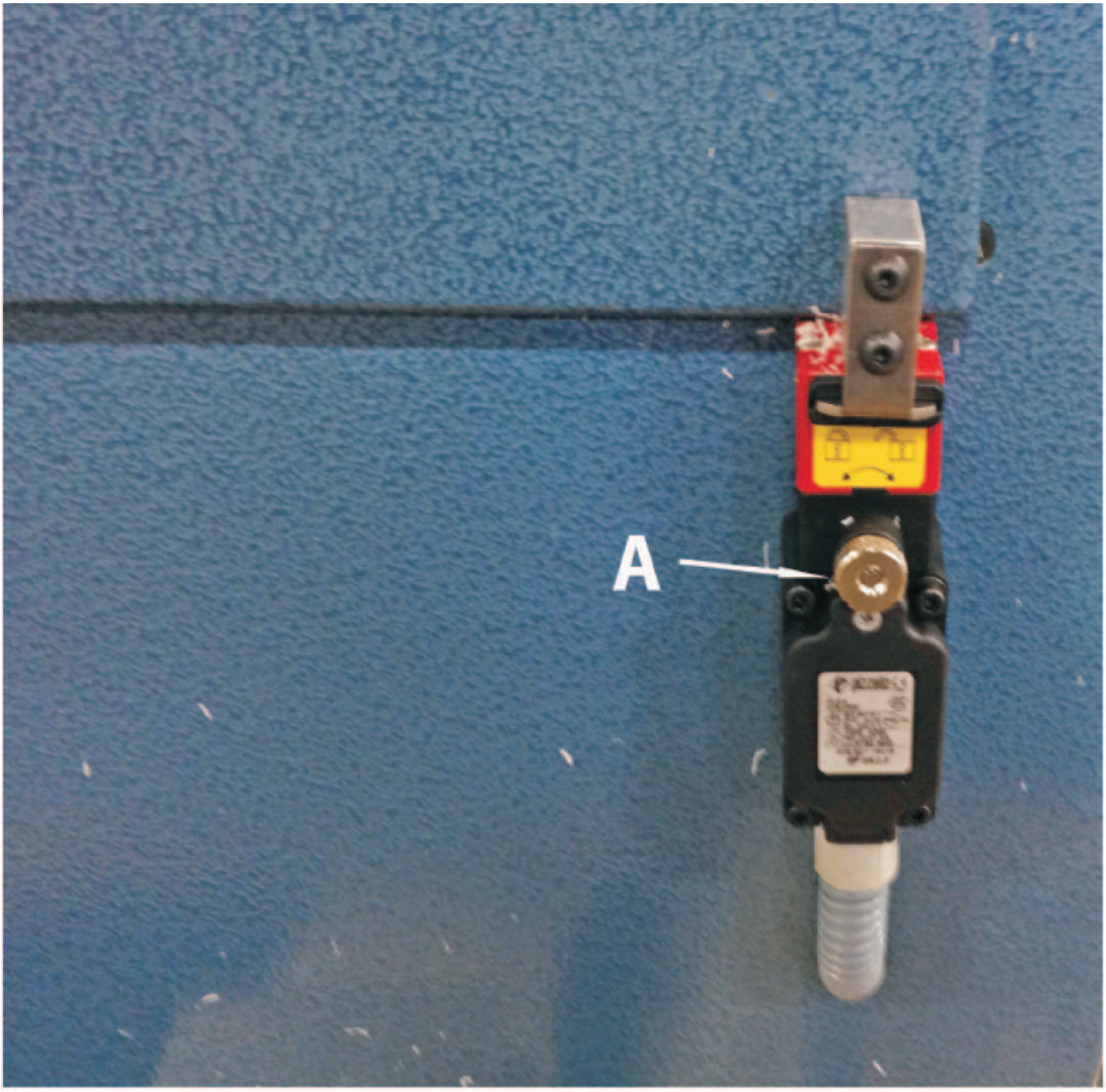


FIGURE 5

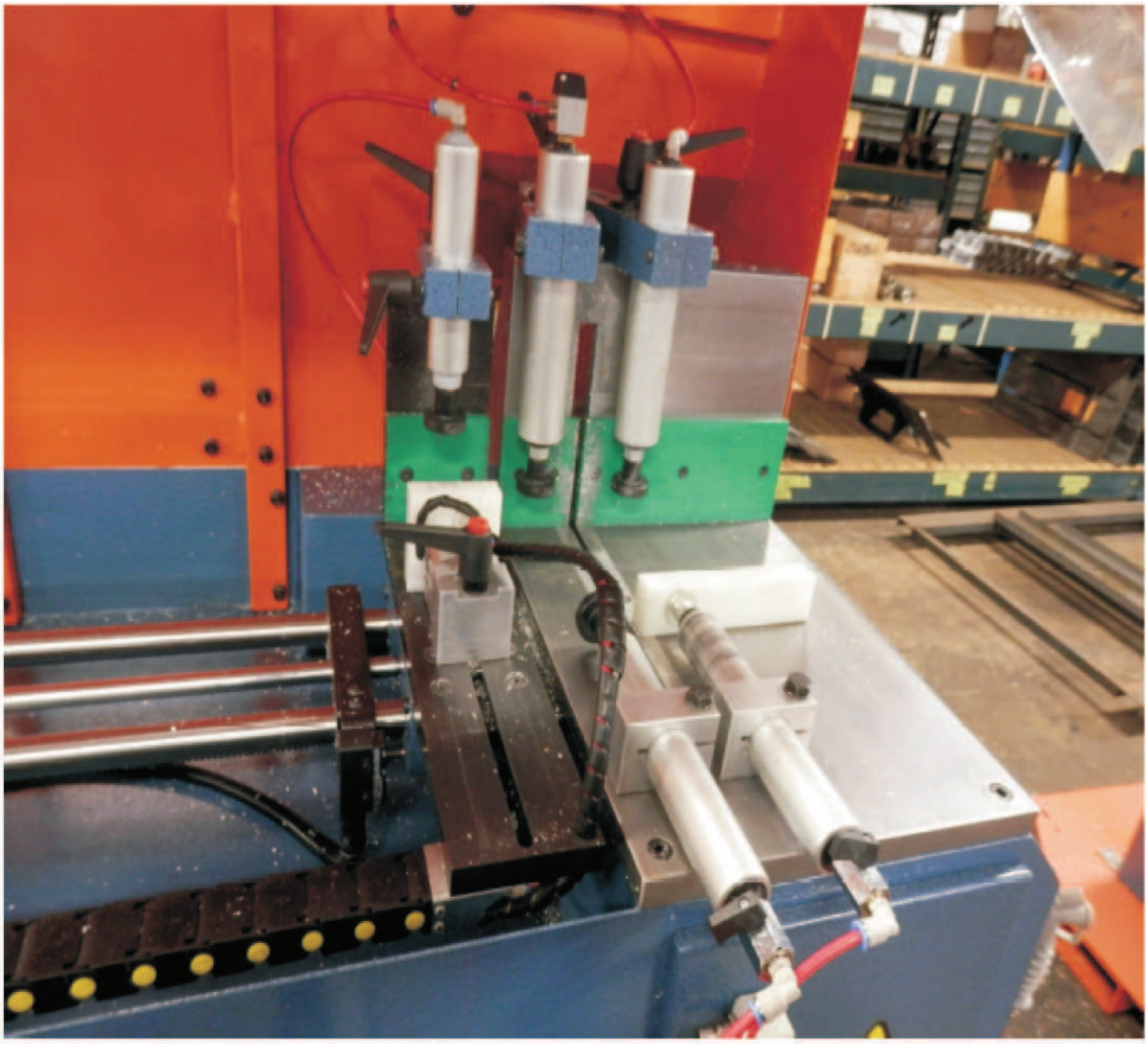


FIGURE 6

5.5 GENERAL RULES & SAFETY CHECKS

- ✓ **Before using the machine, check the efficiency and perfect operation of all safety devices and check that the moving parts of the machine are not blocked, that there are no damaged parts and that all machine components are positioned and work correctly.**
- ✓ **All safety devices must be kept in working order.**
- ✓ **DO NOT operate this machine without the protective shield in position.**
- ✓ **ALWAYS wear gloves and protective eyewear.**
- ✓ **ALWAYS wear regulation work clothes that are not loose fitting and are fastened.**
- ✓ **Before starting work, the operator must ensure that all tools and wrenches used for maintenance or adjustment have been removed.**
- ✓ **In the event of a fire, use powder extinguishers and disconnect the machine from the electric system.**

6.0 RECOMMENDATIONS AND MAINTENANCE

6.1 TYPE & FREQUENCY OF INSPECTIONS

The operator's knowledge of the machine is one of the best ways of daily control of any possible problem.

If any failure is detected, work must be stopped and qualified personnel must be informed immediately.

✉ **NOTE: Always clean the machine and the work area at the end of the workday.**

MAINTENANCE TABLE

AREA TO INSPECT	FREQUENCY	INSPECTION PROCEDURE
Level of cutting coolant	DAILY	
Feeder guides	WEEKLY	Clean & lubricate w/SAE 30
Blade raise guides	WEEKLY	Clean & lubricate w/SAE 30
Saw motor exhaust	WEEKLY	Clean off cuttings while the machine is disconnected
End stops	WEEKLY	Clean off cuttings & check condition
Motor belt	MONTHLY	Clean off cuttings & check condition

6.2 QUALIFIED PERSONNEL FOR MAINTENANCE

- ✓ **All repairs shall be made exclusively by qualified personnel, thereby always using original replacement parts. If not, the machine may be damaged or the user may be injured.**

- ✓ **The maintenance and cleaning of the machine must not be neglected. The life of the machine and its optimal operation depend on it considerably.**

6.3 POSSIBLE BREAKDOWNS

BREAKDOWN	CHECK
None of the machine components work.	Check that there is voltage at the input and output of the main switch. Check the control circuit fuse. Check the condition of the transformer and the contactor.
The feeder does not work correctly.	Check the status of all end-of-travel stops and the positioning of the same. Check the condition of all electrovalbves.Check the condition of the automata (feeder box) and the voltage on the line itself. (110 VAC) Check the pressure at the regulator (6 atm) and the condition of the air tubes.
The shield-raised indicator does not turn off.	Ensure that the automata is not receiving a signal at input ch103. If it is, check the detector located on the shield cylinder.
The blade does not raise correctly.	Check the level of the hydraulic oil in the converter located inside the feeder, through the rear access sheet metal panel. Check the pressure at the filter - regulator. Check that the advance may be too high. Check the “raise blade” pushbuttons.
The feeder does not move correctly.	Check the level of the hydraulic oil. Check the filter - regulator pressure. Check that the advance may be too high. Check the “raise blade” pushbuttons.

6.4 MANUFACTURER RECOMMENDATIONS

In the event that the machine is broken down or the saw blades must be replaced, place a padlock on the protection switch and place the keys under the care of qualified personnel.

☑ **Before working on any electrical devises, disconnect the plug from the power supply.**

☑ **If extension cords are used, ensure that the cable has the appropriate cross-section for the power of the machine.**

☑ **Whenever any part has to be replaced, use an original replacement part and endeavor to use the oil recommended by the manufacturer.**

☑ **Once a month, all of the chips in the saw should be thoroughly cleaned out. This includes blowing out chips from the motor fan guard.**

☑ **Once a month, check the motor belt for any wear.**

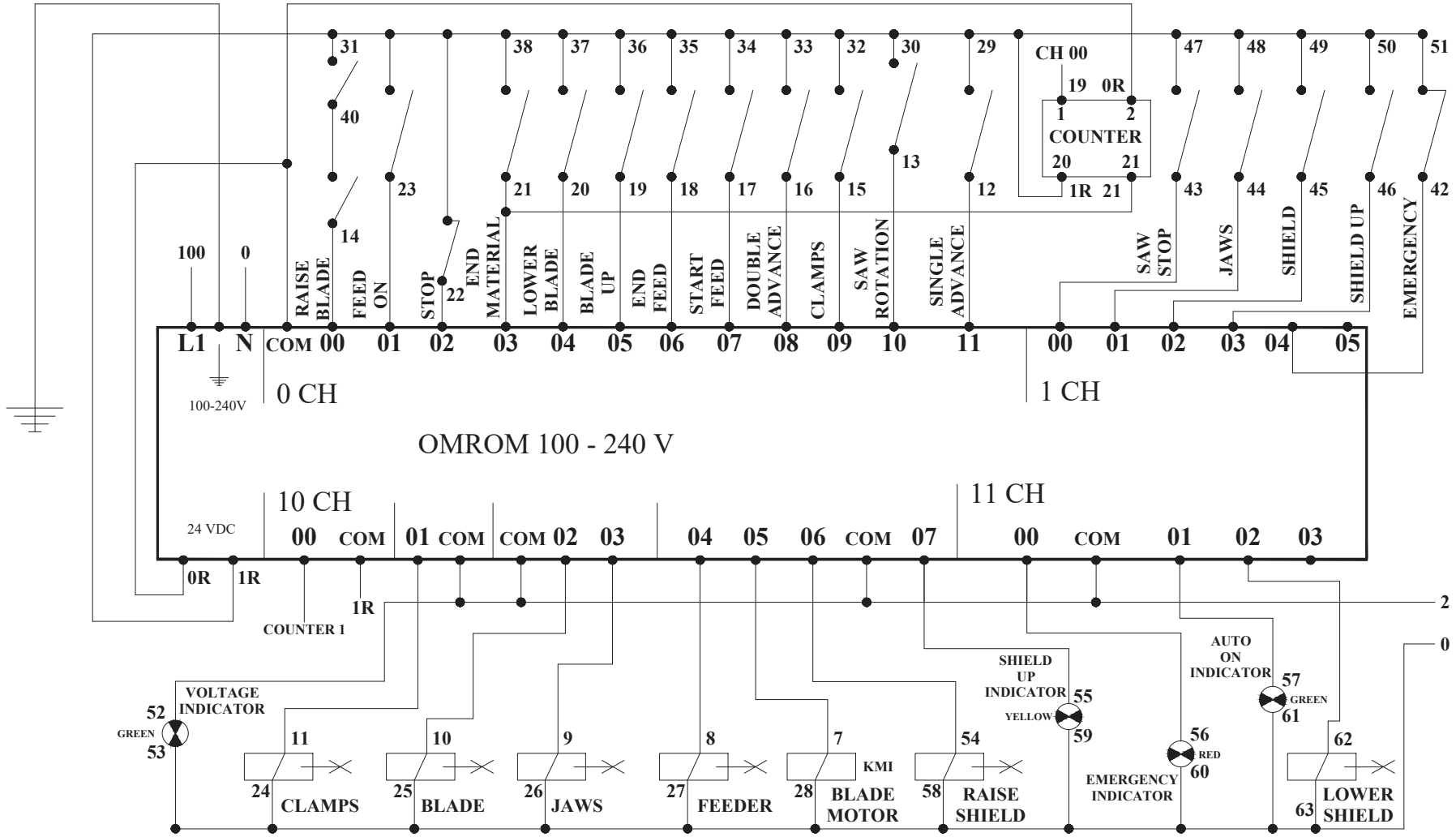
☑ **Once a month, grease the bearing hub.**

✉ **NOTE: In case of any doubt or problem, do not hesitate to consult the manufacturer.**

⌦ **ATTENTION! The manufacturer hereby guarantees the supply of each one of the parts or components for at least 3 years from the manufacturing date of the machine.**

⌦ **ATTENTION! The manufacturer is not responsible for breakdowns caused due to the improper use of the machine.**

7.0 DRAWINGS & SCHEMATICS



GAA-500-90 SWITCHING POWER CIRCUIT

FIGURE 7

POWER CIRCUIT

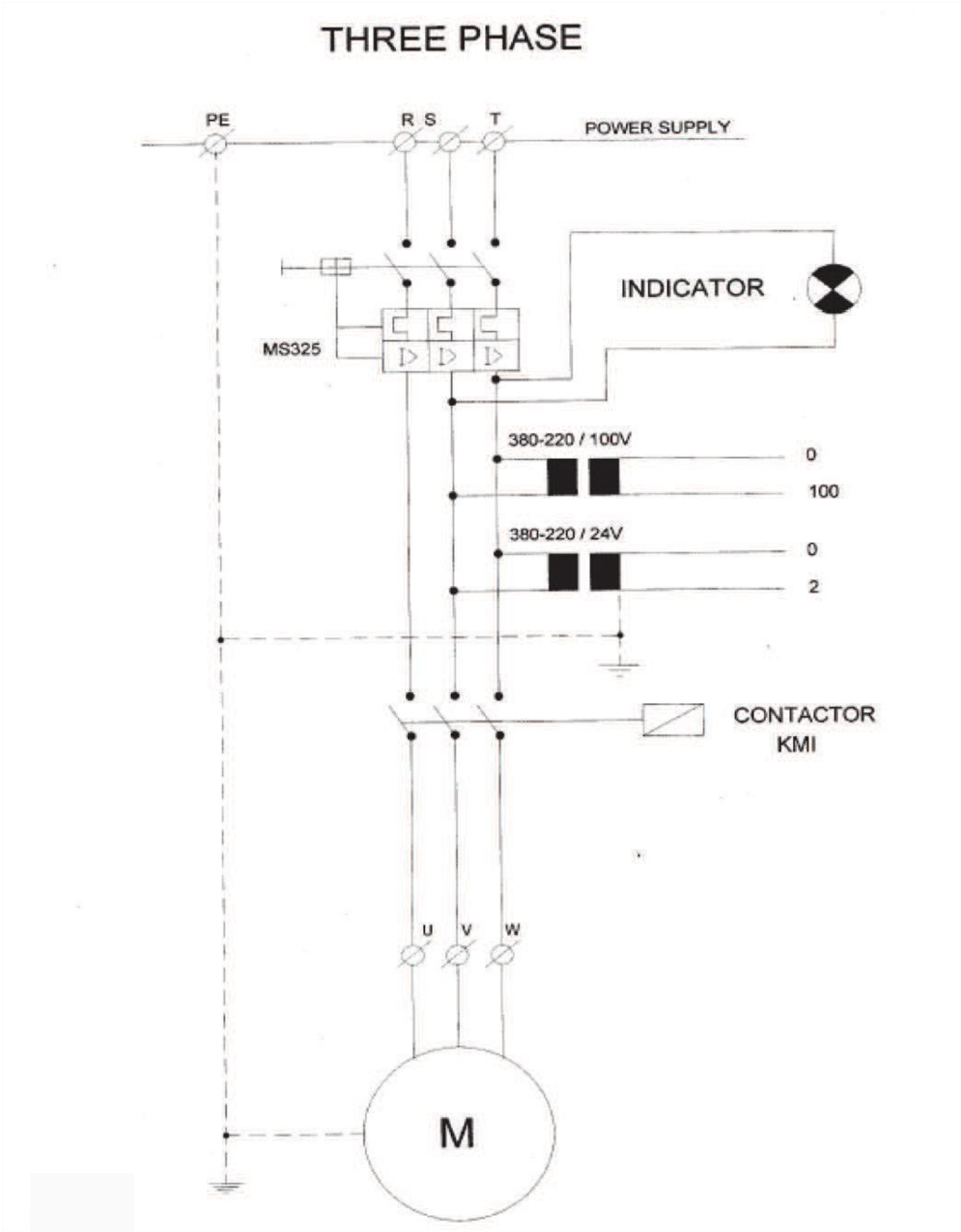


FIGURE 8

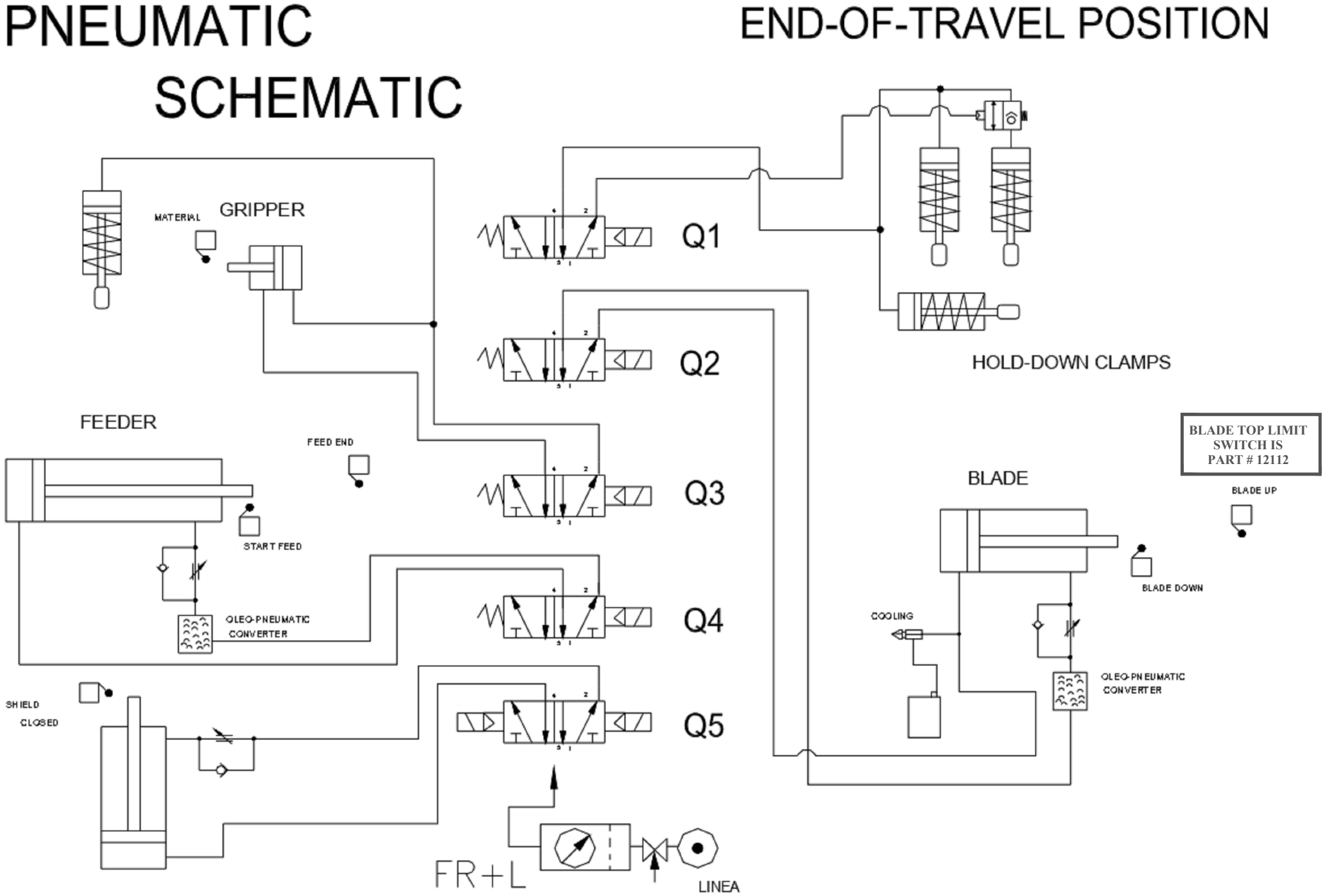


FIGURE 9
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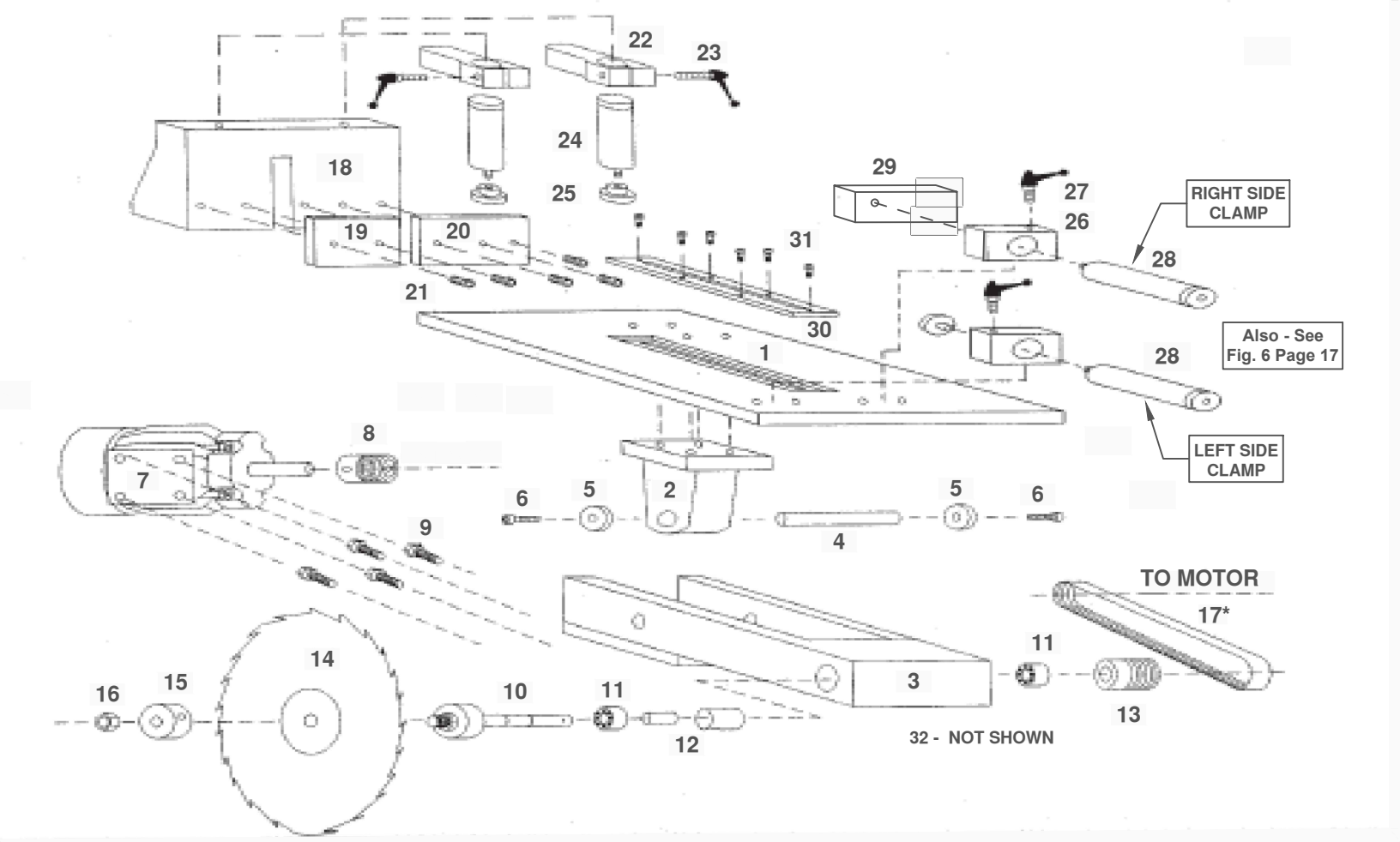


ITEM	DESIGNATION	PART NO.		DESIGNATION	PART NO.
1	WORKING PLATE	2059000064	17*	POLY V 1016J BELT* SEE BELOW	1283*
2	ROKER SUPPORT	2050000322	18	TURRET	2059000024
3	ROKER	2050000332	19	LEFT TURRET PLATE	
4	ROKER ROTATION SHAFT	2040000072	20	RIGHT TURRET PLATE	
5	WASHER M-12	TD12500012	21	DIN 6912 M-6 X 16 PIN	TD69120616
6	DIN 912 M-12 X 25 PIN	TD91212025	22	Ø 45 ALUMINUM ROD	2040000062
7	4 HP 3 PHASE MOTOR	2050000022	23	M-10 X 70 PULL	B000001070
8	MOTOR PULLEY	2050000142	24	Ø 45 PNEUMATIC HOLD DOWN CLAMP	1677
9	DIN 931 M-10 X 50 PIN	TD93110050	25	NYLON CLEAT	2350000131
10	RECTIFIED Ø 100 SHAFT	2050000092	26	Ø 36 HORIZONTAL ROD	2090000191
11	4206 BEARING	2050000162	27	M-10 X 40 PULL	B000006X40
12	SEPARATORS		28	Ø 36 X 225 PNEUMATIC CLAMP	C2070000295
13	ROCKER PULLEY	2169000132	29	GAA CLAMP BLOCK	2050000172
14	Ø 500 BLADE	205DW35032	30	BLADE GROOVE GAA-500	5167
15	BLADE WASHER	2050000032	31	DIN 7991 M-6 PIN	
16	BLADE NUT	2040000232	32	HOOD RUBBER	4884

17* - C2050000012 - Older 5.5hp saws use this belt - J12 POLY V-BELT - Has '960 J' on the belt.
C2059001059 - Belt for models with 10HP motor - Original P/N was SO312135.

FIGURE 10

8.0 ELECTRICAL COMPONENTS & WIRE NUMBERS

ITEM	PART #	DESCRIPTION	ITEM	PART #	DESCRIPTION
A	E000000D54	Digital Pulse Counter	I		Blade raise advance
B	E000000072	Feeder start	J	E000000075	Saw blade ON-OFF
C	E000000071	Lift protective shield selector	K	E000000M61	Saw blade raise push button
D	E000NVAC30	Protective shield lifted	L	E000000M65	Machine clamp operation
E	E000RVAC30	Emergency indicator	M	E000000M65	Feeder grip push button
F	E000VVAC30	Power supplied to the machine	N	E000000M51	Auto stop red push button
G	E0000E0082	Emergency button with interlock	O	E000000S70	Operating mode selector
H	N000000018	Feeder speed regulator	P	E000000067	PLC OMRON (not shown)
			Q	3059	Legend Plate

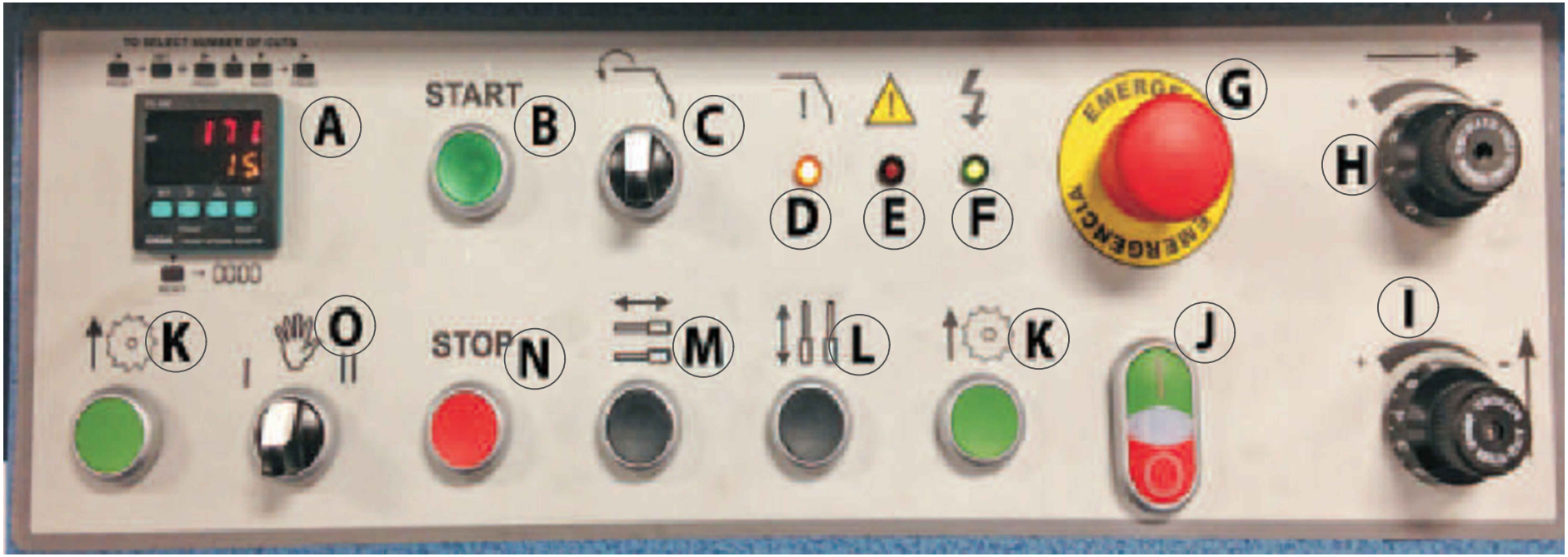
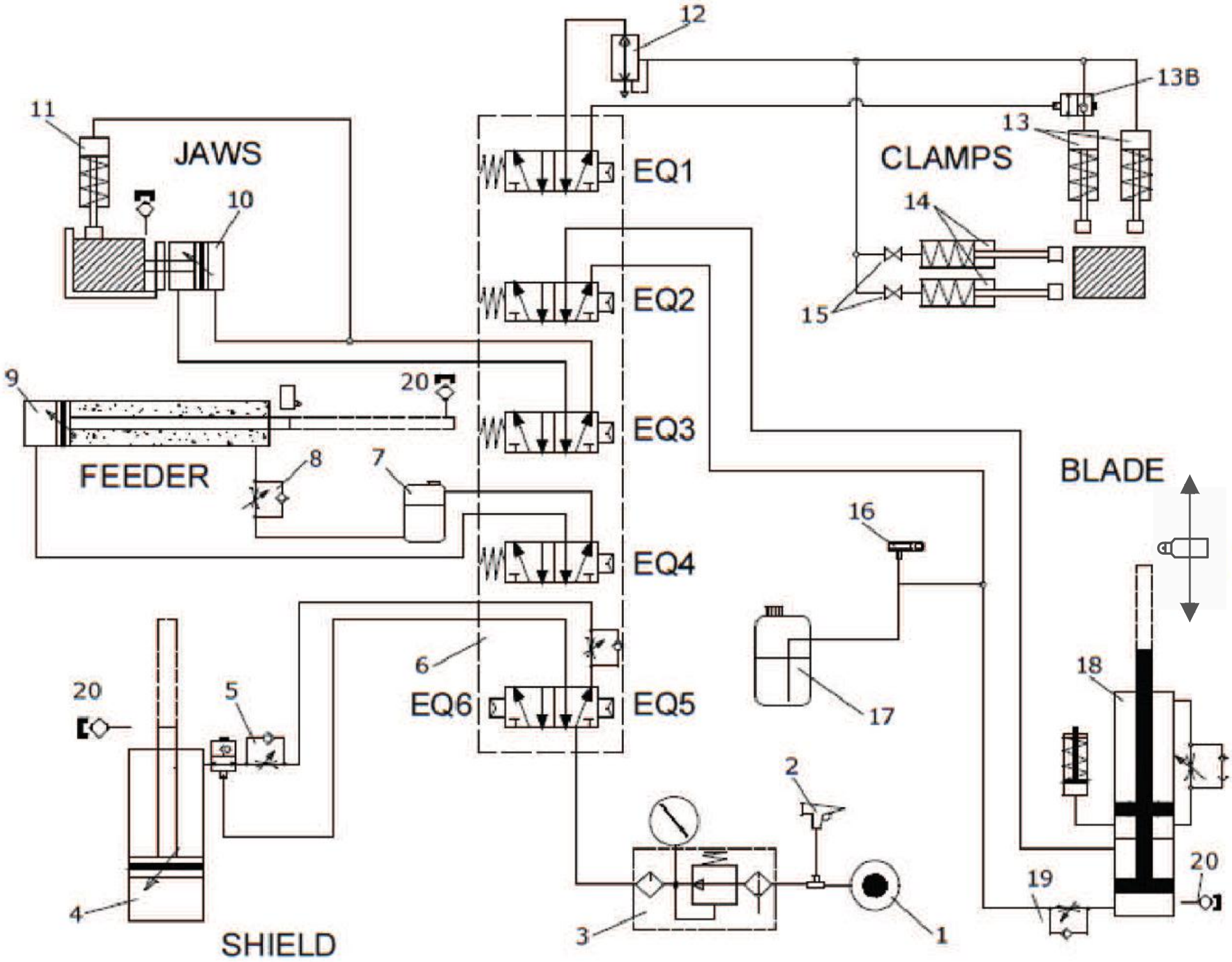


FIGURE 11

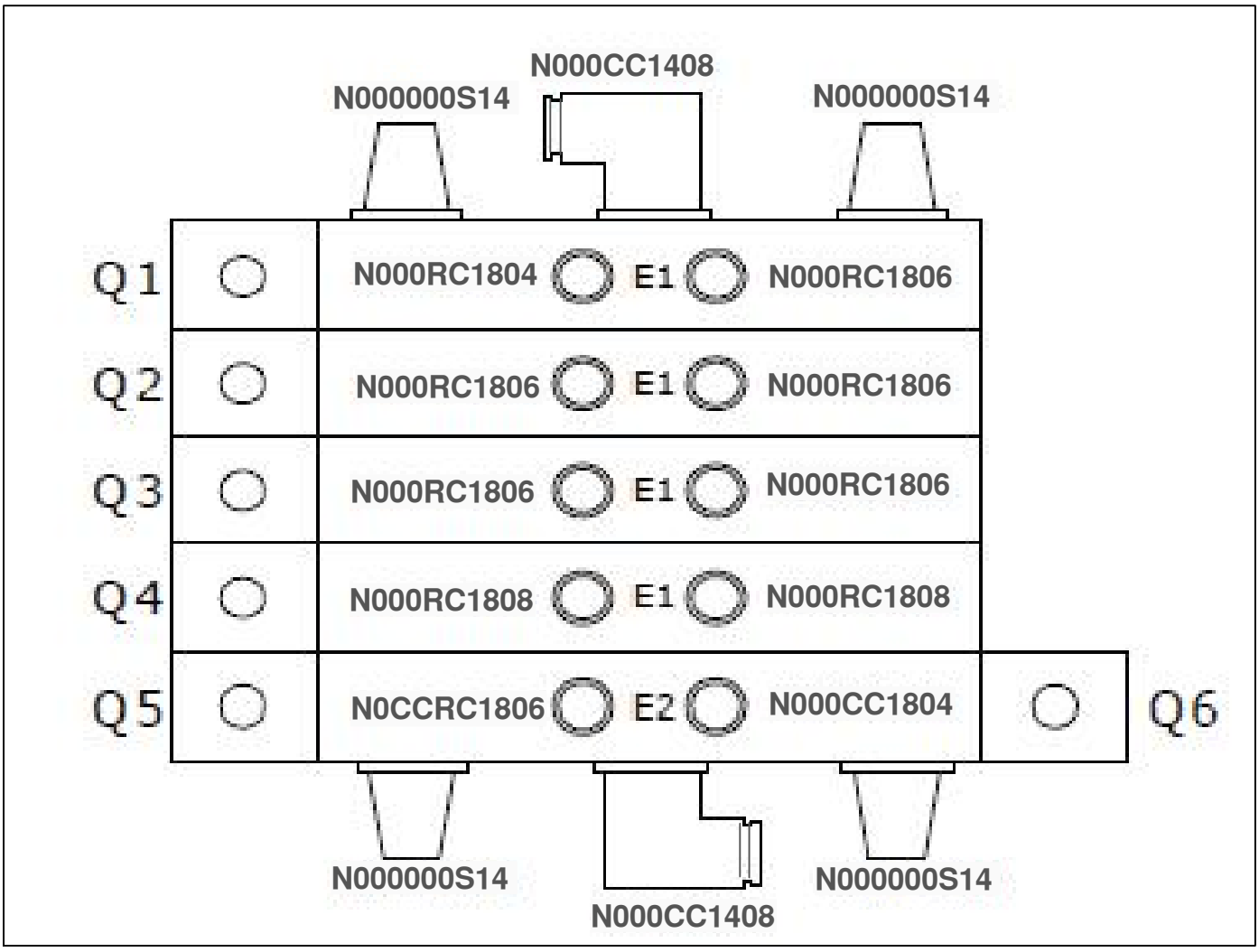
9.0 PNEUMATIC COMPONENTS

ITEM	PART #	DESCRIPTION
1		Line
2	N00000GC10	OSHA cleaning gun
3	N000000A17	F+R+L 1/4"
4	N000063100	Cyl. protec. shield U x 63 x 100
5	N000RG1806	Flow regulation 1/8" Ø6 CIL.
6	N000A13434	Electrovalves manifold
7	2040000092	Oleoneumatic converter 1.5L
8	N000000018	Flow regulation oil 3/8"
9	N004052500	Cylinder Ø40/525 + 30 oil front
10	N0000C4010	Cyl. Compact Ø40/10 double act
11	N00P36X160	Vertical clamp Ø36 x 160
12	N000000038	Quick exhaust valve4 1/4"
13	1677	Holddown Clamp 45MM
13B	072351	1/8 to 4mm 90-SWIVEL
14	2070000295	Horizontal clamps Ø36 x 225
15	2K20000281	Ball valve 1/8" M-H
16	N000000036	Venturi
17	2060000383	Cutting oil reservoir
18	N000050061	ISO 50 x 225 cylinder with reg.
19	N0CCRC140	1/4" Ø8 Flow regulator out
20	1724	Magnetic Sensor


12
13B
13
11
JAWS
10
EQ1
CLAMPS
14
EQ2
15
9
20
EQ3
FEEDER
8
7
BLADE
16
EQ4
18
6
EQ6
EQ5
17
20
5
2
4
3
1
19
20
SHIELD

10.0 VALVE BANK

ITEM	PART #	DESCRIPTION
Q1	N000000A34	Electrov. 5/2 1/8" MONO
Q2	N000000A34	Electrov. 5/2 1/8" MONO
Q3	N000000A34	Electrov. 5/2 1/8" MONO
Q4	N000000A34	Electrov. 5/2 1/8" MONO
Q5-6	N00000AB34	Electrov. 5/2 1/8" BI
	N000000S14	Silencer 1/4"
	N000CC1408	1/4" Ø8 L fitting
	N000RC1804	1/8" Ø4 fitting
	N000RC1806	1/8" Ø6 fitting
	N000RC1808	1/8" Ø8 fitting
	N0CCRC1806	1/8" Ø6 flow regulator out



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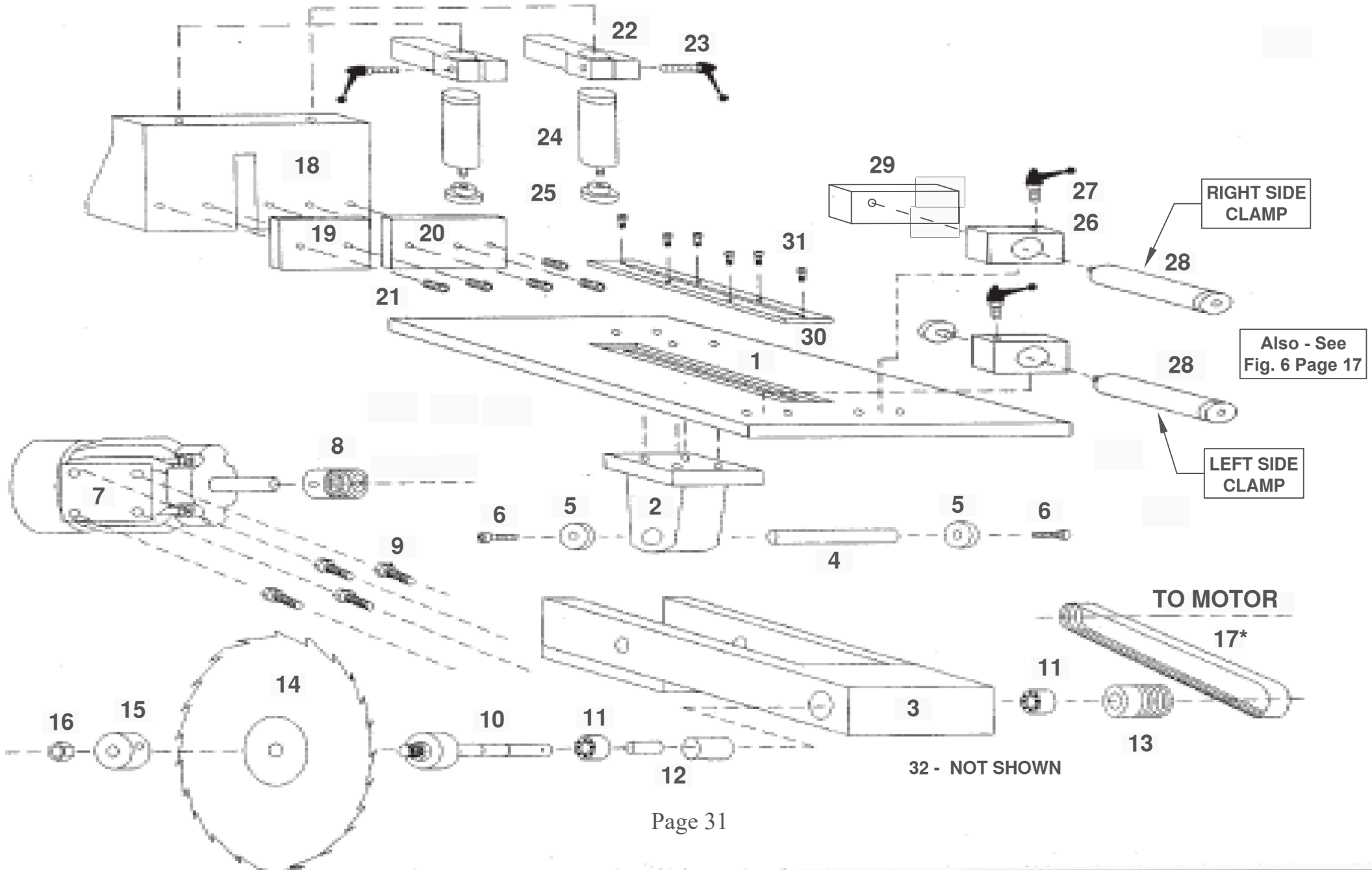
11.0 MAIN FRAME ASSEMBLY

ITEM	PART #	DESCRIPTION
1	2059000064	Working plate
2	2050000322	Roker support
3	2050000322	Roker
4	2040000072	Rocker rotation shaft
5	TD12500012	M-12 washer
6	TD91212025	DIN 912 M-12 x 25 PIN
7	2059007522	7.5 HP III phase motor
8	2169000142	Motor pulley J16
9	TD93110050	DIN 931 M-10 x 50 PIN
10	2050000092	Rectified Ø100 shaft
11	2040000172	4206 bearing
12		Separators
13	2169000132	Rocker pulley J16
14	205DW35032	Ø500 blade
15	2050000032	Blade washer
16	2040000232	Blade nut
17	1283	Poly Belt For GAA-500 7.5hp Ref# 1283
17A	C2050000012	J12 Poly V-Belt - Older 5.5hp saws use this belt
18	2059000024	Turret
19		Left turret plate
20		Right turret plate
21	TD69120616	DIN 6912 M-6 x 16 PIN
22	2040000062	Ø45 Aluminum rod
23	B000001070	M-10 x 70 Pull
24	1677	Ø45 Pneumatic hold-down clamp
25	2350000131	Nylon cleat
26	2090000191	Ø36 Horizontal rod
27	B000006x40	M-10 x 40 Pull
28	C2070000295	Ø36 x 225 Pneumatic clamp
29	2050000172	GAA Clamp Block
30	5167	Blade groove GAA-500
31		DIN 7991 M-6 PIN
32	4884	HOOD RUBBER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RIGHT SIDE CLAMP
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Also - See Fig. 6 Page 17
LEFT SIDE CLAMP
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TO MOTOR
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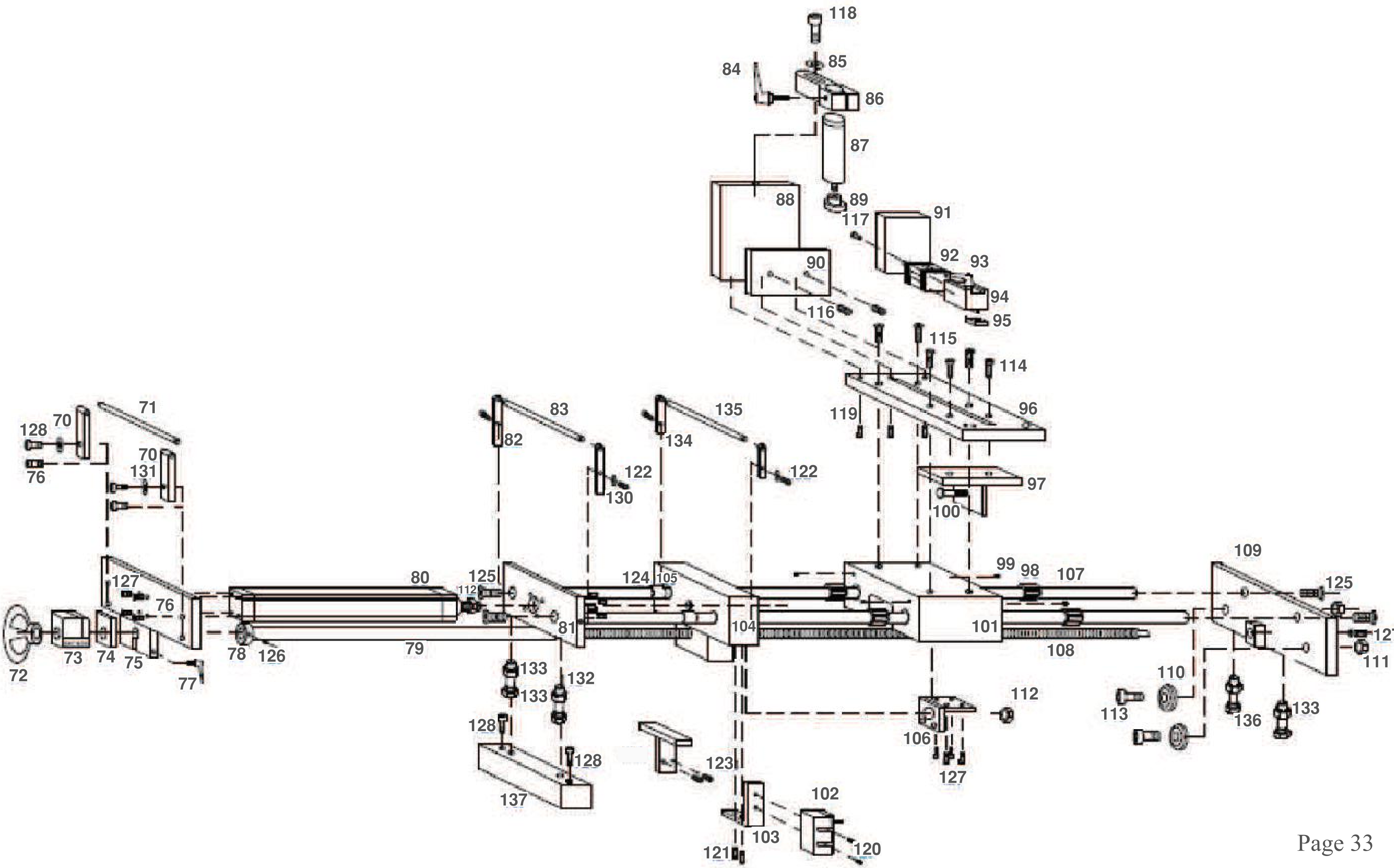
32 - NOT SHOWN

12.0 SHUTTLE FEED SYSTEM

N°	DESIGNATION	CODE	N°	DESIGNATION	CODE
70	BACK ROLLER SUPPORT	————	104	FEEDER MEASURE BUFFER	2359001044
71	Ø 20 x 300 BACK ROLLER	————	105	Ø 25 – Ø 28 - -30 BUSHING	2359001054
72	Ø 160 GUIDE WHEEL WITH HANDLE	B000000020	106	ROD FIXATION SUPPORT	
73	COUNTER STEP 5	2359000724	107	Ø 25 x 675 RECTIFIED BAR	2059001074
74	COUNTER SEPARATOR	————	108	THREADED SCREW	
75	FEEDER BACK SUPPORT	————	109	FEEDER MACHINE SUPPORT	
76	DIN 912 M-8x25 SCREW	TD91206025	110	WASHER	
77	M-8x40 LEVER	B0000P0840	111	DIN 934 M-14 NUT	TD93400014
78	TIP SCREW WASHER	————	112	M-12x1,5 CYLINDER NUT	TD93400012
79	FEEDER SCREW 500 mm	————	113	DIN 912 M-14x40 SCREW	TD91214040
80	40 x 525+30 ISO CYLINDER	N0040500OD	114	DIN 7991 M-8x30 SCREW	TD79910830
81	INTERMEDIATE GUIDE TIE	————	115	DIN 7991 M-8x30 SCREW	TD79910830
82	INTERMEDIATE ROLLER SUPPORT	————	116	DIN 912 M-8x20 SCREW	TD91208020
83	Ø 20 x 249 INTERMEDIATE ROLLER	————	117	DIN 912 M-6x25 SCREW	TD91206025
84	M-10x60 LEVER	B0000P1060	118	DIN 912 M-10x60 SCREW	TD91210060
85	Ø10 WASHER	TD12500010	119	DIN 912 M-8x35 SCREW	TD91208035
86	Ø 36 ALUMINIUM ROD	2350000231	120	DIN 912 M-4x30 SCREW	TD91204030
87	HOLD DOWN CLAMP Øext 36 x 160	N00P36X160	121	DIN 912 M-5x15 SCREW	TD91205015
88	PLATE SUPPORT	————	122	DIN 933 M-6x25 SCREW	TD91206025
89	NYLON CLEAT	————	123	DIN 912 M-6x20 SCREW	TD91206020
90	MATERIAL PLATE	2359001724	124	DIN 912 M-6x25 SCREW	TD91206025
91	HORIZONTAL NYLON CLEAT	2359001734	125	DIN 7991 M-10x35 SCREW	TD79911035
92	Ø 40/10 D.E. COMPACT CYLINDER	N0000C4010	126	M-6 STUD BOLT	TD91300006
93	M 10x70 LEVER	B0000P1070	127	DIN 7991 M-6x16 SCREW	TD79910616
94	CYLINDER CARRIAGE	2359000164	128	DIN 912 M-8x40 SCREW	TD91208040
95	17 mm PLANE NUT	————	129	DIN 912 M-10x25 SCREW	TD91208040
96	CARRIAGE PLATE	2059000084	130	Ø 6 WASHER	TD12500006
97	END OF TRAVEL STOP	————	131	Ø 8 WASHER	TD12500008
98	Ø 25 LINEAL BEARING	2062000171	132	M10 STUD BOLT	TD91301040
99	Ø 6 NYLON BLOCK	————	133	M-10 NUT	TD93400010
100	FEEDER TIP SCREW	————	134	FINAL ROLLER SUPPORT	P2359000444
101	FEEDER CARRIAGE	2359000254	135	Ø 20 x 210 ROLLER	
102	LONG BUTTON MICROSWITCH	E000000032	136	DIN 933 M-12x40 SCREW	TD93312040
103	MICROSWITCH FEEDER BRACKET		137	GUIDE TIE SUPPORT	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12 . OPTIONAL CHIP COLLECTOR - WIRE LOCATIONS

CHIP COLLECTOR WIRING INSTRUCTIONS for ALL of the GAA-500 & GAA-600 SAWS

CHIP COLLECTORS - P/N 829230 - 230V 3PH or P/N 829460 - 460V 3PH

Chip Collector has a BROWN wire and a BLUE wire. A jumper wire also needed. Below shows where the wires go.

BROWN - 14 RELAY
BLUE - 0 TERMINAL STRIP
JUMPER - 13 RELAY to 2 TERMINAL STRIP